

A FRAMEWORK OF GROWTH OPTIONS THROUGH
DIVERSIFICATION AMONG SHIPPING AGENCIES IN SOUTH
AFRICA

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Declaration

I hereby confirm that the thesis submitted is wholly my own work and that it has not been submitted at any other university for a degree.

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Abstract

This thesis was aimed at developing a model of growth through diversification, for shipping agencies in South Africa, under recessionary conditions. The study adopted a mixed methods approach, in seeking to develop a methodology to meet the aims of the research project; to develop a framework of diversification strategies for the shipping industry. The mixing of quantitative data and qualitative data not only enriched the findings but assisted with validation thereof, while achieving the research aims through the methodology adopted.

The theoretical foundation of the study was on the theories of diversification, the theory of human behaviour and other economic principle theories, all of which were sampled among South African corporate executives in the shipping supply chain. Surveys were carried out using two structured research instruments in the form of questionnaires to collect quantitative data, with qualitative data collected through interviews, focus groups and observation. The data were analysed using triangulation to combine the results of the investigation. Statistical analysis was employed for the quantitative research and results illustrated in tables, combined with thematic analysis through qualitative research, to draw conclusions and recommendations on the study. The findings confirmed that there are opportunities for diversification into husbandry services, freight transportation, charterers' services and other markets along the supply chain. Reasons for diversification among shipping firms include similar resource utilisation to service many functions, diversification to gain market leadership and poor performance in existing markets. The theory is not conclusive about whether related or unrelated diversification affects firm performance.

The development of operation Phakisa, to focus on unlocking the economic potential of South Africa's oceans, has not been addressed and needs more research into its feasibility and likely impact on the South African container shipping industry. There is need for management to mobilise resources, such that they can serve many functions and activities, and to build competences through human resources management.

The study is relevant for the shipping supply chain executive, as it contributes to managerial decision-making, in terms of analysing their capability to create and apply knowledge in their competitive strategies.

Table of Contents

| | |
|--|-------|
| Declaration | ii |
| Acknowledgements | iii |
| Abstract | iv |
| Table of Contents | v |
| List of Tables..... | xviii |
| List of Figures | xx |
| List of Abbreviations..... | xxi |
| CHAPTER 1 | 1 |
| Background and Overview..... | 1 |
| 1.1 Introduction..... | 1 |
| 1.2 Background of Research | 3 |
| 1.3 Problem Statement | 4 |
| 1.4 Objectives of the Research..... | 5 |
| 1.5 Research Design..... | 5 |
| 1.5.1 Descriptive and Correlational study..... | 6 |
| 1.5.2 Quantitative and Qualitative research approach | 7 |
| 1.5.3 Objectives pursued in mixed methods | 7 |
| 1.5.4 The research question (foundations). | 8 |
| 1.5.5 Merging data | 9 |
| 1.6 Rationale for the Study..... | 10 |
| 1.7 Research Methodology..... | 10 |
| 1.8 Research Mapping..... | 11 |
| 1.9 Scope of the Study | 13 |
| 1.9.1 Delimitations | 13 |

| | | |
|---------------------------|--|----|
| 1.9.2 | Limitations | 14 |
| 1.9.3 | Validity..... | 15 |
| 1.10 | Structure of the Study..... | 15 |
| 1.11 | Shipping agency expansion and transformation | 17 |
| 1.11.1 | Geographic expansion..... | 17 |
| 1.11.2 | Mergers and Takeovers | 18 |
| 1.11.3 | The role of the shipping agent..... | 18 |
| 1.12 | Other markets along the supply chain | 19 |
| 1.12.1 | Vessel husbandry services..... | 19 |
| 1.12.2 | Freight Transport and Logistics | 19 |
| 1.12.3 | Stevedoring Services | 20 |
| 1.12.4 | Cargo surveyors | 21 |
| 1.12.5 | Over-border transportation..... | 22 |
| 1.12.6 | The Role of Transshipments with the emergence of Mega Vessels | 23 |
| 1.12.7 | Low Charter Rates Market and Purchase of Slots | 24 |
| 1.13 | Causes of the global shipping recession..... | 25 |
| 1.14 | Factors critical in moving the global shipping industry out of recession | 26 |
| 1.14.1 | Low freight rates and overcapacity | 26 |
| 1.14.2 | Effects of exchange rate fluctuations | 27 |
| 1.15 | Chapter Summary..... | 28 |
| CHAPTER 2 | | 29 |
| Review of literature..... | | 29 |
| 2.1 | Introduction | 29 |
| 2.2 | Causes and consequences of the 2008 global economic crisis | 29 |
| 2.2.1 | Causes of the 2008 global economic crisis | 29 |
| 2.2.2 | Consequences of the 2008 global economic crisis..... | 30 |

| | | |
|-------|---|----|
| 2.2.3 | Overcapacity | 31 |
| 2.2.4 | Increased bunker costs | 32 |
| 2.2.5 | New, larger vessels..... | 33 |
| 2.2.6 | Climatic regulation effects | 34 |
| 2.2.7 | Alternative fuels to meet regulations | 35 |
| 2.3 | Shipping Supply Chain Development | 36 |
| 2.3.1 | Port expansion required for South African Ports | 36 |
| 2.3.2 | The role of Government in Port Infrastructure Development..... | 36 |
| 2.4 | Measures to uplift the global shipping recession | 37 |
| 2.4.1 | Reducing bunker consumption..... | 37 |
| 2.4.2 | Maximizing fleet efficiency | 37 |
| 2.4.3 | Scrapping and idling vessels | 38 |
| 2.4.4 | Competition through mergers and alliances VSA..... | 38 |
| 2.4.5 | Maersk and MSC alliance | 39 |
| 2.4.6 | SAEC Vessel Sharing Agreement..... | 41 |
| 2.5 | Grounded theory of ship technology and shipping freight rates | 41 |
| 2.5.1 | Early History of ship technology and shipping freight rates..... | 41 |
| 2.5.2 | A contemporary view | 42 |
| 2.5.3 | Arguments for productivity gains and fall in freight rates | 42 |
| 2.6 | Reasons for diversification in shipping..... | 43 |
| 2.7 | Related or unrelated diversification in shipping | 44 |
| 2.7.1 | Differentiation | 44 |
| 2.7.2 | Home-based internationals..... | 45 |
| 2.8 | Collaboration strategies in shipping..... | 45 |
| 2.9 | Alliances..... | 46 |
| 2.10 | Specialisation | 46 |

| | | |
|--|--|----|
| 2.11 | Building competitive advantage through human resource..... | 46 |
| 2.12 | Building competitive advantage through capabilities | 47 |
| 2.13 | Chapter Summary..... | 48 |
| CHAPTER 3 | | 49 |
| Theoretical/conceptual foundation..... | | 49 |
| 3.1 | Introduction | 49 |
| 3.2 | Motives for diversification..... | 49 |
| 3.2.1 | Three main theoretical perspectives..... | 50 |
| 3.2.2 | Diversification and performance..... | 52 |
| 3.2.3 | Geographic diversification | 52 |
| 3.2.4 | Diversification and value of the firm | 53 |
| 3.3 | Ways of attaining diversification | 54 |
| 3.3.1 | Related and unrelated diversification..... | 54 |
| 3.3.2 | Related diversification: A case for competitive advantage..... | 55 |
| 3.3.3 | Diversification using transferable skills..... | 55 |
| 3.3.4 | Diversification using dynamic resource relatedness | 56 |
| 3.4. | Capital Structure influences | 57 |
| 3.4.1 | Diversification and capital structure..... | 58 |
| 3.4.2 | Debt and diversification | 59 |
| 3.4.3 | Impact of financial structure on governance..... | 60 |
| 3.5 | Managers and growth decisions | 61 |
| 3.5.1 | Size Goals | 62 |
| 3.5.2 | Performance Goals | 62 |
| 3.6 | Skills and cross-industry labour flows | 63 |
| 3.7 | Firm diversification and skill-relatedness | 63 |
| 3.8 | Theory of planned behaviour | 64 |

| | | |
|---------------------------|---|----|
| 3.8.1 | Decomposed Theory of Planned Behaviour (DTPB)..... | 66 |
| 3.8.2 | Attitude..... | 67 |
| 3.8.3 | Belief Saliency | 69 |
| 3.8.4 | Subjective norm | 69 |
| 3.8.5 | Perceived behavioural control..... | 70 |
| 3.8.6 | Perceived self-efficacy | 71 |
| 3.9 | The Technology Acceptance Model (TAM)..... | 72 |
| 3.10 | Trust and Risk perceptions..... | 73 |
| 3.11 | TPB Challenges and criticism..... | 73 |
| 3.11.1 | The self-report challenge in TPB | 73 |
| 3.11.2 | The control challenge in PTB | 74 |
| 3.11.3 | Criticism of the theory of planned behaviour | 74 |
| 3.12 | Empirical findings on TPB | 75 |
| 3.12.1 | Concerns about utility | 76 |
| 3.13 | Chapter Conclusion..... | 76 |
| CHAPTER 4 | | 77 |
| Research Methodology..... | | 77 |
| 4.1 | Introduction..... | 77 |
| 4.2 | Literature review | 77 |
| 4.2.1 | The quantitative/qualitative debate | 77 |
| 4.2.2 | The emergence of mixed methods: a third paradigm..... | 78 |
| 4.2.3 | Research strategy for mixed methods | 79 |
| 4.2.4 | The philosophy of mixed research | 80 |
| 4.2.5 | Pragmatism philosophy of mixed research | 80 |
| 4.2.6 | Grounded theory of mixed research..... | 81 |
| 4.2.7 | Triangulation origins | 82 |

| | | |
|--------|--|----|
| 4.2.8 | Blending elements of one paradigm into another | 83 |
| 4.2.9 | Definitions of Mixed Methods Research | 84 |
| 4.2.10 | Why mixing is carried out in research | 84 |
| 4.2.11 | Triangulation implications for this study | 85 |
| 4.2.12 | Mixed methods in component and integrated research designs | 85 |
| 4.3 | Mixed Methods Research Designs | 86 |
| 4.4 | Step 1: General perspective of research methods | 88 |
| 4.4.1 | Qualitative Research | 88 |
| 4.4.2 | Quantitative Research | 89 |
| 4.4.3 | Mixed Methods | 89 |
| 4.4.4 | Justification for mixed methods research | 90 |
| 4.5 | Step 2: Justifying the data gathering instrument employed | 91 |
| 4.5.1 | Questionnaires | 91 |
| 4.5.2 | Questionnaire strengths and weaknesses | 92 |
| 4.5.3 | Questionnaire administration | 93 |
| 4.6 | Steps 3 - 10: Research methodology | 93 |
| 4.6.1 | The combination of quantitative and qualitative data | 93 |
| 4.6.2 | Triangulation | 94 |
| 4.6.3 | Steps 3 – 6:Pilot study research methodology | 95 |
| 4.6.4 | Steps 7 – 10: Main Study Research Methodology | 96 |
| 4.6.5 | Pilot Study Results | 96 |
| 4.7 | Scope of research | 98 |
| 4.8 | Delimitations | 99 |
| 4.9 | Limitations | 99 |
| 4.10 | Population | 99 |
| 4.10.1 | Target population | 99 |

| | | |
|---|--|------------|
| 4.10.2 | Selection criteria..... | 101 |
| 4.11 | Sampling method | 102 |
| 4.12 | Research design..... | 1033 |
| 4.12.1 | Expansion questionnaire research design..... | 103 |
| 4.12.2 | Recession Questionnaire Research Design | 112 |
| 4.13 | Procedure for mixing quantitative and qualitative data | 121 |
| 4.14 | Chapter Conclusion..... | 122 |
| CHAPTER 5 | | 123 |
| Presentation and Analysis of Findings | | 123 |
| 5.1 | Introduction | 123 |
| 5.2 | Questionnaire on shipping agency expansion | 123 |
| 5.2.1 | What is your Age? (QE1)..... | 124 |
| Table 5.1: Age (QE1) | | 124 |
| 5.2.2 | What is your Gender? (QE2)..... | 124 |
| 5.2.3 | What is the Highest Level of Education you have successfully completed? (QE3) | 124 |
| 5.2.4 | Which ONE of the Following Best Describes the Area in which your Organisation falls? (QE4) | 125 |
| 95.1 | | 125 |
| 5.2.5 | For how Long have you Been Working in this Industry? (QE5)..... | 125 |
| 5.2.6 | With which of the following Areas of Shipping and Logistics are you Familiar? (Liner shipping Agency) (QE6.1)..... | 126 |
| 5.2.7 | With which of the Following Areas of Shipping and Logistics are you Familiar? (Port and husbandry Services) (QE6.2) | 127 |
| 5.2.8 | With which of the Following Areas of Shipping and Logistics are you Familiar? (Freight transport and logistics) (QE6.3)..... | 127 |

| | | |
|--------|--|------------|
| 5.2.9 | With which of the Following Areas of Shipping and Logistics are you Familiar? (Charterers Agency) (QE6.4)..... | 127 |
| 5.2.10 | Identifying possible growth opportunities (QE7) | 128 |
| 5.2.11 | Agreement on the feasibility for shipping agency expansion into Husbandry services | 131 |
| | Table 5.18: Expansion: Vessel Security (QE8.1.3) | 132 |
| 5.2.12 | Feasibility for Shipping Agency Expansion into Freight and Logistics | 137 |
| 5.2.13 | Feasibility for Shipping Agency Expansion into Charterers' Agency | 140 |
| 5.2.14 | Facilitating Penetration into Freight and Logistics markets (Q9.1)... | 143 |
| 5.2.15 | Identifying Factors to Facilitate Penetrating the Husbandry Market . | 146 |
| 5.2.16 | Identifying Factors to Facilitate Penetrating the Charterers' Market. | 148 |
| 5.3 | Findings from the questionnaire on shipping industry recession..... | 157 |
| 5.3.1 | Identifying factors that caused the global shipping recession (QR7) | 157 |
| 5.3.2 | Evaluating the consequences of the global shipping recession (R8) . | 160 |
| 5.3.3 | Agreement on consequences of the global shipping recession (QR9.1).. | 163 |
| 5.3.4 | Consequences of the global shipping recession on Liners (QR9.2)... | 165 |
| 5.3.5 | Consequences of the Global Shipping Recession for Shipping Agencies (QR9.3) | 168 |
| 5.3.6 | Decisive factors to move the shipping industry out of recession (QR10.1) | 171 |
| 5.3.7 | Investors Expecting to Reduce Costs through Financing Issues (QR10.2) | 174 |
| 5.3.8 | Investors Expecting to Reduce Costs through Regulatory Requirements (QR10.3) | 176 |

| | | |
|----------------------------|--|-----|
| 5.3.9 | Ways to move the global shipping industry out of recession (QR11.1) .. | 177 |
| 5.3.10 | Moving Out of Recession through Industry Partners Abilities (QR11.2.1) | 181 |
| 5.4 | Conclusion | 184 |
| CHAPTER 6 | | 185 |
| Interpretation of findings | | 185 |
| 6.1 | Introduction | 185 |
| 6.2 | Expansion of shipping agencies questionnaire | 185 |
| 6.2.1 | Demographic profiles | 185 |
| 6.2.2 | Identifying possible growth opportunities | 188 |
| 6.2.3 | Feasibility for shipping Agency Expansion | 193 |
| 6.2.4 | Identifying factors that will facilitate diversification | 203 |
| 6.2.5 | Identifying how transformation will be achieved | 211 |
| 6.3 | The global shipping recession questionnaire: Shipping Questionnaire | 216 |
| 6.3.1 | (QR7.1 – QR7.4) Factors responsible for the global shipping recession: | 216 |
| 6.3.2 | (QR8) Impact of the global shipping recession | 222 |
| 6.3.3 | (QR9) Consequences of the global shipping recession: | 227 |
| 6.3.4 | (QR10) Ways to move the shipping industry out of recession | 240 |
| 6.3.5 | (QR11.1.1 – QR11.1.6) Conditions necessary for partners' in the industry to move out of the global shipping recession: | 249 |
| 6.4 | Bivariate analysis | 258 |
| 6.4.1 | Expansion of shipping agency business | 258 |
| 6.4.2 | (QR5) Industry knowledge/ (QR10.1 – QR10.3) How transformation is to be achieved | 258 |
| 6.4.3 | Bivariate analysis – Shipping environment objectives | 259 |

| | | |
|-------------------|---|-----|
| 6.5 | Conclusion | 260 |
| CHAPTER 7 | | 261 |
| Conclusions | | 261 |
| 7.1 | Introduction | 261 |
| 7.2 | Importance of the topic | 261 |
| 7.3 | Objectives of thesis: What was investigated? | 261 |
| 7.4 | Summary of what was found – what is new?..... | 262 |
| 7.5 | Distinctive contribution of thesis | 262 |
| 7.5.1 | Theoretical contribution | 262 |
| 7.5.2 | Managerial contribution | 263 |
| 7.6 | Implications of the study: Theoretical contribution | 263 |
| 7.6.1 | Cost cutting measures | 263 |
| 7.6.2 | Knowledge and skills transfer | 264 |
| 7.6.3 | Diversification..... | 264 |
| 7.6.4 | Related or unrelated diversification | 265 |
| 7.6.5 | Financial crises..... | 266 |
| 7.6.6 | Impact of the global shipping recession..... | 266 |
| 7.6.7 | Low freight rates | 267 |
| 7.6.8 | Financing issues | 267 |
| 7.7 | Implications of the study: Managerial contribution | 268 |
| 7.7.1 | Shipping agency growth recommendations | 268 |
| 7.7.2 | Growth into husbandry services..... | 268 |
| 7.7.3 | Growth into freight transportation | 268 |
| 7.7.4 | Growth into charters agency | 269 |
| 7.7.5 | Factors that caused the global shipping recession..... | 269 |
| 7.7.6 | Consequences of the global shipping recession | 269 |

| | | |
|-------|--|-----|
| 7.7.7 | Moving the global shipping industry out of the recession | 269 |
| 7.8 | Support for the key arguments | 270 |
| 7.9 | Areas of interest | 270 |
| 7.10 | Future research opportunities | 271 |
| 7.11 | Limitations of current work | 271 |
| 7.12 | Conclusion | 272 |
| | Reference List | 273 |
| | Annexures/Appendices | 308 |
| | Appendix 1: Questionnaire for Objective 1 | 308 |
| | Appendix 2: Questionnaire for Objective 2 | 314 |
| | Appendix 3: Bivariate Analysis Tables..... | 320 |

List of Tables

| | |
|---|-----|
| Table 1.1: Research Mapping..... | 11 |
| Table 4.1: Mixed methods designs..... | 87 |
| Table 4.2: Steps 3 – 6 Pilot study methodology..... | 95 |
| Table 4.3: Steps 7 – 10 Main Study Research Methodology..... | 96 |
| Table 4.4 Demographic characteristics of participants..... | 99 |
| Table 4.5: Mutually exclusive sub-groups..... | 100 |
| Table 4.6: Sample..... | 103 |
| Table 4.7: Expansion questionnaire research design..... | 103 |
| Table 4.8: Recession Questionnaire Design..... | 112 |
| Table 4.9: Procedures for mixing quantitative and qualitative data..... | 121 |
| Table 5.1: Age (QE1)..... | 124 |
| Table 5.2: Gender (QE2)..... | 124 |
| Table 5.3: Education (QE3) | 125 |
| Table 5.4: Organisation Category (QE4) | 125 |
| Table 5.5: Experience (QE5)..... | 126 |
| Table 5.6: Familiarity: Liner Shipping Agency (QE6.1) | 126 |
| Table 5.7: Familiarity: Port and Husbandry (QE6.2)..... | 127 |
| Table 5.8: Familiarity: Freight Transport and Logistics (QE6.3) | 127 |
| Table 5.9: Familiarity: Charterers Agency (QE6.4) | 128 |
| Table 5.10: Shipping Agency Expansion (QE7.1)..... | 128 |
| Table 5.11: Expansion: Husbandry Services (QE7.2) | 129 |
| Table 5.12: Expansion: Charterers' Agency (QE7.3) | 129 |
| Table 5.13: Diversification: Freight and Logistics (QE7.4) | 130 |
| Table 5.14: Diversification to Reduce Risks (QE7.5)..... | 130 |
| Table 5.15: Diversification to Cut Costs (QE7.6)..... | 131 |
| Table 5.16: Expansion: Crew Change Assistance (QE8.1.1)..... | 131 |
| Table 5.17: Expansion: Cash to master Transactions (QE8.1.2) | 132 |
| Table 5.18: Expansion: Vessel Security (QE8.1.3)..... | 132 |
| Table 5.19: Expansion: Bunker Delivery Coordination (QE8.1.4)..... | 133 |
| Table 5.20: Expansion: Fuel and Lubricants Supplies (QE8.1.5)..... | 133 |

| | |
|---|-----|
| Table 5.21: Expansion: Waste and Sewage Removal (QE8.1.6) | 134 |
| Table 5.22: Expansion: Communication Services (QE8.1.7) | 134 |
| Table 5.23: Expansion: Meet and Greet Transport Services (QE8.1.8)..... | 135 |
| Table 5.24: Expansion: Statement of Facts (QE8.1.9)..... | 135 |
| Table 5.25: Expansion: Surveyors and Technicians (QE8.1.10) | 136 |
| Table 5.26: Expansion: Stevedoring (QE8.1.11) | 137 |
| Table 5.27: Expansion: Inland Freight (QE8.2.1)..... | 137 |
| Table 5.28: Expansion: Over Border Transport (QE8.2.2)..... | 138 |
| Table 5.29: Expansion: Intermodal transport (QE8.2.3)..... | 138 |
| Table 5.30: Expansion: Container Sales: (QE8.2.4) | 139 |
| Table 5.31: Expanding into bulk wholesale purchase of slots (QE8.2.5) | 139 |
| Table 5.32: Expansion: Bareboat Chartering (QE8.3.1) | 140 |
| Table 5.33: Expansion: Time Chartering (QE8.3.2) | 141 |
| Table 5.34: Expansion: Voyage Chartering (QE8.3.3) | 141 |
| Table 5.35: Expansion: Appointing OWN Representative (QE8.3.4) | 142 |
| Table 5.36: Expansion: Stockpile Reporting (QE8.3.5) | 142 |
| Table 5.37: Marketing Offering to Potential Clients (QE9.1.1) | 143 |
| Table 5.38: Industry Knowledge (QE9.1.2)..... | 143 |
| Table 5.39: Industry Experience (QE9.1.3) | 144 |
| Table 5.40: Appropriate Infrastructure (QE9.1.4) | 144 |
| Table 5.41: Provide Quality Service (QE9.1.5) | 145 |
| Table 5.42: Outsource the Services (QE9.1.6)..... | 145 |
| Table 5.43: Good Reputation in Shipping (QE9.2.1)..... | 146 |
| Table 5.44: Port Experience (QE9.2.2)..... | 146 |
| Table 5.45: Good Relationship with Authorities (QE9.2.3) | 147 |
| Table 5.46: Accurate Disbursement Accounts (QE9.2.4)..... | 147 |
| Table 5.47: Sound Contact with Suppliers (QE9.2.5)..... | 148 |
| Table 5.48: No Trade Flow Dislocations (QE9.3.1) | 149 |
| Table 5.49: Experience in Handling Documentation (QE9.3.2)..... | 149 |
| Table 5.50: Assessing and Reporting on Port Status (QE9.3.3) | 150 |
| Table 5.51: Quick Turnaround Time (QE9.3.4) | 150 |
| Table 5.52: Chartering own feeder vessels to serve principals (QE10.1)..... | 151 |

| | |
|---|-----|
| Table 5.53: Smart IT Systems (QE10.2) | 152 |
| Table 5.54: Representing other Ships Agencies (QE10.3) | 152 |
| Table 5.55: Competent and Experienced Staff (QE10.4) | 153 |
| Table 5.56: Carrier Haulage Ratio (QE10.5) | 153 |
| Table 5.57: Securing Own Trucks or Rental Trucks (QE10.6)..... | 154 |
| Table 5.58: Bulk Purchase of Vessel Slots (QE10.7) | 154 |
| Table 5.59: Changing Working Hours (QE10.8) | 155 |
| Table 5.60: Good Reputation/Brand Name (QE10.9)..... | 156 |
| Table 5.61: Offering Reefer Monitoring Services (QE10.10) | 156 |
| Table 5.62: Logistics Monitoring Services (QE10.11) | 157 |
| Table 5.63: Container Sales Services (QE10.12)..... | 157 |
| Table 5.64: Easy Credit to Ship Owners (QR7.1)..... | 158 |
| Table 5.65: The E.U. Economic Debt Crisis (QR7.2) | 159 |
| Table 5.66: Pro-growth Biased Forecasts (QR7.3) | 159 |
| Table 5.67: Decline in Global Trade Volume (QR7.4)..... | 160 |
| Table 5.68: Impact on Shipping Liners (QR8.1) | 161 |
| Table 5.69: Impact On Shipping Agencies (QR8.2) | 161 |
| Table 5.70: Impact on Global Supply Chain (QR8.3) | 162 |
| Table 5.71: Impact on Freight Transporters (QR8.4) | 163 |
| Table 5.72: Impact on Husbandry Services (QR8.5) | 163 |
| Table 5.73: Decline in Seaborne Freight: (QR9.1.1) | 164 |
| Table 5.74 Small Firms are Squeezed Out: (QR9.1.2) | 164 |
| Table 5.75: Transporters Forced to change Business Models (QR9.1.3) | 165 |
| Table 5.76: Trend to Offering a Full Package (QR9.1.4) | 166 |
| Table 5.77: Idle Vessels: (QR9.2.1)..... | 167 |
| Table 5.78: Overcapacity (QR9.2.2) | 167 |
| Table 5.79: Low Freight and Charter rates (QR9.2.3) | 168 |
| Table 5.80: Slow Steaming (QR9.2.4) | 168 |
| Table 5.81: Mergers among Shipping Liners: (QR9.2.5) | 169 |
| Table 5.82: Downsizing/Retrenchments (QR9.2.6) | 169 |
| Table 5.83: Fewer Vessels Calling at Ports (QR9.3.1) | 170 |
| Table 5.84: Significant Decline in Freight Rates (QR9.3.2)..... | 170 |

| | |
|---|-----|
| Table 5.85: Increase in Shipping Agencies Operational Cost. (QR9.3.3) | 171 |
| Table 5.86: Closing Doors or Amalgamating. (QR9.3.4) | 172 |
| Table 5.87: Cash Flow Problems (QR9.3.5) | 172 |
| Table 5.88: Reducing Bunker Consumption (QR10.1.1) | 173 |
| Table 5.89: Maximising Fleet Efficiency (QR10.1.2) | 174 |
| Table 5.90: Slow Steaming (QR10.1.3) | 174 |
| Table 5.91: Postponing New Deliveries (QR10.1.4) | 175 |
| Table 5.92: Scrapping and Idling Ships (QR10.1.5) | 176 |
| Table 5.93: Investment Needed to Continue Operations (QR10.2.1) | 176 |
| Table 5.94: Private Equity Funds have a Bigger Role to Play (QR10.2.2).... | 177 |
| Table 5.95: Strategic/Global Carrier Alliances (QR10.2.3) | 178 |
| Table 5.96: Harmonised Standards (QR10.3.1) | 178 |
| Table 5.97: Bunker Fuel with Liquid Natural Gas (QR10.3.2) | 179 |
| Table 5.98: Ability to Increase Freight Rates (QR11.1.1) | 180 |
| Table 5.99: Improve the Modal Share (QR11.1.2) | 180 |
| Table 5.100: Trade freely Without Protectionism (QR11.1.3) | 181 |
| Table 5.101: Balance of Container Volume (QR11.1.4) | 182 |
| Table 5.102: Partnerships that Cover Operations Globally (QR11.1.5) | 182 |
| Table 5.103: Remove Provisions that Restrict Cabotage (QR11.1.6) | 183 |
| Table 5.104: Working with Paperless Utilities (QR11.2.1) | 184 |
| Table 5.105: Reducing Costs through Outsourcing (QR11.2.2) | 184 |
| Table 5.106: Eliminate Redundant Office Functions (QR11.2.3) | 185 |
| Table 5.107: Allowing Seasonality of Staff. (QR11.2.4) | 186 |

List of Figures

| | |
|--|-----|
| Figure 1: Parallel Phases Mixed Design Structure..... | 9 |
| Figure 1.2: Hub and spoke network principle | 24 |
| Figure 1.3: EURO-ZAR exchange rates 2014 | 28 |
| Figure 1.4: USD-ZAR exchange rates 2014 | 29 |
| Figure 2.1: International Seaborne Trade..... | 30 |
| Figure 2.2: (ULCVs) per carrier by end-2016 | 32 |
| Figure 3.1: Generic Strategic Resource Accumulation Process..... | 57 |
| Figure 3.2: Theory of planned behaviour..... | 64 |
| Figure 3.3: The Decomposed Theory of Planned Behaviour..... | 68 |
| Figure 3.4: The Technology Acceptance Model..... | 73 |
| Figure 4.1: South African Ports | 101 |

List of Abbreviations

| | |
|---------|---|
| 3PLs | Third Party Logistics |
| ABS | Asia and the Black Sea |
| ABS | Asia and the Black Sea |
| ASBA | American Ship Brokers Association |
| BAF | Bunker Adjustment Factor |
| BCG | Boston Consultancy Group |
| BIMCO | Baltic and International Maritime Conference |
| BPO | Business Process Outsourcing |
| CAG | Compounded Annual Growth |
| CEO | Chief Executive Officer |
| CEPR | Centre for Economic Policy Research |
| CMA CGM | Compagnie Maritime d'Affrètement Compagnie Générale Maritime |
| CNSS | Clean North Sea Shipping |
| CO | Carbon Dioxide |
| DAL | Deutsche Afrika Linen |
| DHL | Dalsey, Hillblom and Lynn (founders of DHL Worldwide Express) |
| DTPB | Decomposed Theory of Planned Behaviour |
| DWT | Dead Weight Tonnage |
| EDI | Electronic Data Interchange |
| ESC | European Shippers Council |
| EU | European Union |
| Euro | European Currency |
| FTW | Freight Trading Weekly |
| GDP | Gross Domestic Product |
| IMF | International Monetary Fund |
| IMO | International Maritime Organisation |
| IOL | Independent Online news |
| IRAS | Inland Revenue Authority of Singapore |
| ISS | Inchcape Shipping Services |
| IT | Information Technology |
| LAC | Latin America and Caribbean Economies |

| | |
|-----------------|--|
| LNG | Liquefied Natural Gas |
| MGO | Marine Gas Oil (Marine Fuel) |
| Mol | Mitsui OSK Lines |
| MSC | Mediterranean Shipping Company |
| NO _x | Nitrogen Oxide |
| NTA | New Trans Atlantic |
| NVOCC | Non Vessel Owning Common Carrier |
| OECD | Organisation for European Community Development |
| OTIs | Ocean Transport Intermediaries |
| P/DA | Provisional Disbursement Account |
| PBC | Perceived Behavioural Control |
| PEOU | Perceived Ease of Use |
| PU | Perceived Usefulness |
| SACU | Southern African Customs Union |
| SADC | Southern Africa Development Community |
| SAECS | Southern Africa European Consortium |
| SBU | Strategic Business Unit |
| SO ₂ | Sulphur Dioxide |
| SPSS | Statistical Package for Social Sciences |
| TAU | Technology Acceptance Model |
| TEU | Twenty Foot Equivalent Unit |
| TPB | Theory of Planned Behaviour |
| TRA | Theory of Reasoned Action |
| UAFL | United Africa Feeder Lines |
| UNCTAD | United Nations Conference on Trade and Development |
| US | United States |
| USD | United States Dollar |
| VDR | Verband Deutscher Reeder |
| VOC | Volatile Organic Compound |
| VSA | Vessel Sharing Agreement |
| ZAR | South African Rand |

CHAPTER 1

Background and Overview

1.1 Introduction

The container-shipping industry has been highly unprofitable for more than five years and the situation does not appear to be improving, leaving the industry in the grip of a deep, persistent recession, worsened by the global economic crisis of 2008/9. The 2008 crisis had been the longest and most severe downturn for the modern merchant in the history of container-ships market (Kalgora and Christian 2016). The financial recession of the post 2008 period has a significant impact on international trade, transport and logistics (Ng and Liu 2010). The decline in real GDP and its components during the 2007–2009 recessions is also considerably more severe than in other recessions (Ohanian 2010: 48).

The global shipping recession is characterised by disequilibrium in supply and demand, which has seen an overcapacity of tonnage against depressed demand. Ship owners and operators must make strategic long-term decisions that take account of the flow-on consequences, for a service industry of varying trade cycles, in an international context. Indeed, the shipping industry is often a leading indicator of movements in the trade cycle, as demand for shipping varies sharply, according to exporters' anticipation of changes in demand for their products (Bendall and Stent 2005).

The resulting oversupply of tonnage has led to a significant drop in container freight rates, which decreased by one third between the end of 2008 and the end of 2009 (Hoffman 1999); this is the problem that has caused the long and deep global shipping recession to persist. It is also believed that the potential remaining in cost savings in transportation alone, are limited. To remain in business and generate higher margins, shipping lines must find opportunities elsewhere. Therefore, pressure exists to develop more value added services, with diversification perceived as the safest and easiest way to get there (Notteboom and Mercx 2006).

Newer, larger vessels, with capacity of up to 18,000 Twenty foot Equivalent Units (TEUs) are now in trade routes and this has introduced new trends within the shipping industry. The combination of high bunker costs, larger vessels and stringent demands on the associated liner service networks, leads to challenges related to dealing with speed issues in liner service design (Notteboom and Vernimmen 2009: 5). The resulting oversupply of tonnage led to a significant drop in container freight rates, which decreased by one third between the end of 2008 and the end of 2009 (Hoffman 1999), and the persistently low freight rates have caused the problem of low returns to the shipping industry.

Ports have responded with infrastructural development to accommodate the larger vessels and new opportunities in transshipment and deliveries of cargo to final destination have emerged. Further, new environmental regulations, requiring reduction in carbon emissions, have increased the operating expenses for shipping liners. While a long-term solution may lie with Liquefied Natural Gas (LNG), there is little doubt that the combination of the financial crisis and the largest order book in 30 years, created a surplus tonnage.

The problem has persisted long enough to warrant further research, in identifying ways to move the industry through recovery and out of the recession. Shipping liners have responded with tactical measures, such as slow steaming and waiting days but this has not been enough to bring profitability. Competitive positions have also been further enhanced, when line operators share slots in each other's vessels, so as to fill the vessel and enjoy scale of economies through Vessel Sharing Agreements (VSAs).

Examples of prior studies that have examined the problem of low freight rates on the global shipping industry include studies advocating for container shipping companies to diversify through alliances, as well as defensive and offensive collaborations, to attain more strategic competitive positions (Panayides, P., M., and Wiedmer, R. 2011). Lorange and Fjeldstad, (2010) maintain that firms may also specialise by focusing on one particular aspect of the shipping business, while Progoulaki and Theotokas (2010) describe how shipping firms can build sustainable competitive

advantage, based on human resource. Lorange and Datson, (2014) and Cullinane and Khanna (2000b) maintain that because of volatility and cyclicalities, risk management is one of the most important activities in the shipping business.

However, in spite of all the literature available, an examination of strategic alternatives for South African container shipping agencies is missing. This thesis was aimed at developing a model of growth through diversification, for shipping agencies in South Africa, under recessionary conditions. The research was conducted in the South African shipping industry and its global shipping surrounds, with an evaluation of the Europe-Southern Africa trade and the Indian Ocean Islands-Southern Africa trades, as the focus of the thesis. The research will provide perspectives on alternative choices faced by shipping companies in South Africa, in order to exploit shipping industry opportunities along the supply chain and survive the shipping recession through diversification.

1.2 Background of Research

Oversupply of tonnage led to a significant drop in container freight rates, which decreased by one third between the end of 2008 and the end of 2009 (Hoffman 1999), and the persistently low freight rates have contributed to a problem of low returns to the shipping industry. It is therefore, necessary to develop a framework of diversification options to the shipping industry. The industry is characterised by low shipping freight rates that were prevalent before the global economic crisis of 2008/9 and recovery is still very far from certain. The oversupply of tonnage has led to a significant drop in container freight rates, which decreased by one third between the end of 2008 and the end of 2009 (Hoffman 1999); this is the problem that has caused the long and deep global shipping recession to persist. Moreover, carriers' response, in trying to turn the situation around by investing in newer, larger vessels, only created a temporary competitive advantage and spawned the excess capacity and low returns that have beleaguered the industry.

Oversupply of tonnage led to a significant drop in container freight rates, which decreased by one third between the end of 2008 and the end of 2009 (Hoffman 1999),

and the persistently low freight rates have contributed to a problem of low returns to the shipping industry. This thesis is aimed at developing a model of growth through diversification for shipping agencies in South Africa, under present global shipping recessionary conditions. The research was conducted in the South African shipping industry and framed around the global shipping environment, particularly based on the Europe-Southern Africa route, operated by the Southern Africa European Consortium (SAECS), whose membership consists of Maersk Line, Mitsui O.S.K. Lines (Mol), Safmarine and Deutsche Afrika-Linien (DAL).

Major players have attempted to address the oversupply in the market by retiring older vessels, delaying orders, or reducing capacity on key routes. Other measures adopted by carriers to absorb capacity have included reducing vessel speed and taking longer routes. These have all had limited impact and there is now a greater need for an evaluation of growth options for shipping agencies, so as to survive the impact of the global shipping recession and changes taking place along the global supply chain.

1.3 Problem Statement

There is a problem of low earnings for shipping agencies due to the global shipping recession, which has continued over many years, necessitating the need to find alternative sources of income for shipping agents, as well as solutions that can bring recovery to the global shipping industry. Oversupply of tonnage led to a significant drop in container freight rates, which decreased by one third between the end of 2008 and the end of 2009 (Hoffman 1999), and the persistently low freight rates have contributed to a problem of low returns to the shipping industry.

Shipping agents should, perhaps, aim at growing through diversification into vessel husbandry, vessel chartering, freight transportation, and growing new trades, as well as through mergers and acquisitions. Alliances and VSAs continue to be important, as the global shipping industry seeks to cut costs through economies of scale. Moreover, the introduction of newer, larger vessels that are more efficient and offer scale of economies, has compounded the problem of overcapacity, hence freight rates have continued to be low with resulting, unprofitable levels. It is the low freight rates that

have caused the problem of unprofitability in the global shipping industry and this problem has persisted over a decade.

As a result of the global shipping recession, shipping agencies have not been spared and have experienced low income returns since the crisis. It is, therefore, important that urgent attention must be paid to the shipping industry and ways sought to identify how shipping agencies can expand income sources to overcome the recession and sustain their business.

However, larger vessels have dictated port development, as well as schedule reconfigurations, to meet the larger vessels' berthing and terminal handling capacities. Shipping agents should aim at taking advantage of the transshipment of cargo from larger vessels to smaller ports where they do not berth and provide chartered service along coastwise ports. Transshipment is cheaper than road and rail inland transportation, while also decongesting the ports and roads. This is an area that requires further research to examine the potential of moving more cargo through transshipments than via inland transportation along the supply chain.

1.4 Objectives of the Research

The primary objective of the research is to develop a framework of diversification options to the shipping industry.

The supporting objectives of the research are to:

- Identify areas for shipping companies to expand their operations through penetrating other markets along the supply chain.
- Identify the causes of the global shipping recession.
- Examine factors that are critical in moving the global shipping industry out of the recession.

1.5 Research Design

In this research, a mixed methodological approach combining qualitative and quantitative methods has been utilized. This combination is legitimized by the

pragmatic approach (Morgan 2007) which focuses on the methodology as a connexion centre of abstract levels of epistemology and mechanical levels of methods and motivated by a hybrid exploration of complex phenomena and process. Beyond that, it is also a matter of trying to reduce the weaknesses and the problems linked to mono methods, to ameliorate the validity and reliability of the results and to enrich our comprehension of the studied phenomenon and the emergence of new dimensions (Jick 1979; Sechrest and Sidana 1995; Teddlie and Tashakkori 2003; Johnson and Onwuegbuzie 2004).

1.5.1 Descriptive and Correlational study

A descriptive study is “concerned with and designed only to describe the existing distribution of variables, without regard to causal or other hypotheses” (Last 2001). Good descriptive research, like good newspaper reporting, should answer five basic “W” questions—who, what, why, when, and where—and an implicit sixth question, so what? (Grimes, D., A. & Schultz, K., F. 2002)

The first type of correlational design, explanatory design, is conducted when researchers want to explore “the extents to which two or more variables co-vary, that is, where changes in one variable are reflected in changes in the other” (Creswell 2008: 358). The second type of correlational design, prediction design, is used by researchers when the purpose of the study is to predict certain outcomes in one variable from another variable that serves as the predictor. Correlational research allows researchers, as well as research consumers, to determine the following by looking at patterns within the entire group of data points (Creswell 2008; Lodico *et al.* 2006) the form of the relationship, the type of association, the existence of extreme scores, the direction of the relationship, and the degree of the relationship.

This study employed descriptive research, in order to reveal and appreciate the impact and consequences of the global shipping recession on shipping companies. Correlational research was also conducted, in order to examine the strategic options for diversification that shipping companies may pursue, through relationships along the supply chain, the types of association (horizontal and vertical) and the degree of

industry-relatedness, as crucial considerations, when diversifying in the shipping industry.

1.5.2 Quantitative and Qualitative research approach

Quantitative (mainly deductive) methods are ideal for measuring pervasiveness of “known” phenomena and central patterns of association, including inferences of causality. Qualitative (mainly inductive) methods allow for identification of previously unknown processes, explanations of why and how phenomena occur, and the range of their effects (Pasick *et al.* 2009). Mixed methods research, then, is more than simply collecting qualitative data from interviews, or collecting multiple forms of qualitative evidence (e.g., observations and interviews) or multiple types of quantitative evidence (e.g., surveys and diagnostic tests). It involves the intentional collection of both quantitative and qualitative data and the combination of the strengths of each to answer research questions (Creswell, J. W., Klassen, A. C., Clark, V. L. C., & Smith, K.C. 2011).

1.5.3 Objectives pursued in mixed methods

Four objectives are pursued in mixed methods research (Caruth 2013; Creswell and Plano Clark 2011; Ponce 2011; Teddlie and Tashakkori 2009; Bergman 2008; Greene 2007):

- Combining or integrating quantitative and qualitative methods toward the best possible approach to the research problem.
- Generate quantitative and qualitative data toward a clear and deep understanding of the research problem being addressed.
- Generate quantitative and qualitative data from the same research problem that allows the researcher greater certainty in inferences, conclusions or statements which formulate its findings.
- Make more robust research by using the strengths from one research model to offset methodological shortcomings from the other. This produces more reliable research.

The sample was drawn from the global population of shipping agency executives, liner shipping executives, port and terminal operators, as well as executives from the freight and logistics industry. The population consisted of 420 managers and executives, 201 respondents who were invited to participate on a judgmental basis, based on availability, with only 140 responses received. Sample selection criteria sought participation from managers and executives, using proportionate, stratified sampling.

Questionnaires were distributed to respondents, with only 140 responses received. Interviews were conducted, along with participant observation and peer discussions, with 65 responses received, to personally assist in collection and analysis of the data, using a mixed method research approach.

1.5.4 The research question (foundations)

A structured questionnaire was designed and employed in conducting both the quantitative survey and interviews. Two sets of questionnaires were developed (Appendix 1 and 2), addressing the following:

- The diversification opportunities for shipping agencies and
- The general global shipping recession and ways to move out of the recession.

Mixed studies emphasise the research questions of the study being the focus of all methodological decision. The research question guides the study and determines which components of quantitative and qualitative models are used. In other words, what determines the combination or integration of quantitative and qualitative approaches are the research questions of the study (Ponce, O. A., & Pagan-Maldonado, N. (2015). A mixed methods study is research intentionally combining or integrating quantitative and qualitative approaches as components of the research. The use of these approaches can occur at different points in the research process (Caruth 2013; Creswell and Plano Clark 2011; Ponce 2011; Teddlie and Tashakkori 2009; Greene 2007).

In this study, the use of quantitative measurement instruments, with qualitative research techniques, to generate quantitative and qualitative data for the research problem was developed, followed by combining quantitative and qualitative data in the analysis of study data. The study further combined quantitative and qualitative data in the presentation of the study findings. The structure of the research design is presented in Figure 1.

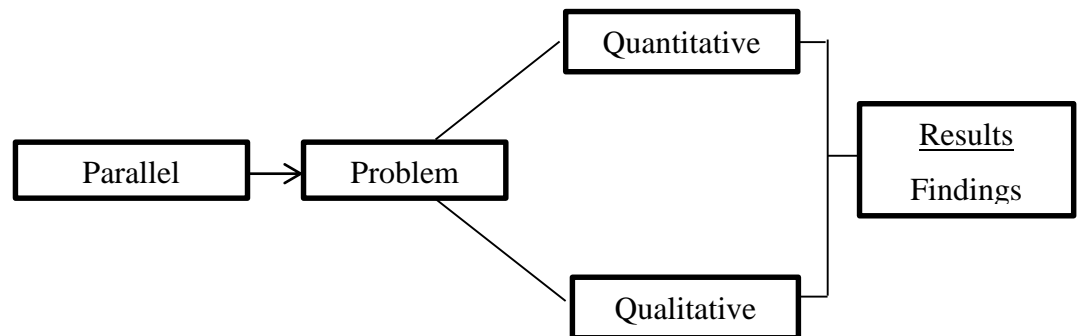


Figure 1: Parallel Phases Mixed Design Structure

Adapted from Ponce, O. A., & Pagan-Maldonado, N. (2015: 177)

1.5.5 Merging data

The data was analysed using statistical analysis of correlation, regression, and significance test analysis, using Wilcoxon Signed Ranks Test. A bivariate analysis was also employed, using the Kruskal Wallis Test. The integration consisted of combining the qualitative data in the form of texts or images, with the quantitative data in the form of numeric information. This integration can be achieved by reporting results together in a discussion section of a study, such as reporting first the quantitative statistical results, followed by qualitative quotes or themes that support or refute the quantitative results (Creswell *et al.* 2011). In order, for a study to be considered a mixed methods research, the data must be integrated during the analysis and the interpretation of results (Greene, Caracelli and Graham 1989; Johnson and Onwuegbuzie 2004; Yin 2006).

1.6 Rationale for the Study

The shipping industry has fallen into a recession characterised by low earnings, layoffs and low freight rates that shipping companies, in particular the container shipping industry, have battled to survive. The entry of larger vessels, to an industry already troubled by oversupply of tonnage, has made immediate solutions for recovery bleak and it is, therefore, logical to investigate ways for shipping agencies to survive through diversification and identify ways to aid recovery of the global shipping industry.

The fundamental oversupply of capacity in all major shipping segments has not changed much over the past year. According to BIMCO (2015), container ships continue to grow in size, breaking previous records for both individual and the average size across the fleet. Ultimately, a need exists for diversification into other geographic markets, trades and markets along the supply chain. This is why the goal of the present study is to identify those factors having the most influence on the growth of shipping agencies through diversification. The final purpose was to identify those factors that characterise the global shipping recession and develop solutions to bring recovery to the industry.

Glave, Joerss and Saxon (2014) hold that a major part of the problem is that the industry continues to add capacity. The authors further argue that, pressure to fill this capacity and capture the efficiency benefits of larger vessels, has led to hasty decisions by carriers. In turn, profits have become exceptionally volatile, making it imperative that an investigation into the problem and possible solutions be conducted. Furthermore, the study will highlight strategic options for diversification of shipping agents and add to the body of knowledge in literature.

1.7 Research Methodology

Bhattacharjee (2012) states that a scientific method refers to a standardised set of techniques for building scientific knowledge, such as how to make valid observations, how to interpret results, and how to generalise those results. This study was based on both quantitative and qualitative analyses of surveys that were conducted among

executives within the global shipping industry, to identify diversification options for shipping agencies in South Africa.

The study was conducted as a mixed methods research and the research approach was a combination of quantitative and qualitative research. The quantitative research involved mathematical methods to analyse structured questionnaire responses, while the qualitative consisted of ethnographic research. This was based on notes taken during discussions, meetings and interviews. Data was also collected through secondary data analysis, fieldwork, observing activities of interest, recording field notes and observations, and carrying out various forms of informal and semi-structured ethnographic interviewing.

The data was analysed using triangulation to combine the results of the investigation. Statistical analysis was employed for the quantitative research and the results were illustrated in tables. These were combined with qualitative research findings from these conclusions, with recommendations on the study subsequently being drawn.

1.8 Research Mapping

Table 1.1: Research Mapping

| No | Research Aim | Research Questions | Research Objectives | Research Rationale | Underlying Theory |
|----|---|--|---|--|-------------------------------|
| 1 | To investigate the feasibility of shipping agency diversification options | 1.1. Are there areas where shipping agency business can diversify and widen income streams? 1.2. Is it feasible for shipping agencies to expand into husbandry services? 1.2.1. What are the requirements for shipping agencies to expand into husbandry services? 1.3. Is it feasible for shipping agencies to expand into freight and Logistics services? 1.3.1 What are the requirements for shipping agencies to expand into freight and logistics services? | Identify areas for shipping agencies to expand their operations through penetrating other markets along the supply chain. | The entry of larger vessels, to an industry already troubled by low freight rates and oversupply of tonnage, has made immediate solutions for recovery bleak and it is, therefore, logical to investigate ways for shipping agencies to survive through diversification and identify ways to aid recovery of the global shipping industry. | The theory of diversification |

| | | | | | |
|---|---|--|---|---|---|
| | | <p>1.4. Is it feasible for shipping agencies to expand into charterers' agency services?</p> <p>1.4.1 What are the requirements for shipping agencies to expand into charterers' agency services?</p> | | | |
| 2 | To establish the factors responsible for the global shipping recession and its impact on the global shipping industry | <p>2.1 What were the factors that caused the global shipping recession of 2008-9?</p> <p>2.2 What was the impact of the global shipping recession on shipping liners?</p> <p>2.3 What was the impact of the global shipping recession on shipping agencies?</p> <p>2.3 What was the impact of the global shipping recession on the global supply chain?</p> <p>2.4 What was the impact of the global shipping recession on freight transporters?</p> <p>2.5 What was the impact of the global shipping recession on husbandry services?</p> | Identify the causes, impact and consequences of the global shipping recession. | The research seeks to identify factors that characterise the global shipping recession in order to develop solutions to bring recovery to the industry. | <p>1. Theory of diversification</p> <p>2. Theory of planned behaviour</p> |
| 3 | To critically assess the ways and conditions necessary for the global shipping industry return to profitability | <p>3.1 What are the possible ways to move the shipping industry out of recession?</p> <p>3.1.1 Is it feasible to move out of the recession through cost reduction measures?</p> <p>3.1.2 Is it feasible to move out of the recession through addressing shipping financing issues?</p> <p>3.1.3 Is it feasible to move out of the recession through addressing technical and regulatory requirements in shipping?</p> <p>3.2 What are the conditions that must prevail to move out of the global shipping recession in terms of:</p> <p>3.2.1 Industry competitiveness among partners in the shipping industry?</p> <p>3.2.2 Players in the shipping industry's ability to maximize profits by reducing costs?</p> | Examine factors critical in moving the global shipping industry out of the recession. | <p>The shipping industry has been plunged in a recession that is characterised by low earnings, layoffs and low freight rates, which shipping companies, in particular the container shipping industry, have battled to survive.</p> <p>The study therefore, seeks to assess and evaluate conditions necessary for ending the recession cycle and bringing the industry to profitability.</p> | <p>1. Theory of diversification</p> <p>2. Theory of planned behaviour</p> |

1.9 Scope of the Study

1.9.1 Delimitations

Trade routes

The delimitations of the study involve geographical Europe - Southern Africa trade routes, players, port terminals involved in the study, types of cargo and containers moved, transport modes used, as well as the representation of the participants in the study. The primary objective of the study relates specifically to shipping liners, importers and exporters, in addition to port terminal operators in the Southern African region, whose major ports are Cape Town, Port Elizabeth, Coega port terminal (Port Elizabeth), East London and Durban.

Member lines

The study was delimited to SAECS member lines (Safmarine, Maersk Line, DAL and MOL) that operate the North Europe–Southern Africa trade, which merged the SAECS service with the Med-Shuttle/225 service in 2014. The port rotations in South Africa and North Europe remain unchanged and were supplemented by a port call at Algeciras on the northbound and southbound (replacing Las Palmas) voyages (Micor 2013). This is the trade route that formed the focus of the study, together with the smaller Southern African ports of Walvis Bay, Maputo, and Beira. No other trade routes were included in the focus of the study.

Containers

Only the types of containers used in shipping, ranging from dry, reefer, open top, flat track full and empty containers, were considered in the study. The standard unit for counting containers of various capacities and for describing the capacities of container ships or terminals, is one 20 Foot ISO container equals 1 TEU. One 40 Foot ISO container equals two TEU (OECD 2002a). The study focused on dry, reefer, full and empty containers used in container shipping in Southern Africa.

Cargo Types

In shipping, cargo types also vary from dry cargo, (grain, salt, cement), liquid (chemicals, Liquefied Natural Gas or LNG), Break-bulk (steel, lumber) and

containerised cargo (finished consumer goods), according to Ports and Ships (2015). The study was further delimited to dry reefer and containerised cargo only.

Transportation modes

Additionally, in the study, transportation modes in the Southern African region were delimited to cargo that is brought to final inland destinations via seaborne trade, port terminal handling and storage and then railed or trucked to final destinations. De Witt and Clinger (1999: 1) explain that intermodal transportation is the use of two or more modes to move a shipment from origin to destination. The study also sought opportunities in cargo that is brought inland via road and rail, hence intermodal transportation was incorporated in the research.

1.9.2 Limitations

As explained by Leech and Onwuegbuzie (in press), the most serious limitation of statistical significance testing is that, “not only do most researchers not understand what information can be found through statistical significance testing, but policy makers and change agents are usually unable to glean helpful information from a reported p value of .05” (p 8). Although the strength of qualitative research lies in its focus on extracting meaning, like quantitative research, it still has serious limitations. In particular, these limitations include researcher prejudice and bias, observer effects, and writing about qualitative research so that readers can replicate the study (Onwuegbuzie, A. J., Leech, N. L. 2004: 777).

In addition, the researcher's categories used may not reflect local constituencies' understandings. Furthermore, the researcher may miss out on phenomena occurring because of the focus on theory or hypothesis testing, rather than on theory or hypothesis generation (called the confirmation bias). Finally, knowledge produced may be too abstract and general for direct application to specific local situations, contexts, and individuals (Johnson and Onwuegbuzie 2004: 19).

There is a lack of prior research studies on shipping agencies in South Africa, which was a limitation on the study. The literature on Shipping Agencies in South Africa is

limited and it is important, as it helps to lay a foundation for understanding the research problem under investigation. Nonetheless, there was assistance from the Librarian and this helped in obtaining some relevant information on shipping agencies. Furthermore, the choice of research design presented another limitation. With regards to quantitative methods used, most of the commonly used, quantitative statistical models can only determine correlation, but not causation. However, a mixed methods research approach was employed to enrich the data analysis, as well as enhance the findings from the quantitative research.

Another limitation was the ability to gain the exact type and geographic scope of participants required for the survey. Setting up meetings and securing the time of executives was not easy and sometimes, the unavailability of originally targeted interviewees resulted in interviews with persons not intended for the interview. The result was that those available to participate in the surveys may not truly be a random sample, which is another limitation. Finally, the study was limited by the allotted timeframe, which may have affected the results of the research.

1.9.3 Validity

Validity is defined as the degree to which a test measures what it is supposed to measure (Mason and Bramble 1989). The authors provide three basic approaches to the validity test, namely content validity, construct validity, and criterion related validity. Validity is the degree to which any measurement approach or instrument succeeds in describing or quantifying what it is designed to measure (Weiner 2007).

1.10 Structure of the Study

The thesis is composed of seven chapters, as follows:

Chapter 1: Introduction

This chapter introduces the study, outlining the background to the problem, the aims and objectives of the study, the research design, research methodology, the rationale for the study, as well as the limitations and delimitations of the study. It briefly introduces the entire research problem and how data is to be collected and analysed.

Literature related to the transformation of the shipping agency business is also discussed and possible diversification markets identified, according to literature.

Chapter 2: Review of literature

This chapter examines the causes of the current shipping recession and the character of the current shipping crisis defined, to determine factors responsible for the crisis. Further, the chapter identifies ways to bring about recovery within the shipping industry, with literature relevant to these factors explored.

Chapter 3: Theoretical/conceptual foundation

This chapter examines the theoretical underpinnings of the study with literature based on two major theories: the theory of diversification and the theory of human behaviour as they apply to the global shipping industry.

Chapter 4: Research methodology

This chapter examines the research methodology associated with the study, outlining the research philosophy, mixed methods research approach, the population and sample of the study and the quantitative research instrument applied in the study, as well as the methods used in analysis and reporting of the findings. The research scope is further expanded to justify the research questions and relate the expected responses of the research instrument.

Chapter 5: Analysis of data

Presentation of the findings of the quantitative research is done using tables and statistical methods employed to analyse the results. The findings from qualitative research are also presented, comprising of responses from interviews conducted, meetings and discussions held with peers, as well as notes from participant observation.

Chapter 6: Discussion of results

The chapter analyses the results, in addition to interpreting and presenting conclusions from the research questions. This is done for all questions in the research instrument,

while relevant literature is also brought in to support the findings. Moreover, recommendations are reported for each question, with recommendations and conclusions from the qualitative research.

Chapter 7: Conclusion

The chapter concludes the study through an analysis of recommendations required to meet the objectives of the study, while offering recommendations for the shipping industry recovery and noting areas for further research.

1.11 Shipping agency expansion and transformation

This section examines shipping agency growth and transformation strategies through geographic expansion, mergers and takeovers, as well as diversification. Factors that assist in generating shipping agency expansion are identified and literature related to each factor discussed, so as to develop a framework in which shipping agency expansion may be facilitated. Furthermore, the shipping agencies' operating environment is examined, with discussion on literature related to how shipping agencies have been affected by the global shipping recession.

1.11.1 Geographic expansion

Companies often find the fastest way to accelerate profitable growth is by expanding geographically. It allows them to introduce their most successful product lines in other countries after they have fully developed their home markets. In 2012, Grindrod Ships Agency merged with Sturrock Shipping in a 50:50 joint venture that presented significant synergies and market opportunities. Sturrock (2012) argues that, amassing a significant amount of expertise across the ships agency spectrum, allows shipping agencies to offer increased services to the global shipping industry.

According to Shipping and Marine (2011) shipping agencies can expand geographically to increase market share as Maersk Broker Agency acquired the agency branch of the Wrist Group – Wrist Shipping – in March 2010, cementing its position as the largest ship agency in Denmark. The authors further argue that this offers a crucial advantage in the introduction of new geographic sectors, and that because core

activity of ship agency is a mature market, margins are low, it is therefore necessary to maximise the volume of ship agency services and, with wider geographical presence. The implication is that it is attractive for shipping agencies to consider geographic expansion in order to expand their business.

1.11.2 Mergers and Takeovers

According to the Grindrod Whistler (2010: 3), Grindrod cemented its position as a leader in the shipping and freight logistics industry, with an aggressive programme of acquisitions and mergers that have substantially diversified its operations. These are comprised of the acquisition of, Tate & Lyle Molasses SA (later incorporated into Grindrod Tank Terminals) in 2007, as well as 50 percent of Vanguard Rigging, with a 100 percent acquirement of Bay Stevedores and the remaining shares in Cockett Marine Oil and Oreport, in 2008.(See page 44).

Acquisitions also assist shipping agencies to increase market share, while realising growth and specialisation within the core business. Hansen (2015) reports regarding Shipping.dk, based in Fredericia, which acquired Maersk Broker Agency as of 9 January 2015, to ensure the company's expansion of its position as a significant player in Scandinavia, within agency and stevedoring. The author further asserts that this provides shipping agencies with a solid foundation for further development of the most significant business areas through acquisitions, such as agency, stevedoring and freight transportation.

1.11.3 The role of the shipping agent

According to Fontarosa (2014: 1), the basic role of a ships agent, is to act as the owner's legal representative in the port of call, looking after his interests, co-ordinating the commercial operation and vessel husbandry needs and ultimately, paying the relevant vendors on the owner's behalf. The author further argues that, while the shipping industry has seen some consolidation, the ships agency is still largely dominated by small and often family-run companies. These local companies are normally represented in one port only and seldom have the financial capability or

the desire to expand into more locations. Their strength very often relies on relationships with the various, local stakeholders and suppliers in the port.

Although the main driver behind consolidation is normally a desire for economy of scale and improved efficiency, small ships agents are usually unable to achieve either. They are hardly likely to, since achieving these two goals requires the investment necessary to build a network of offices, the development of efficient and integrated IT systems and high quality personnel, at the very least, training people.

1.12 Other markets along the supply chain

This section identifies the other market opportunities for shipping agency transformation as vessel husbandry services, freight transport and logistics, stevedoring services, cargo surveyors, over-border transportation, the role of transshipments with the emergence of mega vessels, low charter rates market and purchase of Slots. The section relates the factors to the literature available in assessing the feasibility of shipping agency growth and transformation.

1.12.1 Vessel husbandry services

Shipping agencies can expand operations through venturing into vessel husbandry services. Latache (2013: 83) suggests that ship husbandry is probably the most important aspect of port agency, after securing appointment as agent. Some of the more common requirements include fresh water, stores, cash to master, medical, dental and hospitalisation, crew repatriation, desertion and mail

Furthermore, vessel husbandry offers expansion opportunities for shipping agents. It is therefore, important that port and liner agency business be complemented by vessel husbandry, to widen the scope of operations and diversify income sources.

1.12.2 Freight Transport and Logistics

The transport sector, including freight, is rapidly evolving, especially in emerging and developing economies. ITF (2012) studies predict that world freight flows would grow by three to four times above 2010 levels, over the next four decades. This confirms the

market as a growing sector, with opportunities available to exploit. Shipping agencies may therefore diversify their operations into freight transportation in order to raise additional sources of income.

However, Lorange and Datson (2014) and Cullinane and Khanna (2000b) argue that the freight market is volatile and that may result in significant increase and decrease of income overnight. It is also asserted that companies may derive big profits from this volatility, but it may also wipe out the entire business overnight. Oswald *et al.* (2013) state that diversification is used as a measure of protection against cyclical and volatility by Shipping lines, while also being employed to maintain or achieve an over-average performance.

It is, therefore, important that shipping agents clearly identify the niche they wish to service in the supply chain, so that they may be able to compete effectively and withstand the volatile nature of the market.

Rodrigue (2013) asserts that each mode of transport, particularly the carriers that operate them, has sought to exploit its own advantages in terms of cost, service, reliability and safety. The author further argues that carriers try to retain business and increase revenue by maximising the line-haul under their control and all the modes see the other modes as competitors, viewing them with a level of suspicion and mistrust. The implication is that shipping agencies have an opportunity to maximise the line haul under their control and gain more carrier haulage, rather than relying on merchant haulage from only their customers.

1.12.3 Stevedoring Services

Shipping agencies can expand their operations to include stevedoring services at the ports, providing that stevedoring services entail the lifting of container boxes onto and off ships. Increasingly, however, stevedoring companies are earning revenue from other services, such as storage, maintenance and repositioning of containers. Stevedores further provide services that facilitate the movement of containers from the wharves to road and rail transport links (Anonymous 2007: 8). The increase in vessel

size offers opportunities for ports development and shipping agencies may gain market dominance advantages, through partnering with other shipping companies in offering stevedoring services, as the ports are set to expand.

However, it is important to note that agents need to offer premium services when penetrating the stevedoring business. It has been observed that, while the agent has no automatic right to withdraw any of the freight to pay port disbursements, a prudent agent negotiates that right. It is stated by Latarche (2013: 61) that the agent must meticulously follow instructions regarding the remittance of freight to the owner. The author further asserts that, given the condition that stevedore damage can easily degenerate into difficult noisy arguments between ship's officers and terminal staff, a diplomatic agent can, consequently, be a boon at such times by resolving these disputes.

The implications are that agents venturing into stevedoring operations need to provide premium services and pay attention to the needs of their partners. Current industry approaches to expanding port capacity could potentially provide opportunities, to varying degrees, for greater competition in the market for stevedoring services (Anonymous 2007: 3).

1.12.4 Cargo surveyors

As explained by Collyer (2014), cargo surveying consists of performing specific functions and procedures in obtaining representative samples used in determining the quantity, general condition, and grade of cargo. The author further argues that the work of the sampler affects the accuracy and reliability of the final determinations and certificates issued by the company hence the sampler's work affects the financial interests of buyers, sellers, shippers, receivers or any other persons or groups with an economic interest in the product.

Baez (2014) points out that a cargo surveyor advises crew in techniques of stowing dangerous and heavy cargo, such as the use of extra support beams, shoring, and additional stronger lashings, according to knowledge of hazards that are present when

shipping grain, explosives, logs, and heavy machinery. For a shipping company to successfully penetrate this market, contracting the services of cargo surveyor's specialists, is important.

Furthermore, there is a high rate of accidents at sea, which has created opportunities for cargo surveyors who assess cargo damages. Frey and DeVogelaere (2014: 1) find that the nexus of rough seas, inadequate or faulty securing mechanisms, and improper container stacking procedures are responsible for making container loss a well-documented phenomenon in the shipping industry. These considerations highlight the opportunities available in vessel chartering and also render it imperative that specialists' services be utilised to successfully penetrate the charterers market. Therefore, given the importance of the role performed by cargo surveyors, shipping agents have an opportunity to provide these services and earn additional income.

1.12.5 Over-border transportation

Shipping agencies can also penetrate the over-border freight transportation market. Opportunities avail themselves to shipping agents as they handle cargo from point of origin to port of load, for exports and likewise from port of delivery to final destination, for imports. According to Manaadiar (2012), carrier haulage is the movement of the container from point A to point B, under the control of the shipping line, using a haulage contractor nominated by the shipping line. The author further defines merchant haulage as the movement of the container from point A to Point B, directly by the consignee, using his nominated haulage contractor. This implies that, under carrier haulage, the shipping agency has an opportunity to nominate a haulage contractor, putting them in a position to penetrate that market.

Apart from transport service provision, however good its performance, a container operator can expand its logistics services for its client, the shipper. From operation and management of transport supply, which requires container tracking via information systems, the operator can, in theory, graduate to goods tracking, or to performing direct operations (labelling, repackaging, bringing to standard, and so on) on goods, when

they pass through the warehouse stage, becoming even more extensively involved in the logistics chain (Fremont 2009).

There are, however, problems related to over-border transportation that shipping agencies need to observe, which include border delays and empty rebounds. With the rapidly growing international trade volume, international transport is also required to use multiple modes of transportation (train, ship, truck, and air) to increase the efficiency of logistics. Janic (2008) highlights that, the intermodal freight transport corridors that use road and rail, are competitive alternatives to road only freight transport, for medium to long-distance transportation hauls.

1.12.6 The Role of Transshipments with the emergence of Mega Vessels

Shipping agencies have opportunities for diversification into chartering feeder vessels and moving cargo from the main ports to smaller ports, where core service vessels do not call. The SA Maritime Transport Sector Study (2011: 1) observes that Grindrod has a joint share with A Moller (Maersk Lines) in Ocean Africa Container Lines, which owns and operates ships providing feeder services for the ocean carriers serving South Africa, as well as other transport on the Southern African coast.

Essberger (2011) reports that DAL acquired UALF in 2011 to increase trade routes in Southern Africa that link with the South Eastern trades, including Indian Ocean Islands (IOL). The author further asserts that the privately owned company, based in Mauritius, has focused its activities on the Indian Ocean, the Middle East/Indian subcontinent and East Africa, in order to gain a much stronger foothold in these growing shipping markets. Previously, DAL had only been active in this area with a Europe - Indian Ocean Island service, together with their partner MSC. This emphasises the need for shipping expansion into transshipment markets as a growth opportunity.

On examination, the introduction of transshipment terminals in recent years has led to the development of a new transportation model – the hub and spoke model. The

principle of working off this model (Figure 2.1) demonstrates the Hub-and-spoke network principle.

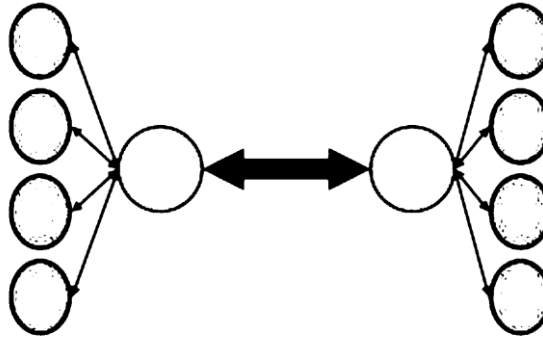


Figure 1.2: Hub and spoke network principle

Source: www.mech-ing.com

In this example model, a total of nine connections are given – one is operated with mega container ships (mother vessel) and the rest with short sea services (feeder container ship), representing the nature of the network designs being adopted to meet large vessel port requirements (Figure 2.1). It is, therefore, important that attention must be paid to trans-shipment markets as alternatives to road and rail, for inland deliveries.

1.12.7 Low Charter Rates Market and Purchase of Slots

There is a problem of overcapacity in the container shipping industry; this has contributed largely to the low freight rates in the global shipping industry. Alphaliner (2012: 9) reports that 85 percent of idle tonnage is made up of chartered ships and when the burden of idling was being shifted to charter owners, six percent of charter tonnage was unemployed in 2012. As a result of an imbalance in trade with oversupply of tonnage, charter rates have been very low. The low charter rates have been largely responsible for the low margins in the industry.

According to Kirkman (2012), there are opportunities for shipping agencies in purchasing slots from the shipping liner and reselling them at a profit to shippers. Furthermore, the author argues that the benefits of slot purchase arrangements are that

they improve network efficiency and allow for lower slot costs, through improved utilisation of vessel capacity and economies of scale. Maersk line (2014) states that more sailings and direct port pairs than parties may offer individually, are also provided.

1.13 Causes of the global shipping recession

This section examines the causes of the global shipping recession and identifies that the role of financial institutions, the global financial crisis of 2007-8, and the consequent slump in world trade were instrumental in bringing about, the global shipping recession.

The financial crisis that started in 2007 is, considered to be responsible for the creation of the greatest financial dislocations, since the Great Depression of the 1930s.

Additionally, Claessens, Kose and Terrones (2008) observe that, there is no clarity among the products that the financial institutions used to offer, and that the acceleration of the banking leverage is sharp. The authors argue that there is a difference in the role of the household and these elements compose the right climate for the 2007 financial crisis. They further state that the global recession affected all advanced economies; the consequence of the drop of house prices and a credit shock, followed by the immediate decrease in consumption and investment ability.

Schulz (2008) argues that shipping benefits from globalisation more than almost any other sector. Nonetheless, this has also made it more vulnerable to the global economic crisis. The author further finds that freight and charter rates have plunged, jobs at shipping companies are being cut and many ships are being parked for months at a time.

As stated by Bondareff (2009) the World Bank, in December 2008, predicted that world trade would fall by 2.1 percent in 2009 for the first time since 1982. The author further states that the shipping industry is not immune from the current economic

recession and those companies were laying up container ships and laying off workers around the world.

1.14 Factors critical in moving the global shipping industry out of recession

This section examines the literature on the critical factors that are instrumental in terms of moving the global shipping industry out of recession such as freight rates overcapacity, and the effects of exchange rate fluctuations together how they impact on shipping agencies.

1.14.1 Low freight rates and overcapacity

The low freight rates that have prevailed through the persistent shipping recession are a result of overcapacity in the shipping industry, which has now surpassed world trade volumes. This is causing profitability problems for shipping liners, as well as investors. Rex (2014) concludes that the shipping crisis deepened further during the first eight months of 2012, as the growth in world trade volumes was unable to match the capacity expansion of the world fleet. Furthermore, UNCTAD (2014: 50) observes that the container-ship market was tense throughout 2013, with freight rates remaining volatile and struggling to rise.

These observations highlight the depression that has dominated the shipping industry and has resulted in the need for new market development within the industry. An increase in freight rates would be significant in moving the global shipping industry out of recession. The long-term, structural downward trend in freight prices is caused by many factors, with one major contributor being that of overcapacity. Tan (2015) states that global carriers are due delivery of 1.8m TEU of capacity, which is an eight percent growth in supply. This far outstrips the reported 6.7 percent forecasted growth and as a result, it is argued that supply will continue to exceed demand. A reduction in the oversupply of tonnage may be significant in moving the shipping industry out of recession.

However, the emergence of larger vessels on shipping trade routes has further complicated the problem of oversupply and prospects for recovery are, therefore, not

bright. Shipping companies may need to investigate new markets to survive the shipping recession.

1.14.2 Effects of exchange rate fluctuations

Freight is mainly paid for in US dollar (USD) and by European Currency (Euro) on the Europe–South trade route. Shipping agencies collecting freight in South Africa for export to Europe may collect the freight in Rands (ZAR) but are required to remit in USD or Euro. Should there be fluctuations in the exchange rate, this may affect the agency as they could end up paying more ZAR to remit the freight.

Govender (2014) holds that these fluctuations, or resulting losses on freight transmission, will be offset by the higher remittance the agency will be paid as box fee for those disbursements where more ZAR were paid in freight. Such agencies usually cover themselves by setting an exchange rate for each disbursement or sail and are, therefore, able to pass on the losses to the shippers.

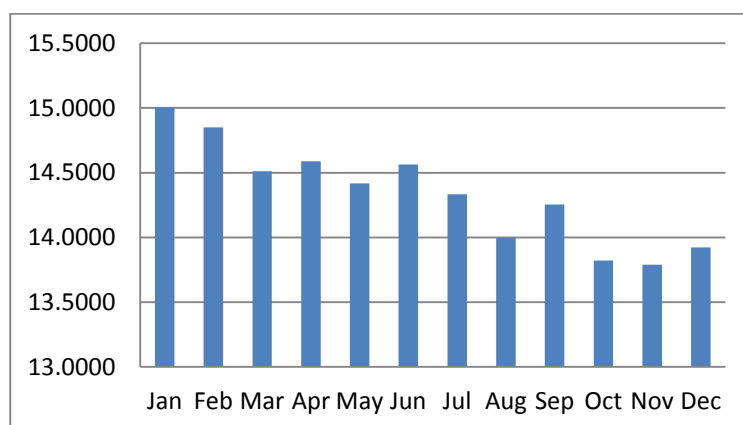


Figure 1.2: EURO-ZAR exchange rates 2014

Source: DAL Agency (2015)

Percentage devaluation per year end rate for the Euro against the ZAR was seven percent, for the year ending 2014 (Figure 2.2), while the percentage devaluation on closing vs. opening was five percent.

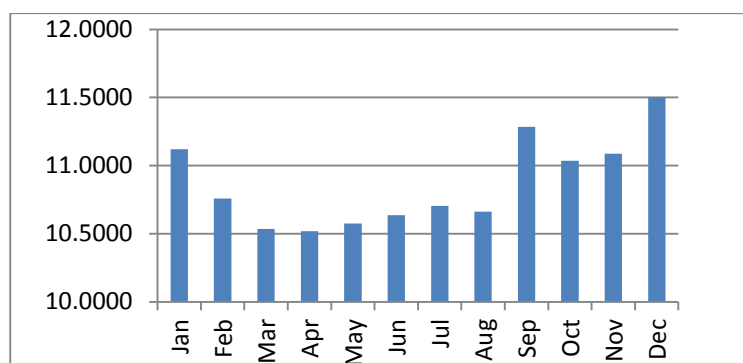


Figure 1.3: USD-ZAR exchange rates 2014

Source: DAL Agency (2015)

The USD to ZAR percentage devaluation per year end rate was at two percent in 2014, while the Euro to ZAR percentage devaluation, closing vs. opening, was at six percent, indicating the decline of the ZAR against the US dollar (Figure 2.3).

The implications of these exchange rate fluctuations are that the exchange rates are volatile and the need for a hedge exists, against negative impact of these fluctuations. Shipping agencies need to transform their operations and diversify to cushion themselves against volatile exchange rates.

1.15 Chapter Summary

This chapter examined how shipping agencies can diversify their operations to widen income streams, with major areas of transformation being: geographic expansion, mergers and takeovers, vessel husbandry services, freight transport and logistics, stevedoring services, cargo surveyors, and over-border transportation. The impact of the global shipping recession on shipping agencies was also identified and examined; issues affecting shipping agencies, namely low freight rates and overcapacity, exchange rate fluctuations and downsizing and retrenchments.

Having examined the diversification options for shipping agencies, it is important that the global shipping industry recession is to be explored and the next chapter will focus on that.

CHAPTER 2

Review of literature

2.1 Introduction

The previous chapter presented an introduction of the study and an examination of the literature related to ways in which shipping agencies may expand their business to widen income streams through diversification as well as the impact of the global shipping recession on shipping agencies. The focus of this chapter is to examine critical factors affecting the global shipping industry such as causes and consequences of the global shipping recession, overcapacity, increased bunker costs, the emergence of new, larger vessels, climatic regulation effects, alternative fuels to meet regulation requirements, ports expansion and infrastructural development, slow steaming, scrapping and idling of some ships, as well as competition through mergers and alliances among shipping liners are identified and discussed.

2.2 Causes and consequences of the 2008 global economic crisis

This section examines the causes of the global shipping recession which was triggered by the global economic crisis of 2008/9. The literature related to increased bunker costs, newer and larger vessels, climatic regulation effects, and alternative fuels to meet regulation requirements is examined.

2.2.1 Causes of the 2008 global economic crisis

According to McKibbin and Stoeckel (2009: 4), the ‘crisis’ is defined here as the bursting of the housing market bubble in late 2007, the ensuing collapse in the sub-prime mortgage market and related financial markets and the subsequent collapse of Lehman Brothers in 2008, which resulted in a sharp increase in risk premium around the world. Merrouche and Nier (2010: 6) argue that the increase in wholesale funding may have been encouraged by abundant liquidity ahead of the crisis, but it became the pillar of the global financial system when funding markets dried up from the summer of 2007 and increasingly from the autumn of 2008.

The financial crisis of 2008 triggered an important change in the maritime shipping industry (Kurek 2011: 22). Strategies implemented by liner shipping companies before the crisis have been totally revisited, with respect to new financial constraints and harsh market conditions. The author concludes that more market concentration and competition arose from liner shipping companies, due to the increased pressure on freight rates.

This crisis differs from those preceding it and Krugman (2009) identifies that its root causes lie in the excessive global savings, flowing through a poorly regulated shadow banking system in the US to its housing market. An excessive concentration of income was one of the factors leading to the global crisis, as it was linked to perverse incentives for the top income earners and to high indebtedness in other income groups (UNCTAD 2012: 38).

2.2.2 Consequences of the 2008 global economic crisis

The consequence of the global economic crisis was the fall in global trade. Liner shipping is a rising method to transport and exchange goods all over the world hence the effect of the global economic crisis on world trade saw a sharp decline in international seaborne trade in 2009, which affected the volume of cargo handled by liner shipping (Figure 2.1).

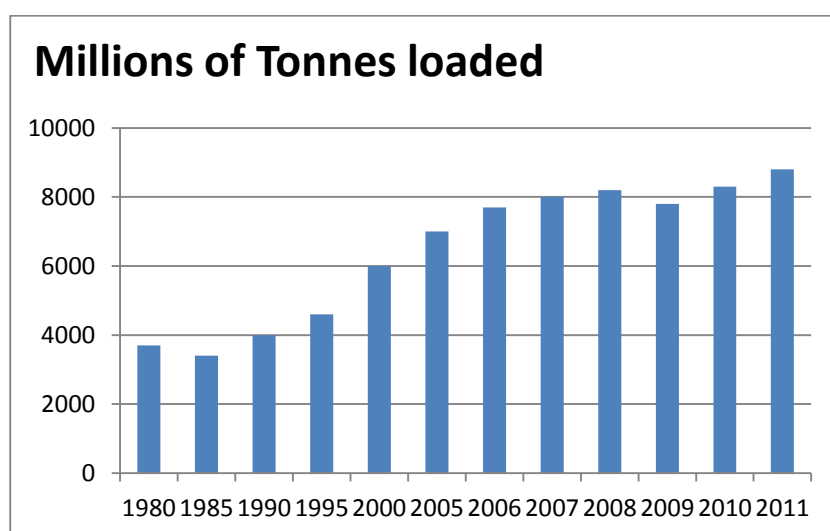


Figure 2.1: International Seaborne Trade

Source: UNCTAD (2011)

Baldwin (2009: 12) observes that, “For most nations in the world this is not a financial crisis – it is a trade crisis”. That global trade would have fallen alongside global output is unremarkable. The World Bank (2010) and WTO (2010) state that real global output is estimated to have declined by 2.2 percent in 2009 and real global trade by 12.2 percent. Baldwin (2009: 12) concludes that the fact that global trade decline was over five times greater than global output is remarkable, and was unforeseen by most economic analyses at the onset of the crisis.

In South Africa, real GDP shrank by 1.8 percent in 2009, compared to growth rates of 5.5 percent in 2007 and 3.7 percent in 2008 (IMF 2010). According to Statistics SA (2010) the quarter-to-quarter growth rate of employment was 0.7 percent in the fourth quarter of 2009, after three quarters of negative growth, but was -1.3 percent in the first quarter of 2010.

All elements of shipping are adversely affected, some more so than others, with those that operate in short-term or voyage charters being severely affected. As highlighted by Trant and Liddane (2010: 4), the charter rate for a Cape-size, dry bulk vessel fell from USD234, 000/day in June 2008 to USD2, 316/day in December 2008 and rose to USD93, 197/day in June 2009, demonstrating the uncertainty that prevailed in the market.

2.2.3 Overcapacity

There is currently an overcapacity in the global container shipping market, due mainly to two factors. The first is delivery of large ships, ordered before the 2007 financial crisis and the second is that of technological change, with the introduction of a new generation of even larger ships, offering significant increases in productivity. The capacity of the top 20 carriers alone, is shown by Slandebroek (2013), to have increased by 29 percent over the period 2010-2012. The concentration of capacity among the major carriers (Figure 3.2) demonstrates that larger vessels have become a necessary competitive strategy in the liner shipping industry.

Jensen (2015: 1) observes that improved capacity control is needed to attain a better market, which will unfortunately, take time. Liners have ordered many big ships and they will continue to do so as these are needed, with too many medium-sized ships that are too young to be scrapped. The resultant time-frame is therefore extensive, unless some carriers start scrapping ships that have not reached their end date.

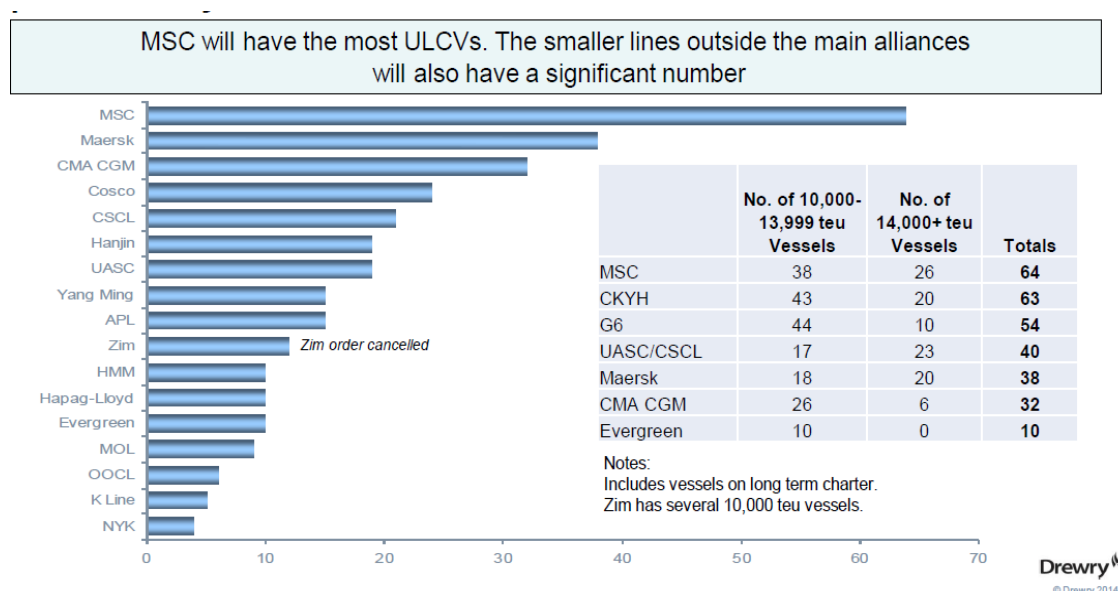


Figure 2.2: Number of Ultra Large Container Vessels (ULCVs) per carrier by end-2016
Source: Drewry Maritime (2014)

2.2.4 Increased bunker costs

Higher oil prices impact on trade and maritime transport through both their dampening effect on growth and the upward pressure on the cost of fuel used to propel ships, (Maritime Review 2013: 26). A rise in bunker fuel costs cuts significantly into the earnings of ship-owners, especially when freight markets are depressed. Clarkson Research Services (2012b) conclude that since 2008, bunker fuel cost has increased significantly and represents over three times the daily cost of chartering a ship.

Wang and Teo (2013) aver that bunker fuel costs could account for 50–60 per cent of a ship's total operating cost in times of high fuel prices. The authors further contend that the volatility of the bunker market over recent years has contributed to significant instability of cash flows for shipping lines. It is therefore, important to find alternative

ways to contain high fuel costs in shipping as well as alternative sources of fuel in order to reduce operational costs and restore profitability in the global shipping industry.

2.2.5 New, larger vessels

Global shipping is undergoing revolutionary technical changes with the emergence of larger, more efficient vessels and shipping liners are benefiting on large scale of economies from the deployment of these vessels. Maritime Review (2013: 1) shows that the last 10 years have seen two important trends representing two sides of the same coin. On the one hand, ships have become bigger, while on the other hand, the number of companies in most markets has diminished.

The race to build and deploy the largest, most-efficient vessels is both a cause and an effect of the persistent financial pressure. Unfortunately for carriers, the deployment of that new capacity has coincided with sluggish demand, which has in turn, created the basis for unprecedented operational consolidation on major trade lanes, as carriers scramble to find new ways to fill their ships.

Furthermore, there has been acceleration in the increase in the size of vessels deployed in all regions of the world, since 2008, with ships of 18 000 TEU capacity, introduced on the busy Asia-Europe routes from early in 2013, displacing post-Panamax size vessels (5 000-13 000 TEUs) onto routes operated by smaller vessels. South America is among the regions that have felt the impact of this cascading effect and the region has seen the deployment of larger container vessels, while West Coast routes have recently seen vessels grow to 9 000 TEU and 11 000 TEUs on routes to ports in Argentina.

Worldmaritimenews (2014) reports that the SAECS Member Lines – DAL, Maersk, MOL and Safmarine – merged the SAECS service with the MedShuttle/225 service in 2014, to meet changing requirements in the trade between Europe and South Africa (both for dry and reefer cargo), and improve the quality of the service product offered. The report further states that the enhanced joint service will, furthermore, operate with

larger sized vessels and the weekly named, day frequency will continue to be maintained by eight vessels, with the transit times between North Europe and South Africa largely unchanged.

2.2.6 Climatic regulation effects

Carriers have to comply with worldwide IMO regulations on low-sulphur fuel and carbon dioxide emissions in a growing number of areas, shifting a greater share of consumption from traditional bunker to more expensive, low-sulphur fuel (380cST). There are costs involved in meeting the regulations and these costs are adding to the profitability problem in the shipping industry.

Rozmarynowska and Oldakowski (2012: 3) reflect great concern that new IMO regulations will lead to the increase of sea transport costs. Significant cost increase for transportation by sea, as a consequence of using the more expensive low sulphur fuel (MGO), may reduce competitiveness of sea transport drastically and means that, in many cases, short sea shipping will not be cost-effective.

Furthermore, surveys conducted by CNSS (2014: 3) find that, compared to the 2003 survey, relatively less fuel seems to be used in boilers. This change in fuel usage has resulted in a relative increase of NO_x, VOC and CO emissions. As a result of current EU regulations, 90 percent of fuel used on board of ships was proven to have sulphur content of or below 0, 1 percent. This has resulted in a significant reduction of SO₂ emissions and a stabilisation of PM₁₀ emissions.

In order to comply with these regulations, the shipping industry has started to search for options to reduce the Sulphur Emission. One of the available options is the use of scrubbers. Grandidier (2014) defines scrubbers as pollution control devices that use liquid to wash unwanted pollutants from a gas stream. Scrubbing has been used on shore with success to reduce SO_x emissions of industrial plants since the 1930s. Rozmarynowska and Oldakowski (2012: 9) find that companies, such as Wartsila, Hamworthy and MAN, have been working on scrubber technology for ships.

The use of scrubbers may therefore need serious consideration as tools to reduce pollution and save liner shipping the additional costs of meeting pollution control regulations.

2.2.7 Alternative fuels to meet regulations

Another factor that could potentially affect bunker demand is the use of natural gas as fuel. Clarkson Research Services (2012a) observe that, although limited so far, recent contracting includes two gas-powered container ships for use in the US ECAs.

Natural gas is the cleanest form of fossil fuels, consisting of methane with minor concentrations of heavier hydrocarbons, such as ethane and propane. When ships are fuelled with LNG, no additional abatement measures are required in order to meet the IMO requirements. The burning process of natural gas is clean and LNG contains virtually no sulphur, hence SO_x emissions from natural gas engines are reduced by almost 100 percent. Norway has, according to Rozmarynowska and Oldakowski (2012: 11), been the forerunner in LNG-powered ships.

Drewry Shipping Consultants (2013) state that, given recent gas discoveries in East and Southern Africa, and assuming all projects currently being pursued come online according to schedule; the region could emerge as the fourth major supplier of LNG, after Australia, Western Asia and the US. Seatrade (2013) concludes that the availability of gas at relatively lower prices makes natural gas an economically and environmentally attractive proposition.

Investments in building supporting infrastructure for LNG trade continue unabated and provide a further positive outlook for gas trade and carriers, operators and builders. Clarkson Research Services (2012a) find that, as of November 2012, there were 94 liquefaction installations in 19 countries. It is thus, important to note that more needs to be done, in order to promote large scale use of LNG fuel in shipping, as this will cut the costs of compliance with pollution control regulations.

2.3 Shipping Supply Chain Development

This section examines the development of markets along the supply chain in shipping that have been affected by the developments in the global shipping industry such as ports expansion required for South African ports, and the role of government in port infrastructure development.

2.3.1 Port expansion required for South African Ports

Despite its dominant position in Africa, the performance of the port of Durban is sub-optimal. The port of Durban is one of the most expensive in the world, basically due to high cargo dues. Although port efficiency might be in line with African ports on average, it is far below scores found in main ports around the world. According to OECD (2013: 1), more than half of the imported and exported containers will or come from the Durban metropolitan area, transported by truck, creating urban congestion.

2.3.2 The role of Government in Port Infrastructure Development

Government intervention is necessary to affect port development strategies. Levy (2007) states that the macroeconomic impact of an infrastructure project can be significantly reduced by governance failures, even if the project itself is carefully chosen, well designed and corruption free. Kenny (2007: 1) holds that government control is vital to infrastructure development outcomes. This is mostly due to corruption, which the author states, is “a symptom of failed governance”, as it can have an extensively negative impact on infrastructure investment returns. It is therefore important that government be held accountable for the timely implementation of port infrastructure development and that it works closely with the private sector, in order to fully implement the projects.

There are benefits associated with inland port development that require attention. Corbin (2014) explains that the benefits that would accompany the inland port models include a reduction of congestion and berthing delays, enhanced preferred gateway status, vessel to rail stack movement limits, dwell time and shifting, and the promotion of rail inland movements, which would reduce port-gate vehicle congestion.

International representations are further proposed by Corbin (2014), to be initiated with the World Customs and World Trade Organisations, along with UNCTAD. However, on regional level, dialogue is required with Transnet, the Gauteng Province and the City of Johannesburg, as well as SACU and Shipping lines.

2.4 Measures to uplift the global shipping recession

This section identifies the measures taken to uplift the global shipping recession and their effectiveness. These measures are reducing bunker consumption, maximizing fleet efficiency, scrapping and idling vessels, competition through mergers and alliances (VSA), Maersk and MSC alliance, and the SAEC vessel sharing agreement.

2.4.1 Reducing bunker consumption

Excess capacity and rising bunker fuel prices have incited maritime shipping companies to reduce the operational speed of their containerships from 21 to 19 knots, a practice known as slow steaming. The resulting longer trans-oceanic journeys tie more container inventory in transit, incite trans-loading in proximity of port terminals and reduce the availability of containers inland.

During the recession in 2009, many ocean container carriers accelerated the practice of slow steaming to absorb surplus capacity and cut costs, because sea vessels are drastically more fuel efficient at lower speed. It has, according to Kearney (2012: 3), remained a widely adopted practice, as a means of reducing bunker costs and carbon footprints.

There is a need to pay serious attention to reducing bunker consumption, as a cost-reduction measure for shipping companies to survive. Jensen (2015: 2) further observes that some players may decide to increase speed on container routes, tempted by low oil prices, which will not only save money but also allow access to bigger tonnage, by those carriers who do not have a sufficient number of big ships.

2.4.2 Maximizing fleet efficiency

In an attempt to handle the imbalance between excessive supply and low demand, carriers may be deploying less capacity on routes where trade is declining, as on trade

routes such as the main head haul East–West, where trade was five percent less in 2012 compared with 2011. More capacity was deployed on the growing North–South routes, where trade grew by four percent, as set out by Maritime Review (2013: 69).

Large vessels have to operate between a limited number of ports in order to achieve high utilisation and efficient turnaround, requiring support by a dense network of feeder services that require multiple handling of containers. According to Kearney (2012: 3), smaller carriers operating smaller vessels may be able to operate transshipment services, calling on ports not serviced by the mega-ships, thus eliminating the extra handling of containers.

2.4.3 Scrapping and idling vessels

Liner shipping companies were forced to scrap older fleet and idle some vessels in response to the oversupply of tonnage on the market, which kept the freight rate depressed. Shipping Market Review (2014) reports that a total of 45 million Dead Weight Tonnages (DWT) was scrapped during 2013, emphasising the need to reduce oversupply, in order to increase freight rates. The combination of low freight rates and high scrapping prices supported a high level of demolition activity. After five years of high demolition activity, many of the older vessels were scrapped. The report further observes that by 2013, less than five percent of the world fleet was older than 25 years and accordingly, the average demolition age continued to decline and by 2014, the average scrapping age had dropped to 27.

Scrapping and idling vessels is therefore another measure that has been implemented to mitigate the negative impact of the problem of oversupply. As a new, larger fleet comes to ply the trades, it is becoming imperative for liner shipping to withdraw the older fleet through redeployments, idling and scrapping.

2.4.4 Competition through mergers and alliances VSA

In line with the trends for shipping alliances among container shipping lines, A.P. Moller Maersk teamed up with another large global player, Mediterranean Shipping Company to pool 185 vessels in the P2 alliance, which started in the second quarter of

2014. The alliance can be seen as a sign of the dire straits the shipping market is currently in, as the companies have very different brands that are not easily coupled (Hansen 2015).

As a result of the formation of strategic alliances, the pursuit of big ships is also entering into a new period. Strategic alliances and big ships play a significant role in better allocation of resources, further reduction of operational costs, expansion of service coverage, optimisation of ports of call and realisation of the economies of scale. Forming strategic alliances are the key to making best use of those big vessels and benefiting from the economies of scale. Tung (2014: 12) argues that only through this, can the carrying capacity of the whole industry be further integrated.

Jensen (2015) postulates that the container industry would have been better off, should the oil price have remained high, as it assists in absorbing much capacity, and keeps ships on low steaming. However, the European Shippers' Council (ESC) has called for a global authority to keep watch over the increasing number of vessel sharing alliances (VSAs) being entered into by carriers, claiming they are a risk to the free market of transporting goods by sea. Further, the ESC (2014) points out that there is a risk the global market could end up in the hands of just four major players, which could cause issues, in terms of price and quality of service to shippers.

2.4.5 Maersk and MSC alliance

The A.P. Moller-Maersk Group, also known as Maersk, has been the largest containership and supply vessel operator in the world since 1996. The carrier provides ocean transportation in all parts of the world, offering multiple, weekly sailings on all major trades. Maersk Line has a fleet of 607 vessels, with a capacity of over 2.97 million TEUs, and around 11 million full containers are shipped annually. Maersk Line markets its services through the following brands: Maersk Line, Safmarine, MCC Transport (Intra-Asia), Seago Line (Intra-Europe), Mercosul (Brazil) and Sealand (from 2015 Intra-Americas).

According to Malta Freeport (2015: 1), the Mediterranean Shipping Company (MSC) is the second world's leading ocean carrier, with over 480 agency offices in 150 countries and a fleet of 497 vessels with a capacity of 2.55 million TEUs. The Company employs a team of over 24,000 dedicated individuals and MSC 'Oscar' currently holds the title as the world's biggest container ship, able to carry 19,224 TEUs.

Early in 2015, two shipping alliances were created; one is the 2M container shipping alliance between Maersk Line and MSC, and the other is the O3 container shipping alliance formed by CMA CGM, China Shipping Container Lines Co. and United Arab Shipping CO. The proposed 2M alliance is a 10-year vessel sharing agreement between Maersk Line and MSC on the Asia-Europe, transatlantic and transpacific container trade lanes. The 2M alliance will encompass 185 vessels with a capacity of 2.1 million TEUs deployed on 21 strings. Currently, the 2M alliance is approved by US regulators.

Tung (2014: 11) asserts that a brand new era of strategic alliance is definitely being entered in container shipping lines, with some of the big players being regrouped with others, in order to increase their market share. It is highlighted by Sartini (2014: 1) that this new alliance makes a lot of sense from the Group's composition perspective. One line from each of the very important regions of Europe, the Middle East and Asia will be represented. Each one will bring its own culture and local expertise.

Sys (2009) states that, because of the shipping market structure, dominant price leadership is not possible and the industry is concentrated due to consolidation. Larger players are capturing larger market shares. The market share of dominant players moved from 39 percent in 2000, to 60 percent in 2009. However, the industry is also fragmented at some point as only 20 lines have more than one percent of the market share. The author further qualifies the industry as a "loose oligopoly".

2.4.6 SAEC Vessel Sharing Agreement

Shipping is an asset driven business and global by nature. Sellers have customers located all around the world. Because of the resources and capabilities required to obtain global coverage, shipping lines have been forming alliances since the early days of the industry. Driel (1992) explains that it started with conferences and consortia and continues to date, through strategic, horizontal alliances that derive more attention from industry scholars, compared to other strategic approaches.

Inspired by the airline industry, carriers have been moving towards a more alliance-based model, in order to scale up and face the challenges in their market (ongoing overcapacity, intense competition, fuel price pressure). Alliances usually include VSAs, under which selected vessels are pooled to support a specific scheduled service or string – a series of vessels dedicated to calling on a pre-determined list of ports, at set intervals. It is stated by Joh. Berenberg, Gossler and Co. (2014: 7) that these deals are mainly driven by the intense motivation of carriers to cut operating costs, while at the same time, reducing competition and thus, releasing pressure on freight rates.

The conclusion is therefore, that shipping lines need VSAs and alliances, in order to survive, as these arrangements assist in cutting operational costs.

2.5 Grounded theory of ship technology and shipping freight rates

2.5.1 Early History of ship technology and shipping freight rates

Isserlis (1938) published his outstanding study “Tramp shipping cargoes and freights” and provided one of the noteworthy sources of freight market fluctuations. Although, the author supplied a freight rate index for a critical turning point of the world, these indices are criticised by many scholars, such as Mohammed and Williamson (2004); Veenstra and Dalen (2008), among others, because of the lack of a suitable number of fixtures and unnecessarily overweighting of some routes. Gathering this information with previous records and inferring reasons of longer-term fluctuations is what remained for contemporary researchers, such as North (1958) and Harley (1988).

2.5.2 A contemporary view

North (1958) attempted to extend recent freight market knowledge by superimposing the freight rate of British Import and American Export data. The author argued that the decline of freight rates in the 19th century was formed by three main factors of shipping productivity: Increasing efficiency of freight markets, Technological innovations, and development of external economies. North (1958) also concluded an important aspect of the post-discovery term for the world, which is the presence of cargoes for returning to homeports, named backhaul cargoes.

2.5.3 Arguments for productivity gains and fall in freight rates

On the one hand, according to North (1958, 1968), productivity gains calculations in shipping surprisingly revealed that larger productivity gains took place before the introduction of the major shipping innovations of the 19th century. North thus concluded that improvements in management and industrial organisation drove the fall in freight rates, and that technological change was only secondary.

On the other hand, according to Harley (1988), there are six factors responsible for freight decline which are: Innovation of steamships against the sailing ships; Opening of the Suez Canal, and superiority of steamers on Asia-Europe transport. In addition, larger sailing ships are usually not suitable for Red Sea navigation because of lack of proper winds; Metallurgical technology provided safer ship design, decreasing the number of crew, lessening loss of ships, and increasing capacity of cargo space; Increasing productivity in the steel industry reinforced the shipbuilding industry for cheaper production and stronger and larger designs; as well as Packaging technology that ensured increasing use of transport volume, and that the presence of tugs supported manoeuvrings of larger steamers in the port.

Harley (1988) further points out that the main source of increasing productivity is metallurgical development, which was broadly improved by industrial revolution. The author's argument concludes that technological improvements provided stronger hull designs (in other words, metal ships), increasing capacity of ships and service speeds

(steamship technology). Therefore, sea transport ensured productivity gains due to technical performance.

North (1958) extended our knowledge about the long-term decline of freight rates in the 19th century and the freight rate data stretches until the beginning of the 20th century. Later, these data are judged by Harley (1988) because of the technical particulars of cotton loads.

2.6 Reasons for diversification in shipping

Freight market is volatile and that may result in significant increase and decrease of income overnight. Companies may derive big profits from this volatility, but it may also wipe out the entire business overnight. Due to volatility and cyclicity, risk management is one of the most important activities in shipping business (Lorange and Datson 2014, Cullinane and Khanna 2000a). Shipping lines make use of diversification as a means to protect their businesses against cyclicity and volatility and to maintain or achieve an over-average performance (Oswald *et al.* 2013).

Maersk now has the highest schedule integrity and that gives it a real competitive advantage over the competition (Notteboom and Vernimmen 2009). (See page 55). Some shippers diversified to become more sophisticated player in order to secure their strategic advantage (Markides and Holweg 2006).

It is also believed that the potentials remaining, in cost savings in transportation alone, are limited. To remain in business and generate higher margin, shipping lines must find opportunities elsewhere. Therefore, there is a pressure to develop more value added services, and diversification is perceived as the safest and easiest way to get there (Notteboom and Mercx 2006).

Diversification is mostly used by larger players who has enough resources and capabilities to operate conjointly several activities in different locations (Markides and Holweg 2006; Photis *et al.* 2011). Shipping Lines diversified mainly through merger and acquisition (Carbone and Stone 2005).

2.7 Related or unrelated diversification in shipping

The question whether diversification in shipping industry should be related or unrelated remains unanswered from our review. Some scholars believe that related diversification leads to superior performance because it transfers learning effects from a business to another and unrelated diversification should be avoided (Olavarrieta and Ellinger 1997). Others believe that unrelated diversification can lead to more market power (Markides and Holweg 2006; Notteboom and Mercx 2006). Lorange and Datson (2014), however, believe that because of the limits of human cognition, it is hard to manage highly diversified businesses under the same corporation. (See page 18).

2.7.1 Differentiation

Juga, Pekkarinen, and Kilpala (2008) believe that differentiation opportunity may be found in terminal operation, warehousing, geographic coverage or firm's responsiveness to customers' requests. Opportunity can also be found in frequency of service, directness of sailing, port coverage, door to-door service, intermodal service, logistic service and IT (Gadhia, Kotzab and Prockl 2011).

Robinson (2005) argues that shipping firm can differentiate from competition by provide value that customers will accept. Maersk chooses to be number one in ports that have lower position in the world port hierarchies in order to raise the entry barrier and get the ability to influence policies within the ports (Fremont 2007).

Silo focus refers to an organizational design where services are divided, with no cross-fertilization within departments. That leads to incomplete implementation of strategy and hinder innovation because knowledge is not shared (Lorange and Fjeldstad 2010). As stated by Lorange and Fjeldstad (2010), successful firms are those that are willing to experiment new things, they are not too conservative. Firms should therefore, look outside their boundaries to stimulate innovation.

In the shipping industry, concentration is mainly a way of competing for smaller players (Markides and Holweg 2006; Photis *et al.* 2011). It is primarily expressed in

terms of geographic coverage (Carbone and Stone 2005). Smaller players, because of their limited resources, are focusing on niche markets (Photis *et al.* 2011).

2.7.2 Home-based internationals

Most Asian lines operate in the global market with alliances. Gadhia *et al.* (2011) refer to that as home-based international. Alliance allows members to operate different routes around the world; it gives smaller and medium-size players the chance to create more capacity (Sys 2009). Moreover, alliance improves economies of scale, leads to efficient operations, increases the bargaining power of the actors, and generates faster learning, as well as faster implantation and low investment (Soppe, Parola and Fremont 2009), while it also increases customer base, improves asset utilisation, and provides frequent sailing, with a faster transit time (Agarwal and Ergun 2008). Firms are thus able to pass these benefits to customers through a superior value proposition (Hertz and Alfredson 2003).

2.8 Collaboration strategies in shipping

Photis *et al.* (2011) mention four different forms of collaboration: horizontal alliance, vertical alliance, defensive collaboration and offensive collaboration. (See page 101).

Horizontal alliance and vertical alliance are mostly technical. Horizontal alliance is collaboration among firms doing the same activity for sharing of capacity, increasing frequency, coordinating containers, and so on. (See page 229). This form of collaboration is mostly developed by small and medium-size operators, to deal with demand uncertainties. Bigger operators usually have all the resources they need to stand alone and cover their markets (Photis *et al.* 2011).

Vertical alliance is collaboration among operators offering complementary services such as shipping services, container management services, trucking services and so on.

Defensive and offensive collaborations do have more strategic purposes. According to Photis *et al.* (2011), firms with weaker market position may develop a defensive

collaboration to raise entry barrier and build some competitive advantages. Offensive collaboration is mainly adopted by operators with stronger market position to secure their market power (Photis *et al.* 2011)

2.9 Alliances

Some alliances lead to geographic diversification. This form of collaboration is mostly built by larger players (Photis *et al.* 2011); alliances are unstable due to the number of members and the way some members behave. Members change too often and firms may even be hindered from deploying their own strategy; reasons why some players prefer merger and acquisition, as the main means of obtaining new knowledge, launching new products and developing new markets.

2.10 Specialisation

Specialisation is sometimes presented as a way of differentiation (Juga *et al.* 2008; Gadhia *et al.* 2011). Firms may also specialise by focusing on one particular aspect of the shipping business (Lorange and Fjeldstad 2010) For Lagoudis and Theotokas (2007), specialisation is a strategy mostly developed by small companies, along with a special focus on quality, whereas larger shipping lines are focused on cost leadership.

Olavarrieta and Ellinger (1997) believe that, to provide sustainable competitive advantage, strategies such as cost leadership or perceived uniqueness should be based on resources. For Juga *et al.* (2008), resource based theory emphasises a company's tangible and intangible resources built over time. It helps a firm to build competitive advantages, oriented toward service development or competence development.

Robinson (2005) finds that every competitive advantage is built on a firm's unique and specific resources, described as core competencies, strategic assets and core processes. (See page 209)

2.11 Building competitive advantage through human resource

Progoulaki and Theotokas (2010) describe how shipping firms can build sustainable competitive advantage based on human resource. For them, because shipping is a mature commodity business, there is a need for minimum unit cost. Therefore, cost

leadership prevails in a competitive pattern. Because labour cost makes up an important proportion of their total cost, companies are running after cheap crews.

Firms need to adopt a system approach in their human resource management because individual practices are easily imitable, whereas coherent systems are not (Progoulaki and Theotokas 2010).

Kim *et al.* (2011) emphasise the importance of knowledge as a key resource in decision-making in the shipping industry. They developed a knowledge management model that can help shipping companies in their decision-making process. However, the model is more focused on the operational parts of the business, than the strategic decision-making process.

2.12 Building competitive advantage through capabilities

Capabilities are the skills needed to take absolute control over resources, and the capacity to perform specific tasks and operations (Cui and Hertz 2011). In this view, competitive advantage is based on distinctive competences and capabilities that rivals cannot imitate or possess (Progoulaki and Theotokas 2010). Dynamic capabilities are sometimes defined as organisational and strategic routines, by which firms achieve a new resource configuration (Progoulaki and Theotokas 2010).

For Oswald *et al.* (2013), dynamic capabilities refer to tools employed to manipulate the existing configuration, in order to create a new resources configuration. Kim *et al.* (2008) state that competitive advantage should be built through expanding capabilities, such as human resource management and technology, rather than by extending physical assets.

The link between resource and capabilities is explained by Cui and Hertz (2011), who state that capabilities are the sources of competitive advantage and resources are the sources of capabilities.

2.13 Chapter Summary

This chapter examined the literature related to ways in which shipping agencies may expand their business to widen income streams through diversification as well as the impact of the global shipping recession on shipping agencies. Causes and consequences of the global shipping recession, overcapacity, increased bunker costs, the emergence of new, larger vessels, slow steaming, scrapping and idling of some ships, were identified and confirmed by literature to be the factors characterizing the global shipping recession. Literature related to the theory of diversification in the shipping industry, competition through mergers and alliances and collaborative agreements among shipping liners were identified and discussed.

The next chapter examines the theoretical underpinnings of the study with an examination of the theory of diversification and the Theory of Human Behaviour.

CHAPTER 3

Theoretical/conceptual foundation

3.1 Introduction

The preceding chapter identified the causes and consequences of the global shipping recession, and related problems faced by the global shipping industry, such as overcapacity, increased bunker costs, the emergence of new, larger vessels, and slow steaming, scrapping, as well as idling of some ships. Literature related to the theory of diversification in the shipping industry, competition through mergers and alliances and collaborative agreements among shipping liners, were identified and discussed.

This chapter articulates the underlying theories within the study; diversification theory and the theory of planned behaviour. This examination of the theoretical prism of underlying theories is vital, as it allows for critical reality and social constructivism philosophies to guide the relationship between theory and the expansion of shipping agency business in South Africa.

3.2 Motives for diversification

Firms diversify for two reasons. Firstly, diversification allows firms to take advantage of economies of scope, by eliminating redundancies across different activities and lowering fixed costs of production. Secondly, diversification allows a mature, slow-growing firm to explore attractive, new productive opportunities. This concept assumes that production activities exhibit decreasing returns to scale. As scale grows, returns decrease, eventually leading the firm to search for profit opportunities in new activities (Gomes and Livdan 2004).

Matsusaka (2001) models diversification as an intermediate, and less productive stage in a search process over industries that best match the firm's organisational capabilities. When the perfect match is found, a firm eventually specialises. Bernardo and Chowdhry (2002) explain the diversification discount, by assuming that specialised firms have growth options allowing them to diversify in the future.

Conglomerates on the other hand, are firms that have exercised these options and are thus, less valuable to investors.

The work of Maksimovic and Phillips (2002) first formalised the idea that diversification decisions can be understood as the optimal response of firms to industry or sectoral shocks. They show that firms will become conglomerates only when they face similar profit opportunities across sectors. Specialised firms, on the other hand, are usually much more productive in their chosen activities. A linear quadratic example is used to show how decreasing returns to scale can provide a natural bound to the size of the firm and thus, create an incentive to diversification (Maksimovic and Phillips 2002).

It can therefore, be assessed that for a firm to diversify, it needs to have a competitive advantage (this can be acquired through specialisation or resource capabilities), which can then assist in growing other business units. However, it is also important to maintain a vertical presence along the supply chain, through collaborative arrangements that may provide future growth areas, as firms diversify into areas they are more familiar with than those they are unfamiliar with.

The classical view in finance is that risk sharing, in other words diversification, is always valuable (Samuelson 1967). Therefore, interdependence is valuable and, indeed, what we should expect. In practice, we may expect both effects to be present, by sharing risks; intermediaries decrease the risk of individual failure, but increase the risk of massive, systemic failure (Ibragimov, Jaffe and Walden 2010: 334).

3.2.1 Three main theoretical perspectives

Montgomery (1994) identifies three main theoretical perspectives that can be used to explain why a firm might choose to diversify as: agency theory, the resource based view, and market power.

Agency theory

From the perspective of the agency theory, diversification is viewed as resulting from the pursuit of managerial self-interest, at the expense of stockholders. Managers may seek to diversify because it is expected to (1) increase their compensation (Jensen and Murphy 1990), power, and prestige (Jensen 1986); (2) make their positions with the firm more secure by making investments that require their particular skills via manager-specific investments (Shleifer and Vishny 1990); or (3) reduce the risk of their personal investment portfolio by reducing firm risk, since the managers cannot reduce their own risk by diversifying their portfolios (Amihud and Lev 1981).

Resource-based theory

Diversification, from the resource-based perspective, is observed in firms that possess excess capacity in resources and capabilities that are transferable across industries. These are economies of scope, whereby the diversified firm is an efficient form for organising economic activities (Penrose 1959).

Market power

The third and final theoretical perspective, from which to view the motivation for corporate diversification, is market power. Villalonga (2000) offers three different anticompetitive motives for diversification. The first uses the profits, generated by the firm in one industry, to support predatory pricing in another. The second motive involves colluding with other firms that compete with the firm, simultaneously, in multiple markets, or the mutual forbearance hypothesis of multi-market competition. Finally, firms might use corporate diversification to engage in reciprocal buying with other large firms, in order to squeeze out smaller competitors.

The strategy of related diversification enables firms to exploit economies of scope (Teece 1982; Porter 1987). This means that the corporate centre of a firm operating in (say) two SBUs, can exploit any synergies between two SBUs (for example in manufacturing or distribution), so as to achieve cost and/or differentiation advantages relative to an undiversified rival. As articulated by Hill, Hitt and Hoskisson (1992: 502): "...resource sharing and skill transfers enable the diversified firm either to reduce

overall operating costs in one or more of its divisions, and/or to better differentiate the products of one or more of its divisions (thus enabling a higher price to be charged)."

3.2.2 Diversification and performance

Diversification will only enhance performance, where it allows a business to obtain preferential access to skills, resources, assets or competences that cannot be purchased by non-diversifiers in a competitive market or substituted by some other asset that can be purchased competitively (Markides and Williamson 1996: 4). Although diversifiers can potentially out-perform single-firm businesses under these circumstances, they may still fail to enjoy super-normal profits, should large numbers of firms have the option to diversify in the same way open to them, because then any abnormal returns could be competed away, by rivals diversifying in the same manner.

The superior performance of diversification depends on opportunities to share strategic assets, and this bears a second important implication that, any single source of diversification advantage cannot be expected to persist indefinitely. This is because non-diversified competitors will, eventually, eliminate the competitive advantage associated with any strategic asset by substitution or replication. In order to maintain or expand their initial competitive advantage, in the face of rivals investing to close the gap, diversifiers must replenish their stock of strategic assets that underpins it or add to this stock, by creating new strategic assets.

This opens up a second possible benefit from diversification: the fact that it might allow the firm to expand its stock of strategic assets faster and at lower cost, than its single-business competitors. Markides and Williamson (1996: 6) contend that only by finding ways to exploit this potential advantage, will diversifiers be able to maintain superior returns over the long-run.

3.2.3 Geographic diversification

Increasingly, firms are diversifying the geographic scope of their business activities, in the pursuit of competitive advantage (Porter 1990; Ramaswamy 1995). Geographic expansion comes with a set of attendant costs (Tallman and Li 1996) and benefits

(Geringer, Beamish and daCosta 1989) that, if incompletely conceptualised, can lead to different inferences about the net performance benefits of internationalisation (Hitt, Hoskisson and Kim 1997; Sullivan 1994). Studies have shown that higher levels of geographic diversification lead to better firm performance (Delios and Beamish 1999; Doukas and Travlos 1988; Errunza and Senbet 1984). Other research has, however, indicated no relationship (Brewer 1981; Morck and Yeung 1991), or a negative relationship (Denis, Denis and Yost 2002; Geringer, Tallman and Olsen 2000). More recently, a few studies have begun to address costs involved in internationalisation and tested a curvilinear relationship between multi-nationality and performance (Hitt *et al.* 1997; Lu and Beamish 2001).

Organisational learning

The initial impetus to a firm's internationalisation comes from the opportunity to exploit market imperfections, in the cross-border use of its intangible assets (Caves 1971). A firm can gain above-normal returns by exploiting its firm-specific assets, especially intangible ones, in international markets (Buckley 1988). Recently, scholars have drawn attention to the exploration benefits of internationalisation, using an organisational learning perspective. This perspective emphasises that a firm's subsidiaries, in disparate host countries, can help to enhance its knowledge base, capabilities, and competitiveness, through experiential learning (Barkema and Vermeulen 1998; Delios and Withold 2000; Zahra, Ireland and Hitt 2000).

3.2.4 Diversification and value of the firm

Theoretical arguments suggest that diversification has both value-enhancing and value reducing effects. Berger and Ofek (1995) postulate that the potential benefits of operating different lines of business within one firm, include greater operating efficiency, less incentive to forego positive net present value projects, greater debt capacity, and lower taxes. The potential costs of diversification include the use of increased discretionary resources to undertake value-decreasing investments, cross-subsidies that allow poor segments to drain resources from better-performing segments, and misalignment of incentives between central and divisional managers. It

is concluded that there is no clear prediction about the overall effect of diversification (Berger and Ofek 1995: 40).

Diversification and tax effect

Majd and Myers (1987) note that undiversified firms are at a significant tax disadvantage because tax is paid to the government when income is positive, but the government does not pay the firm when income is negative. This disadvantage is reduced, but not eliminated, by the tax code's carry-back and carry-forward provisions. (See page 204). The Majd and Myers (1987) analysis predicts that, as long as one or more segments of a conglomerate experiences loss in some years, a conglomerate pays less in taxes than its segments would pay separately. However, diversification can bear some costs. Stultz (1990) argues that diversified firms will invest too much in lines of business with poor investment opportunities. (See page 204).

Jensen (1986) asserts that managers with unused borrowing power and large, free cash flows, are more likely to undertake value-decreasing investments than their segments would, when operated independently. This view is supported by Meyer, Milgrom, and Roberts (1992), who predict that, since a failing business cannot have a value below zero when operated on its own, it can have a negative value, should it be part of a conglomerate that provides cross-subsidies; unprofitable lines of business create greater value losses in conglomerates, than they would as stand-alone firms.

3.3 Ways of attaining diversification

3.3.1 Related and unrelated diversification

Rumelt (1974) maintains that related diversification affects value more positively than unrelated diversification because skills and resources can be used in related markets. Nayyar (1993) argues that benefits from positive reputation in an existing business and from economies of scope are available from related but not from unrelated diversification, implying that the valuation effect of diversification is more positive for related than unrelated lines of business. (See page 188).

While there are many studies that have supported Rumelt's (1974) original findings that related diversified firms perform better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt 1982; Palepu 1985; Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989), there is a growing number of scholars that find the opposite (Michel and Shaked 1984; Chatterjee 1986; or are indifferent (Lubatkin 1987). These inconsistencies may be so because firms may be indifferent to the type (related or unrelated) of diversification.

3.3.2 Related diversification: A case for competitive advantage

What relatedness exactly means, is far from trivial. Research in business studies differentiates, for example, between different types of relatedness, such as technological and managerial, and relatedness at the level of consumer markets. All three types of relatedness will influence diversification decisions (Prahalad and Bettis 1986; Grant 1988). Moreover, the authors distinguish between relatedness at an operational and at a corporate level. At the corporate level, strategic relatedness matters most. However, strategic relatedness is different from, and sometimes conflicts with, the technological relatedness that matters at an operational level.

Porter (1987), in turn, gives relatedness a firmer interpretation that builds on the concept of skills, arguing that the prime value of corporate relatedness lies in sharing skills among the different value chains in a diversified firm (see page 211). However, such skill-sharing will only translate into corporate advantage: when the value chains of a firm's different businesses are similar enough for skill-transfer to be meaningful; when the skill transferred is relevant enough for competitive advantage, and when the skill-transfer is to the mutual benefit of the different parts of the corporation.

3.3.3 Diversification using transferable skills

Once a firm decides to diversify, the type of market chosen for entry should be such that it provides the firm with a competitive advantage. Porter (1987) suggests that a firm can gain such competitive advantage, should it have skills or resources that it can transfer into the new market. (See page 43). Rumelt (1974) alludes to "core skills" that

can be used in related markets, while Burt (1983) views multi-market operations of diversified firms as a means of managing resource-dependent relationships. Carleton, Harris and Stewart (1984) find that firms tend to diversify into industries that use resources similar to their own. Montgomery and Hariharan (1991) corroborate this at individual firm-level.

Traditional, resource-based studies are based either explicitly or implicitly, on explaining how firms build long-run competitive advantage, by investing in idiosyncratic firm resources that are valuable, rare, and inimitable (Barney 1986 and 1991; Rumelt 1974; Wernerfelt 1984). Competitive advantage, in this perspective, focuses on leveraging related resource portfolios capable of exploiting economies of scope. Empirical tests of the link between static resource relatedness and economic performance have been inconclusive.

3.3.4 Diversification using dynamic resource relatedness

Another emerging dynamic of strategy research, is based on a type of relatedness that can be characterised as dynamic resource relatedness. In this type of relatedness, the processes by which strategic resources are expanded or created are more important than the static similarities, which are the outcome of the processes. This perspective suggests that the continual accumulation/creation of strategic resources gives rise to a competitive advantage that is eroding away, even as rivals invest to close the competitive gap (Amit and Shoemaker 1993; Dierickx and Kool 1989; Mark and Williamson 1994; Penrose 1959). The paradigm embraced in this dynamic resource perspective, is one of continually expanding stocks of strategic resources or creating new ones, more rapidly and at a lower cost than rivals (see page 193).

While the arguments are persuasive, although incomplete, this dynamic theory of related diversification has proven difficult to operationalise and test, using traditional economic models. Given the nature of this study, system dynamics can clearly provide a framework for advancing diversification in global shipping and a conceptual model is illustrated below:

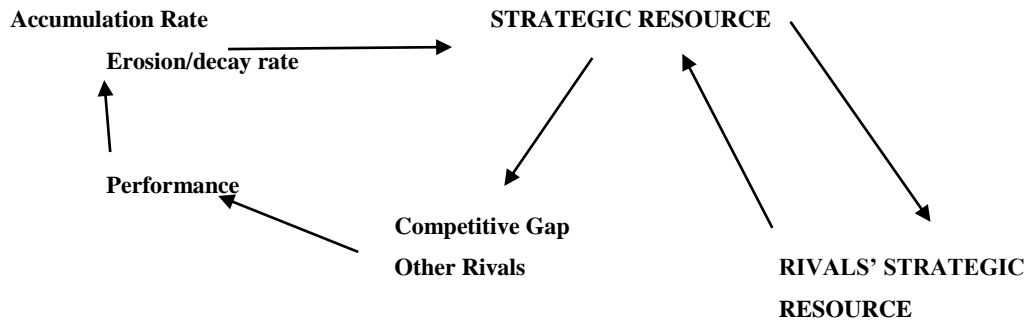


Figure 3.1: Causal loop diagram of the generic strategic resource accumulation process

Source: Gary 1997

The causal loop in Figure 3.1 represents the process of resource accumulation for one strategic resource, within one USB. It illustrates that, with more of a strategic resource than its rivals, an USB has a competitive advantage that can be leveraged for superior economic performance. (See page 264).

3.4. Capital Structure influences

Product and international diversification both have the potential to generate economic rents, from leveraging critical resources and capabilities across multiple markets (Barney 1991; Hitt *et al.* 2006; Teece, Pisano and Shuen 1997). Inappropriate diversification can, however, destroy firm value (Hoskisson and Hitt 1990). Flawed governance mechanisms cultivate ineffective monitoring and skewed incentives, resulting in unsuitable diversification strategies and poor financial performance (Hitt *et al.* 2006; Hoskisson and Hitt 1990; Wan *et al.* 2011).

A firm's capital structure (the relative mix of debt and equity capital) is an important governance mechanism that shapes monitoring and incentives (Jensen and Meckling 1976; Williamson 1988) and impacts corporate diversification strategy (Kochhar 1996). O'Brien *et al.* (2013) contend that, while considerable research has explored the governance consequences of diversification (Connelly *et al.* 2010), the influence of lenders on diversification remains unexplored.

Diversification helps to reduce earnings volatility because cash flows across the firm's various markets will be imperfectly correlated, thereby allowing firms to employ more debt in their capital structure and hence, enjoy the concomitant cost of capital and tax benefits (Barton and Gordon 1988; Kim, Hwang, and Burgers 1993; Kochhar and Hitt 1998; Lim *et al.* 2009; Low and Chen 2004; Lowe, Naughton and Taylor 1994). Empirical research has also explored the reciprocal relationship of debt on diversification (Yoshikawa and Phan 2005) and found that debt tends to inhibit related diversification (Chatterjee and Wernerfelt 1991) and to foster restructuring, through reductions in diversification (Gibbs 1993).

3.4.1 Diversification and capital structure

While debt financing has benefits for firms because it helps shield some income from taxes and can lower the firm's overall cost of capital, it also poses risks; failure to make periodic interest and loan payments can lead to financial distress and bankruptcy (Kochhar 1996). Operating in multiple markets helps firms to diversify risk and smooth earnings volatility, thereby allowing them to reap the potential benefits of carrying more debt.

Although Chkir and Cosset (2001) find a positive relationship between international diversification and leverage, other studies have found a negative relationship (Burgman 1996; Chen *et al.* 1997; Lee and Kwok 1988), while others, even argue that debt capacity will vary according to the riskiness of the countries entered (Kwok and Reeb 2000). Moreover, the relationship between debt and diversification is likely to be reciprocal. While 'ex post' (after a firm has diversified) diversified cash flows help support higher debt levels, 'ex ante' (before diversification) debt should constrain a firm's ability to diversify. Hence, when a firm has high debt levels, managers will have both less free cash flow to invest in new markets and less leeway to borrow capital to fund market expansion.

3.4.2 Debt and diversification

Jensen's (1986) free cash flow theory suggests that managers may attempt to 'build their empires' by entering new markets, should they have discretion over ample free cash flows (Brush, Bromiley and Hendrickx 2000), potentially at a cost to shareholders (Kim, Hoskisson and Wan 2004). Furthermore, debt increases the incentives to keep performance strong (Hoskisson, Johnson and Moesel 1994; O'Brien and David 2010), thereby compelling managers to only enter new markets should the expected returns appear promising. Market expansion can also provide substantial opportunities to develop new resources and capabilities, which can lead to positive spill-overs that can be applied in subsequent diversification moves (Chang 1995). However, as noted by Penrose (1956), expansion into new markets may be motivated not just by attractive opportunities in the new market but also by poor prospects in the firm's existing markets (Chang 1992; Christensen and Montgomery 1981; Rumelt 1974; Stimpert and Duhaime 1997).

Bank debt and bond debt

While all forms of debt do share certain critical characteristics, there are important differences between bank debt and bond debt (for a review see Boot 2000). In fact, the classical description of debt pertains mainly to bond debt, whereas a bank may be more likely to employ hierarchical governance. Banks tend to have more concentrated holdings, allowing them to renegotiate debt contracts more easily, should the client firm encounter financial difficulties. Banks also, typically, form a close relationship with their clients, which allows them to gather more detailed, subjective information on the firm and often, further garners them a seat on the firm's board of directors (Kaplan and Minton 1994). Finally, banks may even use their influence to take an active role in guiding adaptation.

Prior research has noted that banks influence diversification strategy (Ramaswamy, Li and Veliyath 2002). Entering new markets entails significant uncertainty, and performance will likely improve when managers are afforded more freedom to react flexibly, experiment, and potentially delay short-term payoffs, in favour of newly discovered, greater, long-term payoffs. Redeploying resources and capabilities back

into mature operating segments is rather mechanistic, in comparison to leveraging them into new markets. As managers are highly familiar with the existing markets, there is significantly less uncertainty, much less need to adapt and experiment, and the resources being redeployed are more fungible (less specific). Hence, the market governance of debt is not nearly as consequential to market contraction, as it is to market expansion.

Consequently, while it may be expected that debt will generally be bad for firms expanding into new markets, it will be ‘less bad’ and possibly even ‘good’, for mature firms managing a diversified but stable portfolio of markets (see page 238).

3.4.3 Impact of financial structure on governance

Selecting the firm’s capital structure is one of the most important decisions made by senior managers (Mizruchi and Stearns 1994), as it significantly influences the ability of managers to make discretionary investments (Jensen 1986; Stearns and Mizruchi 1993). Debt exposes managers to high-powered incentives because failure to adhere to the contract can result in financial distress, bankruptcy, and even organisational demise (Gilson 1989); outcomes that can erode the personal wealth of managers and damage, if not ruin, their careers (Sutton and Callahan 1987). However, as long as managers conform to the objective terms of the debt contract, they are afforded the discretion to decide autonomously (that is, without input from lenders) how best to adapt to unfolding contingencies.

Equity holders are residual claimants. When debt levels are low, managers are primarily disciplined by the hierarchical governance of the equity holders. Even should the board not diligently monitor managers, other mechanisms, such as competition (Fama 1980) and the market for corporate control (Manne 1965), provide a measure of discipline. Thus, managers must ultimately care about performance, but will be relatively free to experiment and adopt a medium- to long-term perspective.

Moreover, while factors such as board composition or ownership structure are important, their relevance is diminished when managers are focused on the high-

powered, short-term incentives of debt. Likewise, diligent monitoring by boards may be superfluous or possibly even counterproductive, should managerial efforts primarily be focused on meeting the pressing market demands of lenders.

3.5 Managers and growth decisions

Growth decisions are not made solely based on aspiration levels for size but are, however, also affected by aspiration levels on other organisational goal variables. First, managers implement a number of strategic changes, in response to organisational performance below the aspiration level (Bolton 1993; Greve 1998; Halebian, Kim and Rajagopalan 2005; Lant, Milliken and Batra 1992), including growth of production facilities (Audia and Greve 2006; Greve 2003b). Second, managers may have aspiration levels for the rate of organisational growth because they view growth as a form of performance (Armstrong and Collopy 1996; Smith, Ferrier and Grimm 2001).

Organisations are thought to have a wide range of goals, including profitability, sales, and production goals (Cyert, James and March 1963: 40-43). Some goals are used to assess organisational performance, and other goals are introduced through the efforts of stakeholders and interest groups, to persuade organisations to pursue their interests (Donaldson and Preston 1995; Hoffman 1999). Among the different goal variables that organisations might pursue, profitability measures, such as return on assets, have received most attention (Audia, Locke and Smith 2000; Bromiley 1991; Greve 2003a, 2003b; Lant *et al.* 1992; Miller and Chen 2004).

One reason to doubt whether goals other than profitability affect organisational behaviours, is that many organisational goals do not have as clear career consequences, as profitability. For example, intermediate goals, such as production efficiency and defect rates, have weaker relations to top manager career outcomes than final goals, such as profitability, and organisational efforts to address problems, such as pollution (Hoffman 1999) or homelessness (Dutton and Dukerich 1991), have even less clear rewards.

3.5.1 Size Goals

Aspiration levels for organisational size are founded on managerial beliefs that size affects organisational efficiency or legitimacy. Organisational size is related to efficiency in many industries and organisations gain legitimacy by appearing similar to other organisations, so both beliefs are plausible (Deephhouse 1996; DiMaggio and Powell 1983; Edmunds 1981; McNamara, Deephouse and Luce 2003).

Size goals are important because of their potential influence on firm strategies. Problematic search, as a result of falling below the aspiration level for organisational size, will trigger competitive moves to increase the growth rate, and will result in actual growth, should competing firms not counter them effectively. Firms can realise revenue growth through competitive attacks, such as price reductions, product development, or sales campaigns (Smith, Ferrier and Ndofor 2001). Competitors will fail to respond to such attacks because of indifference, when the attack is on a peripheral market, and risk aversion, when the attacked organisation is profitable (Chen and Hambrick 1995; Chen and MacMillan 1992; Hambrick, Cho and Chen 1996). There are thus, often opportunities for organisations to achieve growth, should their managers be willing to take risks (see page 190).

3.5.2 Performance Goals

Organisations respond to low performance by making a broad range of strategic and operational changes, including market niche entry, resource acquisition, increased research and development, and higher innovativeness (Audia and Greve 2006; Audia *et al.* 2000; Bolton 1993; Greve 1998; 2003a; Hambrick and D'Aveni 1988; Lant *et al.* 1992). Acceptance of risk is important because competitive moves to increase growth can trigger retaliation from competitors, and also incur operational risks.

Performance goals have clearer career rewards for managers than size goals because they produce internal rewards and increase the manager's worth in the external job market. Thus, although managers have aspiration levels for performance goals, as well as for size goals, there is less justification for positing that performance goals will be pursued more weakly, when the organisation is above the aspiration level for

performance. Instead, managers will be motivated to lock in high organisational performance, by avoiding risky actions.

3.6 Skills and cross-industry labour flows

The concept of “skills” is used to denote a broad range of qualitatively different, individual capabilities. Ingram and Neumann (2006), for example, find that in detailed descriptions of occupations, four major skill factors can be distinguished: intelligence, fine motor skills, coordination and strength. Behind these broad factors, however, hides a multitude of more specific skills that are often used in particular occupations and industries. Some skills are accumulated through formal education. Many other skills, in contrast, are acquired during the working life of individuals, for example by learning-by-doing and on-the-job training processes.

Poletaev and Robinson (2008) show that labour movements that are forced by the closure of an establishment, typically lead to large wage losses for the affected individuals. The authors ascribe this to the fact that part of the accumulated human capital of an individual has no value in his or her new employment, and is therefore destroyed by the change of jobs. As a consequence, we can assume that individuals have strong incentives to prevent such human capital destruction. In particular, an additional destruction of human capital is found, when employees not only change employer, but also the industry they work in. This suggests that skills are, indeed, to an appreciable extent, industry-specific.

3.7 Firm diversification and skill-relatedness

Penrose (1959) distinguishes explicitly between resources and the services a firm can derive from them. The principal difference is that one single resource may provide a variety of services. In fact, at any given moment, the resources of a firm could be dedicated to a number of different activities (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). When a resource is left idle, a firm may put its services to use by diversifying into one of these activities. Therefore, the various alternative uses of a resource indicate possible directions for diversification.

3.8 Theory of planned behaviour

According to the theory of planned behaviour (Ajzen 1988, 1991), human behaviour is guided by three kinds of considerations, beliefs about: the likely consequences or other attributes of the behaviour (behavioural beliefs), the normative expectations of other people (normative beliefs), and the presence of factors that may further or hinder performance of the behaviour (control beliefs). Behavioural beliefs are assumed to generally produce a favourable or unfavourable attitude towards the behaviour, while normative beliefs result in perceived social pressure or subjective norms, with control beliefs giving rise to perceived behavioural control, the perceived ease or difficulty of performing the behaviour (see page 266).

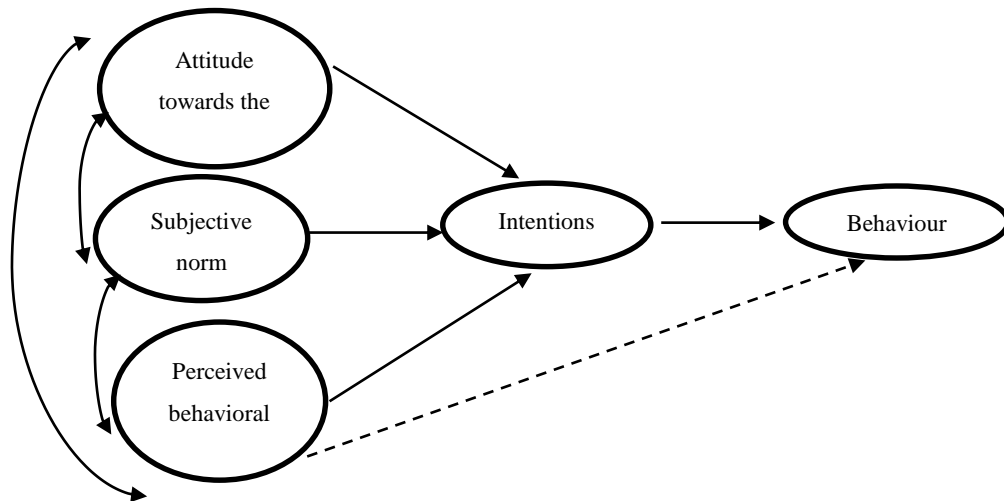


Figure 3.2: Theory of planned behaviour

Source: Ajzen and Madden (1986)

The Theory of Reasoned Action (TRA) was developed to better understand relationships between attitudes, intentions, and behaviours (Fishbein 1967). According to the theory of reasoned action, if people evaluate the suggested behaviour as positive (attitude), and if they think their significant others want them to perform the behaviour (subjective norm), this results in a higher intention (motivations) and they are more likely to do so. On the one hand, a high correlation of attitudes and subjective norms to behavioural intention, and subsequently to behaviour, has been confirmed (Sheppard, B. H., Hartwick, J., & Warshaw, P. R. 1988).

On the other hand, many previous studies of these relationships found relatively low correspondence between attitudes and behaviours, and some theorists proposed eliminating attitude, as a factor underlying behaviour (Wicker 1969). In work that led to development of the TRA, Fishbein distinguishes between attitude toward an object and attitude toward a behaviour, with respect to the object. Most attitude theorists measure attitude toward an object (such as attitude toward cancer) in trying to predict a behaviour (example: mammography). However, Fishbein demonstrates that attitude toward the behaviour (attitude toward mammography) is a much better predictor of that behaviour (obtaining mammography), than attitude toward the object (cancer) at which the behaviour is being directed (Fishbein and Ajzen 1975). This is known as the theory of compatibility and is clearly described by Ajzen (1985, 2012).

Since behavioural intention cannot be the sole determining factor of behaviour, where control by an individual over the behaviour is incomplete, Ajzen introduced the Theory of Planned Behaviour (TPB), adding a new component and extended the theory of reasoned action to the prediction of behavioural intention and actual behaviour, by covering non-volitional behaviours.

Underlying beliefs, intentions and behaviours

Fishbein and Ajzen (1975, 2010; Ajzen and Fishbein 1980) define underlying beliefs (behavioural and normative), intentions, and behaviours and the measurement. The authors show it is critical to have a high degree of correspondence between measures of attitude, norm, perceived control, intention, and behaviour, in terms of action (for instance, go get), target (example: a mammogram), context (for example, at the breast screening centre), and time (such as, in the next 12 months). A change in any of these factors results in a different behaviour explained. Low correspondence between model construct measures on any of these factors will result in low correlations between TRA/TPB variables (Ajzen 2012; Fishbein and Ajzen 2010). (See page 239).

Recent studies in the fertility domain demonstrate that intentions to have a child (in formal terms, intention to attain the behavioural goal of having a child) can be predicted from attitudes, subjective norms, and perceived control with respect to

having a child (Billari, Philipov, and Testa 2009; Dommermuth, Klobas, and Lappegard 2011; Klobas 2010; Klobas and Ajzen in press).

However, there is nothing in the TPB to suggest that behaviours designed to attain certain outcomes, or to avoid certain outcomes, will necessarily result in goal attainment. Unprotected sex, the behaviour, may well have been intentional, even if pregnancy, the outcome, was not (Ajzen 2011).

Expectancy-value conceptualisation

Operationalisation of TRA constructs was developed from a long history of attitude measurement theory, rooted in the concept that an attitude (toward an object or an action) is determined by expectations or beliefs concerning attributes of the object or action and evaluations of those attributes (see page 240). This expectancy-value conceptualisation has been applied extensively in psychology in many areas, including learning theories, attitude theories, and decision-making theories (Edwards 1954; Rosenberg 1956; Rotter 1954). Furthermore, in addition to the TRA and TPB, a few other behavioural theories and models have been developed to investigate health behaviours (Glanz, Rimer and Viswanath 2008), including social cognitive theory.

3.8.1 Decomposed Theory of Planned Behaviour (DTPB)

Taylor and Todd (1995) introduce the idea that TPB beliefs can be decomposed into multidimensional constructs. The authors argue that the aggregation of beliefs to create measures of attitude, subjective norm and PBC, proposed by Ajzen and Fishbein, does not identify specific factors that might predict a particular behaviour. Moreover, Taylor and Todd argue that, “the decomposed TPB model has advantages similar to TAM in that it identifies specific salient beliefs that may influence IT usage” (Taylor and Todd 1995: 147).

According to Taylor and Todd (1995), in the decomposed TPB (DTPB) attitudinal, normative and control beliefs are decomposed into multidimensional belief constructs (Figure 4). The decomposition of attitude beliefs has three characteristics of innovation that influence behavioural intentions; these are based on the diffusion of innovation

theory proposed by Rogers (1995): relative advantage, complexity and compatibility. Relative advantage can be defined as the degree to which an innovation provides benefits that supersede those of its precursor and may incorporate factors, such as economic benefits, image enhancement, convenience and satisfaction (Rogers 1995).

Ajzen (1991) decomposed the PBC component into two dimensions: self-efficacy and facilitating conditions. The dimension of self-efficacy is defined as an individual's perception of his or her individual capabilities; in the context of online shopping it refers to consumer's self-assessment of his or her capabilities to shop online. The second dimension, facilitating conditions, is concerned with external resource constraints that may have an influence on engaging a particular behaviour, such as time, money and technology; in the context of online shopping, the issue of technology constraints is related to the availability of supporting internet equipment (Ajzen 1991, 2002; Lin 2007). DTPB has been successfully applied as research model in online shopping to predict purchasing behaviour, repurchase intention, as well as a model to understand the relation of two behaviours, such as obtaining information and actual online purchasing (Chen 2009; Hsu and Chiu 2004; Lin 2007; Pavlou and Fygenson 2006).

3.8.2 Attitude

Attitude is defined as "the degree to which the individual favours the behavior being examined" (Ajzen 1991). Three attitudinal components are identified by Ajjan and Hartshorne (2008: 73); perceived usefulness, perceived ease of use, and compatibility. The authors quote Davis 1989, who states that: "Perceived usefulness is defined as the degree to which the individual believes that a technology would improve his/her job performance", while Rogers (2003 in Ajjan and Hartshorne 2008: 73) points out that: "The higher the perceived usefulness (or perceived advantage) the more likely it is for the individual to adopt the new technology. Empirical support for the compatibility principle is strong and consistent (for a general review, see Ajzen and Fishbein 1977; Fishbein and Ajzen 2010). (See page 194).

Ease of use represents the degree to which an innovation is easy to understand and operate (Rogers 2003 in Ajjan and Hartshorne 2008: 73) or the degree to which the

particular technology is free of effort (Davis 1989 in Ajjan and Hartshorne 2008: 73). Technologies that are perceived to be less complex to use, have a higher possibility of acceptance by potential users. Ease of use has been found to be an important determinant in technology adoption decision (Davis 1989 in Ajjan and Hartshorne 2008: 73). (See page 192).

Compatibility is defined as “the degree to which technology fits with the potential existing values and experiences” (Rogers 2003). Tornatzky and Klein (1982) find that “innovation is more likely to be adopted when it is compatible with the job responsibility and value system of an individual.” (Ajjan and Hartshorne 2008: 73)

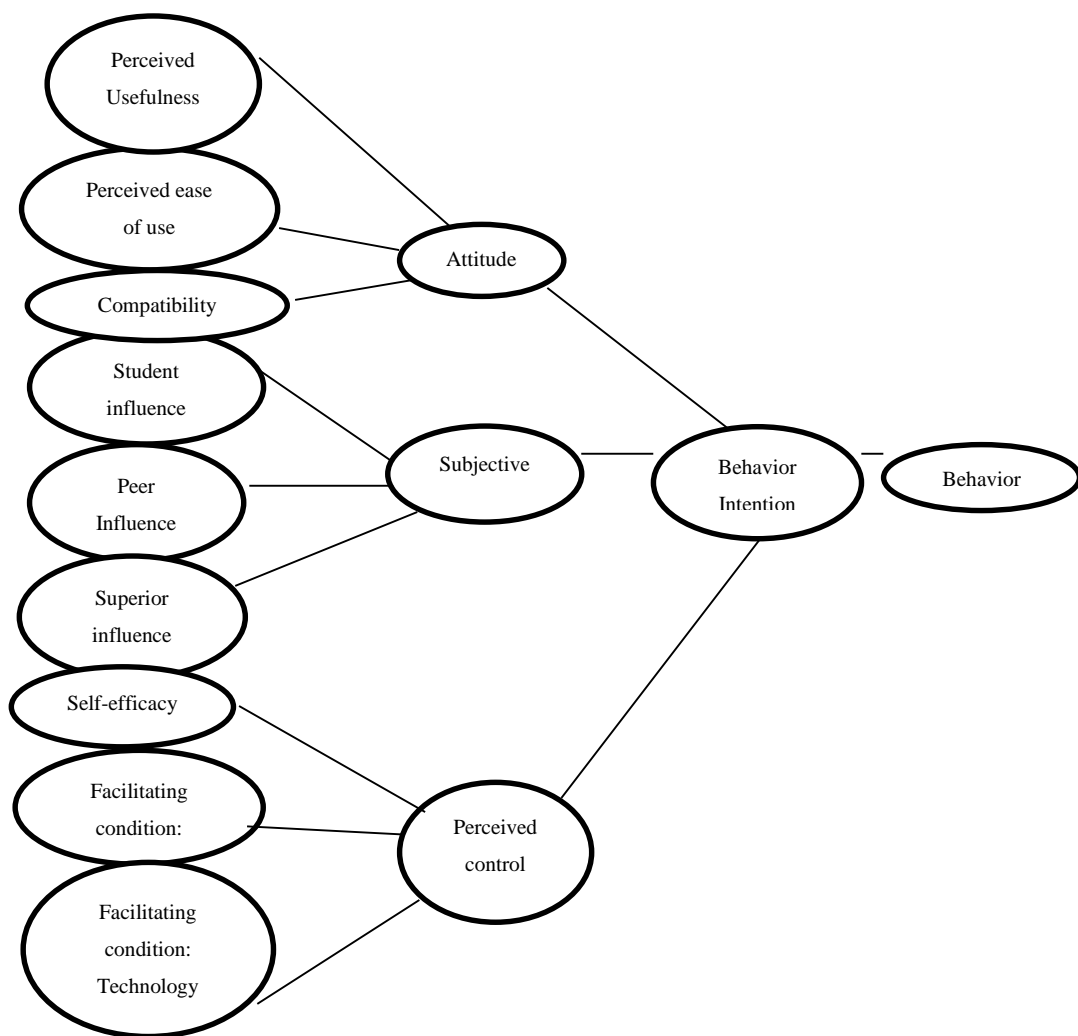


Figure 3.3: The Decomposed Theory of Planned Behaviour

Source: Lin (2007); Taylor and Todd (1995)

3.8.3 Belief Salience

In both the TRA and the TPB, attitudes are held to be determined by under-lying salient beliefs. It is the salient beliefs that are assumed to determine a per-son's attitude. However, it is not a simple matter to ascertain which beliefs are salient (Ajzen, Nichols and Driver 1995).

Rather than the five to nine beliefs, assumed by Fishbein and Ajzen (1975) to underlie attitudes, van der Pligt and Eiser (1984) suggest that three to five beliefs may represent the limit. However, presenting only the three to five most frequently elicited beliefs may fail to adequately represent all individuals' salient beliefs. Van der Pligt and Eiser (1984) argue that researchers should investigate the beliefs that are most salient to specific individuals or groups, and suggest a variant of the usual procedure for assessing beliefs. They suggest that, when respondents are presented with a common set of modally salient beliefs to rate, they should also be asked to indicate the personally most salient beliefs. Van der Pligt and de Vries (1998) suggest that this can be achieved via ranking or rating each belief for importance, in relation to determining one's attitude.

Thus, measures of belief salience may provide one way to improve the descriptive validity of Fishbein's (1967) summative model of attitudes, when using modal salient beliefs. Van der Pligt and de Vries (1998) also suggest that, obtaining information about the salience of beliefs (for example, via belief importance ratings), may make it possible to assess the structure of beliefs underlying attitudes and could usefully inform the design of interventions to change behaviour. Cornner and Armitage (1998) conclude that, at least in terms of using the TPB to develop interventions to change behaviour, belief importance measures may represent a useful additional variable. This approach allows one to design interventions that target those beliefs salient to the subpopulation of interest.

3.8.4 Subjective norm

The antecedents of attitude, subjective norm and PBC, are corresponding beliefs, reflecting the underlying cognitive structure. Each behavioural belief links a given

behaviour to a certain outcome, or to some other attribute, such as the cost incurred in performing the behaviour. The attitude towards the behaviour is determined by the strength of these associations, and by the beliefs that are salient at the time. This works on the principle of Fishbein and Ajzen's (1975) Expectancy-value Model: the subjective value of a given outcome affects the attitude in direct proportion to the strength of the belief. Subjective norm is considered to be a function of salient normative beliefs. While subjective norm relates to perceptions of general social pressure, the underlying normative beliefs are concerned with the likelihood that specific individuals or groups (referents), with whom the individual is motivated to comply, will approve or disapprove of the behaviour. According to Ajzen (1991), control beliefs are the antecedents of PBC, and are concerned with the perceived power of specific factors to facilitate or inhibit performance of the behaviour

3.8.5 Perceived behavioural control

The theory of planned behaviour was derived from the theory of reasoned action (Fishbein and Ajzen 1975), which assumed that most human behaviour is under volitional control and, hence can be predicted from intentions alone. The construct of perceived behavioural control was added, in an attempt to deal with situations, in which people may lack complete volitional control over the behaviour of interest. Even when not particularly realistic, perceived behavioural control is likely to affect intentions.

All else equal a high level of perceived behavioural control can affect behaviour indirectly, by its impact on intention (Ajzen 2002: 667). In this fashion perceived behavioural control can affect behaviour indirectly, by its impact on intention. Logically, perceived behavioural control, rather than having a direct effect, is expected to interact with attitudes, and with subjective norms in determining intentions, and with intentions in its effect on behaviour (Ajzen 1985). Empirically, however, interaction of this kind can be expected only when values of the predictor variables cover the full range of possible scores, such that the product term is fully expressed in the prediction. Research to date has revealed little evidence for the expected interactions, and the simpler additive model has been used in most applications.

3.8.6 Perceived self-efficacy

The concept of perceived behavioural control is not new or original to the theory of planned behaviour. Rosenstock (1966), in the health belief model termed it barriers, and it also appears in the model of interpersonal behaviour (Triandis 1977), where it takes the form of facilitating conditions. Perceived behavioural control, however, owes its greatest debt to Bandura's work on self-efficacy (Bandura 1977, 1989, 1997). (See page 256).

Self-efficacy refers to "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives (Bandura 1991: 257). This general definition differs greatly from perceived behavioural control, which focuses on the ability to perform a particular behaviour. However, efficacy expectation is also defined as the conviction that one can successfully execute the behaviour required to produce (certain outcomes) and, consistent with this definition, perceived self-efficacy is said to refer to belief in one's capabilities to organize and execute the course of action required to produce a given level of attainments (Bandura 1997).

While it is now a central feature of social cognitive theory (Bandura 1986), self-efficacy was introduced to deal with coping behaviour in the context of behaviour modification (Bandura 1977). Behaviour is broken down into its successive elements, and self-efficacy is analysed in terms of perceived ability to perform each step in the sequence or under a variety of circumstances. It can therefore, be seen that perceived behavioural control and self-efficacy are similar: Both are concerned with the perceived ability to perform a behaviour (or sequence of behaviours). In retrospect, the decision to use the term "perceived behavioural control" to denote this component in the theory of planned behaviour, may be misleading (Ajzen 2002:668). Perceived behaviour control simply denotes a subjective degree of control over the performance of the behaviour itself.

3.9 The Technology Acceptance Model (TAM)

Developed by Davis (1989), TAM seeks to explain users' adoption of information technology. Based on TRA, TAM adopts the belief–attitude–intention–behaviour causal relationship to explain the adoption of computer-based technologies in the workplace. TAM postulates that behavioural intention to use a new technology will lead to actual system use. Furthermore, behavioural intention to use a new technology is determined by an individual's attitude toward using the new technology. The model posits that there are two determinants that influence attitude toward using a new technology: perceived usefulness (PU) and perceived ease of use (PEOU) (Davis 1989).

PU is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” and PEOU is defined as, “the degree to which a person believes that using a particular system would be free of effort” (Davis, F. 1989: 320). Additionally, an improved version of TAM (Davis 1993) suggests that PU is influenced by PEOU and not the other way around; the rationale behind it is that easy to-use technology is more useful than hard-to-use technology and useful technology may not necessarily be easy to use (Figure 3.4).

Technologies that are perceived to be less complex to use must have a higher possibility of acceptance and use by potential users. Ease of use has been found to be an important determinant in the technology adoption decision (Davis 1989). Compatibility is defined as the degree to which technology fits with the potential values and experiences (Rogers 2003). Tornatzky and Klein (1982 in Ajjan and Hartshorne 2008: 73) find that an innovation is more likely to be adopted when “...it is compatible with the job responsibility and value system of an individual.”

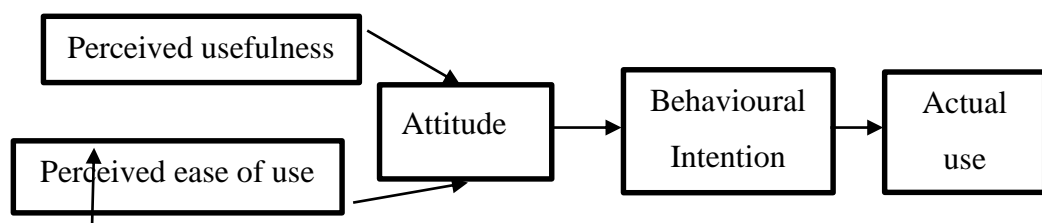


Figure 3.4: The Technology Acceptance Model

Source: Davis (1993)

3.10 Trust and Risk perceptions

Risk perception refers to a consumer's perceptions of the uncertainty and adverse consequences of engaging in an activity (Hsu and Chiu 2004). Uncertainties related to online transactions create different risks and Pavlou (2003) distinguishes economic risk (monetary losses), seller performance risk (transaction fulfilment), privacy risk (illegal disclosure of personal information) and security risk (theft of credit card information). Bhatnagar, Misra and Rao (2000) investigate how risk affects online shopping; the study differentiates two types of risks: product category risk, which is associated with the product itself, and financial risk, which is associated with security concerning credit card information over the internet. The results showed that, as consumers become more knowledgeable, their perceptions of product and financial risks decrease.

Barkhi, Belanger and Hicks (2008) consider only one aspect of risk related to security (information integrity) and combined elements of TAM and TPB, to explain purchase decisions from an online store. The empirical findings show that PU, PBC and a subjective norm impact attitude toward purchasing from an online store, while security did not have a significant effect.

3.11 TPB Challenges and criticism

3.11.1 The self-report challenge in TPB

Behavioural decision-making models, such as the TRA and TPB have tended to rely on self-reports, despite evidence to suggest the vulnerability of such data to self-presentational biases (Gaes, Kalle and Tedeschi 1978). The TRA was examined by Hessing, El Vers, and Weigel (1988), in relation to tax evasion, and contrasted self-reports with official documentation. Findings indicated that attitudes and subjective norms significantly correlated with self-reported behaviour, but did not correlate with documentary evidence, in spite of considerable effort to maintain the anonymity of respondents. The implication was that self-reports of behaviour were unreliable, compared with more objective behaviour measures (Armitage and Conner 1999a, 1999b; Norwich and Rovoli 1993; Pellino 1997).

3.11.2 The control challenge in PTB

Ajzen's inclusion of perceived control was, in part, based on the idea that behavioural performance is determined jointly by motivation (intention) and ability (behavioural control). A person's perception of control over behavioural performance, together with intention, is expected to have a direct effect on behaviour, particularly when perceived control is an accurate assessment of actual control over the behaviour and when volitional control is a\not high. The effect of perceived control declines, and intention is a sufficient behavioural predictor in situations in which volitional control over the behaviour is high (Madden, Ellen and Ajzen 1992). Thus, similar to Triandis's (1980) conceptualisation of facilitating conditions, perceived control is expected to moderate the effect of intention on behaviour. However, this interaction hypothesis has received very little empirical support (Fishbein and Ajzen 2010).

3.11.3 Criticism of the theory of planned behaviour

The TPB has inspired a considerable amount of empirical health behaviour research. The vast majority of studies have used correlational designs to investigate cross-sectional and prospective associations between TPB cognitions and behaviour (Noar and Zimmerman 2005). A recent systematic review of 237 independent prospective tests found that the TPB accounted for 19.3 percent of variability in health behaviour, with intention being the strongest predictor (McEachan, Conner, Taylor and Lawton 2011). Experimental tests of the TPB have been surprisingly rare and those that have been conducted, have not supported the theory's assumptions. A systematic review by Hardeman *et al.* (2002) found 24 studies in which the TPB was used in the development and/ or evaluation of an intervention and concluded the available evidence was insufficient to draw a robust conclusion about the usefulness of the theory.

Factorial experimental tests of the TPB with interventions targeting one or all of the theory's cognitive predictors have either been unsuccessful in modifying the theoretical target variables (McCarty 1981) or when successful in changing cognitions, these changes did not translate into changes in behaviour (Hagger and Chatzisarantis 2005). Sniehotta (2009) uses a 2*2*2 factorial design, randomly allocating students to

persuasive messages addressing salient behavioural, normative and/or control beliefs, about using their university sports facilities. The behavioural belief intervention resulted in post-intervention changes in attitudes, but did not affect intention or behaviour. The normative belief intervention improved subjective norm and intention, but not behaviour. The control belief intervention did not affect PBC or intentions, but showed an effect on behaviour assessed objectively using recorded attendance at sports facilities (Sniehotta 2009). (See page 241).

3.12 Empirical findings on TPB

The TPB has been criticised for its exclusive focus on rational reasoning, excluding unconscious influences on behaviour (Sheeran, Gollwitzer and Bargh 2013) and the role of emotions beyond anticipated affective outcomes (Conner, Gaston, Sheeran and Germain 2013). Others have also questioned whether the hypotheses derived from the model are open to empirical falsification, or whether they are essentially common-sense statements that cannot be falsified (Ogden 2003; Smedslund 1978). The main focus of criticism has been the limited, predictive validity of the TPB. Reviews show clearly that the majority of variability in observed behaviour is not accounted for by measures of the TPB. In particular, the problem of ‘inclined abstainers’, individuals who form an intention and subsequently fail to act, has been a recognized limitation of the TPB that remains unaddressed by the theory (Orbell and Sheeran 1998).

In particular, the mediation assumptions in the TPB are in conflict with evidence. For example, beliefs are often found to predict behaviour over and above intentions (Araujo-soares, Rodrigues, Pesseau and Sniehotta 2013; Conner *et al.* 2013). The TPB seems to be most predictive amongst the young, fit and affluent and when predicting self-reported behaviour over a short term (McEachan *et al.* 2011; Sniehotta, Pesseau and Araujo-Soares 2013), which is less compatible with populations in which behaviour change theory is most needed.

3.12.1 Concerns about utility

The TPB originator acknowledges that research has made considerable progress since the TPB was introduced, but does not suggest changes to the actual theory, incorporating new insights (Ajzen 2011).

Available evidence highlights the difficulties inherent in this process and importantly, suggests strategies for improving the process of evidence informed theory development (Head and Noar 2014; Kok and Ruiter 2014; Noar and Head, 2014; Rhodes 2014; Schwarzer 2014). Abandoning outdated theories is an important step in this process. Sniehotta *et al.* (2014) conclude that the TPB is no longer a plausible theory of behaviour or behaviour change and should be allowed to enjoy its well-deserved retirement.

3.13 Chapter Conclusion

This chapter examined the three main theoretical perspectives on firm diversification strategy, as well as theories related to diversification and performance, geographic diversification, diversification and value of the firm, along with related and unrelated diversification. The theory of human behaviour was also analysed regarding issues, such as attitude, salient beliefs, perceived self-efficacy and perceived behavioural control. Challenges and criticism related to the theory of human behaviour was discussed, as was the empirical evidence.

The next chapter will examine the research methodology, including research philosophies, research approaches, population and sampling methods and the research design adopted in this study.

CHAPTER 4

Research Methodology

4.1 Introduction

The previous chapter examined the foundational theories related to firm diversification and performance, geographic diversification, diversification and value of the firm, related and unrelated diversification. The chapter also covered the theory of human behaviour regarding factors such as attitude, salient beliefs, perceived self-efficacy and perceived behavioural control.

This chapter explores the role of research design in the study of diversification opportunities for shipping companies in South Africa, assuming two conditions are present. First, is that the idea being pursued is worth pursuing, that is, an idea that could reasonably explain the global shipping industry's losses, through identifying factors contributing to low freight rates that have prevailed throughout the persistent global shipping recession, and development of solutions through corporate strategies, to address this important, global shipping industry problem. Second, is that every phase of the research process linked to studying a promising idea is rigorous. These conditions simplify an examination of the role of research design, in the study of the global container shipping industry.

4.2 Literature review

4.2.1 The quantitative/qualitative debate

A growing division between camps involves different perspectives of objectivity and subjectivity in research. Survey-based researchers spend time arguing that "measurement enables us to transcend our subjectivity" (Bradley and Schaefer 1998: 108) in a way that open-ended data and analyses do not. Others state that "qualitative methods are more faithful to the social world than quantitative ones" (Gergen and Gergen 2000: 1027), as they allow for data to emerge more freely from context. Maxwell and Loomis (2003: 342) define this as "two fundamentally different ways of thinking about explanation". The terms quantitative and qualitative are taken to describe these perspectives and thus are fixed onto research paradigms, and continue

to be taught as social science facts to new researchers. Allegiance to one of these is still often exhibited by university faculties, journals and funding bodies, thus ‘institutionalizing’ the divide (Green and Preston 2005).

4.2.2 The emergence of mixed methods: a third paradigm

In a 2004 article, Johnson and Onwuegbuzie (2004: 24) argue from the position that “there is now a trilogy of major research paradigms: qualitative research, quantitative research, and mixed methods research”.

According to Johnson, Onwuegbuzie and Turner (2007: 113), “mixed methods research is, generally speaking, an approach to knowledge (theory and practice) that attempts to consider multiple viewpoints, perspectives, positions, and standpoints (always including the standpoints of qualitative and quantitative research)”. These researchers encourage a broad interpretation of “methods” in mixed methods research, to allow for: “inclusion of issues and strategies surrounding methods of data collection (e.g., questionnaires, interviews, and observations), methods of research (e.g., experiments, ethnography), and related philosophical issues (e.g., ontology, epistemology, and axiology)” (Johnson, *et al.* 2007, p. 118).

This mixed methods study will address strategic diversification options for shipping companies in South Africa, under conditions of a global shipping recession. A triangulation of mixed methods design will be used; a type of design in which different but complementary data will be collected on the same topic. In this study, structured questionnaires will be used to test the theory of diversification behaviour that predicts it is more beneficial for a firm to diversify in related markets than unrelated markets. Furthermore, the theory of human behaviour, which predicts that attitude, behavioural norms and other external factors will positively or negatively, influence the outcomes for diversification decisions and success for shipping companies in South Africa. Concurrent with this data collection, qualitative data collected via interviews will explore the phenomenon of low freight rates and overcapacity in global container shipping, for the shipping supply chain partners in South Africa. The reasons for

collecting both quantitative and qualitative data, are to bring together the strengths of both forms of research, to validate and corroborate results.

4.2.3 Research strategy for mixed methods

Some discipline traditions have a predisposition to associate positivist paradigms with the quantitative methods and the interpretivist and constructivist paradigms with qualitative methods (Onwuegbuzie and Leech 2005). Researchers who oppose qualitative methods seem to confound epistemology and methods. The link between the epistemological paradigms and the research methods is neither univocal nor sacrosanct (Howe 1992).

Without sharing the agnostic vision of James' metaphysics, it is thought the researcher should not, on the one hand, have an allegiance to a school of thought and, on the other hand, should have the freedom to use the qualitative and/or the quantitative methods according to their beliefs. The most important issue is that the methods must be appropriate to the research problem and the research questions. Thus, adherence to Morgan's pragmatic approach (2007), which focuses on the methodology as "a connexion centre of abstract levels of epistemology and of mechanical levels of methods".

Study implications

In this study, a mixed methodological approach, combining qualitative and quantitative methods, has been utilised. This combination is legitimised by the pragmatic approach (Morgan 2007), which is motivated by "a hybrid exploration of complex phenomena and process", focusing on the methodology as "a connexion centre of abstract levels of epistemology and mechanical levels of methods". Beyond that, it is also a matter of trying to reduce the weaknesses and the problems linked to mono methods, to ameliorate the validity and reliability of the results and to enrich our comprehension of the studied phenomenon and the emergence of new dimensions (Jick 1979; Sechrest and Sidana 1995; Teddlie and Tashakkori 2003; Johnson and Onwuegbuzie 2004).

4.2.4 The philosophy of mixed research

Greene (2006) has offered a useful framework for thinking about mixed methods research, as a methodological or research paradigm, which the author calls “Mixed Methods Social Inquiry.” Mixed methods social inquiry or mixed methods methodology (broadly viewed) is divided into four domains: (a) philosophical assumptions and stances (i.e., what are the fundamental philosophical or epistemological assumptions of the methodology?); (b) inquiry logics (i.e., what is traditionally called “methodology” and refers to broad inquiry purposes and questions, logic, quality standards, writing forms that guide the researcher’s “gaze”); (c) guidelines for practice (i.e., specific procedures and tools used to conduct research; the “how to” part of research methodology); and (d) socio-political commitments (i.e., interests, commitments, and power relations surrounding the location in society, in which an inquiry is situated).

However, no definition provided by the leaders represented all four of Greene’s domains. Yet, as noted by Greene (2006), the development of mixed methods research—as is the case for the quantitative and qualitative research paradigms—requires consideration of all four domains.

4.2.5 Pragmatism philosophy of mixed research

An added consideration, is which philosophy of science, or set of philosophical positions, will best partner with mixed methods research? Constructivism and poststructuralism are connected to qualitative research, and post-positivism is connected to quantitative research. Many (or most) mixed methods writers have argued for some version of pragmatism as the most useful philosophy to support mixed methods research. It is likely that pragmatism is a well-developed and attractive philosophy for integrating perspectives and approaches (Johnson *et al.* 2007).

Pragmatism offers an epistemological justification (i.e., via pragmatic epistemic values or standards) and logic (i.e., use the combination of methods and ideas that helps one best frame, address, and provide tentative answers to one’s research questions) for mixing approaches and methods.

Johnson *et al.* (2007) argue for what they call, ‘pragmatism of the middle’, as an especially useful philosophy for mixed methods. The authors have constructed a version of this kind of pragmatism around the ideas of Charles Sanders Peirce, William James, and John Dewey, and have previously outlined this version of pragmatism. They believe that one or more of the pragmatisms can provide a philosophy that supports paradigm integration and helps mixed research to peacefully coexist with the philosophies of quantitative and qualitative research.

The primary philosophy of mixed research is that of pragmatism. Mixed methods research is, generally speaking, an approach to knowledge (theory and practice) that attempts to consider multiple viewpoints, perspectives, positions, and standpoints (always including the standpoints of qualitative and quantitative research). Mixed research is a synthesis that includes ideas from qualitative and quantitative research (Johnson *et al.* 2007).

4.2.6 Grounded theory of mixed research

Boring (1953) foreshadowed the concept of mixed research as follows:

“As long as a new construct has only the single operational definition that is received at birth, it is just a construct. When it gets two alternative operational definitions, it is beginning to be validated. When the defining operations, because of proven correlations, are many, then it becomes reified.” (p. 222).

Campbell and Fiske (1959) are rightfully credited as being the first to show explicitly, how to use multiple research methods for validation purposes. Webb, Campbell, Schwartz, and Sechrest (1966), who defined “multiple operationism” as representing the use of multiple measures that “are hypothesized to share in the theoretically relevant components but have different patterns of irrelevant components”

According to Webb *et al.* (1966), once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced. The most persuasive evidence comes through a triangulation of

measurement processes. If a proposition can survive the onslaught of a series of imperfect measures, with all their irrelevant error, confidence should be placed in it.

4.2.7 Triangulation origins

It was Denzin (1978) who first outlined how to triangulate methods, defining triangulation as “the combination of methodologies in the study of the same phenomenon” (p. 291). The following four types of triangulation are outlined: (a) data triangulation (i.e., use of a variety of sources in a study); (b) investigator triangulation (i.e., use of several different researchers); (c) theory triangulation (i.e., use of multiple perspectives and theories to interpret the results of a study); and (d) methodological triangulation (i.e., use of multiple methods to study a research problem).

Triangulation: Simultaneous or sequential

Morse (1991b) outlines two types of methodological triangulation: simultaneous or sequential. According to Morse, simultaneous triangulation represents the simultaneous use of qualitative and quantitative methods, in which there is limited interaction between the two sources of data during the data collection stage, but the findings complement one another at the data interpretation stage. On the other hand, sequential triangulation is utilised when the results of one approach are necessary for planning the next method.

This study adopted the sequential triangulation as it suited the research design, in line with the aim of achieving the development of strategic options for shipping companies.

During the data analysis stage, quantitative data can facilitate the assessment of generalisability of the qualitative data and shed new light on qualitative findings (Collins, Onwuegbuzie, and Jiao (2007)). In 1979, Reichardt and Cook made a plea for programme evaluators to use both quantitative and qualitative “methodological paradigms.” They point out that, although specific research methods and techniques are sometimes linked to methodological paradigms, it is nonetheless “our view that the paradigmatic perspective which promotes this incompatibility between the method-types is in error” (p. 11). The authors also explain that one will often want to

sample attributes from each paradigm on the same dimension. For instance, comprehensive evaluations should be process-oriented, as well as outcome oriented, exploratory, as well as confirmatory. There is no reason for researchers to be constrained to either one of the traditional, though largely arbitrary, paradigms when they can have the best from both. (pp. 18-19).

These considerations were incorporated in the research design and consequently, the study findings reveal process-orientation, outcome orientation, as well as being exploratory and confirmatory in the same study. Furthermore, methodologically-focused questions were developed, based on the extent to which the qualitative results confirm the quantitative results.

4.2.8 Blending elements of one paradigm into another

It is noted by Guba and Lincoln (1994: 105) that, “Both qualitative and quantitative methods may be used appropriately with any research paradigm”. Guba and Lincoln (1994: 201) pose and answer the following question:

“Is it possible to blend elements of one paradigm into another, so that one is engaging in research that represents the best of both worldviews? The answer, from our perspective, has to be a cautious yes. This is especially so if the models (paradigms) share axiomatic elements that are similar, or that resonate strongly between them.”

Schwandt (2000: 210) also declares the following:

“All research is interpretive, and we face a multiplicity of methods that are suitable for different kinds of understandings. So the traditional means of coming to grips with one’s identity as a researcher, by aligning oneself with a particular set of methods (or being defined in one’s department as a student of “qualitative” or “quantitative” methods) is no longer very useful. If we are to go forward, we need to get rid of that distinction.”

4.2.9 Definitions of Mixed Methods Research

Greene (2006) provides an excellent description of the way the word method is used in mixed methods, allowing inclusion of issues and strategies surrounding methods of data collection (e.g., questionnaires, interviews, observations), methods of research (e.g., experiments, ethnography), and related philosophical issues (e.g., ontology, epistemology, axiology). Johnson *et al.* (2006) are of the view that each of the three major approaches to research includes assumptions, principles, and values about these kinds of methodology and practice-related issues, as parts of the research paradigm.

Johnson *et al.* (2007:118) sought to formalise a definition, by synthesising the perspectives from 31 ‘leaders’ in the field. They concluded that:

“...mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purpose of breadth and depth of understanding and corroboration”.

It is stated by Creswell (2003) that a mixed methods research design (or methodology) entails the researcher collecting, analysing, and mixing (integrating or connecting) both quantitative and qualitative data in either a single study and a multi-phase programme of inquiry.

Mixed method inquiry, according to Greene (2008), is a methodology through which the social world is investigated by means of, preferably, more than one methodological tradition, resulting in “more than one way of knowing, along with more than one kind of technique for gathering, analysing, and representing human phenomena, all for the purpose of better understanding”.

4.2.10 Why mixing is carried out in research

A key purpose for mixing methods has been identified as mainly to increase breadth and/or corroboration; that is, provide a better understanding, a fuller picture and deeper understanding, as well as to enhance description and understanding Johnson *et al.*

(2007). Corroboration was reflected in the definition that focused on providing triangulation of the findings.

Other reasons for mixing methods of research are to validate and explicate findings from another approach and produce more comprehensive results, to provide internal consistency, and valid findings. Mixed methods have also been confirmed to provide more elaborated understanding and greater confidence in conclusions, and that they provide richer/more meaningful/more useful answers to research questions. However, for a small number of researchers, the theme of why was not limited to providing breadth and/or corroborations. Other purposes include: (a) meet the aims of the research project; and (b) achieve social justice and avoid oppression (Johnson *et al.* 2007: 122).

This was the aim behind the choice of mixed methods in this study, so as to develop a methodology that will meet the aims of the research project. The aim of the research was to develop a framework of diversification strategies for the shipping industry. The mixing of quantitative and qualitative data not only enriched the findings but assisted to validate the findings and achieve research aims through the methodology adopted.

4.2.11 Triangulation implications for this study

This study was designed as a mixed study, and according to this “logic”, the research strategically combined qualitative and quantitative methods, approaches, and concepts, in a way that produces complementary strengths and no overlapping weaknesses. Consideration of the strengths and weaknesses of different approaches were taken into account, in relation to situational contingencies, in the light of global shipping industry dynamics and participants’ demographic profiles.

4.2.12 Mixed methods in component and integrated research designs

Greene and Caracelli (1997) present another typology regarding how mixed methods may be implemented, with two broad classes of designs (component, integrated). These classes offer a total of seven separate forms of mixed methods: component (triangulation, complementarity, expansion) and integrated design (iterative,

embedded or nested, holistic, transformative). Based on Greene and Caracelli (1997) a brief description of these designs follows.

In component mixed method research, the data collection procedures are implemented as separate aspects and remain distinct throughout the research. Findings derived from one method are used in triangulated mixed methods research, to corroborate findings generated with other methods. In complementary research, findings from one dominant method are strengthened and improved, through findings from another method. In expansive mixed method research, different methods are implemented to generate results for separate parts of the study; results are presented “side-by-side”

In integrated mixed method research, the methods used are integrated throughout the evaluation. In iterative research, this means that a dynamic interplay of findings has been developed, through the use of different methods throughout the evaluation stage of the study. In embedded or nested mixed method research, one method is utilised and “located” within another method, in order to stimulate a creative tension during the study. Holistic integrated mixed method research means the simultaneous integration of methods throughout the study, building towards one integrated explanation of results. In transformative mixed method research, the methods are used to capture differing value commitments, in order to facilitate transformation (Greene and Caracelli 1997).

The following research design is based on the questionnaire; the theory guided the development of the questionnaire. This is tabulated below (Figure 4.12.1 and 4.12.2), outlining what the literature says about the question or topic and also, what results the literature says may be expected from the surveys and interviews. The theory served as a foundation to the questions within the survey instruments.

4.3 Mixed Methods Research Designs

There are four mixed methods designs identified and these are presented, explained and examples provided (Table 4.1):

Table 4.1: Mixed methods designs

| Research design | Process | Purpose | Level of interaction | Priority | Example/Source |
|------------------------|--|--|--|--|---|
| Convergent parallel | Qualitative and quantitative (concurrent) | To obtain different but complementary data to answer a single research question. | Data collected and analysed independently | Equal | Peters and Cotton (2013) collected postal surveys and undertook unstructured interviews with women with a physical disability to gain a broad understanding of the barriers and enabling factors associated with accessing and experiencing screening services for breast cancer and cervical cancer. |
| Sequential explanatory | Quantitative then qualitative | Qualitative data are collected to explain the quantitative findings. | Quantitative data frame qualitative data collection. | Quantitative dominant | Pfaff <i>et al</i> (2014) used a postal survey to measure perceived confidence in inter-professional collaboration among new graduate nurses. Following analysis of the survey data, they conducted interviews with 16 new graduate nurses to explain the quantitative findings and expand on them. |
| Sequential exploratory | Qualitative then quantitative | Quantitative data builds on qualitative findings to provide generalizability | Qualitative data frames quantitative data collection. | Qualitative dominant | Hamshire <i>et al</i> (2013) conducted a series of interviews with nursing students to explore their experiences and expectations of their nursing course. The interview findings informed the development of an online survey that was completed by 1,080 students in nine UK universities. |
| Embedded or nested | Quantitative within qualitative or qualitative within quantitative | To obtain different data to answer a complementary research question | Embedded data set provides answers to a complementary research question. | May be either qualitative or quantitative dominant | Kinser <i>et al.</i> (2013) conducted a randomized controlled trial of an eight-week yoga intervention for women with major depression. Outcomes measured included depression severity, stress, anxiety and rumination. Qualitative interviews were embedded in the trial to explore the feasibility |

| | | | | | |
|--|--|--|--|--|--|
| | | | | | and acceptability of the intervention. |
|--|--|--|--|--|--|

Adapted from Halcomb and Hickman (2015: 44)

Mixed methods researchers use and often make explicit diverse philosophical positions. These positions are often referred to as dialectical stances that bridge post-positivist and social constructivist worldviews, pragmatic perspectives, and transformative perspectives (Greene 2007). For example, researchers who hold different philosophical positions may find mixed methods research to be challenging because of the tensions created by their different beliefs (Greene 2007). However, mixed methods research also represents an opportunity to transform these tensions into new knowledge, through a dialectical discovery.

A pragmatic perspective draws on employing “what works,” using diverse approaches, giving primacy to the importance of the research problem and question, and valuing both objective and subjective knowledge (Morgan 2007). A transformative perspective suggests an orienting framework for a mixed methods study, based on creating a more just and democratic society that permeates the entire research process, from the problem to the conclusions, and the use of results (Mertens 2009).

4.4 Step 1: General perspective of research methods

Characteristics of three research methodologies (qualitative methods, quantitative methods, mixed methods) and their role in studying ideas believed to be worth studying are described and justification for mixed methods research is also discussed.

4.4.1 Qualitative Research

Qualitative research is primarily exploratory research. It is used to gain an understanding of underlying reasons, opinions, and motivations, providing insights into the problem or helping to develop ideas or hypotheses for potential quantitative research. Furthermore, qualitative research is also used to uncover trends in thought and opinions, and dive deeper into the problem. Qualitative data collection methods vary, using unstructured or semi-structured techniques. Some common methods include focus groups (group discussions), individual interviews, and

participation/observations. The sample size is typically small, and respondents are selected to fulfil a given quota (Given 2013: 75).

4.4.2 Quantitative Research

Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. It is used to quantify attitudes, opinions, behaviours, and other defined variables – and generalise results from a larger sample population. Measurable data are used in quantitative research to formulate facts and uncover patterns in research. Quantitative data collection methods are much more structured than qualitative data collection methods, including various forms of surveys – online , paper , mobile and kiosk surveys, as well as face-to-face and telephone interviews, in addition to longitudinal studies, website interceptors, online polls, and systematic observations (Given 2013: 75).

4.4.3 Mixed Methods

Mixed methods research has been termed the third methodological movement (paradigm), with quantitative and qualitative methods representing the first and second movements (paradigms), respectively (Ridenour and Newman 2008; Teddlie and Tashakkori 2003, 2009). Despite the several challenges associated with methodological pluralism, based on the notion of the incompatibility thesis, it has been suggested that it is, in fact, feasible to conduct research that cuts across multiple methodologies and paradigms (Mingers 1997, 2001; Ridenour and Newman 2008; Teddlie and Tashakkori 2003, 2009).

Several researchers have reviewed prior calls for methodological combination and suggested that a peaceful coexistence of multiple methodologies is possible (Datta 1994; House 1994; Ridenour and Newman 2008; Rossi 1994). Others have called for a combination of research methods, particularly triangulation of qualitative and quantitative data, to develop a deeper understanding of a phenomenon (Denzin 1978; Jick 1979; Mingers 1997, 2001; Reichardt and Rallis 1994).

The methodology adopted in this study is consistent with researchers who suggest that a peaceful coexistence of multiple paradigms is feasible in a research inquiry. It is

likely that, should a mixed methods approach assist a researcher to find theoretically plausible answers to his or her research questions and should the researcher be able to overcome the cognitive and practical barriers associated with conducting mixed methods research, he or she should undertake such research without much consideration of paradigmatic or cultural incommensurability.

4.4.4 Justification for mixed methods research

Essentially, quantitative research involves the collection and analysis of numerical data, while qualitative research considers narrative or experiential data (Hayes *et al.* 2013). Mixed methods research refers to research that integrates both qualitative and quantitative data within a single study (Creswell and Plano Clark 2011; Wisdom *et al.* 2012). The mixing of the qualitative and quantitative components within a study is an important aspect of mixed methods research (Simons and Lathlean 2010; Maudsley 2011). Qualitative and quantitative elements are interlinked during mixing, to provide an integrated response to the research question that is deeper than would be possible by either method alone (Glogowska 2011; Zhang and Creswell 2013).

Furthermore, there is general agreement that mixed methods research differs subtly from multi-method research (Johnson *et al.* 2007). Mixed methods research combines qualitative and quantitative research in a single study, while multi-method research involves data collection using two methods from the same paradigm, for example interviews and focus groups, or quantitative surveys and medical record audit (Andrew and Halcomb 2009).

Mixed methods research capitalises on the strengths of both qualitative and quantitative research, in combining qualitative and quantitative data collection, while compensating for their limitations, to provide an integrated understanding of the research topic (Andrew and Halcomb 2009; Wisdom *et al.* 2012; Scammon *et al.* 2013). Multi-method research has the advantage of collecting data using multiple methods. Mixed methods research, in contrast, has the potential to combine qualitative and quantitative characteristics throughout the research process, from its philosophical underpinnings, through to data collection, analysis and interpretation.

4.5 Step 2: Justifying the data gathering instrument employed

The main instruments used in mixed method research consist of closed-ended, and/or open-ended questionnaires, interviews and classroom observations. These different ways of gathering information can supplement each other and hence, boost the validity and dependability of the data. Research questions should reflect the rationale for undertaking mixed methods research and demonstrate the qualitative and quantitative aspects of the project (Lavelle, Vuk and Barber 2013). The decision to use a mixed methods design should be based on the additional value that using both qualitative and quantitative methods of data collection would provide, above that of using a single method of data collection, in answering the research question (Creswell and Plano Clark 2011; Scammon *et al.* 2013).

The feasibility of undertaking a mixed methods study should also be considered, in terms of balancing the benefits of a mixed methods research design against the increased skills and resources required (Halcomb and Andrew 2009).

4.5.1 Questionnaires

Questionnaires are one of the primary sources of obtaining data in any research endeavour. However, the critical point is that, when designing a questionnaire, the researcher should ensure it is “valid, reliable and unambiguous” (Richard and Schmidt 2002: 438).

On the whole, questionnaires can appear in three types:

- closed-ended (or structured) questionnaires
- Open-ended (or unstructured) questionnaires and
- A mixture of closed-ended and open-ended questionnaires.

As a matter of fact, closed-ended questionnaires provide the inquirer with quantitative or numerical data and open-ended questionnaires, with qualitative or text information. In this regard, Blaxter, Hughes and Tight (2006: 170) divide questionnaires into “seven basic question types: quantity or information, category, list or multiple choice, scale,

ranking, complex grid or table, and open-ended.” Generally, a questionnaire might make use of one or several types of these question forms.

4.5.2 Questionnaire strengths and weaknesses

Seliger and Shohamy (1989) are of the opinion that closed-ended questionnaires are more efficient because of their ease of analysis. On the other hand, Gillham (2000: 5) argues that “open questions can lead to a greater level of discovery.” Gillham too admits the difficulty of analysing open-ended questionnaires. In this regard, Alderson and Scott (1996: 53) acknowledge the usefulness of qualitative data but state that, “...their open-ended nature made it more difficult to compare reports of discussions and interviews...”

The following statements highlight some of the advantages of the questionnaires:

- They are one of the efficient means of collecting data on a large-scale basis (Seliger and Shohamy 1989).
- They can be sent simultaneously to a great number of people (Robinson 1991).
- The inquirer can fairly easily gather data in field sites (Lynch 1996).
- Respondents’ anonymity makes them to share information more easily (Nunan 1999).
- When similar questions are administered simultaneously to a large number of people the acquired data are more identical, correct and standard (Gillham 2000).
- They are a time-efficient way of collecting data from many people (Brown 2001).

On the one hand, closed-ended questionnaires can easily be analysed in a straightforward way and they are cost-efficient. On the other hand, questionnaires have some disadvantages which should be kept in mind whenever and wherever they are used (Gillham 2000; Brown 2001). Sometimes the answers are inaccurate and questionable and there is usually a low return rate when sent by post or email, while ambiguity and unclearness of some questions might lead to inaccurate and unrelated responses. Also, some questions may cause misunderstanding, with wording of the questions possibly affecting the respondents’ responses.

4.5.3 Questionnaire administration

In general, there are different ways of administering questionnaires, with each one having its own advantages and disadvantages. For instance, whenever respondents are not within reach of the evaluator, they might be contacted by post. However, the return rate of this procedure is rather low. Another way is through the telephone. In this procedure, the respondent is rather obliged to answer the questions. Questionnaires can also be administered face-to-face, where respondents are relatively compelled to answer the questions, so that the return rate is high and any ambiguous question can be clarified on the spot by the researcher (Gillham 2000).

Interviews

The second main type of manner in which data can be collected in the mixed method design, is the interview. Burns (1999: 118) contends that “Interviews are a popular and widely used means of collecting qualitative data.” To this end, the researcher wants to obtain first-hand information directly from some knowledgeable informants. The inquirer intends “to obtain a special kind of information” (Merriam 1998: 71) and investigates for himself/herself what is going on in the respondents’ mind. In this juncture, Flick (2006: 160) confirms that the purpose of the interview “is to reveal existing knowledge in a way that can be expressed in the form of answers and so become accessible to interpretation.”

4.6 Steps 3 - 10: Research methodology

4.6.1 The combination of quantitative and qualitative data

Mixed methods research begins with the assumption that investigators, in understanding the social and health worlds, gather evidence based on the nature of the question and theoretical orientation. Social inquiry is targeted toward various sources and many levels that influence a given problem (e.g., policies, organizations, family, individual). Quantitative (mainly deductive) methods are ideal for measuring pervasiveness of “known” phenomena and central patterns of association, including inferences of causality. Qualitative (mainly inductive) methods allow for identification of previously unknown processes, explanations of why and how phenomena occur, and the range of their effects (Pasick *et al.* 2009).

Mixed methods research, then, is more than simply collecting qualitative data from interviews, or collecting multiple forms of qualitative evidence (e.g., observations and interviews) or multiple types of quantitative evidence (e.g., surveys and diagnostic tests). It involves the intentional collection of both quantitative and qualitative data and the combination of the strengths of each to answer research questions.

4.6.2 Triangulation

Triangulation is broadly defined by Denzin (1978: 291) as, "the combination of methodologies in the study of the same phenomenon." The triangulation metaphor is from navigation and military strategy that use multiple reference points to locate an object's exact position (Smith 1975: 273). Given the basic principles of geometry, multiple viewpoints allow for greater accuracy. Similarly, organisational researchers can improve the accuracy of their judgments, by collecting different kinds of data bearing on the same phenomenon. In the social sciences, the use of triangulation can be traced back to Campbell and Fiske (1959), who developed the idea of "multiple operationism". They argued that more than one method should be used in the validation process, to ensure that the variance reflected that of the trait and not of the method. Thus, the convergence or agreement between two methods "...enhances our belief that the results are valid and not a methodological artifact" (Bouchard 1976: 268).

In all the various triangulation designs, one basic assumption is buried. The effectiveness of triangulation rests on the premise that the weaknesses in each single method will be compensated, by the counter-balancing strengths of another. That is, it is assumed that multiple and independent measures do not share the same weaknesses or potential for bias (Rohner 1994: 134). Although it has always been observed that each method has assets and liabilities, triangulation purports to exploit the assets and neutralise, rather than compound, the liabilities.

Perhaps the most prevalent attempts to use triangulation have been reflected in efforts to integrate fieldwork and survey methods. The viability and necessity of such linkages have been advocated by various social scientists (Vidich and Shapiro 1955; Reiss

1968; McCall and Simmons 1969; Spindler 1970; Diesing 1971; Sieber 1973). All argue that quantitative methods can make important contributions to fieldwork, and vice versa.

Diesing (1971: 5) boldly concludes that the variety of combinations is so great that survey research and fieldwork are better viewed as two ends of a continuum, rather than as two distinct kinds of methods. Yet, research designs that extensively integrate both fieldwork (such as, participant observation) and survey research are rare. Moreover, journals tend to specialise by methodology, thus encouraging purity of method.

In this study, two surveys were conducted.

- a. Pilot study
- b. Main study

4.6.3 Steps 3 – 6 Pilot study research methodology

Table 4.2: Steps 3 – 6 Pilot study methodology

| Step | Procedure | Action taken |
|--------|---------------------------------------|---|
| Step 3 | Data gathering instrument | Two questionnaires were used in this study based on: growth through diversification options for shipping agencies and The global shipping recession and ways to stir out of the recession (see appendix). The same instruments were used in the pilot study survey as well as in the main study survey. Interviews were conducted face to face and both qualitative and quantitative data collection occurred simultaneously. Other methods used were emails and telephone interviews. |
| Step 4 | How the data was treated and analysed | Firstly, data were modified in order to aid analysis and/or interpretation. Next data were tabulated dynamically with descriptive statistics and different views and cuts of the data. Graphs were employed to present the data to dynamically look for relationships, trends, patterns, and anomalies. Then the results were analysed to confirm agreement or disagreement with existing literature. Next the data was modelled dynamically for different perspectives using regression models and perceptual maps. Test hypotheses about the data and model results were then conducted using formal statistical tests (Cronbach Test). The univariate analysis had frequency tables while the bivariate analysis employed Wilcox ranking and regression analysis. For the qualitative analysis data was first coded then grouped into classes depending on the type of responses received. These classes of respondents were then further analysed and classified to produce emerging themes from the data and this was integrated into the research. The presentations were from face to face interviews, discussion groups, telephone and mail interviews as well as personal observation. The results were narrated in the findings. |

| | | |
|--------|--------------------------------|--|
| Step 5 | How the data was made reliable | Reliability test was attained through a check on internal consistency reliability. This involved only one test administration and was used to assess the consistency of results across items within a test (consistency of an individual's performance from item to item as well as item homogeneity). It was conducted to determine the degree to which all items measure a common characteristic of the person and this was achieved by way of assessing internal consistency: Kuder Richardson (KR20)/Coefficient alpha and the results confirmed consistency. |
| Step 6 | Data sample | Data sample included managers and executives from shipping agencies, shipping liners, South African port terminals, depots, shipping industry associations, and freight forwarders. Total sample size was sixty (30 responses received for each questionnaire). The sample was taken in November 2014. |

4.6.4 Steps 7 – 10: Main Study Research Methodology

Table 4.3: Steps 7 – 10 Main Study Research Methodology

| Step | Procedure | Action taken |
|---------|---------------------------------------|---|
| Step 7 | Data gathering instrument | The two questionnaires used in the pilot study were applied again for the main study. One questionnaire was based on diversification strategies for shipping companies while the second was based on the global shipping recession. The research instrument was distributed and collected using combinations of emails, telephone interviews and face to face interviews. The same questionnaire was used for both qualitative and quantitative research and distribution and collection methods were the same. |
| Step 8 | How the data was treated and analysed | Graphs were employed to present the data to dynamically look for relationships, trends, patterns, and anomalies. Then the results were analysed to confirm agreement or disagreement with existing literature and qualitative analysis done to produce emerging themes from the data analysis using analytic perspectives, deductions and participant observation techniques. Next the data was modelled dynamically for different perspectives using regression models and perceptual maps. Test hypotheses about the data and model results were then conducted using formal statistical tests of regression analysis. The univariate analysis had frequency tables and regression analysis while the bivariate analysis employed Wilcox ranking. |
| Step 9 | How the data was made reliable | Reliability test To estimate test-retest reliability, a survey was administered to a single group of respondents on two separate occasions using the pilot study and the main study. Statistical correlation was used to determine how similar the scores were. This type of reliability demonstrates the extent to which a test is able to produce stable, consistent scores across time. |
| Step 10 | Data sample | Data sample included managers and executives from the shipping agencies, shipping liners, port terminals, container depots, and shipping and forwarding agencies. A total of 165 responses were received and analysed in the main study. The sample was taken in April 2015. |

4.6.5 Pilot Study Results

The framework of growth options through transformation of shipping agencies was first explored generally, to learn about what variables to study (pilot test) and then

went on to study those variables, with a large sample of individuals. In this situation, the advantages of collecting both closed-ended, quantitative data and open-ended, qualitative data proved advantageous, in best understanding the research problem.

A pilot study is the specific pre-testing of a particular research instrument, such as a questionnaire or interview schedule, according to Teijlingen van and Hundley (2001: 1). Pilot studies are a crucial element of a good study design. A pilot study was conducted to ensure that the survey will get to the heart of the research problem and that the research question is addressed. The validity of the questions was also tested and the pilot test confirmed that the questionnaire could be successfully administered on a larger scale.

Findings from the pilot study

The findings from the pilot study appeared to suggest that there were opportunities in the vessel husbandry services, as well as in freight transportation, for shipping agencies to expand. Further ports and infrastructure development appeared to be prioritised as essential to facilitate trade, as mega ships were entering the market and displacing smaller vessels. This had implications for ports to become more competitive and be able to handle the larger vessels more efficiently.

The pilot study also appeared to suggest that overcapacity was a problem that had not been assisted at all by the entering into the market of larger vessel. Rather, this appeared to exacerbate the problem and had therefore kept freight rates low.

With regards to the shipping agency expansion variable, the pilot study further indicated that outsourcing was a common way of entering markets, such as freight transportation and vessel husbandry. The findings further suggested that shipping agents compete on service delivered and that there is little room for sloppy service, as it may be costly to the business and damage the agency's reputation.

It was concluded from the pilot study that one way of increasing shipping agent revenue was through container sales and vessel slot purchase. These indications were

taken into account during investigations into the research problem. The pilot study was important in highlighting the feasibility of the topic, to determine which questions to investigate, and to confirm the research problem as warranting further investigation.

Mackenzie (2014: 14) reports that the transport industry had developed three “big ideas” to reduce regional trade barriers and open up new markets in sub-Saharan Africa, which include high level government intervention, a reduction in red tape and an effective, integrated rail system that would reduce port and road congestion. Walwyn (2014: 14) indicates that red tape and the delays caused by bureaucracy was becoming a “serious obstacle” to national and regional development.

4.7 Scope of research

Analysing qualitative data was expected to lead to analysis of qualitative research and extrapolation of common themes. In this case, the research sought more in-depth analysis from individual perspectives and was also seeking commonality. According to Creswell (2003), data collection instruments may be augmented with open-ended observations, or census data may be followed by in-depth exploratory interviews. The expected outcomes are the issues raised, in terms of perceptions, communication, and attitudes towards the shipping agencies’ growth strategy options.

4.8 Delimitations

The delimitations are those characteristics that limit the scope and define the boundaries of a research study, according to Simon and Goes (2013: 3). It is assumed that participants will answer honestly because their confidentiality is assured and the participants were volunteers, who understood that they may withdraw from the study at any time, with no ramifications. A delimitation of this study was the geographic region of the study, as the study’s focus is on shipping agents in South Africa and cannot necessarily be applied to other, global regions. Further, the criteria of participants selected for the study constitute delimitations, as technical and operative staff were excluded (Simon 2011: 2).

4.9 Limitations

The shipping industry is comprised of major players who are shippers (importers and exporters), shipping lines, seaport terminal operators, as well as rail and trucking companies. The study was limited to the Europe Southern Africa trades, concentrating on the Southern African coastline. There are also different types of containers, such as dry, reefer, open top and flat track containers.

The research focused on the container shipping industry dealing with dry, reefer and empty container movement. Different cargos types exist, including dry (salt, grain, and cement), liquid (chemicals, LNG, and crude oil), break bulk (steel, lumber), as well as containerised cargo (finished consumer goods). The study was limited to containerised cargo only.

Another limitation was the integrity of the respondents. The study ensured the integrity of the respondents, through their volunteering to participate in the study without coercion, in addition to which they were also free to withdraw from the study, without being prejudiced in any way. Non-executives in the shipping corporate industry were also excluded, as well as those who are not part of the supply chain.

4.10 Population

4.10.1 Target population

The target population was made up of 420 managers and executives, according to a meeting held with a director of the South African Association of Ship Operators and Agents (Kersten 2013).

Table 4.4 Demographic characteristics of participants

| Demographic characteristics of subjects who participated in the reliability test n=61 | | |
|---|----|------|
| Characteristics | N | % |
| Age (Years) | | |
| 26 – 40 | 13 | 21.3 |
| 41 – 55 | 32 | 52.5 |
| 56 or older | 16 | 26.2 |

| | | |
|------------------------------|----|------|
| Gender | | |
| Male | 42 | 70 |
| Female | 18 | 30 |
| Education | | |
| High School or equivalent | 6 | 10 |
| Vocational/technical School | 11 | 18.3 |
| Diploma | 10 | 16.7 |
| Bachelor's degree | 20 | 33.3 |
| Master's degree | 8 | 13.1 |
| Doctoral degree | 5 | 8.3 |
| Industry category | | |
| Liner shipping | 8 | 13.1 |
| Shipping agency | 31 | 50.8 |
| Freight and Logistics | 19 | 31.1 |
| Port and Terminal management | 13 | 4.9 |
| Total | 61 | 100 |

Respondents were drawn from the liner shipping, shipping agencies, and freight and logistics sectors, as well as port and terminal management, while the mutually exclusive subgroups were selected from managers and executives (Table 4.1).

Table 4.5: Mutually exclusive sub-groups

| Subgroup | Managers | Executives | Total |
|--|-----------------|-------------------|--------------|
| Global Shipping agencies, | 50 | 32 | 82 |
| Global Shipping liners, | 60 | 20 | 80 |
| South African Port terminals | 20 | 19 | 39 |
| Container Depots | 25 | 10 | 35 |
| Executives from Industrial Associations | Nil | 10 | 10 |
| South African shipping and forwarding companies | 40 | 16 | 56 |
| Freight transporters (Grindrod Intermodal) | 25 | 12 | 37 |
| Southern Hemisphere Association of Fresh Fruit Exporters (SHAFFE) | Nil | 24 | 24 |
| South African government managers from the Departments of Transport and Trade and Commerce | 40 | 17 | 57 |
| Total | 260 | 160 | 420 |

4.10.2 Selection criteria

The respondents were selected from the global shipping industry, operating in the liner shipping trade, and shipping agency trade and extensively drawn from Europe and the Far East, as well as from South Africa and the SADC community. This was in line with the main trade route for investigation by this study, which is the Europe South trade route, operated by the SAECs vessel sharing consortium. The majority of the respondents were, therefore, familiar with the trade route and operating conditions under examination. Half of the responses were delivered and collected via email, while others were hand-delivered and personally collected. (See page 45).

Intermodal transport involves the use of road and rail and sometimes, seaways/corridors. Such corridors are found in sub-Saharan Africa along the ports of Cape Town, Port Elizabeth, and Durban, which are the main ports where SAECs vessels call. From such ports, trans-shipments to Walvis Bay, Maputo and inland destinations all indicate the use of intermodal transport to lower costs (Figure 4.1).

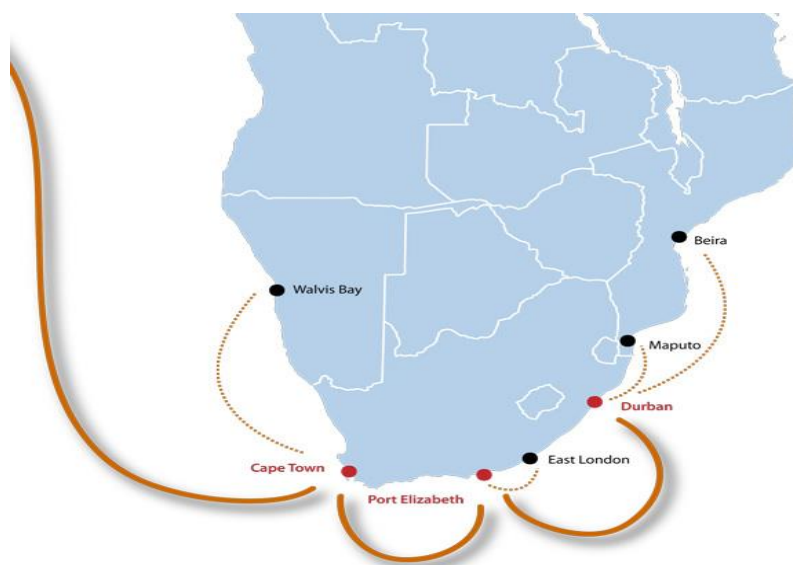


Fig. 4.1: South African Ports

Source: DAL Agency (2015)

The total road and rail transport activity in the economy indicates that in 2011 and 2012 volumes increased, measured in tonnes and tonne-km, whereas the growth for

2012 (+1.8 percent in tonnes, +2.1 percent in tonne-km) is estimated at a much lower rate than that of 2011 (+4.9 percent in tonnes, +10.1 percent in tonne-km). Worth noting, is the slight increase in rail market share, from 11.1 percent in 2010 to 11.5 percent in 2012, in terms of tonnes, and from 29.3 percent in 2010 to 29.9 percent in 2012, in terms of tonne-km.

The largest growth in tonnes transported, was for the two main corridors (KwaZulu-Natal–Gauteng corridor and the Western Cape–Gauteng corridor), which saw an increase of 15.9 percent between 2010 and 2012, when combining road and rail. Similar growth is seen in tonne-km in these two corridors, increasing by 19.7 percent between 2010 and 2012. The average distances travelled on both road and rail also increased in 2011, indicating a change from the previous, decreasing trend. The increase of freight traffic on corridors, relative to freight traffic on the other typologies, has been forecast and quantified in Transnet’s Freight Demand Model since 2007-9. This has major implications for transport planning in South Africa and is an important modal shift target for the economy.

The volumes are projected to reach a target of 210 000 TEUs and 3.04 million tons of general cargo in 2014, according to Machado (2014: 6), who further argues that Beira is no longer a port for feeder vessels only, as it has been integrated into the Southern and East African networks.

4.11 Sampling method

Judgmental sampling was used due to the availability of respondents, as managers are very busy and some were not easily accessible.

Sample size

According to Sekaran, (2003), from a total population of 420 executives and managers, a sample of 201 respondents is considered representative, and this was the number of participants invited to participate in the study. From the sample, 132 responses were collected and analysed, 67 responses were obtained for objective one and 65 responses for objective two. The sample of 201 was selected as shown in Table 4.2 below;

Table 4.6: Sample

| Representative industry | Sample Size |
|-----------------------------------|-------------|
| Global shipping agencies | 40 |
| Shipping liners | 39 |
| Port terminal authorities | 18 |
| Container depots | 16 |
| Industrial Association executives | 5 |
| Shipping and forwarding companies | 27 |
| Freight transporters | 18 |
| Exporters | 11 |
| Government officials from SADC | 27 |
| Total | 201 |

4.12 Research design

4.12.1 Expansion questionnaire research design

Table 4.7: Expansion questionnaire research design

| Question No | Question | Rationale (That is what the question intends to demonstrate) | Literature justification of the question | What the literature has claimed should be a possible/likely response |
|-------------|--|---|---|--|
| QE7.1 | There are areas where shipping agency business can expand and widen income streams | To identify the existence of opportunities for shipping agency diversification along the supply chain | Matsusaka (2001) models diversification as an intermediate, and less productive, stage in a search process over industries that best match the firm's organizational capabilities | Kaplan (2000) concludes, "a general pattern emerges from these studies. It is striking that most of the mergers and acquisitions were associated with technological or regulatory shocks." (Yes) |
| QE7.2 | It is feasible for shipping agencies to expand into husbandry services | To confirm the feasibility of husbandry services expansion possibility | Managers may have aspiration levels for the rate of organizational growth because they view growth as a form of performance (Armstrong & Collopy 1996; Smith, Ferrier, & Grimm 2001). | Carleton <i>et al.</i> (1984) find that firms tend to diversify into industries which use resources similar to their own. (Yes) |
| QE7.3 | The prospects for shipping agents to grow the business through offering charterers' agency services can be evaluated as viable | To confirm the prospects of husbandry agency expansion possibility | Debt subjects managers to high-powered incentives because failure to adhere to the contract can result in financial distress, bankruptcy, and even organizational demise (Gillon 1989), | Carleton <i>et al.</i> (1984) find that firms tend to diversify into industries which use resources similar to their own. (No) |

| | | | | |
|---------|--|---|--|--|
| QE7.4 | The opportunities available for shipping agents to diversify into freight transport and logistics services can be assessed as attractive | To assess the viability of diversification into freight and logistics | Diversification might allow the firm to expand its stock of strategic assets faster and at lower cost than its single-business competitors. Markides & Williamson (1996: 6) contend that only by finding ways to exploit this potential advantage will diversifiers be able to maintain superior returns over the long-run. | While there are many studies which have supported Rumelt's (1974) original findings that related diversified firms perform better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt 1982; Palepu 1985; Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989) there is a growing number of scholars that find the opposite (Michel and Shaked 1984; Chatterjee 1986; or are indifferent (Lubatkin 1987). (No) |
| QE7.5 | Diversifying into other areas will assist shipping agencies to reduce the risks related to market volatility in shipping. | To confirm that diversification will reduce risks for shipping agencies | Diversification helps to reduce earnings volatility because the cash flows across the firm's various markets will be imperfectly correlated, thereby allowing firms to employ more debt in their capital structure and hence enjoy the concomitant cost of capital and tax benefits (Barton and Gordon 1988; Kim <i>et al.</i> 1993; Kochhar and Hitt 1998; Lim <i>et al.</i> 2009; Low and Chen 2004; Lowe <i>et al.</i> 1994). | While debt financing has benefits for firms because it helps shield some income from taxes and can lower the firm's overall cost of capital, it also poses risks because failure to make periodic interest and loan payments can lead to financial distress and bankruptcy (Kochhar 1996). (Yes) |
| QE7.6 | Diversifying into other areas will assist shipping agencies to cut costs | To confirm that diversification will cut costs for shipping agencies | Hill <i>et al.</i> (1992: 502): "...resource sharing and skill transfers enable the diversified firm either to reduce overall operating costs in one or more of its divisions" | Kearney (2012) contends that while rationalisation and cost-cutting measures are appropriate answers to volatile and fiercely competitive markets, such measures fail to address fundamental structural market challenges in the foreseeable future. (No) |
| QE8.1 | Feasibility for shipping agencies to expand their business into Husbandry Services and offer: | To assess the feasibility of shipping agencies diversification into husbandry services through offering specific husbandry services as follows: | The strategy of related diversification enables firms to exploit economies of scope (e.g. Teece 1982; Porter 1987). | Penrose (1959) postulates that expansion into new markets may be motivated not just by attractive opportunities in the new market but also by poor prospects in the firm's existing markets (Yes) |
| QE8.1.1 | Crew change assistance | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Prahalad and Bettis (1986) and Grant (1988) distinguish between relatedness at an operational and at a corporate level. At the corporate level, strategic relatedness matters most. However, strategic relatedness is different from, and sometimes conflicts with, the technological relatedness that matters at an operational level. (No) |

| | | | | |
|---------|------------------------------|------------------------|---|--|
| QE8.1.2 | Cash to master transactions | Feasible/not feasible? | These are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Research in business studies differentiates for example between different types of relatedness, such as technological relatedness, managerial relatedness, and relatedness at the level of consumer markets. All three types of relatedness will influence diversification decisions (Prahalad and Bettis 1986; Grant 1988) (No) |
| QE8.1.3 | Vessel security services | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Prahalad and Bettis (1986) and Grant (1988) distinguish between relatedness at an operational and at a corporate level. At the corporate level, strategic relatedness matters most. However, strategic relatedness is different from, and sometimes conflicts with, the technological relatedness that matters at an operational level. (No) |
| QE8.1.4 | Bunker delivery coordination | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Prahalad and Bettis (1986) and Grant (1988) distinguish between relatedness at an operational and at a corporate level. At the corporate level, strategic relatedness matters most. However, strategic relatedness is different from, and sometimes conflicts with, the technological relatedness that matters at an operational level (No) |
| QE8.1.5 | Fuel and lubricants supplies | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Research in business studies differentiates for example between different types of relatedness, such as technological relatedness, managerial relatedness, and relatedness at the level of consumer markets. All three types of relatedness will influence diversification decisions (Prahalad and Bettis 1986; Grant 1988) (No) |
| QE8.1.6 | Waste and sewage removal | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Prahalad and Bettis (1986) and Grant (1988) distinguish between relatedness at an operational and at a corporate level. At the corporate level, strategic relatedness matters most. However, strategic relatedness is different from, and sometimes conflicts with, the technological relatedness |

| | | | | |
|----------|-------------------------------------|------------------------|---|--|
| | | | | that matters at an operational level. (No) |
| QE8.1.7 | Communication services | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Once a firm decides to diversify, the type of market chosen for entry should be such that it provides the firm with a competitive advantage. Porter (1987) suggests that a firm can gain such competitive advantage if it has skills or resources that it can transfer into the new market. (Yes) |
| QE8.1.8 | Meet and greet (Transport services) | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Once a firm decides to diversify, the type of market chosen for entry should be such that it provides the firm with a competitive advantage. Porter (1987) suggests that a firm can gain such competitive advantage if it has skills or resources that it can transfer into the new market. (Yes) |
| QE8.1.9 | Statement of facts services | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Prahalad and Bettis (1986) and Grant (1988) distinguish between relatedness at an operational and at a corporate level. At the corporate level, strategic relatedness matters most. However, strategic relatedness is different from, and sometimes conflicts with, the technological relatedness that matters at an operational level. (No) |
| QE8.1.10 | Arranging surveyors and technicians | Feasible/not feasible? | These are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Prahalad and Bettis (1986) and Grant (1988) distinguish between relatedness at an operational and at a corporate level. At the corporate level, strategic relatedness matters most. However, strategic relatedness is different from, and sometimes conflicts with, the technological relatedness that matters at an operational level. (No) |
| QE8.1.11 | Stevedoring services | Feasible/not feasible? | There are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Once a firm decides to diversify, the type of market chosen for entry should be such that it provides the firm with a competitive advantage. Porter (1987) suggest that a firm can gain such competitive advantage if it has skills or resources that it can transfer into the new market (Yes) |

| | | | | |
|---------|--|---|---|---|
| QE8.2 | Feasibility for shipping agencies to expand their business into freight and logistics services and offer: | To confirm the feasibility of shipping agencies diversification into freight and logistics through offering specific services as follows: | Related diversified firms perform better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt 1982; Palepu 1985, Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989) | Robins and Weirsema, (2003: 45) contend that contemporary views of related diversification might be summarized by the idea that a portfolio of business is bound together by some shared strategic resource or capabilities. (Yes) |
| QE8.2.1 | Inland freight transportation | Feasible/not feasible? | de Villiers (2014), the rail service for inland freight has been, and remains, a major concern in South Africa. | International Chamber of Shipping, (2014: 21), the major plus of rail is the potential of transporting larger volumes of containers in a more reliable (depending on rail network quality, freight train priority, management quality and labour relations etc.) and environmentally-friendly way and without impinging on the car-driving public (Yes) |
| QE8.2.2 | Cash to master transactions | Feasible/not feasible? | Rumelt (1974) argues that related diversification affects value more positively than unrelated diversification because skills and resources can be used in related markets. | Penrose (1959), expansion into new markets may be motivated not just by attractive opportunities in the new market but also by poor prospects in the firm's existing markets (Yes) |
| QE8.2.3 | Intermodal transportation | Feasible/not feasible? | Notteboom, (2008: 5) contends that the rise of corridors is a highly relevant development to any policies aimed at generating a modal shift from road haulage to inland navigation, rail and short-sea shipping. Intermodal solutions, based on barges or rail, tend to be competitive on a number of high density traffic corridors. | Intermodal transportation was performing below expectations in South Africa. According to Havenga <i>et al.</i> , (2011), a contributing factor is that, in order to enable this shift, freight flows must be identified that exploit the core strengths of both rail and road, yet the case for domestic intermodal solutions has never been clearly and unequivocally made. (Yes) |
| QE8.2.4 | Container sales service | Feasible/not feasible? | Nayyar (1993) argues that benefits from positive reputation in an existing business and from economies of scope are available from related but not from unrelated diversification, implying that valuation effect of diversification is more positive for related than unrelated lines of business. | Jensen's (1986) free cash flow theory suggests that managers may attempt to 'build their empires' by entering new markets if they have discretion over ample free cash flows (Brush <i>et al.</i> , 2000), potentially at a cost to shareholders (Kim <i>et al.</i> 2004). (Yes) |
| QE8.2.5 | Bulk wholesale purchase of slots for resale to customers | Feasible/not feasible? | Nayyar (1993) argues that benefits from positive reputation in an existing business and from economies of scope are available from related but not from unrelated diversification, implying that valuation effect of diversification is more positive | Jensen's (1986) free cash flow theory suggests that managers may attempt to 'build their empires' by entering new markets if they have discretion over ample free cash flows (Brush <i>et al.</i> 2000), potentially at a cost to shareholders (Kim <i>et al.</i> 2004). (Yes) |

| | | | | |
|---------|--|--|--|---|
| | | | for related than unrelated lines of business. | |
| QE8.3 | Feasibility for shipping agencies to expand their business into Charterers Agency services and offer: | To confirm the feasibility of shipping agencies diversification into charterers' agency services and offer specific services as follows: | A firm's capital structure (i.e., the relative mix of debt and equity capital) is an important governance mechanism that shapes monitoring and incentives (Jensen and Meckling 1976; Williamson 1988) and impacts corporate diversification strategy (Kochhar 1996). | Jensen's (1986) free cash flow theory suggests that managers may attempt to 'build their empires' by entering new markets if they have discretion over ample free cash flows (Brush <i>et al.</i> 2000), potentially at a cost to shareholders (Kim <i>et al.</i> 2004). (Yes) |
| QE8.3.1 | Bareboat chartering services | Feasible/not feasible? | Inappropriate diversification can destroy firm value (Hoskisson and Hitt 1990). | Obrien <i>et al.</i> (2013) contend that while considerable research has explored how the governance consequences of diversification (Connelly <i>et al.</i> 2010), the influence of lenders on diversification remains unexplored. (No) |
| QE8.3.2 | Time chartering services | Feasible/not feasible? | Inappropriate diversification can destroy firm value (Hoskisson and Hitt 1990). | Empirical research has explored the reciprocal relationship of debt on diversification (Yoshikawa and Phan 2005) and found that debt tends to inhibit related diversification (Chatterjee and Wernerfelt 1991) and to foster restructuring through reductions in diversification (Gibbs 1993). (No) |
| QE8.3.3 | Voyage chartering services | Feasible/not feasible? | Inappropriate diversification can destroy firm value (Hoskisson and Hitt 1990). | Empirical research has explored the reciprocal relationship of debt on diversification (Yoshikawa and Phan 2005) and found that debt tends to inhibit related diversification (Chatterjee and Wernerfelt 1991) and to foster restructuring through reductions in diversification (Gibbs 1993). (No) |
| QE8.3.4 | Appointing OWN independent representative | Feasible/not feasible? | Inappropriate diversification can destroy firm value (Hoskisson and Hitt 1990). | Trust shows stronger significance in influencing attitude and purchase intention (Chen 2009; Jarvenpaa <i>et al.</i> 2000; Pavlou, 2003; Verhagen <i>et al.</i> 2006). (Yes) |
| QE8.3.5 | Stockpile reporting services | Feasible/not feasible? | Inappropriate diversification can destroy firm value (Hoskisson and Hitt 1990). | Penrose (1959), expansion into new markets may be motivated not just by attractive opportunities in the new market but also by poor prospects in the firm's existing markets (Yes) |

| | | | | |
|---------|---|---|--|---|
| | Identifying factors that will facilitate diversification | It is important to identify the factors that are important in diversifying shipping agency operations in 3 supply chain sectors as follows: | | |
| QE9.1 | For a shipping company to penetrate the freight and logistics market, it will need to: | To confirm conditions necessary for diversification into freight and logistics as follows: | Porter (1987) argues that the prime value of corporate relatedness lies in sharing skills among the different value chains in a diversified firm. | While there are many studies which have supported Rumelt's (1974) original findings that related diversified firms perform better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt 1982; Palepu 1985; Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989) there is a growing number of scholars that find the opposite (Michel and Shaked 1984; Chatterjee 1986; or are indifferent (Lubatkin 1987). (Yes) |
| QE9.1.1 | market its offering to potential clients and partners | Critical/ not critical? | Adner and Snow (2010) showed how new technology introduction by an outsider actually may reveal to incumbent firms' sufficient knowledge of consumer preference to allow profitable strategy of remaining with the old technology | Managing expansion requires the development and transfer of tacit knowledge between operations to exploit synergies (Kogut and Zander 1993). (Yes) |
| QE9.1.2 | have industry knowledge | Critical/ not critical? | A firm's subsidiaries in disparate host countries can help to enhance its knowledge base, capabilities, and competitiveness through experiential learning (Barkema & Vermeulen 1998; Delios & Withold 2000; Zahra, Ireland & Hitt 2000). | Ingram and Neumann (2006) find that in detailed descriptions of occupations four major skill factors can be distinguished: intelligence, fine motor skills, coordination and strength. Behind these broad factors, however, hides a multitude of more specific skills that are often used in particular occupations and industries. (Yes) |
| QE9.1.3 | have industry experience | Critical/ not critical? | A firm can gain above-normal returns by exploiting its firm-specific assets, especially intangible ones, in international markets (Buckley 1988). | Managing expansion requires the development and transfer of tacit knowledge between operations to exploit synergies (Kogut and Zander 1993). (Yes) |
| QE9.1.4 | have the appropriate infrastructure | Critical/ not critical? | Porter (1987) argues that the prime value of corporate relatedness lies in sharing skills among the different value chains in a diversified firm. | From the resource-based perspective, diversification is observed in firms that possess excess capacity in resources and capabilities that are transferable across industries. These are economies of scope whereby the diversified firm is an efficient form for organizing |

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| | | | | economic activities (Penrose 1959). (Yes) |
| QE9.1.5 | provide quality service | Critical/ not critical? | The initial impetus to a firm's internationalization comes from the opportunity to exploit market imperfections in the cross-border use of its intangible assets (Caves 1971). | Porter (1985) argued from the producer-synergy side that firms should consider the “fit” of related diversification for better performance, even at the expense of corporate growth (Yes) |
| QE9.1.6 | outsource the services by engaging other service providers to transport cargo | Critical/ not critical? | Coase (1937) and Williamson (1975), by assuming that firms outsource, or vertically dis-integrate, when the costs of integration exceed the costs of using markets or long-term contracts to govern a transaction. | Porter (1985) argued from the producer-synergy side that firms should consider the “fit” of related diversification for better performance, even at the expense of corporate growth (Yes) |
| QE9.2 | For a shipping company to penetrate the husbandry market, it will need to... | To confirm the importance of the following conditions as critical in penetrating the husbandry services market as follows: | Diversification may increase influence costs, which arise when divisions engage in wasteful rent-seeking competition (Milgrom 1988; Rajan, Servaes and Zingales 2000), or fail to coordinate because of conflicting incentives (Bresnahan, Greenstein and Henderson 2009; Zhou 2009). | According to Lorange and Fjeldstad (2010), successful firms are those who are willing to experiment new things, they are not too conservatives. Firms should therefore look outside their boundaries to stimulate innovation. (Yes) |
| QE9.2.1 | have a good reputation in shipping | Critical/ not critical? | Porter (1987) suggests that a firm can gain competitive advantage if it has skills or resources that it can transfer into the new market. | Nayyar (1993) argues that benefits from positive reputation in an existing business and from economies of scope are available from related but not from unrelated diversification, implying that valuation effect of diversification is more positive for related than unrelated lines of business (Yes) |
| QE9.2.2 | have port experience | Critical/ not critical? | Porter (1987) suggests that a firm can gain such competitive advantage if it has skills or resources that it can transfer into the new market. | Penrose (1959) distinguishes explicitly between resources and the services that a firm can derive from them. The principal difference is that one single resource may provide a variety of services. In fact, at any given moment, the resources of a firm could be dedicated to a number of different activities (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). (Yes) |
| QE9.2.3 | have a good relationship with the ports, customs and emigration authorities | Critical/ not critical? | Porter (1987) suggests that a firm can gain such competitive advantage if it has skills or resources that it can transfer into the new market. | Nayyar (1993) argues that benefits from positive reputation in an existing business and from economies of scope are available from related but not from unrelated |

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| | | | | diversification, implying that valuation effect of diversification is more positive for related than unrelated lines of business (Yes) |
| QE9.2.4 | be capable of processing quick, accurate and detailed disbursement accounts (P/DA) | Critical/ not critical? | Porter (1987) suggests that a firm can gain such competitive advantage if it has skills or resources that it can transfer into the new market. | Penrose (1959) distinguishes explicitly between resources and the services that a firm can derive from them. The principal difference is that one single resource may provide a variety of services. In fact, at any given moment, the resources of a firm could be dedicated to a number of different activities (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). (Yes) |
| QE9.2.5 | establish sound contact with all sorts of suppliers of specialized services | Critical/ not critical? | Stultz (1990) argues that diversified firms will invest too much in lines of business with poor investment opportunities. | Penrose (1959) distinguishes explicitly between resources and the services that a firm can derive from them. The principal difference is that one single resource may provide a variety of services. In fact, at any given moment, the resources of a firm could be dedicated to a number of different activities (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). (Yes) |
| QE9.3 | For a shipping company to penetrate the charterer market... | To confirm the importance of the following conditions as critical in penetrating the charterers agency services market as follows: | Diversification helps to reduce earnings volatility because the cash flows across the firm's various markets will be imperfectly correlated, thereby allowing firms to employ more debt in their capital structure and hence enjoy the concomitant cost of capital and tax benefits (Barton and Gordon 1988; Kim <i>et al.</i> 1993; Kochhar and Hitt 1998; Lim <i>et al.</i> 2009; Low and Chen 2004; Lowe <i>et al.</i> 1994). | Organizations respond to low performance by a making a broad range of strategic and operational changes including market niche entry, resource acquisition, increased research and development, and higher innovativeness (Audia and Greve 2006; Audia <i>et al.</i> 2000; Bolton 1993; Greve 1998; 2003a; Hambrick and D'Aveni 1988; Lant <i>et al.</i> 1992). (Yes) |
| QE9.3.1 | there should be no trade flow dislocations | Critical/ not critical? | Li <i>et al.</i> (2007: 406) seek to answer the problem of how best to deal with the imbalance problem, confirming that a large number of empty containers have accumulated in import-dominant ports. | While there are many studies which have supported Rumelt's (1974) original findings that related diversified firms perform better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt 1982; Palepu 1985; Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989) there is a growing number of scholars that find the opposite (Michel and Shaked 1984; Chatterjee 1986); or are indifferent (Lubatkin, 1987). (Yes) |

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|---------|--|-------------------------|--|---|
| QE9.3.2 | it should have experience in handling all customs documentation / formalities for smooth loading and discharging of cargo to avoid berthing delays to the vessel | Critical/ not critical? | Kearney (2012: 7) experienced staff had the potential to optimise port stays. They are able to consider various factors, including that of port performance and the frequency with which port stays are serviced, while also balancing head- and backhaul cargo flow, as well as plugging performance gaps | To be strategic, a resource must be imperfectly mobile and imperfectly imitable, and hence strategic resources are almost necessarily firm specific (Chi 1994). (Yes) |
| QE9.3.3 | it should have experience in assessing and reporting on port status and conditions | Critical/ not critical? | Kearney (2012: 7) experienced staff had the potential to optimise port stays. They are able to consider various factors, including that of port performance and the frequency with which port stays are serviced, while also balancing head- and backhaul cargo flow, as well as plugging performance gaps | To be strategic, a resource must be imperfectly mobile and imperfectly imitable, and hence strategic resources are almost necessarily firm specific (Chi 1994). (Yes) |
| QE9.3.4 | it should have the ability to save expenses and achieve quick turnaround time | Critical/ not critical? | Kearney (2012: 7) experienced staff had the potential to optimise port stays. They are able to consider various factors, including that of port performance and the frequency with which port stays are serviced, while also balancing head- and backhaul cargo flow, as well as plugging performance gaps | Rumelt (1974) argues that diversifiers should generally exhibit better performance if they enter related markets (Bettis 1981; Datta <i>et al.</i> 1991) because the firm is more likely to be able to leverage its core resources and capabilities in related markets. (Yes) |

4.12.2 Recession Questionnaire Research Design

Table 4.8: Recession Questionnaire Design

| Question No | Question | Rationale (what the question intends to demonstrate) | Literature justification of the question | What the literature has claimed should be a possible/likely response |
|-------------|--|--|--|--|
| QR7. | Factors that caused the global shipping recession | The factors responsible for the global shipping recession need to be identified as a prerequisite to finding solutions to ending the recession as follows: | Stopford (1997: 2) points out that if we are to understand the economic and political forces that mould developments in the shipping market we must appreciate the two-way interaction between developments in shipping and the world economy. | Financial crises sometimes appear to be driven by “irrational” factors. These include sudden runs on banks, contagion and spillovers among financial markets. Indeed, the idea of “animal spirits” (as a source of financial market movements) has long occupied a significant space in the literature attempting to explain crises (Keynes 1930; Minsky 1975; Kindleberger 1978). (Yes) |
| QR7.1 | Easy credit leading to ship owners ordering larger | To confirm if this played an influential role in causing the | “Attitude is defined as the degree to which the individual | Debt increases the incentives to keep performance strong (Hoskisson <i>et al.</i> 1994; O’Brien |

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| | vessels which led to oversupply | global shipping recession? | favors the behaviour being examined (Ajzen 1991). | and David 2010), thereby compelling managers to only enter new markets if the expected returns are promising. (Yes) |
| QR7.2 | The E.U. economic debt crisis which resulted in reduced demand for exports to Europe | To confirm if this played an influential role in causing the global shipping recession? | The global financial and economic recession of 2008 has resulted in a sharp downturn of the economy and the shipping market. This has directly led to a rapid fall in demand for transport and related services. This decline is attributed to low demand in Europe for manufactured goods on the back of the euro zone crisis (Kalgora and Christian 2016). | Theories suggest that bubbles can appear without distortions, uncertainty, speculation, or bounded rationality (Garber (2000) and Scherbina (2013) (Yes) |
| QR7.3 | Pro-growth biased forecasts using compound annual growth (CAG) for forecasting container volumes which led to overestimation of future growth potential | To confirm if this played an influential role in causing the global shipping recession? | According to the theory of planned behaviour (Ajzen 1988, 1991) human behaviour is guided by three kinds of considerations: behavioural beliefs, normative beliefs, and control beliefs. | Hessing, Vers, and Weigel (1988) examined the TRA in relation to tax evasion, and contrasted self-reports with official documentation. Findings indicated that attitudes and subjective norms significantly correlated with self-reported behaviour, but did not correlate with documentary evidence. (Yes) |
| QR7.4 | Decline in global trade volume as a direct result of the global economic recession of 2008 | To confirm if this played an influential role in causing the global shipping recession? | The global financial and economic recession of 2008 has resulted in a sharp downturn of the economy and the shipping market. This has directly led to a rapid fall in demand for transport and related services. This decline is attributed to low demand in Europe for manufactured goods on the back of the euro zone crisis (Kalgora and Christian 2016). | The curtailment of economic activities and consumption has resulted in a drop of trade volumes and low demand for maritime transport. It is therefore not surprising that the shipping market has suffered along with the global financial and economic crisis (Kalgora and Christian 2016). (Yes) |
| QR8. | The impact the global shipping recession has had on global shipping industry players | The impact of the global shipping recession needs to be assessed in order to ascertain the extent of the recession among players in the supply chain as follows: | | |
| QR8.1 | Shipping liners | Was this sector affected severely or not? | The shipping sector is often referred to as a global market, moderately concentrated, that takes the form of an oligopoly (Sys 2009). | At some point of time, the elements of negative expectations arising from the global financial and economic crisis could have had also the psychological effects on the |

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| | | | | container-ship market. (Kalgora and Christian 2016) (Yes) |
| QR8.2 | Shipping agencies | Was this sector affected severely or not? | The brand new giant ships delivered at the peak of the financial and economic crisis, were too much big for the transported cargos, and they often sailed half empty if at all. The container shipping sector once one of the biggest beneficiaries of globalization, was then threatened to turn into one of its chief casualties (Kalgora and Christian 2016). | During this financial and economic crisis, financially strong shipping companies have fuelled the price war even further to gain more market share (Kalgora and Christian 2016). (Yes) |
| QR8.3 | The global supply chain | Was this sector affected severely or not? | Companies were failing in 2008, supply chains were weakened, and protectionism was increasing. Now, there are real fears that the transport sector will be seriously damaged by this sudden and profound downturn, with important implications for economies and societies (Short 2009). | Smaller players are being pushed out of the market and the global supply chain sector is likely to emerge consolidated (Brooks 2009) (Yes) |
| QR8.4 | Freight transporters | Was this sector affected severely or not? | The demand for transport, especially in the freight sector, declined dramatically in 2009; prices were falling while the cost of infrastructure use is increasing (Tajani 2009) | Shipping lines use diversification as a means to protect their businesses against cyclicity and volatility and to maintain or achieve an over average performance (Oswald <i>et al.</i> 2013). (Yes) |
| QR8.5 | Husbandry services providers | Was this sector affected severely or not? | The classical view in finance is that risk sharing i.e. diversification is always valuable (Samuelson 1967). Therefore, interdependence is valuable and, indeed, what we should expect. | Shipping lines use diversification as a means to protect their businesses against cyclicity and volatility and to maintain or achieve an over average performance (Oswald <i>et al.</i> 2013). (Yes) |
| QR9. | Consequences of the global shipping recession | The consequences of the global shipping recession need to be ascertained in order to provide solutions on whether diversification is necessary into the following sectors: | | |
| QR9.1 | Consequences of the global shipping recession on Freight Transport | How severe was the freight transport sector affected in the following areas? | The demand for transport, especially in the freight sector, declined dramatically in 2009; prices were falling while the cost of infrastructure use is increasing (Tajani 2009) | While those who provide shipping and related services suffer from low freight costs, importers and exporters ("shippers") benefit from the reduction in transaction costs (UNCTAD 2009: 23). (Yes) |

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| QR9.1.1 | Decline in seaborne freight (Container volumes) | Severe affect or not? | The fall of consumption in the West and of production in the East, resulted to the global container fleet enormous cargo capacity to be no longer filled. The latter could not be without effect on the market of container transport (Kalgora and Christian 2016). | The global financial and economic crisis has significantly affected the container-ship market and the shipping industry as a whole (Kalgora and Christian 2016). (Yes) |
| QR9.1.2 | The small and medium sized companies are squeezed out as larger companies can survive through leaner times and increase market share while smaller operators go out of business | Severe affect or not? | Related diversification may be costlier to coordinate than unrelated diversification (Hill, Hitt and Hoskisson 1992; Jones and Hill 1988; Nayyar, 1993). Smaller players are being pushed out of the market and the global supply chain sector is likely to emerge consolidated (Brooks 2009) | By sharing risks, intermediaries decrease the risk of individual failure, but increase the risk of massive, systemic failure (Ibragimov <i>et al.</i> 2010: 334). (Yes) |
| QR9.1.3 | Other transport businesses will be forced to change their business models | Severe affect or not? | The classical view in finance is that risk sharing i.e. diversification is always valuable (Samuelson 1967). Therefore, interdependence is valuable and, indeed, what we should expect. | By sharing risks, intermediaries decrease the risk of individual failure, but increase the risk of massive, systemic failure (Ibragimov <i>et al.</i> 2010: 334). (Yes) |
| QR9.1.4 | There will be a trend for single businesses to offer a full service package including some or all of logistics, freight forwarding, warehousing, cargo handling, transportation and intermodal | Severe affect or not? | “Perceived usefulness is defined as the degree to which the individual believes that a technology would improve his/her job performance (Davis 1989). | The higher the perceived usefulness (or perceived advantage) the more likely it is for the individual to adopt the new technology” (Rogers, E. M. 2003). (Yes) |
| QR9.2 | Consequences of the global shipping recession on shipping liners | How severe was the liner shipping sector affected in the following areas? | | |
| QR9.2.1 | Idle vessels | Severe affect or not? | The emergence of the crisis in 2008 led to a severe demand cut for liner shipping services. It immediately led to a drop in freight rates and overcapacity in all shipping routes. However, the industry reacted postponing part of the order book, idling and scrapping the less economic vessels, but also recurring to the slow steaming (Cariou 2011), thus reducing the transport capacity of the liner fleet. | To mitigate or even counter the effects of the crisis, measures were taken; the shipping companies have laid up vessels and laid off workers around the world (Kalgora and Christian 2016) (Yes) |

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| QR9.2.2 | Overcapacity of vessels enhanced by the arrival of new deliveries whose orders were placed in previous years | Severe affect or not? | (Davis 1993) suggests that PU is influenced by PEOU and not the other way around, the rationale behind it is that easy to-use technology is more useful than hard-to-use technology and useful technology may not necessarily be easy to use. The container-ship lines seem to be continually oversupplied, despite the fact that conventional shipping finance is still not easily accessible (Kalgora and Christian 2016) | Technologies that are perceived to be less complex to must have higher possibility of acceptance and use by potential users. Ease of use has been found to be an important determinant in the technology adoption decision (Davis 1989). (Yes) |
| QR9.2.3 | Low freight and charter rates | Severe affect or not? | Haralambides (2004) considers conference price-fixing as a low cost arrangement towards self-regulation of the industry | The Global Insight Report (2005) prepared for the EC during the review of the block exemption did not find any evidence that competition among liner shipping carriers would lead to “inherent instability”. The report concluded that stability of supply can be enhanced by competition and by the removal of the potential instability in conference membership. (Yes) |
| QR9.2.4 | Slow steaming due to rising fuel costs | Severe affect or not? | Ease of use represents the degree to which an innovation is easy to understand and operate (Rogers 2003) or the degree to which the particular technology is free of effort (Davis 1989). | Ease of use has been found to be an important determinant in technology adoption decision (Davis 1989)” (Ajjan and Hartshorne 2008: 73) (Yes) |
| QR9.2.5 | Mergers among shipping liners | Severe affect or not? | These are economies of scope whereby the diversified firm is an efficient form for organizing economic activities (Penrose 1959). | Maksimovic and Phillips (2002) use a linear quadratic example to show how decreasing returns to scale can provide a natural bound to the size of the firm and thus create an incentive to diversification. (Yes) |
| QR9.2.6 | Downsizing/ retrenchments | Severe affect or not? | Progoulaki and Theotokas (2010) described how shipping firms can build sustainable competitive advantage based on human resource. | Fishbein and Ajzen’s (1975) Expectancy-value Model: the subjective value of a given outcome affects the attitude in direct proportion to the strength of the belief. (Yes) |
| QR9.3 | Consequences of the global shipping recession on shipping agencies | How severe was the shipping agency sector affected in the following areas? | | |
| QR9.3.1 | Fewer vessels calling at ports for agencies to attend to | Severe affect or not? | “Compatibility is defined as the degree to which technology fits with the | Tornatzky and Klein (1982) found that an innovation is more likely to be adopted when it is compatible with the job |

| | | | | |
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| | as ships are getting bigger | | potential existing values and experiences” (Rogers 2003). | responsibility and value system of an individual.” (Ajjan and Hartshorne 2008:73). (No) |
| QR9.3.2 | A significant decline in freight rates affecting shipping agents as ships are getting bigger | Severe affect or not? | Cornner and Armitage (1998) conclude that, at least in terms of using the TPB to develop interventions to change behaviour, belief importance measures may represent a useful additional variable. | Transpacific Stabilization Agreement (TSA), “have not typically been able to raise average rate levels in spite of the member lines’ ability to discuss and agree upon voluntary rate actions” (OECD 2015) (Yes) |
| QR9.3.3 | An increase in Shipping Agencies operational costs, including office space per head count | Severe affect or not? | If a merger of the two firms entails no costs, it will benefit both firms because the resulting cash flows will be less volatile (Stulz 1990). This decreased volatility of cash flows also gives the more diversified firms greater debt capacity than the less diversified firms of similar size | It is believed that the potentials remaining in cost savings in transportation alone are limited. Therefore, there is a pressure to develop more value added services, and diversification is perceived as the safest and easiest way to get there (Notteboom and Mercx 2006) (Yes) |
| QR9.3.4 | Shipping agencies closing doors or amalgamating | Severe affect or not? | Villalonga (2000) argues that firms might use corporate diversification to engage in reciprocal buying with other large firms in order to squeeze out smaller competitors. | To mitigate or even counter the effects of the crisis, measures were taken; the shipping companies have laid up vessels and laid off workers around the world. Regardless, there were substantial cutbacks, job cuts and salary reductions were unavoidable, mostly due to the slowdown of the freight rate (Kalgora and Christian 2016). (Yes) |
| QR9.3.5 | Cash flow problems resulting in higher risks as big customers take a longer time to pay. | Severe affect or not? | If a merger of the two firms entails no costs, it will benefit both firms because the resulting cash flows will be less volatile (Stulz 1990). This decreased volatility of cash flows also gives the more diversified firms greater debt capacity than the less diversified firms of similar size. | Container carriers have significantly underperformed financially compared to other industries. The weaker performance can be related to the combination of the capital-intensive operation and the high risks associated with the revenues. Shipping remains a very capital-intensive industry where some assets are owned and other (Notteboom 2004) (Yes) |
| QR10 | Decisive factors in attaining global shipping industry’s profitability | After ascertain the effects of the recession it is important to identify decisive factors that will bring the industry out of recession as follows: | | |
| QR10.1 | Investors expecting to reduce financing costs through: | Are cost reductions through the following an | Debt subjects managers to high-powered incentives because failure to adhere to the | Prior research has noted that banks influence diversification |

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| | | important consideration? | contract can result in financial distress, bankruptcy, and even organizational demise (Gilson 1989), outcomes that can erode the personal wealth of managers and damage, if not ruin, their careers (Sutton and Callahan 1987). | strategy (Ramaswamy <i>et al.</i> 2002). |
| QR10.1.1 | Reducing bunker consumption | Yes/No (confirmation) | Davis (1989), TAM (Technology Acceptance Model) postulates that behavioural intention to use a new technology will lead to actual system use. | Technologies that are perceived to be less complex to use have a higher possibility of acceptance by potential users. Ease of use has been found to be an important determinant in technology adoption decision (Davis 1989).” (Ajjan and Hartshorne 2008: 73) (Yes) |
| QR10.1.2 | Maximizing fleet efficiency | Yes/No (confirmation) | PEOU is defined as “the degree to which a person believes that using a particular system would be free of effort” (Davis, F. 1989: 320). | The effect of perceived control declines, and intention is a sufficient behavioural predictor in situations in which volitional control over the behaviour is high (Madden, Ellen and Ajzen 1992) (Yes) |
| QR10.1.3 | Slow steaming | Yes/No (confirmation) | Davis (1989), TAM (Technology Acceptance Model) postulates that behavioural intention to use a new technology will lead to actual system use (Davis, F. 1989: 320). | Technologies that are perceived to be less complex to use have a higher possibility of acceptance by potential users. Ease of use has been found to be an important determinant in technology adoption decision (Davis 1989). (Ajjan and Hartshorne 2008: 73) (Yes) |
| QR10.1.4 | Postponing new building deliveries | Yes/No (confirmation) | PU (Perceived Usefulness) is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” | The effect of perceived control declines, and intention is a sufficient behavioural predictor in situations in which volitional control over the behaviour is high (Madden, Ellen and Ajzen 1992) (Yes) |
| QR10.1.5 | Scrapping and idling some ships | Yes/No (confirmation) | PEOU (Perceived Ease of Use) is defined as “the degree to which a person believes that using a particular system would be free of effort” (Davis 1989: 320). | Triandis (1980), perceived control is expected to moderate the effect of intention on behaviour. (Yes) |
| QR10.2 | Financing issues | Are issues relating to financing in shipping an important consideration on the following factors: | Risk perception refers to a consumer’s perceptions of the uncertainty and adverse consequences of engaging in an activity (Hsu and Chiu 2004). | Trust shows stronger significance in influencing attitude and purchase intention (Chen 2009, Jarvenpaa <i>et al.</i> 2000; Pavlou, 2003; Verhagen <i>et al.</i> 2006). (Yes) |
| QR10.2.1 | Investment in shipping needs to continue operating existing ships in | Yes/No (confirmation) | Fishbein and Ajzen’s (1975) Expectancy-value Model: the subjective value of a given outcome affects the attitude in | Triandis (1980), perceived control is expected to moderate the effect of intention on behaviour. (Yes) |

| | | | | |
|----------|---|--|--|--|
| | compliance with new regulations. | | direct proportion to the strength of the belief. | |
| QR10.2.2 | Private equity funds have a bigger role to play given the global financial crisis and liquidity crunch | Yes/No (confirmation) | Cornner and Armitage (1998) conclude that, at least in terms of using the TPB to develop interventions to change behaviour, belief importance measures may represent a useful additional variable. | Triandis (1980), perceived control is expected to moderate the effect of intention on behaviour. (Yes) |
| QR10.2.3 | Finance is required to secure strategic/global carrier alliances - partnerships that cover operations globally and offer additional advantages in container logistics | Yes/No (confirmation) | (Jarvenpaa <i>et al.</i> 2000), Trust and risk are interwoven as trust is needed in uncertain situations and this means assuming risks and becoming vulnerable to trusted parties. | Trust shows stronger significance in influencing attitude and purchase intention (Chen 2009; Jarvenpaa <i>et al.</i> 2000; Pavlou, 2003; Verhagen <i>et al.</i> 2006). (Yes) |
| QR10.3 | The impact of technical and regulatory requirements | To what extent do technical and regulatory requirements affect profitability in the global shipping industry? | According to Rogers (1995), complexity represents the degree to which an innovation is perceived to be difficult to understand, learn or operate. | Technologies that are perceived to be less complex to use have a higher possibility of acceptance by potential users. Ease of use has been found to be an important determinant in technology adoption decision (Davis 1989),” (Ajjan and Hartshorne 2008: 73) (Yes) |
| QR10.3.1 | Harmonized standards and an operating environment with reduced administrative burden will increase profitability | Yes/No (confirmation) | According to Ajzen (1991), control beliefs are the antecedents of PBC, and are concerned with the perceived power of specific factors to facilitate or inhibit performance of the behaviour | The control belief intervention did not affect PBC or intentions, but showed an effect on behaviour assessed objectively using recorded attendance at sports facilities (Sniehotta 2009). (Yes) |
| QR10.3.2 | Replacing bunker fuel with Liquefied Natural Gas (LNG) will improve shipping industry's competitiveness and increase profitability | Yes/No (confirmation) | According to Rogers (1995), complexity represents the degree to which an innovation is perceived to be difficult to understand, learn or operate. | Technologies that are perceived to be less complex to use have a higher possibility of acceptance by potential users. Ease of use has been found to be an important determinant in technology adoption decision (Davis 1989),” (Ajjan and Hartshorne 2008: 73) (Yes) |
| QR11. | Conditions necessary to rescind from recession | It is important to ascertain the conditions that must prevail for the shipping industry recession to rescind as follows: | | |
| QR11.1 | When partners in the industry are able to: | Yes/No (confirmation) | | |

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|----------|--|-----------------------|---|--|
| QR11.1.1 | Increase freight rates | Yes/No (confirmation) | “liner shipping is about as “different” from other industries as, for example, trucking is to freight air services or freight air is to rail freight – with the exception that price-fixing is allowed in liner shipping and nearly universally dis-allowed in these other industries” (OECD 2002a: 75) | Trust shows stronger significance in influencing attitude and purchase intention (Chen 2009; Jarvenpaa <i>et al.</i> 2000; Pavlou, 2003; Verhagen <i>et al.</i> 2006). (Yes) |
| QR11.1.2 | Improve the modal share by putting more goods onto rail and waterways | Yes/No (confirmation) | Risk perception refers to a consumer’s perceptions of the uncertainty and adverse consequences of engaging in an activity (Hsu and Chiu 2004). | According to Ajzen (1991), control beliefs are the antecedents of PBC, and are concerned with the perceived power of specific factors to facilitate or inhibit performance of the behaviour. (Yes) |
| QR11.1.3 | Trade freely without protectionism | Yes/No (confirmation) | (Jarvenpaa <i>et al.</i> 2000), Trust and risk are interwoven as trust is needed in uncertain situations and this means assuming risks and becoming vulnerable to trusted parties. | According to Ajzen (1991), control beliefs are the antecedents of PBC, and are concerned with the perceived power of specific factors to facilitate or inhibit performance of the behaviour (Yes) |
| QR11.1.4 | Attain a balance of container volume in trade routes, and secure continual cargo volumes | Yes/No (confirmation) | Penrose (1959) argues that a corporate manager’s job is to monitor divisions, a task that grows more difficult with the number, size and variety of business units. Because a manager’s cognitive capacity is limited, increasing the scope or diversity of operations increases the probability that strategic decisions will be poorly adapted to the idiosyncratic needs of individual business units. | The uneven performances among and within country groupings impacted the performance of containerized trade in 2014 (UNCTAD 2015: 3) (Yes) |
| QR11.1.5 | Secure strategic/global carrier alliances - partnerships that cover operations globally and offer additional advantages in container logistics | Yes/No (confirmation) | (Jarvenpaa <i>et al.</i> 2000), Trust and risk are interwoven as trust is needed in uncertain situations and this means assuming risks and becoming vulnerable to trusted parties. | Capacity agreements that go beyond operational groupings or which account for a high market share can have yield anti-competitive rates through reducing overall capacity. Limited antitrust exemptions should not be allowed to cover price fixing and rate discussion (OECD 2002b) (Yes) |
| QR11.1.6 | Remove provisions that restrict cabotage to achieve full liberalization | Yes/No (confirmation) | According to Pavlou (2003), trust is one of the most effective tools for reducing uncertainty and risks | Individuals who form an intention and subsequently fail to act, has been a recognized limitation of the TPB that remains unaddressed by the theory (Orbell and Sheeran 1998). (Yes) |

| | | | | |
|----------|---|--|---|---|
| QR11.2 | When players in the shipping industry are able to maximize profits by reducing costs through: | If the following factors prevail in the industry, will this facilitate return to industry profitability? | | |
| QR11.2.1 | Working with paperless utilities | Yes/No (confirmation) | Perceived self-efficacy is said to refer to “belief in one’s capabilities to organize and execute the course of action required to produce a given level of attainments” (Bandura 1988: 624). | The TPB has been criticized for its exclusive focus on rational reasoning, excluding unconscious influences on behaviour (Sheeran, Gollwitzer and Bargh 2013) and the role of emotions beyond anticipated affective outcomes (Conner <i>et al.</i> 2013). (Yes) |
| QR11.2.2 | Outsourcing local agency work as opposed to in-house offices | Yes/No (confirmation) | Fehr and Schmidt (1999: 1431) argue that variance in compensation tends to produce a group of agents who envy their better-paid peers and consequently engage in a variety of inefficient behaviours, including “reduced effort, (engaging in) influence activities, departure, non-cooperativeness or even outright sabotage”. | The vendor’s capabilities to perform well in outsourcing deal should be dealt mindfully because vendor’s inability to perform will affect client’s performance to achieve competitive advantage (Shi 2007). (Yes) |
| QR11.2.3 | Eliminating redundant office functions, and/or combine functions | Yes/No (confirmation) | Self-efficacy refers to “people’s beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives (Bandura 1991: 257). | The TPB has been criticized for its exclusive focus on rational reasoning, excluding unconscious influences on behaviour (Sheeran, Gollwitzer and Bargh 2013) and the role of emotions beyond anticipated affective outcomes (Conner <i>et al.</i> 2013). (Yes) |
| QR11.2.4 | Reducing office costs by allowing mobility and seasonality of staff | Yes/No (confirmation) | Attitude is defined as the degree to which the individual favors the behaviour being examined (Ajzen 1991). | Milgrom and Roberts (1988) conceive of corporate politics as a rent-seeking process, where division-level agents take actions that are privately beneficial, but unproductive for the firm as a whole. (Yes) |

4.13 Procedure for mixing quantitative and qualitative data

Table 4.9: Procedures for mixing quantitative and qualitative data

| Procedure | Definition | Example |
|-------------|---|---|
| Integration | Qualitative and quantitative data are collected concurrently and analysed separately. Integration occurs during the interpretation phase. | Rickard <i>et al</i> (2011) conducted a study to explore the roles of research nurses and possible career pathways. Data were collected via a 104-item survey tool that combined three previously validated instruments and a series of semi-structured interviews. The qualitative and quantitative data |

| | | |
|------------|--|--|
| | | were collected separately and only integrated during the reporting phase. |
| Connection | One approach is based on the findings of the other approach. | Meixner, O'Donoghue and Witt (2013) surveyed providers of brain injury services within a region, asking about the barriers to accessing crisis intervention services. A second phase of the study involved a series of focus groups who investigated the survey findings to develop greater levels of understanding. |
| Embedding | The analysis of one type of data is embedded within the other. Generally, this involves a small qualitative component nested within a quantitative study | Zwar <i>et al</i> (2010) conducted a cluster randomized controlled trial to test the uptake and effectiveness of a package of smoking cessation support provided primarily by the practice nurse. Qualitative interviews were conducted with patients, nurses and general practitioners who participated in the trial to evaluate the implementation, feasibility and acceptability of the intervention. |

(Adapted from Zhang and Creswell 2013)

This study applied an integration procedure to collect and analyse data, with integration occurring during the interpretation phase (Table 4.5). In doing so, it was possible to satisfy the role of research design in the study of diversification options for shipping companies in South Africa, through a provision for both quantitative and qualitative research methods, in order to widen and enrich the emerging themes and patterns.

4.14 Chapter Conclusion

This chapter examined the research methodology related to this study. The elements examined include the research philosophy, justification of mixed methods research and research instrument utilised, an examination of the population and sample of the study, along with validity and reliability of the research instrument, in addition to the detailed research design underpinning the theory of all aspects of the questionnaire.

The next chapter will present the findings from the survey of the two questionnaires and the results depicted in tables and summaries of the percentage frequencies of the responses.

CHAPTER 5

Presentation and Analysis of Findings

5.1 Introduction

Details of the research methodology, research scope and research design were covered in the previous section, leading to a presentation of the field work findings. In this section, an analysis of the findings is carried out and the findings are represented in the form of tables and graphs. The demographic profiles for both questionnaires were examined in section 5.2 below. The findings for the first questionnaire (QE) on the expansion of shipping agencies were also presented in section 5.2, and the findings for the second questionnaire (QR) on the shipping recession were presented in section 5.3.

These findings were analysed in accordance with the questionnaires on shipping agency expansion (appendix 1) and shipping recession (appendix 2). On analysis, Likert-based questions seeking agreement to the research questions are analysed first, followed by demographic profiles. The result, of the questions in section two and three for both questionnaires, was calculated based on percentage frequency of responses.

5.2 Questionnaire on shipping agency expansion

The findings from the primary survey on expansion of shipping agency business are presented below in conjunction with the questionnaire on the expansion of shipping agencies QE (appendix 1). The demographic section of the questionnaire (QE1 – QE6) and questions QR7 to QR10 are presented in section 5.2.

The questionnaire for expansion of shipping agency (QE) had the same demographic profile questions as the questionnaire for the shipping recession (QR) and these constitute QE1 – QE6 and QR1 – QR6 whose findings are presented below.

Demographic section (QE1 - QE6)

5.2.1 What is your Age? (QE1)

The findings indicated that over half of the respondents (52.5 percent), were in the 41-55 year age group (Table 5.1). Furthermore, the 26 – 40 year age group had more than a fifth of the respondents (21.3 percent), which were the least in that category.

Table 5.1: Age (QE1)

| QE1 What is your age? | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------------------|---------|-----------|---------|---------------|--------------------|
| Valid | 26 - 40 | 13 | 21.3 | 21.3 | 21.3 |
| | 41 - 55 | 32 | 52.5 | 52.5 | 73.8 |
| | >55 | 16 | 26.2 | 26.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.2.2 What is your Gender? (QE2)

The findings also showed that there were more male participants than female as over two thirds of the respondents (68.9 percent) were male and over a quarter of the respondents (29.5 percent) were female (Table 5.2).

Table 5.2: Gender (QE2)

| QE2 What is your gender? | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------------------|--------|-----------|---------|---------------|--------------------|
| Valid | Male | 42 | 68.9 | 70.0 | 70.0 |
| | Female | 18 | 29.5 | 30.0 | 100.0 |
| | Total | 60 | 98.4 | 100.0 | |
| Missing | System | 1 | 1.6 | | |
| Total | | 61 | 100.0 | | |

5.2.3 What is the Highest Level of Education you have successfully completed? (QE3)

The findings showed that nearly a third of the respondents (32.8 percent) had a first degree and nearly a third (18 percent) had a two-year vocational training qualification (Table 5.3). Furthermore, less than a tenth had doctorate degrees and in addition, a tenth of the respondents had completed their high school education.

Table 5.3: Education (QE3)

| QE3 What is your highest level of education? | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------------|-----------|---------|---------------|--------------------|
| Valid | High school | 6 | 9.8 | 10.0 | 10.0 |
| | Vocational (2 years) | 11 | 18.0 | 18.3 | 28.3 |
| | Diploma | 10 | 16.4 | 16.7 | 45.0 |
| | Degree | 20 | 32.8 | 33.3 | 78.3 |
| | Masters | 8 | 13.1 | 13.3 | 91.7 |
| | Doctorate | 5 | 8.2 | 8.3 | 100.0 |
| | Total | 60 | 98.4 | 100.0 | |
| Missing | System | 1 | 1.6 | | |
| Total | | 61 | 100.0 | | |

5.2.4 Which ONE of the Following Best Describes the Area in which your Organisation falls? (QE4)

The relevant industry categories were; liner shipping agency, ports and husbandry services, freight transport and logistics as well as charterers' agency. Most of the respondents were in the shipping agency business that constituted half of the respondents (50.8 percent). Furthermore, less than a tenth of the respondents were from the port and terminal industry (Table 5.4). The respondents were representative of the relevant industries sought and almost a third of the respondents were from the freight and logistics industry.

Table 5.4: Organisation Category (QE4)

| QE4 Which <u>ONE</u> of the following best describes the area in which your organization falls? | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Liner shipping | 8 | 13.1 | 13.1 | 13.1 |
| | Shipping agency | 31 | 50.8 | 50.8 | 63.9 |
| | Freight and logistics | 19 | 31.1 | 31.1 | 95.1 |
| | Port and terminal management | 3 | 4.9 | 4.9 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.2.5 For how Long have you Been Working in this Industry? (QE5)

The findings indicated that almost half of the respondents (44.3 percent) had 11 - 15 years' experience (Table 5.5). Furthermore, the least experienced respondents were in the 1-5years' category and formed 1.6 percent of the respondents. The indication is

that the responses were mainly drawn from those with more years in the industry, resulting in a reflection of enriched views, drawn from experienced respondents.

Table 5.5: Experience (QE5)

| QE5 How long have you been working in this industry? | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------|-----------|---------|---------------|--------------------|
| Valid | <5 yrs | 1 | 1.6 | 1.6 | 1.6 |
| | 5 - 10 yrs | 9 | 14.8 | 14.8 | 16.4 |
| | 11 - 15 yrs | 27 | 44.3 | 44.3 | 60.7 |
| | 16 - 20 yrs | 24 | 39.3 | 39.3 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.2.6 With which of the following Areas of Shipping and Logistics are you Familiar? (Liner shipping Agency) (QE6.1)

The scope of the following questions was to establish the exposure respondents had in the various sectors along the supply chain. This experience was necessary to qualify the views of the respondents, as opinions and perspectives of subjects that possessed experience in the relevant sectors was sought.

The findings revealed that more than two thirds of the respondents (a cumulative 68.9 percent) were familiar with the shipping agency industry (Table 5.6). This indicated that most of the respondents were exposed to the liner shipping agency business and were therefore representative of the sample population. They were relevant in explaining the shipping industry phenomenon which they have experienced over some years.

Table 5.6: Familiarity: Liner Shipping Agency (QE6.1)

| QE6.1 With which of the following areas of shipping and logistics are you familiar? (Liner shipping Agency) | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------|-----------|---------|---------------|--------------------|
| Valid | Yes | 42 | 68.9 | 68.9 | 68.9 |
| | No | 19 | 31.1 | 31.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.2.7 With which of the Following Areas of Shipping and Logistics are you Familiar? (Port and husbandry Services) (QE6.2)

The findings also revealed that over three quarters of the respondents (91 percent) were familiar with the port and husbandry services (Table 5.7). This high level of familiarity with the ports and husbandry sector was also important for the research in gathering views from respondents who were familiar with this sector where shipping agencies seek to diversify into.

Table 5.7: Familiarity: Port and Husbandry (QE6.2)

| QE6.2 With which of the following areas of shipping and logistics are you familiar? (Port and husbandry Services) | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------|-----------|---------|---------------|--------------------|
| Valid | Yes | 56 | 91.8 | 91.8 | 91.8 |
| | No | 5 | 8.2 | 8.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.2.8 With which of the Following Areas of Shipping and Logistics are you Familiar? (Freight transport and logistics) (QE6.3)

The findings also showed that over half of the respondents (83.6 percent) were familiar with the freight transport and logistics sectors (Table 5.8). It further justified the views expressed by the respondents as representative of people who are familiar with the relevant markets for shipping agency diversification.

Table 5.8: Familiarity: Freight Transport and Logistics (QE6.3)

| QE6.3 With which of the following areas of shipping and logistics are you familiar? (Freight transport and logistics) | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------|-----------|---------|---------------|--------------------|
| Valid | Yes | 51 | 83.6 | 83.6 | 83.6 |
| | No | 10 | 16.4 | 16.4 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.2.9 With which of the Following Areas of Shipping and Logistics are you Familiar? (Charterers Agency) (QE6.4)

The findings also showed that less than a quarter of the respondents (23 percent) were familiar with charterers' agency business (Table 5.27). This reflected a low proportion of respondents who were familiar with the charterers' agency market compared to over

three quarters of the respondents (77percent) who were not familiar with the charterers' agency industry (Table 5.9).

Table 5.9: Familiarity: Charterers Agency (QE6.4)

| QE6.4 With which of the following areas of shipping and logistics are you familiar? (Charterers Agency) | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------|-----------|---------|---------------|--------------------|
| Valid | Yes | 14 | 23.0 | 23.0 | 23.0 |
| | No | 47 | 77.0 | 77.0 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.2.10 Identifying possible growth opportunities (QE7)

Areas where Shipping Agency Business can expand to Widen Income (QE7.1 – QE7.6)

The research confirmed that there are areas for diversification by shipping agencies where they can expand and widen income streams with two thirds of the respondents (66 percent) agreeing (Table 5.10). Furthermore, none of the respondents disagreed and this highlighted the agreement that there are areas where shipping agency business can expand, to widen income.

Table 5.10: Shipping Agency Expansion (QE7.1)

| QE7.1 There are areas where shipping agency business can expand to widen income | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Agree | 43 | 66.2 | 66.2 | 66.2 |
| | Strongly agree | 22 | 33.8 | 33.8 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Expand into Husbandry Services (QE7.2)

The findings indicated that most of the respondents (46.5 percent) agreed that it is feasible for shipping agencies to expand into husbandry services (Table 5.11). Furthermore, a quarter of the respondents strongly agreed and over a quarter of the respondents (27.5 percent) disagreed hence confirmed agreement among the respondents that it is feasible for shipping agencies to expand into husbandry services.

Table: 5.11: Expansion: Husbandry Services (QE7.2)

| QE7.2 It is feasible for shipping agencies to expand into husbandry services | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly agree | 16 | 25 | 25 | 26 |
| | Agree | 30 | 46.5 | 46.5 | 72.5 |
| | Disagree | 18 | 28.5 | 28.5 | 100 |
| | Total | 64 | 100 | 100 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

Prospects for Shipping Agents to Grow the Business through Offering Charterers Agency Services can be evaluated as Viable (QE7.3)

Most of the respondents (55.4 percent) agreed that the prospects for shipping agents to grow the business through offering charterers agency services to be evaluated as viable (Table 5.12). Furthermore, almost a third (32.3 percent) disagreed that prospects for shipping agents to grow the business through offering charterers agency services can be evaluated as viable (Table 5.12). The findings hence indicated that most of the respondents agreed that there are prospects for shipping agents to grow the business through offering charterers agency services.

Table 5.12: Expansion: Charterers' Agency (QE7.3)

| QE7.3 The prospects for shipping agents to grow the business through offering charterers agency services can be evaluated as viable | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly agree | 4 | 6.2 | 6.2 | 6.2 |
| | Agree | 4 | 55.4 | 55.4 | 61.6 |
| | Neutral | 36 | 6.2 | 6.2 | 67.8 |
| | Disagree | 21 | 32.3 | 32.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Opportunities Available for Shipping Agents to Diversify into Freight and Logistics Services can be assessed as Attractive (QE7.4)

The findings indicated that the opportunities available for shipping agents to diversify into freight and logistics services can be assessed as attractive as almost two thirds (61.5 percent) of the respondents agreed and a further 3 percent strongly agreed (Table 5.13). Furthermore, 7 percent of the respondents were neutral and a fifth (20 percent)

disagreed, which confirmed that most of the respondents agreed that opportunities available for shipping agents to diversify into freight and logistics services can be assessed as attractive.

Table 5.13: Diversification: Freight and Logistics (QE7.4)

| QE7.4 The opportunities available for shipping agents to diversify into freight and logistics services can be assessed as attractive | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly agree | 2 | 3.1 | 3.1 | 3.1 |
| | Agree | 40 | 61.5 | 61.5 | 64.6 |
| | Neutral | 3 | 4.6 | 4.6 | 79.2 |
| | Disagree | 20 | 30.8 | 30.8 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Diversifying into other Areas will assist Shipping Agencies to reduce the Risks Related to Market Volatility in Shipping (QE7.5)

The findings indicate that 6.2 percent of the respondents strongly agreed that diversifying into other areas will assist shipping agencies, to reduce the risks related to market volatility in shipping (Table 5.14). Furthermore, more than two fifths (46 percent) agreed and almost a tenth (eight percent) were neutral (Table 5.14). With most respondents disagreeing, the findings confirmed that diversifying into other areas will assist shipping agencies to reduce the risks related to market volatility in shipping.

Table 5.14: Diversification to Reduce Risks (QE7.5)

| QE7.5 Diversifying into other areas will assist shipping agencies to reduce the risks related to market volatility in shipping | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly agree | 4 | 6.2 | 6.2 | 6.2 |
| | Agree | 30 | 46.2 | 46.2 | 52.4 |
| | Neutral | 5 | 7.7 | 7.7 | 60.0 |
| | Disagree | 26 | 40.0 | 40.0 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Diversifying into other Areas will assist Shipping Agencies to cut Costs (QE7.6)

The research reflected that more than a third of the respondents (35.4 percent) disagreed that diversifying into other areas will assist shipping agencies to cut costs (Table 5.15). However, the findings confirmed that diversifying into other areas will

assist shipping agencies to cut costs, as more than half of the respondents (52.3 percent) agreed and a tenth (10.8 percent) were neutral (Table 5.15).

Table 5.15: Diversification to Cut Costs (QE7.6)

| QE7.6 Diversifying into other areas will assist shipping agencies to cut costs | | Frequency | % | Valid % | Cumulative % |
|--|----------------|-----------|-------|---------|--------------|
| Valid | Strongly agree | 1 | 1.5 | 1.5 | 1.5 |
| | Agree | 34 | 52.3 | 52.3 | 53.8 |
| | Neutral | 7 | 10.8 | 10.8 | 64.6 |
| | Disagree | 23 | 35.4 | 35.4 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

5.2.11 Agreement on the feasibility for shipping agency expansion into Husbandry services

Agreement that it would be Feasible for Shipping Agencies to Diversify by Expanding their Business into Crew Change Assistance (QE8.1.1)

Almost all respondents agreed that it would be feasible for shipping agencies to diversify, by expanding their business into Crew Change Assistance, with more than a quarter (29.2 percent) that strongly agreed (Table 5.16). None of the respondents disagreed, hence, confirmation from the research that it would be feasible for shipping agencies to diversify, by expanding their business into Crew Change Assistance.

Table 5.16: Expansion: Crew Change Assistance (QE8.1.1)

| QE8.1.1 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into crew change assistance | | Frequency | % | Valid % | Cumulative Percent |
|--|----------------|-----------|-------|---------|--------------------|
| Valid | Strongly agree | 19 | 29.2 | 29.2 | 29.2 |
| | Agree | 45 | 69.2 | 69.2 | 98.5 |
| | Neutral | 1 | 1.5 | 1.5 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Agreement that it would be Feasible for Shipping Agencies to Diversify by Expanding their Business into Cash to Master Transactions (QE8.1.2)

The findings indicated that three quarters of the respondents (75.4 percent) agreed that it would be feasible for shipping agencies to diversify by expanding their business into cash to master transactions and a further 6.2 percent strongly agreed (Table 5.17).

However, only 17 percent of the respondents disagreed (Table 5.17) and this confirmed that it would be feasible for shipping agencies to diversify by expanding their business into cash to master transactions.

Table 5.17: Expansion: Cash to master Transactions (QE8.1.2)

| QE8.1.2 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into cash to master transactions | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 11 | 16.9 | 16.9 | 16.9 |
| | Neutral | 1 | 1.5 | 1.5 | 18.4 |
| | Agree | 49 | 75.4 | 75.4 | 93.8 |
| | Strongly agree | 4 | 6.2 | 6.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Agreement that it would be Feasible for Shipping Agencies to Diversify by Expanding their Business into Vessel Security (QE8.1.3)

The findings reflected that most of the respondents (52.3 percent) agreed that it would be feasible for shipping agencies to diversify by expanding their business into vessel security (Table 5.18). However, 7.7 percent of the respondents strongly disagreed and further, over a quarter (26.2 percent) disagreed (Table 5.18), revealing significant disagreement that it would be feasible for shipping agencies to diversify by expanding their business into vessel security.

Table 5.18: Expansion: Vessel Security (QE8.1.3)

| QE8.1.3 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into vessel security | | Frequency | % | Valid % | Cumulative % |
|---|-------------------|-----------|-------|---------|--------------|
| Valid | Strongly disagree | 5 | 7.7 | 7.8 | 7.8 |
| | Disagree | 17 | 26.2 | 26.6 | 34.4 |
| | Neutral | 8 | 12.3 | 12.5 | 46.9 |
| | Agree | 34 | 52.3 | 53.1 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

Agreement that it would be Feasible for Shipping Agencies to Diversify by Expanding their Business into Bunker Delivery Coordination (QE8.1.4)

The findings indicated that a cumulative 100 percent of the respondents agreed it would be feasible for shipping agencies to diversify by expanding their business into bunker delivery coordination (Table 5.19). With none of the respondents disagreeing (Table 5.19), the research confirmed agreement that it would be feasible for shipping agencies to diversify, by expanding their business into bunker delivery coordination.

Table 5.19: Expansion: Bunker Delivery Coordination (QE8.1.4)

| QE8.1.4 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into bunker delivery coordination | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly agree | 13 | 20.0 | 20.0 | 20.0 |
| | Agree | 52 | 80.0 | 80.0 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Agreement that it would be Feasible for Shipping Agencies to Diversify by Expanding their Business into Fuel and Lubricant Supplies (QE8.1.5)

The findings revealed that nearly two thirds of the respondents (64.6 percent) agreed that it would be feasible for shipping agencies to diversify, by expanding their business into fuel and lubricant supplies and furthermore, 4.6 percent of the respondents strongly agreed (Table 5.20). The findings also indicated that nearly 30 percent (27.7 percent) of the respondents disagreed and 3.1 percent were neutral (Table 5.20). The findings thus confirmed agreement that it is feasible for shipping agents to diversify, by expanding their business into fuel and lubricant supplies.

Table 5.20: Expansion: Fuel and Lubricants Supplies (QE8.1.5)

| QE8.1.5 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into fuel and lubricant supplies | | Frequency | % | Valid % | Cumulative % |
|---|----------------|-----------|-------|---------|--------------|
| Valid | Strongly agree | 3 | 4.6 | 4.6 | 4.6 |
| | Agree | 42 | 64.6 | 64.6 | 69.2 |
| | Neutral | 2 | 3.1 | 3.1 | 72.3 |
| | Disagree | 18 | 27.7 | 27.7 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Waste and Sewage Removal (QE8.1.6)

The findings indicated that a cumulative 44.6 percent of the respondents disagreed that it would be feasible for shipping agencies to diversify, by expanding their business into waste and sewage removal (Table 5.21). Nonetheless, 12.3 percent strongly agreed and more than a third of the respondents (36.9 percent) agreed, resulting in a cumulative 49.1 percent agreeing. The findings confirmed agreement that it would therefore, be feasible for shipping agencies to diversify, by expanding their business into waste and sewage removal, with a significant disagreement of 44.6 percent.

Table 5.21: Expansion: Waste and Sewage Removal (QE8.1.6)

| QE8.1.6 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into waste and sewage removal | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 6 | 9.2 | 9.2 | 9.2 |
| | Disagree | 23 | 35.4 | 35.4 | 44.6 |
| | Neutral | 4 | 6.2 | 6.2 | 50.8 |
| | Agree | 24 | 36.9 | 36.9 | 87.7 |
| | Strongly agree | 8 | 12.3 | 12.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Communication Services (QE8.1.7)

The findings also showed that over half of the respondents (58.5 percent) agreed that it would be feasible for shipping agencies to diversify by expanding their business into communication services (Table 5.22). Furthermore, two fifths of the respondents (40 percent) strongly agreed hence confirming agreement that it is feasible for shipping agencies to diversify by expanding their business into communication services.

Table 5.22: Expansion: Communication Services (QE8.1.7)

| QE8.1.7 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into communication services | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 1 | 1.5 | 1.5 | 1.5 |
| | Agree | 38 | 58.5 | 58.5 | 60 |
| | Strongly agree | 26 | 40 | 40 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Meet and Greet Transport Services (QE8.1.8)

The findings also showed that more than two fifths of the respondents (41.5 percent) disagreed that it is feasible for shipping agencies to diversify, by expanding their

business into Meet and Greet services (Table 5.23). Furthermore, over half of the respondents (52.3 percent) agreed, hence confirming most agreement that it is feasible for shipping agencies to diversify, by expanding their business into meet and greet (transport services)

Table 5.23: Expansion: Meet and Greet Transport Services (QE8.1.8)

| QE8.1.8 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into meet and greet transport services | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 3 | 4.6 | 4.6 | 4.6 |
| | Disagree | 27 | 41.5 | 41.5 | 46.1 |
| | Neutral | 1 | 1.5 | 1.5 | 47.6 |
| | Agree | 34 | 52.3 | 52.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Statement of Facts (QE8.1.9)

The findings additionally revealed that over two fifths of the respondents (44.6 percent) agreed that it is feasible for shipping agencies to diversify by expanding their business into statement of facts (Table 5.24). Furthermore, more than half of the respondents (50.8 percent) strongly agreed, hence confirming agreement that it is feasible for shipping agencies to diversify, by expanding their business into statement of facts.

Table 5.24: Expansion: Statement of Facts (QE8.1.9)

| QE8.1.9 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into statement of facts | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 3 | 4.6 | 4.6 | 4.6 |
| | Agree | 29 | 44.6 | 44.6 | 49.2 |
| | Strongly agree | 33 | 50.8 | 50.8 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Arranging Surveyors and Technicians (QE8.1.10)

The findings showed that almost half of the respondents (46.2 percent) agreed that it would be feasible for shipping agencies to diversify by expanding their business into arranging surveyors and technicians (Table 5.25). However, more than a fifth of the respondents disagreed (21.5 percent) and 16.9 percent strongly disagreed (Table 5.25) reflecting significant disagreement, as 15.4 percent of the respondents were neutral. Therefore, the findings confirmed most of the respondents disagreed that it would be feasible for shipping agencies to diversify, by expanding their business into arranging surveyors and technicians.

Table 5.25: Expansion: Surveyors and Technicians (QE8.1.10)

| QE8.1.10 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into arranging surveyors and technicians | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 11 | 16.9 | 16.9 | 16.9 |
| | Disagree | 14 | 21.5 | 21.5 | 38.5 |
| | Neutral | 10 | 15.4 | 15.4 | 53.8 |
| | Agree | 30 | 46.2 | 46.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Stevedoring (QE8.1.11)

The findings showed that 57.1 percent of the respondents agreed it would be feasible for shipping agencies to diversify, by expanding their business into stevedoring (Table 5.26). Furthermore, a cumulative 31.7 percent disagreed and 10.8 percent were neutral, hence there was significant disagreement among the respondents. However, with most of the respondents agreeing, it was confirmed that it would be feasible for shipping agencies to diversify, by expanding their business into stevedoring.

Table 5.26: Expansion: Stevedoring (QE8.1.11)

| QE8.1.11 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into stevedoring | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 7 | 10.8 | 11.1 | 11.1 |
| | Disagree | 13 | 20.0 | 20.6 | 31.7 |
| | Neutral | 7 | 10.8 | 11.1 | 42.9 |
| | Agree | 36 | 55.4 | 57.1 | 100.0 |
| | Total | 63 | 96.9 | 100.0 | |
| Missing | System | 2 | 3.1 | | |
| Total | | 65 | 100.0 | | |

5.2.12 Feasibility for Shipping Agency Expansion into Freight and Logistics**Feasibility for Shipping Agencies to Diversify by Expanding their Business into Inland Freight (QE8.2.1)**

The findings further revealed that two thirds (66.2 percent) of the respondents agreed it would be feasible for shipping agencies to diversify, by expanding their business into inland freight (Table 5.27). In addition, the findings indicated that more than a quarter (26.2 percent) of the respondents strongly agreed and 7.7 percent were neutral (Table 5.27). With most respondents agreeing, feasibility for shipping agencies to diversify, by expanding their business into inland freight, was confirmed.

Table 5.27: Expansion: Inland Freight (QE8.2.1)

| QE8.2.1 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into inland freight | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 5 | 7.7 | 7.7 | 7.7 |
| | Agree | 43 | 66.2 | 66.2 | 73.9 |
| | Strongly agree | 17 | 26.2 | 26.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Over Border Transport (QE8.2.2)

The findings also showed that nearly two thirds of the respondents (64.6 percent) agreed that it would be feasible for shipping agencies to diversify by expanding their business into Over Border Transport (Table 5.28). Furthermore, 1.5 percent were

neutral and one third (33.8 percent) of the respondents strongly agreed (Table 5.28). Therefore, with most of the respondents agreeing, it was confirmed that it would be feasible for shipping agencies to diversify by expanding their business into Over Border Transport.

Table 5.28: Expansion: Over Border Transport (QE8.2.2)

| QE8.2.2 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into over border transport | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 1 | 1.5 | 1.5 | 1.5 |
| | Agree | 42 | 64.6 | 64.6 | 66.1 |
| | Strongly agree | 22 | 33.8 | 33.8 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Intermodal Transport (QE8.2.3)

The findings also revealed that more than a quarter of the respondents (27.7 percent) strongly agreed it would be feasible for shipping agencies to diversify, by expanding their business into intermodal transport (Table 5.29). Furthermore, more than three quarters of the respondents (70.8 percent) agreed and 1.5 percent were neutral (Table 5.29). Therefore, with almost all of the respondents agreeing, it was confirmed that it would be feasible for shipping agencies to diversify, by expanding their business into intermodal transport.

Table 5.29: Expansion: Intermodal transport (QE8.2.3)

| QE8.2.3. Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into intermodal transport | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Agree | 18 | 27.7 | 27.7 | 27.7 |
| | Agree | 46 | 70.8 | 70.8 | 98.5 |
| | Neutral | 1 | 1.5 | 1.5 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Container Sales (QE8.2.4)

Results of the findings indicate disagreement by more than a third of the respondents (a cumulative 35.4 percent) that it would be feasible for shipping agencies to diversify, by expanding their business into intermodal transport (Table 5.30). Furthermore, 15.4 percent were neutral and nearly half of the respondents (49.2 percent) agreed (Table 5.30). Thus, with a significant number of respondents disagreeing, it was confirmed that it would be feasible for shipping agencies to diversify, by expanding their business into intermodal transport.

Table 5.30: Expansion: Container Sales: (QE8.2.4)

| QE8.2.4 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into container sales | | Frequency | % | Valid % | Cumulative % |
|---|-------------------|-----------|-------|---------|--------------|
| Valid | Strongly disagree | 4 | 6.2 | 6.2 | 6.2 |
| | Disagree | 19 | 29.2 | 29.2 | 35.4 |
| | Neutral | 10 | 15.4 | 15.4 | 50.8 |
| | Agree | 32 | 49.2 | 49.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Feasibility for Shipping Agencies to diversify by Expanding their Business into Bulk Wholesale Purchase of Slots (QE8.2.5)

The findings revealed that nearly a quarter of the respondents (24.6 percent) disagreed that it would be feasible for shipping agencies to diversify, by expanding their business into bulk wholesale purchase of slots (Table 5.31). Furthermore, 6.2 percent strongly disagreed, over a tenth (16.9 percent) were neutral and more than half of the respondents (52.3 percent) agreed. Thus, with most respondents agreeing, it was confirmed, that it would be feasible for shipping agencies to diversify by expanding their business into bulk wholesale purchase of slots

Table 5.31: Expanding into bulk wholesale purchase of slots (QE8.2.5)

| QE8.2.5 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into bulk wholesale purchase of slots | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 4 | 6.2 | 6.2 | 6.2 |
| | Disagree | 16 | 24.6 | 24.6 | 30.8 |
| | Neutral | 11 | 16.9 | 16.9 | 47.7 |
| | Agree | 34 | 52.3 | 52.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

5.2.13 Feasibility for Shipping Agency Expansion into Charterers' Agency

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Bareboat Chartering (QE8.3.1)

The findings also indicated that over three quarters of the respondents (76.9 percent) agreed that it would be feasible for shipping agencies to diversify, by expanding their business into Bareboat Chartering (Table 5.32). Furthermore, over a tenth of the respondents (14.1 percent) strongly disagreed and 4.6 percent were neutral (Table 5.32). Therefore, agreement was confirmed with a cumulative 96.9 percent agreement that it is feasible for shipping agencies to diversify, by expanding their business into Bareboat Chartering.

Table 5.32: Expansion: Bareboat Chartering (QE8.3.1)

| QE8.3.1 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into bareboat chartering | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 9 | 13.8 | 14.1 | 14.1 |
| | Disagree | 2 | 3.1 | 3.1 | 17.2 |
| | Neutral | 3 | 4.6 | 4.6 | 21.8 |
| | Agree | 50 | 76.9 | 76.9 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Time Chartering (QE8.3.2)

The findings indicated that over half of the respondents (56.9 percent) agreed with the feasibility of shipping agencies diversifying through expansion of their business into time chartering, with more than a third of the respondents that strongly agreed (Table 5.33). Only 1.6 percent disagreed, hence confirming agreement that it is feasible for shipping agencies to diversify, by expanding their business into time chartering of vessels.

Table 5.33: Expansion: Time Chartering (QE8.3.2)

| QE8.3.2 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into time chartering | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 24 | 36.9 | 37.5 | 37.5 |
| | Disagree | 1 | 1.6 | 1.6 | 39.1 |
| | Neutral | 2 | 3.1 | 3.1 | 42.2 |
| | Agree | 37 | 56.9 | 56.9 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Voyage Chartering (QE8.3.3)

The findings also show that most of the respondents (46 percent) strongly agreed that it would be feasible for shipping agencies to diversify, by expanding their business into voyage chartering (Table 5.34). Furthermore, more than two fifths of the respondents (44.6 percent) agreed, hence confirming agreement that it is feasible for shipping agencies to diversify, by expanding their business into voyage chartering.

Table 5.34: Expansion: Voyage Chartering (QE8.3.3)

| QE8.3.3 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into voyage chartering | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 2 | 3.1 | 3.1 | 3.1 |
| | Neutral | 3 | 4.6 | 4.6 | 7.7 |
| | Agree | 29 | 44.6 | 44.6 | 52.3 |
| | Strongly agree | 30 | 46.2 | 46.2 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Appointing OWN Independent Representative (QE8.3.4)

The findings also showed that over a third of the respondents (35.4 percent) agreed that it would be feasible for shipping agencies to diversify by expanding their business into appointing OWN independent representative (Table 5.35). Furthermore, over half of the respondents strongly disagreed and only 4.6 percent agreed (Table 5.35).

Therefore, with most respondents in disagreement, it was confirmed that it would not be feasible for shipping agencies to diversify, by expanding their business into appointing OWN independent representative.

Table 5.35: Expansion: Appointing OWN Representative (QE8.3.4)

| QE8.3.4 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into appointing OWN independent representative | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 36 | 55.4 | 56.3 | 56.3 |
| | Disagree | 23 | 35.4 | 35.9 | 92.2 |
| | Neutral | 2 | 3.1 | 3.1 | 95.3 |
| | Agree | 3 | 4.6 | 4.7 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

Feasibility for Shipping Agencies to Diversify by Expanding their Business into Stockpile Reporting (QE8.3.5)

The findings indicate that over a third of the respondents (38 percent) agreed and furthermore, more than half (58 percent) agreed strongly that it is feasible for shipping agencies to diversify, by expanding their business into Stockpile Reporting (Table 5.36). It was also shown that only 1.5 percent of the respondents disagreed and with 3.1 percent neutral (Table 5.36), the findings confirmed it was feasible for shipping agencies to diversify, by expanding their business into Stockpile Reporting.

Table 5.36: Expansion: Stockpile Reporting (QE8.3.5)

| QE8.3.5 Indicate your agreement that it would be feasible for shipping agencies to diversify by expanding their business into stockpile reporting | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 1 | 1.5 | 1.5 | 1.5 |
| | Neutral | 2 | 3.1 | 3.1 | 4.6 |
| | Agree | 23 | 35.4 | 36.9 | 41.5 |
| | Strongly agree | 38 | 58.5 | 58.5 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

5.2.14 Facilitating Penetration into Freight and Logistics markets (Q9.1)

Penetrating the Freight and Logistics Market through Marketing to Potential Clients and Partners (QE9.1.1)

It was further revealed that all respondents (a cumulative 100 percent) agreed that, for a shipping company to penetrate the freight and logistics market, it will need to market its offering to potential clients and partners (Table 5.37). More than half of the respondents (52.3 percent) strongly agreed (Table 5.37), with the result confirming agreement that, for a shipping company to penetrate the freight and logistics market, it will need to market its offering to potential clients and partners.

Table 5.37: Marketing Offering to Potential Clients (QE9.1.1)

| QE9.1.1 For a shipping company to penetrate the freight and logistics market it will need to market its offering to potential clients and partners | | Frequency | Percent | Valid % | Cumulative Percent |
|--|----------------|-----------|---------|---------|--------------------|
| Valid | Agree | 31 | 47.7 | 47.7 | 47.7 |
| | Strongly agree | 34 | 52.3 | 52.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Freight and Logistics Market it will need to have Industry Knowledge (QE9.1.2)

The findings also illustrate that more than half of the respondents (52.3 percent) strongly agreed that, for a shipping company to penetrate the freight and logistics market, industry knowledge is a prerequisite (Table 5.38). Furthermore, none of the respondents disagreed and nearly half (47.7 percent) agreed, hence confirming agreement that, for a shipping company to penetrate the freight and logistics market, it will need to have industry knowledge.

Table 5.38: Industry Knowledge (QE9.1.2)

| QE9.1.2 For a shipping company to penetrate the freight and logistics market it will need to have industry knowledge | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Agree | 31 | 47.7 | 47.7 | 47.7 |
| | Strongly agree | 34 | 52.3 | 52.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Freight and Logistics Market it will need to have Industry Experience (QE9.1.3)

More than half of the respondents is shown by the findings to be in agreement that, for a shipping company to penetrate the freight and logistics market, industry experience is a must, with nearly half of the respondents (47.7 percent) that agreed and nearly a tenth (9.2 percent) that strongly agreed (Table 5.39). In addition, more than a third (38.5 percent) disagreed (Table 5.39), hence confirming agreement that, for a shipping company to penetrate the freight and logistics market, it will need to have industry experience.

Table 5.39: Industry Experience (QE9.1.3)

| QE9.1.3 For a shipping company to penetrate the freight and logistics market it will need to have industry experience | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 25 | 38.5 | 38.5 | 38.5 |
| | Neutral | 3 | 4.6 | 4.6 | 43.1 |
| | Agree | 31 | 47.7 | 47.7 | 90.8 |
| | Strongly agree | 6 | 9.2 | 9.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Freight and Logistics Market it will need to have Appropriate Infrastructure (QE9.1.4)

The findings also showed that half of the respondents (50.8 percent) agreed that a shipping company will need to have appropriate infrastructure, in order to penetrate the freight and logistics market (Table 5.40). Added to this, more than a tenth of the respondents (12.3 percent) strongly agreed with the statement, hence confirming agreement that, for a shipping company to penetrate the freight and logistics market, it will need to have appropriate infrastructure.

Table 5.40: Appropriate Infrastructure (QE9.1.4)

| QE9.1.4 For a shipping company to penetrate the freight and logistics market it will need to have appropriate infrastructure | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 9 | 13.8 | 13.8 | 13.8 |
| | Neutral | 15 | 23.1 | 23.1 | 36.9 |
| | Agree | 33 | 50.8 | 50.8 | 87.7 |
| | Strongly agree | 8 | 12.3 | 12.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Freight and Logistics Market it will need to Provide Quality Service (QE9.1.5)

The findings illustrate that all respondents (a cumulative 100 percent) agreed that a shipping company will need to provide quality service, so as to penetrate the freight and logistics market (Table 5.41). While 64.5 percent agreed, over a third (35.4 percent) of the respondents strongly agreed (Table 5.41), hence confirming agreement that, for a shipping company to penetrate the freight and logistics market, it will need to provide quality service.

Table 5.41: Provide Quality Service (QE9.1.5)

| QE9.1.5 For a shipping company to penetrate the freight and logistics market it will need to provide quality service | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Agree | 42 | 64.6 | 64.6 | 64.6 |
| | Strongly agree | 23 | 35.4 | 35.4 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Freight and Logistics Market it will need to Outsource the Services (QE9.1.6)

The findings show, in addition that most respondents (52 percent) agreed that, for a shipping company to penetrate the freight and logistics market, it will need to outsource these services, by engaging other service providers to transport the cargo (Table 5.42). Furthermore, almost a quarter (24 percent) strongly agreed, hence confirming agreement with the statement that, for a shipping company to penetrate the freight and logistics market, it will need to outsource the services, by engaging other service providers to transport the cargo.

Table 5.42: Outsource the Services (QE9.1.6)

| QE9.1.6 For a shipping company to penetrate the freight and logistics market it will need to outsource the services by engaging other service providers to transport the cargo | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 7 | 10.8 | 10.8 | 10.8 |
| | Agree | 34 | 52.3 | 52.3 | 63.1 |
| | Strongly agree | 24 | 36.9 | 36.9 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

5.2.15 Identifying Factors to Facilitate Penetrating the Husbandry Market

For a Shipping Company to Penetrate the Husbandry Market it will need to have a Good Reputation in Shipping (QE9.2.1)

The findings also showed that over a third of the respondents (36.9 percent) agreed that a shipping company will need to have a good reputation in shipping, for it to penetrate the husbandry market (Table 5.43). In addition, over a third of the respondents (38.5 percent) disagreed and 3.1 percent were neutral (Table 5.43). With over a fifth of the respondents strongly agreeing, it was confirmed that, for a shipping company to penetrate the husbandry market, it will need to have a good reputation in shipping.

Table 5.43: Good Reputation in Shipping (QE9.2.1)

| QE9.2.1 For a shipping company to penetrate the husbandry market it will need to have a good reputation in shipping | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 25 | 38.5 | 38.5 | 38.5 |
| | Neutral | 2 | 3.1 | 3.1 | 41.6 |
| | Agree | 24 | 36.9 | 36.9 | 78.5 |
| | Strongly agree | 14 | 21.5 | 21.5 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Husbandry Market it will need to have Port Experience (QE9.2.2)

It is illustrated by the findings that over half of the respondents (53.8 percent) agreed that port experience is needed, for a shipping company to penetrate the husbandry market (Table 5.44). Furthermore, almost a third (32.3) of the respondents disagreed and more than a tenth (13.8 percent) strongly agreed, hence confirming agreement that, for a shipping company to penetrate the husbandry market, it will need to have port experience.

Table 5.44: Port Experience (QE9.2.2)

| QE9.2.2 For a shipping company to penetrate the husbandry market it will need to have port experience | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 21 | 32.3 | 32.3 | 32.3 |
| | Agree | 35 | 53.8 | 53.8 | 86.1 |
| | Strongly agree | 9 | 13.8 | 13.8 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Husbandry Market it will need to have a Good Relationship with the Ports, Customs and Emigration Authorities (QE9.2.3)

Agreement by half of the respondents (50.8 percent) with the statement are illustrated by the findings (Table 5.45). Furthermore, a tenth of the respondents (10.8 percent) strongly agreed, hence confirming agreement that, for a shipping company to penetrate the husbandry market, it will need to have a good relationship with the ports, customs and emigration authorities.

Table 5.45: Good Relationship with Authorities (QE9.2.3)

| QE9.2.3 For a shipping company to penetrate the husbandry market it will need to have a good relationship with the ports, customs and emigration authorities | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 18 | 27.7 | 27.7 | 27.7 |
| | Neutral | 7 | 10.8 | 10.8 | 38.5 |
| | Agree | 33 | 50.8 | 50.8 | 89.3 |
| | Strongly agree | 7 | 10.8 | 10.8 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Husbandry Market it will need to be Capable of Processing Detailed Disbursement Accounts (QE9.2.4)

The findings show that there was agreement by over two fifths of the respondents (46.2 percent) that, for a shipping company to penetrate the husbandry market, it will need to be capable of processing quick, accurate and detailed disbursement accounts (Table 5.46). Furthermore, almost a quarter of the respondents (23 percent) strongly agreed, hence confirming agreement that, for a shipping company to penetrate the husbandry market, it will need to be capable of processing quick, accurate and detailed disbursement accounts.

Table 5.46: Accurate Disbursement Accounts (QE9.2.4)

| QE9.2.4 For a shipping company to penetrate the husbandry market it will need to be capable of processing quick, accurate and detailed disbursement accounts | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 20 | 30.8 | 30.8 | 30.8 |
| | Agree | 30 | 46.2 | 46.2 | 77.0 |
| | Strongly agree | 15 | 23.0 | 23.0 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

For a Shipping Company to Penetrate the Husbandry Market it will need to Establish Sound Contact with all sorts of Suppliers of Specialized Services (QE9.2.5)

The findings also showed that over half of the respondents (53.8 percent) agreed that, for a shipping company to penetrate the husbandry market, it will need to establish sound contact with all sorts of suppliers of specialised services (Table 5.47). More than a third of the respondents (35.4 percent) strongly agreed (Table 5.47), hence confirming agreement that, for a shipping company to penetrate the husbandry market, it will need to establish sound contact with all sorts of suppliers of specialised services.

Table 5.47: Sound Contact with Suppliers (QE9.2.5)

| QE9.2.5 For a shipping company to penetrate the husbandry market it will need to establish sound contact with all sorts of suppliers of specialized services | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 7 | 10.8 | 10.8 | 10.8 |
| | Agree | 35 | 53.8 | 53.8 | 64.6 |
| | Strongly agree | 23 | 35.4 | 35.4 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

5.2.16 Identifying Factors to Facilitate Penetrating the Charterers' Market

For a Shipping Company to Penetrate the Charterers' Market there should be No Trade Flow Dislocations (QE9.3.1)

The findings showed, in addition that more than half of the respondents (58.5 percent) agreed with the statement (Table 5.48). Moreover, nearly a tenth of the respondents (9.2 percent) strongly agreed, hence confirming agreement that for a shipping company to penetrate the charterers' market, there should be no trade flow dislocations.

Table 5.48: No Trade Flow Dislocations (QE9.3.1)

| QE9.3.1 For a shipping company to penetrate the charterers' market there should be no trade flow dislocations | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 38 | 30.8 | 31.3 | 31.3 |
| | Agree | 20 | 58.5 | 59.3 | 90.6 |
| | Strongly agree | 6 | 9.2 | 9.4 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

For a Shipping Company to Penetrate the Charterers' Market it should have Experience in Handling all Customs Documentation / Formalities (QE9.3.2)

More than half of the respondents (55.4 percent) agreed, as illustrated by the findings, that for a shipping company to penetrate the charterers' market, it should have experience in handling all customs documentation/ formalities (Table 5.49). Furthermore, two fifth of the respondents (40 percent) were neutral and 3.1 percent strongly agreed, hence confirming agreement that, for a shipping company to penetrate the charterers' market, it should have experience in handling all customs documentation/ formalities.

Table 5.49: Experience in Handling Documentation (QE9.3.2)

| QE9.3.2 For a shipping company to penetrate the charterers' market it should have experience in handling all customs documentation / formalities | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 26 | 40.0 | 40.6 | 40.6 |
| | Agree | 36 | 55.4 | 56.3 | 96.9 |
| | Strongly agree | 2 | 3.1 | 3.1 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

For a Shipping Company to Penetrate the Charterers' Market it should have Experience in Assessing and Reporting on Port Status and Conditions (QE9.3.3)

The findings also showed that the majority of the respondents (52.3 percent) strongly agreed that, for a shipping company to penetrate the charterers' market, it should have

experience in assessing and reporting on port status and conditions (Table 5.50), Furthermore, over two fifths (44.6 percent) agreed; with most respondents agreeing, (Table 5.50), it was confirmed that for a shipping company to penetrate the charterers' market, it should have experience in assessing and reporting on port status and conditions.

Table 5.50: Assessing and Reporting on Port Status (QE9.3.3)

| QE9.3.3 For a shipping company to penetrate the charterers' market it should have experience in assessing and reporting on port status and conditions | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 1 | 1.5 | 1.6 | 1.6 |
| | Agree | 29 | 44.6 | 45.3 | 46.9 |
| | Strongly agree | 34 | 52.3 | 53.1 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

For a Shipping Company to Penetrate the Charterers' Market it should have the Ability to Save Expenses and Achieve Quick Turnaround Time (QE9.3.4)

The findings also indicate that more than half of the respondents (55.4 percent) agreed that, for a shipping company to penetrate the charterers' market, it should have the ability to save expenses and achieve quick turnaround time (Table 5.51). In addition, in excess of a third strongly agreed (38.5 percent), hence confirming agreement that, for a shipping company to penetrate the charterers' market, it should have the ability to save expenses and achieve quick turnaround time.

Table 5.51: Quick Turnaround Time (QE9.3.4)

| QE9.3.4 For a shipping company to penetrate the charterers' market it should have the ability to save expenses and achieve quick turnaround time | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 3 | 4.6 | 4.7 | 4.7 |
| | Agree | 36 | 55.4 | 56.3 | 61.0 |
| | Strongly agree | 25 | 38.5 | 39.0 | 100.0 |
| | Total | 64 | 98.5 | 100.0 | |
| Missing | System | 1 | 1.5 | | |
| Total | | 65 | 100.0 | | |

5.2.17 Identifying how the transformation will be achieved

Transformation into these new areas would be achieved by chartering one's own feeder vessels to serve principals (QE10.1)

It was revealed by the findings that over half of the respondents (56.9 percent) agreed chartering one's own feeder vessels to serve principals would achieve transformation into these new areas (Table 5.52). It was also shown that more than a third of the respondents (38.5 percent) strongly agreed, hence confirmation on agreement that transformation into these new areas would be achieved, by chartering one's own feeder vessels to serve principals.

Table 5.52:

| QE10.1 Transformation into these new areas would be achieved by chartering one's own feeder vessels to serve principals | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 2 | 3.1 | 3.1 | 3.1 |
| | Agree | 37 | 56.9 | 56.9 | 60.0 |
| | Strongly agree | 25 | 38.5 | 38.5 | 98.5 |
| | Agree | 1 | 1.5 | 1.5 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into these New Areas would be achieved by Developing Smart IT Systems, Generic to Ships Agency to enable taking on Additional Principals (QE10.2)

The findings furthermore, illustrate that all respondents (a cumulative 100 percent) agreed that transformation into these new areas would be achieved, by developing smart IT systems, generic to ships agency, to enable taking on additional principals (Table 5.53). Moreover, close to half of the respondents (46.2 percent) strongly agreed, hence confirming agreement that transformation into these new areas would be achieved, by developing smart IT systems, generic to ships agency, to enable taking on additional principals.

Table 5.53: Smart IT Systems (QE10.2)

| QE10.2 Transformation into these new areas would be achieved by developing smart IT systems, generic to ships agency to enable taking on additional principals | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Agree | 35 | 53.8 | 53.8 | 53.8 |
| | Strongly agree | 30 | 46.2 | 46.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into these New Areas would be achieved by Representing Other Ships Agencies who may be well Positioned in other Countries (QE10.3)

The findings also revealed that close to a third of the respondents (32.3 percent) disagreed and over two fifths (44.6 percent) agreed that transformation into these new areas would be achieved by representing other ships agencies that may be well positioned in other countries but may need an “agent” to represent them in South Africa (Table 5.54). Furthermore, a fifth of the respondents strongly agreed hence confirming agreement that transformation into these new areas would be achieved by representing other ships agencies that may be well positioned in other countries but may need an “agent” to represent them in South Africa.

Table 5.54: Representing other Ships Agencies (QE10.3)

| QE10.3 Transformation into these new areas would be achieved by representing other ships agencies who may be well positioned in other countries but may need an “agent” to represent them in South Africa | | Frequency | % | Valid % | Cumulative Percent |
|---|----------------|-----------|-------|---------|--------------------|
| Valid | Disagree | 21 | 32.3 | 32.3 | 32.3 |
| | Neutral | 2 | 3.1 | 3.1 | 35.4 |
| | Agree | 29 | 44.6 | 44.6 | 80.0 |
| | Strongly agree | 13 | 20.0 | 20.0 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by having Competent and Experienced Staff to Offer Exceptional Service (QE10.4)

The findings show the majority of the respondents (60 percent) agreed that transformation into these new areas would be achieved, by having competent and experienced staff to offer exceptional service (Table 5.55). Furthermore, over a third (35.4 percent) strongly agreed, hence confirming agreement that transformation into

these new areas would be achieved, by having competent and experienced staff to offer exceptional service.

Table 5.55: Competent and Experienced Staff (QE10.4)

| QE10.4 Transformation into these new areas would be achieved by having competent and experienced staff to offer exceptional service | | Frequency | % | Valid % | Cumulative % |
|---|----------------|-----------|-------|---------|--------------|
| Valid | Neutral | 3 | 4.6 | 4.6 | 4.6 |
| | Agree | 39 | 60.0 | 60.0 | 64.6 |
| | Strongly agree | 23 | 35.4 | 35.4 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Expanding Carrier Haulage Ratio vis-a-vis Merchant Haulage (QE10.5)

The findings also show that nearly a quarter of the respondents (24.6 percent) agreed and more than half of the respondents (6.2 percent) strongly agreed that transformation into these new areas would be achieved, by expanding carrier haulage ratio vis-a-vis merchant haulage (Table 5.56). However, less than a tenth of the respondents (6.2 percent) disagreed, hence confirming agreement that transformation into these new areas would be achieved, by expanding carrier haulage ratio vis-a-vis merchant haulage.

Table 5.56: Carrier Haulage Ratio (QE10.5)

| QE10.5 Transformation into these new areas would be achieved by expanding carrier haulage ratio vis-a-vis merchant haulage | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 4 | 6.2 | 6.2 | 6.2 |
| | Neutral | 16 | 16.9 | 16.9 | 23.1 |
| | Agree | 11 | 24.6 | 24.6 | 47.7 |
| | Strongly agree | 34 | 52.3 | 52.3 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Securing Own Trucks or Rental Trucks to Manage Inland Deliveries (QE10.6)

Nearly a fifth of the respondents (18.5 percent) disagreed that transformation into these new areas would be achieved, by securing own or rental trucks to manage inland

deliveries, as the findings illustrate (Table 5.57), Nonetheless, more than half of the respondents (58.5 percent) agreed, hence confirming agreement that transformation into these new areas would be achieved, by securing own or rental trucks to manage inland deliveries.

Table 5.57: Securing Own Trucks or Rental Trucks (QE10.6)

| QE10.6 Transformation into these new areas would be achieved by securing own trucks or rental trucks to manage inland deliveries | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 38 | 18.5 | 18.5 | 18.5 |
| | Neutral | 14 | 21.5 | 21.5 | 40.0 |
| | Agree | 12 | 58.5 | 58.5 | 98.5 |
| | Strongly agree | 1 | 1.5 | 1.5 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Bulk Purchase of Vessel Slots for Retail to Customers (QE10.7)

The findings illustrate that most of the respondents (62 percent) agreed that transformation into these new areas would be achieved, through the bulk purchase of vessel slots for retail to customers (Table 5.58). This confirmed agreement by the respondents that transformation into these new areas would be achieved, by bulk purchase of vessel slots for retail to customers.

Table 5.58: Bulk Purchase of Vessel Slots (QE10.7)

| QE10.7 Transformation into these new areas would be achieved by bulk purchase of vessel slots for retail to customers | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 1 | 1.5 | 1.5 | 1.5 |
| | Disagree | 15 | 23.1 | 23.1 | 24.6 |
| | Neutral | 9 | 13.8 | 13.8 | 38.5 |
| | Agree | 40 | 61.5 | 61.5 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Changing Working Hours to Suit Customer Seasonality/Trends (QE10.8)

The findings show that nearly a third of the respondents (30.8 percent), disagreed that transformation into these new areas would be achieved, by changing working hours to

suit customer seasonality/trends (Table 5.59). However, more than two fifths of the respondents (61.5 percent) agreed, hence confirming agreement that transformation into these new areas would be achieved, by changing working hours to suit customer seasonality/trends.

Table 5.59: Changing Working Hours (QE10.8)

| QE10.8 Transformation into these new areas would be achieved by changing working hours to suit customer seasonality/trends | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 4 | 30.8 | 30.8 | 30.8 |
| | Neutral | 20 | 6.2 | 6.2 | 37.0 |
| | Agree | 40 | 61.5 | 61.5 | 98.5 |
| | Strongly agree | 1 | 1.5 | 1.5 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Developing a Good Reputation/Brand Name in the Industry (QE10.9)

The results illustrate that nearly three quarters of the respondents (73.8 percent) agreed that developing a good reputation/brand name in the industry would achieve transformation into these new areas (Table 5.60). Furthermore, one fifth of the respondents (20 percent) strongly agreed, hence confirming agreement that transformation into these new areas would be achieved, by developing a good reputation/brand name in the industry.

Table 5.60: Good Reputation/Brand Name (QE10.9)

| QE10.9 Transformation into these new areas would be achieved by developing a good reputation/brand name in the industry | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 4 | 6.2 | 6.2 | 6.2 |
| | Agree | 48 | 73.8 | 73.8 | 80.0 |
| | Strongly agree | 13 | 20.0 | 20.0 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Offering Reefer Monitoring Services; Market Niche (QE10.10)

The findings show, in addition that more than half of the respondents (60 percent) agreed with the statement (Table 5.61), Furthermore, nearly a quarter of the

respondents (23.1 percent) strongly agreed, hence confirming agreement that transformation into these new areas would be achieved, by offering reefer monitoring services (market niche).

Table 5.61: Offering Reefer Monitoring Services (QE10.10)

| QE10.10 Transformation into these new areas would be achieved by offering reefer monitoring services (market niche) | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 1 | 1.5 | 1.5 | 1.5 |
| | Neutral | 9 | 13.8 | 13.8 | 15.3 |
| | Agree | 40 | 61.5 | 61.5 | 76.8 |
| | Strongly agree | 15 | 23.1 | 23.1 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Offering Logistics Monitoring Services (QE10.11)

It was further revealed by the findings that over half of the respondents (53.8 percent) agreed with the offering of logistics monitoring services to achieve transformation into these new areas (Table 5.62). Additionally, more than a quarter (29.2 percent) strongly agreed, hence confirming agreement that transformation into these new areas would be achieved, by offering logistics monitoring services.

Table 5.62: Logistics Monitoring Services (QE10.11)

| QE10.11 Transformation into these new areas would be achieved by offering logistics monitoring services | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 3 | 4.6 | 4.6 | 4.6 |
| | Neutral | 8 | 12.3 | 12.3 | 16.9 |
| | Agree | 35 | 53.8 | 53.8 | 70.7 |
| | Strongly agree | 19 | 29.2 | 29.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

Transformation into These New Areas would be Achieved by Offering Container Sales Services; Market Niche (QE10.12)

The findings also illustrate that nearly half of the respondents (46.2 percent) agreed that offering container sales services would achieve transformation into these new areas (Table 5.63), In addition, a quarter of the respondents (26.2 percent) strongly

agreed, hence confirming agreement that transformation into these new areas would be achieved, by offering container sales services (market niche).

Table 5.63: Container Sales Services (QE10.12)

| QE10.12 Transformation into these new areas would be achieved by offering container sales services (market niche) | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 14 | 21.5 | 21.5 | 21.5 |
| | Neutral | 4 | 6.2 | 6.2 | 27.7 |
| | Agree | 30 | 46.2 | 46.2 | 73.9 |
| | Strongly agree | 17 | 26.2 | 26.2 | 100.0 |
| | Total | 65 | 100.0 | 100.0 | |

5.3 Findings from the questionnaire on shipping industry recession

The findings from the primary survey on the shipping industry recession are presented below, in conjunction with the questionnaire on the expansion of shipping agencies QR2 (Appendix 2). The demographic section of the questionnaire (questions QR1 – QR6) is examined in section 5.2 and the questions QR7 to QR11 of the shipping industry recession questionnaire QR2 are presented in this section, as follows:

5.3.1 Identifying factors that caused the global shipping recession (QR7)

Easy Credit to Ship Owners was a Factor that caused the Global Shipping Recession: Shipping (QR7.1)

The findings show more than half of the respondents (57.4 percent) agreed that it was due to easy credit, leading to ship owners ordering larger vessels that led to oversupply; as a factor that caused the global shipping recession (Table 5.64). Nonetheless, in excess of a third (39.3 percent) disagreed, while 3.3 percent of the respondents strongly disagreed (Table 5.64). The findings therefore, confirmed agreement that easy credit, leading to ship owners ordering larger vessels that led to oversupply, was a factor that caused the global shipping recession.

Table 5.64: Easy Credit to Ship Owners (QR7.1)

| QR7.1 Indicate your agreement that easy credit leading to ship-owners ordering larger vessels which led to oversupply was a factor that caused the global shipping recession | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 2 | 3.3 | 3.3 | 3.3 |
| | Disagree | 24 | 39.3 | 39.3 | 42.6 |
| | Agree | 35 | 57.4 | 57.4 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The E.U. Economic Debt Crisis was a Factor that Caused the Global Shipping Recession: (QR7.2)

It is shown by the findings that more than a quarter (26.2 percent) of the respondents disagreed with the statement that the E.U. economic debt crisis, which led to reduced demand for exports to Europe, was a factor that caused the global shipping recession (Table 5.65). In addition, nearly two thirds of the respondents agreed and only 1.6 percent were neutral (Table 5.65); this confirms agreement that the E.U. economic debt crisis, which led to reduced demand for exports to Europe, was a factor that caused the global shipping recession.

Table 5.65: The E.U. Economic Debt Crisis (QR7.2)

| QR7.2 Indicate your agreement that the E.U. economic debt crisis which led to reduced demand for exports to Europe was a factor that caused the global shipping recession | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 16 | 26.2 | 26.2 | 26.2 |
| | Neutral | 1 | 1.6 | 1.6 | 27.8 |
| | Agree | 44 | 72.2 | 72.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Pro-growth Biased Forecasts using Compounded Annual Growth (CAG) for Forecasting Container Volumes Caused the Global Shipping Recession: (QR7.3)

The findings also indicate that more than a third of the respondents (35 percent) strongly agreed that pro-growth biased forecasts, using compounded annual growth (CAG) for forecasting container volumes for future growth potential, was a factor that caused the global shipping recession (Table 5.66). Furthermore, over half of the respondents (54.1 percent) agreed and 6.6 percent disagreed, hence confirming

agreement that pro-growth biased forecasts, using CAG for forecasting container volumes for future growth potential, was a factor that caused the global shipping recession.

Table 5.66: Pro-growth Biased Forecasts (QR7.3)

| QR7.3 Indicate your agreement that pro-growth biased forecasts using compounded annual growth (CAG) for forecasting container volumes for future growth potential was a factor that caused the global shipping recession | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 4 | 6.6 | 6.6 | 6.6 |
| | Neutral | 2 | 3.3 | 3.3 | 9.9 |
| | Agree | 33 | 54.1 | 54.1 | 65 |
| | Strongly agree | 21 | 35.0 | 35.0 | 100.0 |
| | Total | 60 | 98.4 | 100.0 | |
| Missing | System | 1 | 1.6 | | |
| Total | | 61 | 100.0 | | |

Decline in Global Trade Volume Caused the Global Shipping Recession: (QR7.4)

The findings also indicated that The majority of the respondents cumulatively agreed that the decline in global trade volume, as a direct result of the global economic recession of 2008, was a factor that caused the global shipping recession (Table 5.67). More than half (52.5 percent) were in agreement, while 42.6 percent strongly agreed, with only 1.6 percent of the respondents that disagreed (Table 5.67), hence confirming agreement that decline in global trade volume, as a direct result of the global economic recession of 2008, was a factor that caused the global shipping recession.

Table 5.67: Decline in Global Trade Volume (QR7.4)

| QR7.4 Indicate your agreement that decline in global trade volume as a direct result of the global economic recession of 2008 was a factor that caused the global shipping recession | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 1 | 1.6 | 1.6 | 1.6 |
| | Neutral | 2 | 3.3 | 3.3 | 4.9 |
| | Agree | 32 | 52.5 | 52.5 | 57.4 |
| | Strongly agree | 26 | 42.6 | 42.6 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.3.2 Evaluating the consequences of the global shipping recession (R8)

The Extent of the Impact that the Global Shipping Recession has had on Shipping Liners: (QR8.1)

The findings illustrate that half of the respondents (50.8 percent) indicated the impact the global shipping recession has had on shipping liners, was negative (Table 5.68). Furthermore, more than a quarter of the respondents (27.9 percent) indicated that the impact that the global shipping recession has had a large negative impact on shipping liners (Table 5.68), thereby confirming agreement that the impact the global shipping recession has had on shipping liners was negative.

Table 5.68: Impact on Shipping Liners (QR8.1)

| QR8.1 Indicate the extent of the impact that the global shipping recession has had on shipping liners | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Large negative impact | 17 | 27.9 | 27.9 | 27.9 |
| | Negative impact | 31 | 50.8 | 50.8 | 78.7 |
| | Positive impact | 12 | 19.7 | 19.7 | 98.4 |
| | Large positive impact | 1 | 1.6 | 1.6 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Extent of the Impact that the Global Shipping Recession has had on Shipping Agencies: (QR8.2)

The findings also showed that over half of the respondents (55.7 percent) indicated that the extent of the impact the global shipping recession has had on shipping agencies, was negative (Table 5.69). Furthermore, more than a tenth of the respondents (11.5 percent) indicated that it was a large negative impact (Table 5.69). With over a quarter of the respondents (27.9 percent) indicating the impact of the global shipping recession on shipping agencies was positive, the findings showed agreement that the impact of the global shipping recession on shipping agencies, was negative.

Table 5.69: Impact On Shipping Agencies (QR8.2)

| QR8.2 Indicate the extent of the impact that the global shipping recession has had on shipping agencies | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Large negative impact | 7 | 11.5 | 11.5 | 11.5 |
| | Negative impact | 34 | 55.7 | 55.7 | 67.2 |
| | No impact | 3 | 4.9 | 4.9 | 72.1 |
| | Positive impact | 17 | 27.9 | 27.9 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Extent of the Impact that the Global Shipping Recession has had on the Global Supply Chain: (QR8.3)

The majority of the respondents (60.7 percent) indicated a negative impact and a further 1.6 percent indicated a large negative impact by the global shipping recession on the global supply chain, as illustrated by the findings (Table 5.70). Although more than a quarter of the respondents (26.3 percent) indicated the extent of the impact the global shipping recession has had on the global supply chain was positive it was confirmed by more than half of the respondents that the extent of the impact the global shipping recession has had on the global supply chain, was negative.

Table 5.70: Impact on Global Supply Chain (QR8.3)

| QR8.3 Indicate the extent of the impact that the global shipping recession has had on the global supply chain | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Large negative impact | 1 | 1.6 | 1.6 | 1.6 |
| | Negative impact | 37 | 60.7 | 60.7 | 62.3 |
| | No impact | 6 | 9.8 | 9.8 | 72.1 |
| | Positive impact | 16 | 26.3 | 26.3 | 98.4 |
| | Large positive impact | 1 | 1.6 | 1.6 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Extent of the Impact that the Global Shipping Recession has had on Freight Transporters: (QR8.4)

The findings further illustrate that more than a third of the respondents (36.1 percent) indicated the extent of the impact as positive. However, half of the respondents (50.8

percent) indicated the extent of the impact the global shipping recession has had on freight transporters was negative (Table 5.71). With 8.2 percent of the respondents indicating a large negative impact (Table 5.71), it was confirmed that the extent of the impact the global shipping recession has had on freight transporters was negative.

Table 5.71: Impact on Freight Transporters (QR8.4)

| QR8.4 Indicate the extent of the impact that the global shipping recession has had on freight transporters | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Large negative impact | 5 | 8.2 | 8.2 | 8.2 |
| | Negative impact | 31 | 50.8 | 50.8 | 59.0 |
| | No impact | 2 | 3.3 | 3.3 | 62.3 |
| | Positive impact | 22 | 36.1 | 36.1 | 98.4 |
| | Large positive impact | 1 | 1.6 | 1.6 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Extent of the Impact that the Global Shipping Recession has had on Husbandry Services: (QR8.5)

The findings also show that over a third of the respondents (36.1 percent) indicated the extent of the impact the global shipping recession has had on husbandry services was negative (Table 5.72). It was also shown that nearly a tenth of the respondents (9.8 percent) indicated no impact and furthermore, nearly a tenth (9.8 percent) indicated a positive impact of the global shipping recession on husbandry services (Table 5.72). With close to half of the respondents (44.3 percent) indicating a large negative impact, agreement was confirmed that the extent of the impact that the global shipping recession has had on husbandry services was negative.

Table 5.72: Impact on Husbandry Services (QR8.5)

| QR8.5 Indicate the extent of the impact that the global shipping recession has had on husbandry services | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Large negative impact | 27 | 44.3 | 44.3 | 44.3 |
| | Negative impact | 22 | 36.1 | 36.1 | 80.4 |
| | No impact | 6 | 9.8 | 9.8 | 90.2 |
| | Positive impact | 6 | 9.8 | 9.8 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.3.3 Agreement on consequences of the global shipping recession (QR9.1)

Agreement that Consequences of the Global Shipping Recession for Freight Transporters are a Decline in Seaborne Freight: (QR9.1.1)

The research results show that the majority of the respondents (59 percent) agreed, with more than ten percent of the respondents (13.1 %) that strongly disagreed (Table 5.73) with the statement. Furthermore, more than a quarter of the respondents (26.2 percent) disagreed (Table 5.73), hence confirming agreement that consequences of the global shipping recession for freight transporters are a decline in seaborne freight (container volumes).

Table 5.73: Decline in Seaborne Freight: (QR9.1.1)

| QR9.1.1 Indicate your agreement that consequences of the global shipping recession for freight transporters are a decline in seaborne freight (container volumes) | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 8 | 13.1 | 13.1 | 13.1 |
| | Disagree | 36 | 26.2 | 26.2 | 39.3 |
| | Neutral | 1 | 1.6 | 1.6 | 40.9 |
| | Agree | 16 | 59.1 | 59.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Freight Transporters: Small Firms are Squeezed Out: (QR9.1.2)

The findings reveal that nearly two thirds of the respondents (65.6 percent) agreed (Table 5.74) that consequences of the global shipping recession for freight transporters are that the small- and medium-sized firms are squeezed out, as larger companies can survive through leaner times and increase market share, while smaller operators go out of business. Furthermore, nearly a third (31.1 percent) strongly agreed (Table 5.74), hence confirming agreement that consequences of the global shipping recession for freight transporters are that the small and medium sized firms are squeezed out as larger companies can survive through leaner times and increase market share while smaller operators go out of business.

Table 5.74 Small Firms are Squeezed Out: (QR9.1.2)

| QR9.1.2 Indicate your agreement that consequences of the global shipping recession for freight transporters are that the small and medium sized firms are squeezed out | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 2 | 3.3 | 3.3 | 3.3 |
| | Agree | 40 | 65.6 | 65.6 | 68.9 |
| | Strongly agree | 19 | 31.1 | 31.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Freight Transporters are that other Transport Businesses will be Forced to Change their Business Models: Shipping (QR9.1.3)

There was agreement by more than half of the respondents (52.5 percent), as indicated by the findings (Table 5.75), that consequences of the global shipping recession for freight transporters are that other transport businesses will be forced to change their business models. Furthermore, 4.9 percent of the respondents strongly agreed (Table 5.75), hence confirming agreement that consequences of the global shipping recession for freight transporters are that other transport businesses will be forced to change their business models.

Table 5.75: Transporters Forced to change Business Models (QR9.1.3)

| QR9.1.3 Indicate your agreement that consequences of the global shipping recession for freight transporters are that other transport businesses will be forced to change their business models | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 18 | 29.5 | 29.5 | 29.5 |
| | Neutral | 8 | 13.1 | 13.1 | 42.6 |
| | Agree | 32 | 52.5 | 52.5 | 95.1 |
| | Strongly agree | 3 | 4.9 | 4.9 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Freight Transporters: Trend to Offering a Full Package: (QR9.1.4)

The findings showed that over half of the respondents (59.1 percent) strongly agreed (Table 5.76) that there will be a trend for single businesses to offer a full package,

including some or all of logistics, freight forwarding, warehousing, cargo handling, transportation and intermodal, as part of the consequences of the global shipping recession for freight transporters. Furthermore, nearly a third (31.1 percent) agreed and 4.9 percent disagreed, hence agreement was confirmed that consequences of the global shipping recession for freight transporters are that there will be a trend for single businesses to offer a full package, including some or all of logistics, freight forwarding, warehousing, cargo handling, transportation and intermodal.

Table 5.76: Trend to Offering a Full Package (QR9.1.4)

| QR9.1.4 Indicate your agreement that consequences of the global shipping recession for freight transporters are that there will be a trend for single businesses to offer a full package | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 3 | 4.9 | 4.9 | 4.9 |
| | Neutral | 3 | 4.9 | 4.9 | 9.8 |
| | Agree | 19 | 31.1 | 31.1 | 40.9 |
| | Strongly agree | 36 | 59.1 | 59.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.3.4 Consequences of the global shipping recession on Liners (QR9.2)

Consequences of the Global Shipping Recession for Shipping Liners are Idle Vessels: (QR9.2.1)

The findings also showed that nearly two thirds of the respondents (65.6 percent) agreed that consequences of the global shipping recession for shipping liners are idle vessels (Table 5.77). Furthermore, nearly a third disagreed (31.1 percent) and 3.3 percent were neutral (Table 5.77), hence confirming agreement that consequences of the global shipping recession for shipping liners are idle vessels.

Table 5.77: Idle Vessels: (QR9.2.1)

| QR9.2.1 Indicate your agreement that consequences of the global shipping recession for shipping liners are idle vessels | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 19 | 31.1 | 31.1 | 31.1 |
| | Neutral | 2 | 3.3 | 3.3 | 34.4 |
| | Agree | 40 | 65.6 | 65.6 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Liners: Overcapacity (QR9.2.2)

More than half of the respondents (54.1 percent) are shown by the findings (Table 5.78), to strongly agree that overcapacity of vessels, enhanced by the arrival of new deliveries whose orders were placed in previous years, was one of the consequence of the global shipping recession, for shipping liners. The findings therefore, confirmed agreement that consequences of the global shipping recession for shipping liners are overcapacity of vessels, enhanced by the arrival of new deliveries whose orders were placed in previous years.

Table 5.78: Overcapacity (QR9.2.2)

| QR9.2.2 Indicate your agreement that consequences of the global shipping recession for shipping liners are overcapacity of vessels enhanced by the arrival of new deliveries whose orders were placed in previous years | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 2 | 3.3 | 3.3 | 3.3 |
| | Neutral | 1 | 1.6 | 1.6 | 4.9 |
| | Agree | 25 | 41.0 | 41.0 | 45.9 |
| | Strongly agree | 33 | 54.1 | 54.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Liners are Low Freight and Charter rates: (QR9.2.3)

The findings also showed that over two thirds of the respondents (67.2 percent) strongly agreed (Table 5.79) that consequences of the global shipping recession for shipping liners are low freight and charter rates. Furthermore, more than a third agreed (16.4 percent), hence confirming agreement that consequences of the global shipping recession for shipping liners are low freight and charter rates.

Table 5.79: Low Freight and Charter rates (QR9.2.3)

| QR9.2.3 Indicate your agreement that consequences of the global shipping recession for shipping liners are low freight and charter rates | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 10 | 16.4 | 16.4 | 16.4 |
| | Agree | 10 | 16.4 | 16.4 | 32.8 |
| | Strongly agree | 41 | 67.2 | 67.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Liners are Slow Steaming due to Rising Fuel Costs: (QR9.2.4)

The findings illustrate that the majority of the respondents were in agreement (Table 5.80), with nearly three quarters of the respondents (73.8 percent) strongly agreeing that consequences of the global shipping recession for shipping liners are slow steaming, due to rising fuel costs. Furthermore, nearly a quarter agreed (24.6 percent), hence agreement was confirmed that consequences of the global shipping recession for shipping liners are slow steaming, due to rising fuel costs.

Table 5.80: Slow Steaming (QR9.2.4)

| QR9.2.4 Indicate your agreement that consequences of the global shipping recession for shipping liners are slow steaming due to rising fuel costs | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 1 | 1.6 | 1.6 | 1.6 |
| | Agree | 15 | 24.6 | 24.6 | 26.2 |
| | Strongly agree | 45 | 73.8 | 73.8 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Liners are Mergers among Shipping Liners: (QR9.2.5)

The findings also showed that most of the respondents (82 percent) strongly agreed (Table 5.81) that consequences of the global shipping recession for shipping liners are mergers among shipping liners. There were no respondents who disagreed and nearly a fifth agreed (18 percent), hence confirming agreement that consequences of the global shipping recession for shipping liners are mergers among shipping liners.

Table 5.81: Mergers among Shipping Liners: (QR9.2.5)

| QR9.2.5 Indicate your agreement that consequences of the global shipping recession for shipping liners are mergers among shipping liners | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Agree | 11 | 18.0 | 18.0 | 18.0 |
| | Strongly agree | 50 | 82.0 | 82.0 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Liners are Downsizing/Retrenchments: (QR9.2.6)

The findings indicated that over two thirds of the respondents (70.5 percent) strongly agreed that Consequences of the global shipping recession for shipping liners are downsizing/retrenchments (Table 5.82). Furthermore, over a quarter (26.2 percent) agreed and none of the respondents disagreed (Table 5.82) hence confirming agreement that consequences of the global shipping recession for shipping liners are downsizing/retrenchments.

Table 5.82: Downsizing/Retrenchments (QR9.2.6)

| QR9.2.6 Indicate your agreement that consequences of the global shipping recession for shipping liners are downsizing/retrenchments | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 1 | 1.6 | 1.7 | 1.7 |
| | Agree | 16 | 26.2 | 26.7 | 28.4 |
| | Strongly agree | 43 | 70.5 | 71.7 | 100.0 |
| | Total | 60 | 98.4 | 100.0 | |
| Missing | System | 1 | 1.6 | | |
| Total | | 61 | 100.0 | | |

5.3.5 Consequences of the Global Shipping Recession for Shipping Agencies (QR9.3)

Fewer Vessels Calling at Ports as Ships are Getting Bigger: (QR9.3.1)

The findings further indicate that nearly a quarter of the respondents (24.6 percent) agreed (Table 5.83) that consequences of the global shipping recession for shipping agencies are fewer vessels calling at ports for agencies to attend to, as ships are getting bigger. Furthermore, nearly three quarters of the respondents (72.1 percent) strongly agreed and none of the respondents disagreed, hence confirming agreement that consequences of the global shipping recession for shipping agencies are fewer vessels calling at ports for agencies to attend to, as ships are getting bigger.

Table 5.83: Fewer Vessels Calling at Ports (QR9.3.1)

| QR9.3.1 Indicate your agreement that consequences of the global shipping recession for shipping agencies are fewer vessels calling at ports for agencies to attend to as ships are getting bigger | | Frequency | % | Valid % | Cumulative % |
|---|----------------|-----------|-------|---------|--------------|
| Valid | Neutral | 2 | 3.3 | 3.3 | 3.3 |
| | Agree | 15 | 24.6 | 24.6 | 27.9 |
| | Strongly agree | 44 | 72.1 | 72.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

**Consequences of the Global Shipping Recession for Shipping Agencies:
Significant Decline in Freight Rates affecting Shipping Agents: (QR9.3.2)**

The findings show that half of the respondents (50.8 percent) strongly agreed (Table 5.84) that as a consequence of the global shipping recession, shipping agencies are experiencing a significant decline in freight rates, affecting shipping agents, as they earn commission as a percentage of the freight. Furthermore, 45.9 percent of the respondents agreed (Table 5.84), hence confirming agreement that consequences of the global shipping recession for shipping agencies are a significant decline in freight rates affecting shipping agents, as they earn commission as a percentage of the freight.

Table 5.84: Significant Decline in Freight Rates (QR9.3.2)

| QR9.3.2 Indicate your agreement that consequences of the global shipping recession for shipping agencies are a significant decline in freight rates affecting shipping agents as they earn commission as a percentage of the freight | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 1 | 1.6 | 1.6 | 1.6 |
| | Neutral | 1 | 1.6 | 1.6 | 3.2 |
| | Agree | 28 | 45.9 | 45.9 | 49.1 |
| | Strongly agree | 31 | 50.8 | 50.9 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Agencies are an Increase in Shipping Agencies' Operational Cost (QR9.3.3)

The findings illustrate that nearly five percent of the respondents strongly disagreed and nearly ten percent (9.8 percent) disagreed (Table 5.85) that consequences of the global shipping recession for shipping agencies, are an increase in shipping agencies'

operational cost, including office space per head count. Nonetheless, nearly three quarters of the respondents agreed (73.8 percent), hence confirming agreement that consequences of the global shipping recession for shipping agencies are an increase in shipping agencies' operational cost, including office space per head count.

Table 5.85: Increase in Shipping Agencies Operational Cost. (QR9.3.3)

| QR9.3.3 Indicate your agreement that consequences of the global shipping recession for shipping agencies are an increase in shipping agencies operational cost, including office space per head count | | Frequency | % | Valid % | Cumulative Percent |
|---|-------------------|-----------|-------|---------|--------------------|
| Valid | Strongly disagree | 3 | 4.9 | 4.9 | 4.9 |
| | Disagree | 6 | 9.8 | 9.8 | 14.8 |
| | Neutral | 7 | 11.5 | 11.5 | 26.2 |
| | Agree | 45 | 73.8 | 73.8 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Agencies are that Shipping Agencies are Closing Doors or Amalgamating. (QR9.3.4)

The findings show, in addition, that more than half of the respondents (57.4 percent) agreed (Table 5.86) that consequences of the global shipping recession for shipping agencies are that shipping agencies are closing doors or amalgamating. Over a quarter disagreed (29.5 percent), and 4.9 percent of the respondents strongly disagreed, hence agreement was confirmed that consequences of the global shipping recession for shipping agencies are that shipping agencies are closing doors or amalgamating.

Table 5.86: Closing Doors or Amalgamating. (QR9.3.4)

| QR9.3.4 Indicate your agreement that consequences of the global shipping recession for shipping agencies are that shipping agencies are closing doors or amalgamating | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 3 | 4.9 | 4.9 | 4.9 |
| | Disagree | 18 | 29.5 | 29.5 | 34.4 |
| | Neutral | 5 | 8.2 | 8.2 | 42.6 |
| | Agree | 35 | 57.4 | 57.4 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Consequences of the Global Shipping Recession for Shipping Agencies: Cash Flow Problems (QR9.3.5)

The findings further revealed that more than a quarter of the respondents (26.2 percent) disagreed and a further 6.6 percent strongly disagreed (Table 5.87) that consequences of the global shipping recession for shipping agencies' cash flow problems result in higher risks, as bigger customers take longer to pay. However, close to two thirds of the respondents (62.3 percent) agreed, hence confirming agreement that consequences of the global shipping recession for shipping agencies' cash flow problems result in higher risks, as bigger customers take longer to pay.

Table 5.87: Cash Flow Problems (QR9.3.5)

| QR9.3.5 Indicate your agreement that consequences of the global shipping recession for shipping agencies cash flow problems resulting in higher risks as bigger customers take longer to pay | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 4 | 6.6 | 6.6 | 6.6 |
| | Disagree | 16 | 26.2 | 26.2 | 32.8 |
| | Neutral | 3 | 4.9 | 4.9 | 37.7 |
| | Agree | 38 | 62.3 | 62.3 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.3.6 Decisive factors to move the shipping industry out of recession (QR10.1)

Investors are Expecting to reduce Financing Costs through Reducing Bunker Consumption (QR10.1.1)

The research survey also showed that almost two thirds of the respondents (63.9 percent) agreed that investors' expecting to reduce financing costs through reducing bunker consumption is a decisive factor in attaining global shipping industry's profitability and sustainable recovery (Table 5.88). Furthermore, nearly a third (31.1 percent) strongly agreed hence confirming agreement that investors' expecting to reduce financing costs through reducing bunker consumption is a decisive factor in attaining global shipping industry's profitability and sustainable recovery.

Table 5.88: Reducing Bunker Consumption (QR10.1.1)

| QR10.1.1 Agreement that investors expecting to reduce financing costs through reducing bunker consumption is a decisive factor in attaining global shipping industry's profitability and sustainable recovery | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 3 | 4.9 | 4.9 | 4.9 |
| | Agree | 39 | 63.9 | 63.9 | 68.9 |
| | Strongly agree | 19 | 31.1 | 31.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Investors expecting to Reduce Financing Costs through Maximizing Fleet Efficiency (QR10.1.2)

The research survey also showed that none of the respondents disagreed that investors expecting to reduce financing costs through maximising fleet efficiency, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (Table 5.89). Furthermore, nearly two thirds of the respondents (72.1 percent) agreed and nearly a fifth (19.7 percent) strongly agreed, hence confirming disagreement that investors expecting to reduce financing costs through maximising fleet efficiency, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery.

Table 5.89: Maximizing Fleet Efficiency (QR10.1.2)

| QR10.1.2 Agreement that investors expecting to reduce financing costs through maximizing fleet efficiency is a decisive factor in attaining global shipping industry's profitability and sustainable recovery | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 5 | 8.2 | 8.2 | 8.2 |
| | Agree | 44 | 72.1 | 72.1 | 80.3 |
| | Strongly agree | 12 | 19.7 | 19.7 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Investors Expecting to Reduce Financing Costs through Slow Steaming (QR10.1.3)

The research survey showed that more than three quarters of the respondents (82 percent) agreed (Table 5.90) that investors expecting to reduce financing costs through slow steaming, is a decisive factor in attaining the global shipping industry's

profitability and sustainable recovery. Furthermore, none of the respondents disagreed and 18 percent strongly agreed (Table 5.90), hence confirming agreement by the respondents that investors expecting to reduce financing costs through slow steaming, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery.

Table 5.90: Slow Steaming (QR10.1.3)

| QR10.1.3 Agreement that investors expecting to reduce financing costs through slow steaming is a decisive factor in attaining global shipping industry's profitability and sustainable recovery | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 7 | 11.5 | 11.5 | 11.5 |
| | Agree | 43 | 70.5 | 70.5 | 82.0 |
| | Strongly agree | 11 | 18.0 | 18.0 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Investors Expecting to Reduce Financing Costs through Postponing New Deliveries (QR10.1.4)

The research survey additionally illustrates that nearly two thirds of the respondents (65.6 percent) agreed (Table 5.91) that investors expecting to reduce financing costs through postponing new deliveries, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery. Furthermore, nearly two thirds (31.1 percent) strongly agreed and 1.6 percent disagreed (Table 5.91), hence confirming agreement by the respondents that investors expecting to reduce financing costs through postponing new deliveries, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery.

Table 5.91: Postponing New Deliveries (QR10.1.4)

| QR10.1.4 Agreement that investors expecting to reduce financing costs through postponing new deliveries is a decisive factor in attaining global shipping industry's profitability and sustainable recovery | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 1 | 1.6 | 1.6 | 1.6 |
| | Neutral | 1 | 1.6 | 1.6 | 3.2 |
| | Agree | 40 | 65.6 | 65.6 | 68.8 |
| | Strongly agree | 19 | 31.1 | 31.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Investors Expecting to Reduce Financing Costs through Scrapping and Idling Ships (QR10.1.5)

The research survey also indicates more than half of the respondents (57.4 percent) agreed (Table 5.92) with the statement. The research survey further shows that over a quarter of the respondents (26.2 percent) disagreed and 1.6 percent strongly disagreed (Table 5.92), hence confirming agreement by the respondents that investors expecting to reduce financing costs through scrapping and idling some ships, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery.

Table 5.92: Scrapping and Idling Ships (QR10.1.5)

| QR10.1.5 Agreement that investors expecting to reduce financing costs through scrapping and idling some ships is a decisive factor in attaining global shipping industry's profitability and sustainable recovery | | Frequency | % | Valid % | Cumulative Percent |
|---|-------------------|-----------|-------|---------|--------------------|
| Valid | Strongly disagree | 1 | 1.6 | 1.6 | 1.6 |
| | Disagree | 16 | 26.2 | 26.2 | 27.9 |
| | Neutral | 9 | 14.8 | 14.8 | 42.6 |
| | Agree | 35 | 57.4 | 57.4 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.3.7 Investors Expecting to Reduce Costs through Financing Issues (QR10.2) **Investment in Shipping is Needed to Continue Operating Existing Ships (QR10.2.1)**

The research survey also shows that more than half of the respondents (54 percent) agreed (Table 5.93) that investment in shipping is needed to continue operating existing ships in compliance with new regulations. Furthermore, the research survey shows that nearly a third of the respondents (31 percent) disagreed and one percent was neutral (Table 5.93), hence confirming agreement by the respondents that investment in shipping is needed to continue operating existing ships in compliance with new regulations.

Table 5.93: Investment Needed to Continue Operations (QR102.1)

| QR102.1 Indicate your agreement that investment in shipping is needed to continue operating existing ships in compliance with new regulations | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 1 | 1.6 | 1.7 | 1.7 |
| | Disagree | 19 | 31.1 | 31.7 | 33.3 |
| | Neutral | 7 | 11.5 | 11.7 | 45.0 |
| | Agree | 33 | 54.1 | 55.0 | 100.0 |
| | Total | 60 | 98.4 | 100.0 | |
| Missing | System | 1 | 1.6 | | |
| Total | | 61 | 100.0 | | |

Private Equity Funds have a Bigger Role to Play (QR10.2.2)

The results of the research survey reveal that over half of the respondents (56 percent) agreed (Table 5.94) that private equity funds have a bigger role to play, given the global financial crisis and liquidity crunch. Furthermore, the research survey shows that nearly a quarter (25 percent) disagreed and 18 percent was neutral (Table 5.94), hence confirming agreement by the respondents that private equity funds have a bigger role to play, given the global financial crisis and liquidity crunch.

Table 5.94: Private Equity Funds have a Bigger Role to Play (QR10.2.2)

| QR10.2.2 Indicate your agreement that private equity funds have a bigger role to play given the global financial crisis and liquidity crunch | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 1 | 1.6 | 1.6 | 1.6 |
| | Disagree | 15 | 24.6 | 24.6 | 26.2 |
| | Neutral | 11 | 18.0 | 18.0 | 44.3 |
| | Agree | 34 | 55.7 | 55.7 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Finance is Required to Secure Strategic/Global Carrier Alliances- Partnerships (QR10.2.3)

The majority of the respondents (72.1 percent) were shown, by the findings from the research survey, to agree that finance is required to secure strategic/global carrier alliances- partnerships that cover operations globally and offer additional advantages in container logistics (Table 5.95). Furthermore, almost a tenth (8.2 percent) of the

respondents strongly agreed (Table 5.95), hence confirming agreement by the respondents that finance is required to secure strategic/global carrier alliances-partnerships that cover operations globally and offer additional advantages in container logistics.

Table 5.95: Strategic/Global Carrier Alliances (QR10.2.3)

| QR10.2.3 Indicate your agreement that finance is required to secure strategic/global carrier alliances- partnerships that cover operations globally and offer additional advantages in container logistics | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 12 | 19.7 | 19.7 | 19.7 |
| | Agree | 44 | 72.1 | 72.1 | 91.8 |
| | Strongly agree | 5 | 8.2 | 8.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.3.8 Investors Expecting to Reduce Costs through Regulatory Requirements (QR10.3)

Harmonised Standards and an Operating Environment with Reduced Administrative Burden will increase Profitability. (QR10.3.1)

The research survey shows close to two thirds of the respondents (62.3 percent) agreed that harmonized standards and an operating environment with reduced administrative burden will increase profitability (Table 5.96). Furthermore, it was revealed that a cumulative 24.6 percent of the respondents disagreed (Table 5.96) hence confirming agreement that harmonized standards and an operating environment with reduced administrative burden will increase profitability.

Table 5.96: Harmonised Standards (QR10.3.1)

| QR10.3.1 Indicate your agreement that harmonized standards and an operating environment with reduced administrative burden will increase profitability | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 2 | 3.3 | 3.3 | 3.3 |
| | Disagree | 13 | 21.3 | 21.3 | 24.6 |
| | Neutral | 8 | 13.1 | 13.1 | 37.7 |
| | Agree | 38 | 62.3 | 62.3 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

Bunker Fuel with Liquid Natural Gas (LNG) will increase Global Shipping Industry's Competitiveness (QR10.3.2)

The research survey showed that three fifths of the respondents (60 percent) agreed (Table 5.97) that bunker fuel with Liquid Natural Gas (LNG) will increase the global shipping industry's competitiveness and profitability. The research survey further showed nearly a quarter (23.3 percent) of the respondents that strongly disagreed and 14.8 percent disagreed (Table 5.97), hence confirming agreement by the respondents that bunker fuel with Liquid Natural Gas (LNG) will increase global shipping industry's competitiveness and increase profitability.

Table 5.97: Bunker Fuel with Liquid Natural Gas (QR10.3.2)

| QR10.3.2 Indicate your agreement that bunker fuel with Liquid Natural Gas (LNG) will increase global shipping industry's competitiveness and increase profitability | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 14 | 23.0 | 23.3 | 23.3 |
| | Neutral | 9 | 14.8 | 15.0 | 38.3 |
| | Agree | 37 | 60.7 | 61.7 | 100.0 |
| | Total | 60 | 98.4 | 100.0 | |
| Missing | System | 1 | 1.6 | | |
| Total | | 61 | 100.0 | | |

5.3.9 Ways to move the global shipping industry out of recession (QR11.1)

The Global Shipping Recession will be over when Partners in the Industry are able to Increase Freight Rates. (QR11.1.1)

The research survey results show that more than two thirds of the respondents (73.8 percent) agreed and over a tenth strongly agreed (Table 5.98) that the global shipping recession will be over, when partners in the industry are able to increase freight rates.

The findings from the research survey also show that 13.1 percent were neutral (Table 5.98) and none of the respondents disagreed, hence confirming agreement that the global shipping recession will be over, when partners in the industry are able to increase freight rates

Table 5.98: Ability to Increase Freight Rates (QR11.1.1)

| QR11.1.1 Indicate your agreement that the global shipping recession will be over when partners in the industry are able to increase freight rates | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Neutral | 8 | 13.1 | 13.1 | 13.1 |
| | Agree | 45 | 73.8 | 73.8 | 86.9 |
| | Strongly agree | 8 | 13.1 | 13.1 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Global Shipping Recession will be over when Partners in the Industry are able to Improve the Modal Share (QR11.1.2)

The research survey findings show that over half of the respondents (60.7 percent) agreed (Table 5.99) that the global shipping recession will be over, when partners in the industry are able to improve the modal share, by putting more goods onto rail and waterways. Furthermore, more than a quarter of the respondents (27.7 percent) strongly disagreed, with 1.6 percent of the respondents that strongly agreed (Table 5.99), the research survey results thus confirmed agreement that the global shipping recession will be over, when partners in the industry are able to improve the modal share, by putting more goods onto rail and waterways.

Table 5.99: Improve the Modal Share (QR11.1.2)

| R11.1.2 Indicate your agreement that the global shipping recession will be over when partners in the industry are able to improve the modal share by putting more goods onto rail and waterways | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|----------------|-----------|---------|---------------|--------------------|
| Valid | Disagree | 17 | 27.9 | 27.9 | 27.9 |
| | Agree | 37 | 60.7 | 60.7 | 88.6 |
| | Strongly agree | 7 | 11.4 | 11.4 | 100 |
| | Total | 61 | 100.0 | 100.0 | |

The Global Shipping Recession will be over when Partners in the Industry are able to Trade Freely without Protectionism. (QR11.1.3)

The study results illustrate that over a quarter of the respondents (29.5 percent) disagreed, with 6.6 percent neutral (Table 5.100) that the global shipping recession will be over, when partners in the industry are able to trade freely, without protectionism. Furthermore, nearly five percent (4.9 percent) strongly disagreed and more than half of the respondents (59 percent) agreed, thereby confirming agreement by the respondents that the global shipping recession will be over, when partners in the industry are able to trade freely, without protectionism (Table 5.100).

Table 5.100: Trade freely Without Protectionism (QR11.1.3)

| QR11.1.3 Indicate your agreement that the global shipping recession will be over when partners in the industry are able to trade freely without protectionism | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 3 | 4.9 | 4.9 | 4.9 |
| | Disagree | 18 | 29.5 | 29.5 | 34.4 |
| | Neutral | 4 | 6.6 | 6.6 | 41.0 |
| | Agree | 36 | 59.0 | 59.0 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Global Shipping Recession will be over when Partners in the Industry are able to attain a Balance of Container Volume (QR11.1.4)

The study findings further reveal that more than half of the respondents (54.1 percent) agreed (Table 5.101) with the statement. Furthermore, the study results show that nearly a third (32.8 percent) of the respondents disagreed and less than a tenth (6.6 percent) strongly disagreed (Table 5.101), hence confirming agreement by the respondents that the global shipping recession will be over, when partners in the industry are able to attain a balance of container volume in trade routes, and secure continual cargo volumes.

Table 5.101: Balance of Container Volume (QR11.1.4)

| QR11.1.4 Indicate your agreement that the global shipping recession will be over when partners in the industry are able to attain a balance of container volume in trade routes, and secure continual cargo volumes | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 4 | 6.6 | 6.8 | 6.8 |
| | Disagree | 20 | 32.8 | 33.9 | 40.7 |
| | Neutral | 2 | 3.3 | 3.4 | 44.1 |
| | Agree | 33 | 54.1 | 55.9 | 100.0 |
| | Total | 59 | 96.7 | 100.0 | |
| | Missing System | 2 | 3.3 | | |
| Total | | 61 | 100.0 | | |

The Global Shipping Recession will be over when Partners in the Industry are able to Secure Strategic/Global Carrier Alliances – Partnerships that Cover Operations Globally (QR11.1.5)

The results from the research study also show that more than half of the respondents (55.7 percent) agreed (Table 5.102) that the global shipping recession will be over, when partners in the industry are able to secure strategic/global carrier alliances – partnerships that cover operations globally and offer additional advantages in container logistics. Furthermore, in excess of a third (36.1 percent) disagreed and almost a tenth (8.2 percent) strongly agreed (Table 5.102), hence confirming agreement by the respondents that the global shipping recession will be over, when partners in the industry are able to secure strategic/global carrier alliances – partnerships that cover operations globally, and offer additional advantages in container logistics.

Table 5.102: Partnerships that Cover Operations Globally (QR11.1.5)

| QR11.1.5 Indicate your agreement that the global shipping recession will be over when partners in the industry are able to secure strategic/global carrier alliances – partnerships that cover operations globally | | Frequency | % | Valid % | Cumulative % |
|--|----------------|-----------|-------|---------|--------------|
| Valid | Disagree | 22 | 36.1 | 36.1 | 36.1 |
| | Agree | 34 | 55.7 | 55.7 | 91.8 |
| | Strongly agree | 5 | 8.2 | 8.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Global Shipping Recession will be over when Partners in the Industry are able to Remove Provisions that Restrict Cabotage (QR11.1.6)

The results of the research study also reveal that nearly two thirds of the respondents (65 percent) agreed (Table 5.103) that the global shipping recession will be over, when partners in the industry are able to remove provisions that restrict cabotage, to achieve full liberalisation. Furthermore, nearly a third (32.8 percent) agreed and none of the respondents disagreed (Table 5.103), hence confirming agreement by the respondents that the global shipping recession will be over, when partners in the industry are able to remove provisions that restrict cabotage, to achieve full liberalization.

Table 5.103: Remove Provisions that Restrict Cabotage (QR11.1.6)

| QR11.1.6 Indicate your agreement that the global shipping recession will be over when partners in the industry are able to remove provisions that restrict cabotage | | Frequency | % | Valid % | Cumulative Percent |
|---|----------------|-----------|-------|---------|--------------------|
| Valid | Agree | 41 | 67.2 | 67.2 | 67.2 |
| | Strongly agree | 20 | 32.8 | 32.8 | 100 |
| | Total | 61 | 100.0 | 100.0 | |

5.3.10 Moving Out of Recession through Industry Partners Abilities (QR11.2.1)

The Global Shipping Recession will be over when Players in the Industry are able to Maximize Profits by Reducing Costs through Working with Paperless Utilities. (QR11.2.1)

The research study findings also reveal that more than half of the respondents (57.4 percent) agreed the global shipping recession will be over, when players in the industry are able to maximise profits, by reducing costs through working with paperless utilities (Table 5.104). It was further revealed that nearly a quarter of the respondents (24.6 percent) disagreed and 18 percent strongly disagreed (Table 5.104), hence confirming disagreement by the respondents that the global shipping recession will be over, when players in the industry are able to maximise profits, by reducing costs through working with paperless utilities.

Table 5.104: Working With Paperless Utilities (QR11.2.1)

| QR11.2.1 Indicate your agreement that the global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through working with paperless utilities | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 11 | 18.0 | 18.0 | 18.0 |
| | Disagree | 15 | 24.6 | 24.6 | 42.6 |
| | Agree | 35 | 57.4 | 57.4 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Global Shipping Recession will be over when Players in the Industry are able to Maximize Profits by Reducing Costs through Outsourcing (QR11.2.2)

The study findings also reveal that over a quarter of the respondents (26.2 percent) disagreed that the global shipping recession will be over, when players in the industry are able to maximise profits, by reducing costs through outsourcing local agency work, as opposed to in-house offices (Table 5.105). The research study also reveals that over two thirds of the respondents agreed and nearly five percent (4.9 percent) were neutral, hence confirming agreement by the respondents that the global shipping recession will be over, when players in the industry are able to maximise profits, by reducing costs through outsourcing local agency work, as opposed to in-house offices.

Table 5.105: Reducing Costs through Outsourcing (QR11.2.2)

| QR11.2.2 Indicate your agreement that the global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through outsourcing local agency work as opposed to in-house offices | | Frequency | % | Valid % | Cumulative Percent |
|---|----------|-----------|-------|---------|--------------------|
| Valid | Disagree | 16 | 26.2 | 26.2 | 26.2 |
| | Neutral | 3 | 4.9 | 4.9 | 31.1 |
| | Agree | 42 | 68.9 | 68.9 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Global Shipping Recession will be over when Players in the Industry are able to Eliminate Redundant Office Functions, and/or Combine Functions. (QR11.2.3)

The research study also revealed that over half of the respondents (55.7 percent) agreed the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through eliminating redundant office functions, and/or combining functions (Table 5.106). It was also revealed that nearly a quarter of

the respondents (24.6 percent) disagreed and 14.8 percent strongly disagreed (Table 5.106), hence confirming agreement by the respondents that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through eliminating redundant office functions, and/or combining functions.

Table 5.106: Eliminate Redundant Office Functions (QR11.2.3)

| QR11.2.3 Indicate your agreement that the global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through eliminating redundant office functions, and/or combine functions | | Frequency | % | Valid percent | Cumulative Percent |
|---|-------------------|-----------|-------|---------------|--------------------|
| Valid | Strongly disagree | 9 | 14.8 | 14.8 | 14.8 |
| | Disagree | 15 | 24.6 | 24.6 | 39.3 |
| | Neutral | 3 | 4.9 | 4.9 | 44.3 |
| | Agree | 34 | 55.7 | 55.7 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

The Global Shipping Recession will be over when Players in the Industry are able to Maximize Profits by Allowing Seasonality of Staff. (QR11.2.4)

The research study results show that nearly two thirds of the respondents (63.9 percent) disagreed and more than a quarter strongly disagreed (Table 5.107) that the global shipping recession will be over when players in the industry are able to maximise profits by reducing costs, through the reduction of office costs, by allowing seasonality of staff. Furthermore, less than 10 percent (8.2 percent) agreed and 1.6 percent was neutral (Table 5.107), hence confirming disagreement by the respondents that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through the reduction of office costs, by allowing seasonality of staff.

Table 5.107: Allowing Seasonality of Staff. (QR11.2.4)

| QR11.2.4 Indicate your agreement that the global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through reducing office costs by allowing seasonality of staff | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 16 | 26.2 | 26.2 | 26.2 |
| | Disagree | 39 | 63.9 | 63.9 | 90.2 |
| | Neutral | 1 | 1.6 | 1.6 | 91.8 |
| | Agree | 5 | 8.2 | 8.2 | 100.0 |
| | Total | 61 | 100.0 | 100.0 | |

5.4 Conclusion

In this chapter, an analysis of the findings was carried out and the findings presented in the form of tables and graphs. The demographic profiles for both questionnaires were examined, findings for the shipping agency growth were presented, and the findings for the shipping recession were also set out, together with narratives on the findings.

The next chapter will interpret the results and present the conclusions and recommendations for the research questions.

CHAPTER 6

Interpretation of findings

6.1 Introduction

With the analysis of the research study and the representation of findings having been set out in the previous section, the research results were analysed in accordance with the questionnaires, as well as interviews held with respondents.

This chapter focuses on the interpretation, conclusion and recommendations of the study, based on the expansion of shipping agencies, as well as the global shipping recession. The study is further enriched with the relevant literature relating to the questionnaires and recommendations from the conclusions of the research, regarding the way forward in solving problems experienced in the global shipping industry.

The interpretation, conclusions and recommendations are structured in four sections, consisting of: The questionnaires on shipping expansion; the general shipping environment; and interviews held with respondents; as well as a Bivariate analysis for demographics and important questions drawn from the two questionnaires.

6.2 Expansion of shipping agencies questionnaire

6.2.1 Demographic profiles

(QE1.1) Age

The findings revealed that more than half of the respondents (QE1.1) were older, experienced people in the 41 to 55year category and this reflected the maturity of the respondents. The level of experience of the respondents facilitated their validity.

(QE1.2) Gender

Over two thirds of the respondents (QE12) were male, which reflected the dominance of male responses to the survey. However, more than a quarter of the respondents were female, which reflected the presence of females in executive positions.

With the minor role of females in the survey, it is recognised that women's presence in the labour market is increasingly significant for economic growth and development, at both national and enterprise levels (Gaining Momentum - International Labour Organization 2015: 3). The ILO further contends that, expanding women's businesses and moving more women into decision-making positions, involve particularly challenging and complex issues that also reflect the many inequalities at all levels of sex-segregated labour markets.

The study concluded that the role of women in leadership positions is still a challenge that must be further addressed.

(QE1.3) Education

Nearly two thirds of the respondents (QE1.3) held at least a first degree and they were the largest category for educational qualification. This reflected that the responses were drawn from educated respondents. However, 10 percent of the respondents were high school graduates, with nearly 10 percent doctorate degree holders (QE13). The diversity of the educational backgrounds of the respondents gave insights into the interviews held, as well as responses received, and enriched the survey.

Butt (2009: 51) argues that, although the relationship between gender, age and tenure and educational level and organisational commitment has been extensively studied; the literature has yet to provide strong and consistent evidence to enable an unequivocal understanding of the association.

(QE1.4) Industry category

With more than half of the respondents (QE1.4) familiar with the shipping agency industry, it can be inferred that the perspectives and views expressed were from respondents familiar with the shipping agency business. Other industries in the shipping industry supply chain had respondents selected for the study, in order to obtain enhanced insights and agreement from people familiar or in close partnership with the shipping agencies. In that regard, almost a third of respondents (QE1.4) was

selected from the freight and logistics sector and this enriched the views expressed by the respondents.

(QE1.5) Experience

The findings furthermore, reveal that nearly half of the respondents (QE1.5) had in excess of 10 years' experience and in addition, more than a third had over 15 years' experience. The high levels of experience possessed by the respondents further enriched the survey with views from experienced industrialist respondents.

(QE1.6.1) Familiarity with liner shipping agency

More than two thirds of the respondents (QE1.6.1) was familiar with liner shipping agency and this reflected on the experience, which ensured exposure to the shipping agency industry. The validity of the research was further enhanced by respondents who are familiar with the liner shipping agency, as part of the global shipping industry.

(QE1.6.2) Familiarity with ports and husbandry services

Almost all the respondents were familiar with the ports and husbandry services industry and were therefore, relevant for participating in the survey (QE1.6.2). The views from those familiar with ports and husbandry services further enriched the study.

(QE1.6.3) Familiarity with freight and logistics

Nearly all of respondents were familiar with the freight and logistics industry (QE1.6.3). Freight and logistics sectors have been evaluated for potential markets into which shipping agencies may expand, therefore, views from those familiar with the freight and logistics industry are critical and this also enhanced the validity of the survey.

(QE1.6.4) Familiarity with charterers' agency

More than three quarters of the respondents was not familiar with the charterers' agency industry (QE1.6.4). However, almost a quarter of the respondents was familiar with the charterers' agency industry (QE1.6.4). This reflected the specialist nature of

the charterers' agency business and inclusion was also important to validate the survey.

6.2.2 Identifying possible growth opportunities

(QE7.1) There are areas for shipping agencies to expand and widen income streams

Reflecting on the key features noted; with two thirds of the respondents agreeing (66 percent), it is evident that the survey results show agreement that there are areas where shipping agency businesses can expand (QE7.1) and this was confirmed by the theory. The study confirmed that shipping agency expansion can be geographic expansion, or through mergers and acquisitions.

Supporting evidence is that Inchcape Shipping Services (ISS) expanded its operations in Africa, with the opening of new offices in Maputo, Mozambique, which provide coverage across all of the country's main ports, from Pemba in the north to Maputo itself, in early 2015 (ISS 2015). However, the literature also suggests that shipping agencies are dominated by small family businesses, with no finance to expand their activities (Augustine 2015). The literature confirms the results, as Kaplan, S., N. (2000) concludes, "a general pattern emerges from studies conducted as it is striking that most of the mergers and acquisitions were associated with technological or regulatory shocks." (See page 54).

Thus, consistent with the literature and with the majority of the respondents having indicated agreement, the implication is that there are areas where shipping agency business can expand and widen income streams.

(QE7.2) Expansion into husbandry services

The study findings further indicate that nearly half of the respondents (46.5 percent) agreed with the feasibility of shipping agencies expanding into husbandry services (QE7.2). The views expressed by one respondent during interviews reflected that vessel husbandry and port husbandry were closely linked, due to agencies' experience in port agency, often assisting them to secure vessel husbandry services. ISS received its first agency nomination in the Port of Maputo as port agent for a Gasoil discharger

in March 2015, demonstrating the potential for shipping agency expansion. Services on offer include Port Agency, Liner Agency, Vessel Husbandry, Customs Clearance and Freight Forwarding, as well as Project Logistics to the Offshore Oil and Gas Sector (ISS 2015). The findings are also consistent with the literature, as Carleton *et al.* (1984) imply that shipping firms tend to diversify into industries that use resources similar to their own.

There were, however, more than a quarter of the respondents (QE7.2) that disagreed, suggesting the current recessionary conditions did not make it viable for shipping agency expansion. The research findings, nevertheless, reveal that vessel husbandry services are a feasible alternative for shipping agency expansion.

With the majority of the respondents in agreement, it was concluded that it is feasible for shipping agencies to expand into husbandry services.

(QE7.3) Expansion into Charterers' agency services

The findings also confirmed agreement that the prospects for shipping agents to grow the business, through offering charterers' agency services, can be evaluated as viable (QE7.3). There were, nonetheless, almost a third of the respondents (QE7.3) that disagreed and this suggests that growth may not be possible for shipping agents under recessionary conditions.

According to the LBH Group (2012), charterer's agents ensure principals that efficient port operations are upheld at all times, including reporting of cargo status, port status and conditions, customs documentation, and supervising loading or discharge operation of vessels, tending to daily requirements, as well as ensure that these activities are within reach of shipping agencies. Therefore, with most respondents agreeing, the findings concluded that there are opportunities for shipping agents to expand into charterers' agency.

As a related activity to container shipping, expansion into charterers' agency services is confirmed to be feasible. Carleton *et al.* (1984) find that firms tend to diversify into

industries that use resources similar to their own. The implications are that shipping firms that are familiar with charterers' agency services, need to consider the option of venturing into this market, due to familiarity with the market.

(QE7.4) Expansion into freight transport and logistics services

Nearly two thirds of the respondents (61.5 percent) agreed that opportunities, for shipping agents to diversify into freight transport and logistics services, can be assessed as attractive (QE7.4). The agreement by the respondents reflect the possibility for shipping agents to diversify into freight and logistics and the majority of the respondents confirmed this.

According to Gray and Kim (2002), shipping lines enter the industry for logistics services, because they believe the multiplication of service areas may yield higher profits than the only traditional service operation. In addition, Heaver (2002) argues that liner shipping companies consider offering value-added services in logistics, as a means of securing faster growth and better profitability, as opposed to what can be accrued from their traditional shipping offering. The author concludes that, shipping companies that provide logistics services can increase shippers' loyalty, because it enlarges customer choice. The literature also confirms that diversification might allow the firm to expand its stock of strategic assets faster and at lower cost, than its single-business competitors. (See page 62). Markides and Williamson (1996: 6) contend that, only by finding ways to exploit this potential advantage, will diversifiers be able to maintain superior returns over the long-run.

According to Koo, Hwang and Yeo (2009: 239), a number of shipping lines have provided 'logistics service' and thus, claimed that they are now offering a total package of integrated logistics service, including international sea transport, inland transport, warehousing, and documentation. The authors further argue that, some Third Party Logistics providers (3PLs) and Ocean Transport Intermediaries (OTIs), such as international freight forwarders and Non-Vessel Operating Common Carriers (NVOCCs), have also expanded their market portfolio in the logistics industry.

While there are many studies that have supported Rumelt's (1974) original findings that related diversified firms perform better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt 1982; Palepu 1985, Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989), there is a growing number of scholars that find the opposite (Michel and Shaked 1984; Chatterjee 1986); or are indifferent (Lubatkin, 1987). The implication is that there is no consensus whether related diversification will result in better firm performance for shipping companies.

Furthermore, a fifth of the respondents did not agree that there are opportunities for expansion into freight transport and logistics services (QE7.4). Other factors respondents might have considered include, ever-increasing fuel costs, the general deteriorating infrastructure countrywide, as well as the fact that there is no indication of appropriate freight moving back to rail (King 2007). The majority of the respondents were, however, in agreement, and the findings confirmed the opportunity for expansion into freight and transport logistics.

(QE7.5) Diversification will help to reduce risks related to market volatility in shipping

The findings confirmed the possibility for shipping agents to reduce risks related to market volatility in shipping for expansion, as over half of the respondents (cumulative 52.4 percent) were in agreement (QE7.5). According to KPMG (2013), successful organisations are agile enough to make decisions that take advantage of opportunities or mitigate risks. They further state that, third party due diligence is an increasingly critical aspect of a company's risk management, whether as a result of commercial imperatives to avoid vulnerabilities in the supply chain or regulatory pressures driving to improve governance standards.

The literature also confirms that diversification helps to reduce earnings volatility because the cash flows across the firm's various markets will be imperfectly correlated, thereby allowing firms to employ more debt in their capital structure and hence, enjoy the concomitant cost of capital and tax benefits (Barton and Gordon 1988; Kim *et al.* 1993; Kochhar and Hitt 1998; Lim *et al.* 2009; Low and Chen 2004; Lowe *et al.* 1994).

This is consistent with the expected results from primary research, hence, confirmation that diversification can reduce earnings volatility in shipping.

Nevertheless, almost half of the respondents (40 percent) did not agree that diversification will reduce risks in shipping (QE7.5). Their disagreement supports the contention that, according to Inbound Logistics (2014), market penetration of freight transportation has been achieved through outsourcing and this has exposed the companies, as due diligence is often ignored. Therefore, the findings confirmed, with over half of the respondents agreeing that diversification would reduce risks (QE7.5).

From the research findings, the implication is that diversifying into other areas will assist shipping agencies to reduce the risks related to market volatility in shipping.

(QE7.6) Diversifying will assist shipping agencies to cut costs

The research also concluded that diversification will assist shipping agents to cut costs, revealing the importance of cutting costs in shipping (QE7.6). UPS (2011) argues that, when times are tight, it seems the ‘superstars’ in the industry come up with even more ideas for stretching their budgets to improve their business. These ideas include embracing new technologies that enhances perceived usefulness, going paperless, and discussions with both colleagues and competitors. (See page 68).

The findings further reflect that more than a third of the respondents (35.4 percent) disagreed that diversification will cut costs for shipping agents (QE7.6). Their perception suggests the possibility that there are no further cost reductions possible among shipping agents, due to the recession, and it may be that some shipping agents would be closing their doors or amalgamating. However, Hill *et al.* (1992: 502): find that "...resource sharing and skill transfers enable the diversified firm either to reduce overall operating costs in one or more of its divisions". Therefore, the literature is consistent with the findings and confirms that diversification will cut costs for shipping agencies.

QE7 Conclusion and recommendation on agency expansion

The study (QE7) has added to what is known about shipping agency expansion through husbandry services, charterers' agency services, freight transport and logistics. It has also confirmed the theoretical implication that diversification will help reduce risks related to market volatility in shipping and will assist shipping agencies to cut costs. The policy implication, with regards to the findings, is that the current global shipping recession has affected shipping agencies negatively, hence there is need for shipping agencies to look at expansion possibilities. Consequently, the policy recommendations are that shipping agencies need to expand into husbandry services, charterers' agency services, as well as freight transport and logistics, in order to survive the recession.

The literature also reveals that, according to Kearney (2012), while rationalisation and cost-cutting measures are appropriate answers to volatile and fiercely competitive markets, such measures fail to address fundamental, structural market challenges in the foreseeable future. Consequently, Kearney (2012) suggests that diversification can only be a short-term measure that fails to address fundamental structural challenges and cannot be a permanent solution to the shipping firms in recession. (See page 56).

The sample size could have been extended, by including more participants with experience in charterers' agency business. Furthermore, a larger sample with more diversity could have benefited the results. The study was highly confirmatory and exploratory. A further study that builds upon these insights on shipping agency expansion into charterers' agency, is recommended.

6.2.3 Feasibility for shipping Agency Expansion

QE8 Feasibility for shipping agencies to diversify by expanding their business

(QE8.1) Feasibility of expansion into vessel husbandry

The areas covered by questions QE8.1 are represented in QE8.1.1 to QE1.11 and are all operations under vessel husbandry services. They seek to ascertain the feasibility for shipping agencies to diversify, by expanding into crew change assistance (QE8.1.1) and almost all of the respondents (98.5 percent) agreed. On the feasibility of offering cash to master transactions (QE8.1.2), nearly all of the respondents (81.6 percent) agreed that it is feasible. The theory, however, suggests that research in business

studies differentiates, for example, between different types of relatedness, such as technological relatedness, managerial relatedness, and relatedness at the level of consumer markets. All three types of relatedness will influence diversification decisions (Prahalad and Bettis 1986; Grant 1988).

It would appear that husbandry services fit more with technological relatedness, as shipping companies would utilise the same technological platforms in delivering husbandry services. (See page 67). Furthermore, the same vessels serving husbandry services, are located at the same ports that cargo is being discharged or shipped onto the vessels, which makes coordination easier. More than half of the respondents (53.1 percent) agreed that vessel security services (QE8.1.3) was a feasible area for shipping agency expansion.

The research study also confirmed agreement that bunker delivery coordination (QE8.1.4) was a feasible area for shipping agency expansion, with all respondents unanimously in agreement. The feasibility of fuel and lubricants supplies (QE1.8.5) was further confirmed, with over two thirds of the respondents (69.2 percent) in agreement, and the findings concluded, in addition, it was feasible to offer waste and sewage removal services (QE8.1.6), as almost half of the respondents (49.1 percent) agreed. However, there is also a need for managerial relatedness for husbandry services, as managers, who must be responsible for coordinating the husbandry services, need familiarity with husbandry services, as stipulated by the theory; all three types of relatedness will influence diversification decisions (Prahalad and Bettis 1986; Grant 1988).

The study moreover concluded that it is feasible for shipping agencies to diversify into communication services (QE8.1.7), with almost all respondents agreeing; and on the feasibility of meet and greet services (QE8.1.8), more than half of the respondents agreed, hence the findings concluded agreement that it is feasible to offer the service. Theory confirms that gaining market entry into husbandry services will give shipping firms an advantage, as they utilise resources transferable to husbandry services and this is consistent with the findings. The implication is that, once a firm decides to

diversify, the type of market chosen for entry should be such that it provides the firm with a competitive advantage. Porter (1987) suggests a firm can gain such competitive advantage, should it have skills or resources that it can transfer into the new market.

The study further concluded agreement that it is feasible for shipping agencies to offer producing statement of facts (QE8.1.9), as almost all the respondents (95.4 percent) were in agreement. The study also concluded it is feasible for shipping agencies to offer arranging of surveyors and technicians (QE8.1.10), with nearly half of the respondents (46.2 percent) in agreement. On offering stevedoring services (QE8.1.11), the findings concluded it is feasible, with more than half of the respondents (57.1 percent) indicating agreement.

The theory suggests the strategy of related diversification enables firms to exploit economies of scope (Teece 1982; Porter 1987). However, Penrose (1956) postulates that expansion into new markets may be motivated, not just by attractive opportunities in the new market but also by poor prospects in the firm's existing markets. The implication is it is likely that the global shipping recession has forced shipping agencies to look for new market expansion, as the theory is consistent with the findings.

QE8.1 Conclusion, recommendation on feasibility of expansion into husbandry services

The study concluded that it would be feasible for shipping agents to diversify, by expanding into vessel husbandry and offer all these services (QE8.1 – QE8.10).

According to Prometheus Maritime Services (2014), the Hellenic government gave permission in 2014, for “ship to ship” operations to take place on specific anchorages in Greece. The authors argue that this development confirms the potential for expansion into husbandry services by shipping agents. Nonetheless, the theory postulates that there are differences between related diversification at corporate level and related diversification at operational level. Prahalad and Bettis (1986) and Grant (1988) distinguish between relatedness at an operational and at a corporate level. At

the corporate level, strategic relatedness matters most. However, the theory suggests that strategic relatedness is different from, and sometimes conflicts with, the technological relatedness that matters at an operational level and this is not consistent with the findings.

The implications indicate the likelihood that, at corporate level, husbandry services may be compatible with the shipping agency business; however, at operational level, there may be inconsistencies, as husbandry services require vessel monitoring while on call and extensive coordination of activities, such as meet and greet, fresh water supplies, and bunker supplies; the results therefore did not agree with the theory.

The research study additionally concluded some respondents were not in agreement that shipping agencies can offer husbandry services. On reflection, it would appear a different perspective was that the potential was limited. According to Borkenhagen (2010), despite the dramatic changes that have taken place in the way the world's trade has been handled over the last few decades, with the introduction of faster handling methods and sophisticated IT communication systems, there have been no significant changes in the way ships agents operate.

Such was the pessimism from some of the respondents, as the industry remains trapped in the global shipping recession. However, theory confirms that there are economies of scope whereby the diversified firm is an efficient form for organising economic activities (Penrose 1959). The implication is that, for shipping companies, these economies of scope would provide a motivation for shipping firms to diversify into husbandry services.

QE8.2 Feasibility of expanding shipping agency into freight and logistics

(QE8.2.1) Inland freight

Over two thirds of the respondents (73.9 percent) agreed and furthermore, more than a quarter (26.2 percent) strongly agreed that inland freight was a feasible market for shipping agency diversification; hence the findings conclude that inland freight is viable for penetration by shipping agencies (QE8.2.1).

However, some concerns were raised by respondents regarding diversifying into the freight and logistics market. These concerns include that freight demand is expected to increase significantly on all modes, causing serious congestion problems, beyond those that already exist. According to Vanderbilt Centre for Transportation Research (2009: 2-5), it is critical that the continuity of existing and future operations requires adequate infrastructure, maintenance, rehabilitation and expansion.

According to Robins and Weirsema (2003), contemporary view(s) of related diversification might be summarised by the idea that “a portfolio of businesses is bound together by some shared strategic resources or capabilities” (2003: 45). The implication is that, while survey results and theory agree on feasibility of inland freight diversification, it is critical that shipping agencies possess some strategic resource or capability, such as familiarity with the industry, technology or skilled staff that may assist in leveraging the company’s position, as it penetrates the inland freight market.

According to de Villiers (2014), the rail service for inland freight has been, and remains, a major concern in South Africa. The author further argues that, in competing with more flexible road transport, rail has to overcome the “double lift penalty” involved in transferring containers to trucks for final delivery. The major plus of rail, according to the ICS (2014: 21), is the potential of transporting larger volumes of containers, in a more reliable (depending on rail network quality, freight train priority, management quality and labour relations, and so on.) and environmentally-friendly way and without impinging on the car-driving public.

These perspectives may explain why some of the respondents disagreed that freight transportation was a viable market for penetration. The implication is that shipping agencies need to take advantage of opportunities in the inland transportation market.

(QE8.2.2) Over-border transport

The study results also concluded that over-border transportation was a viable market for shipping agency diversification (QE8.2.2). Nonetheless, the respondents indicated

that various challenges exist in over-border transport, which include that transportation and logistics companies entering the market need to understand local constraints and plan accordingly. They confirm that local transport infrastructure has a direct impact on secure and on-time delivery. To cope, it was held that, sometimes, companies have to add a few days to standard delivery schedule.

The success of over-border transport rests on the viability of rail as a cheaper and more efficient mode of over-border transport. However, theory according to de Villiers (2014), stipulates that the rail service for inland freight has been, and remains, a major concern in South Africa. The theory therefore does not support the findings, as there was agreement among respondents that over-border transport is a viable diversification option for shipping agencies.

The implication is that, without improvement in rail infrastructure and operations, over-border freight transportation will not achieve its full potential. Other respondents also expressed an opinion concerning fatigue that continues to be a human factor plaguing the safety of most, major freight modes. Nevertheless, nearly all respondents (98.5 percent) were in agreement, hence the findings conclude there are opportunities for shipping agents in over-border transportation (QE8.2.2).

(QE8.2.3) Intermodal transport

The findings also conclude, with almost all respondents (98.5 percent) agreeing, that intermodal transport was viable and important, in diversifying into freight transport and logistics, as it is vital in reducing costs for shippers, through the use of rail and road transport, to effectively reduce the transport costs for the industry (QE8.2.3). However, intermodal transportation was performing below expectations in South Africa. According to Havenga *et al.* (2011), a contributing factor is that, in order to enable this shift, freight flows must be identified that exploit the core strengths of both rail and road, yet the case for domestic intermodal solutions has never been clearly and unequivocally made and the theory and survey results are in agreement.

Case (2009) argues that intermodal traffic is holding its position (in the USA) in a falling transportation market and that this is proof that such services are now structurally integrated in the transportation market. Furthermore, Notteboom (2008: 5) contends that the rise of corridors is a highly relevant development to any policies aimed at generating a modal shift from road haulage to inland navigation, rail and short-sea shipping. Intermodal solutions, based on barges or rail, tend to be competitive on a number of high density traffic corridors. The findings therefore, signify it is desirable for intermodal transportation to be enhanced, in order to improve inland transportation of cargo.

(QE8.2.4) Container sales

Shipping agents are able to diversify through container sales, which is substantiated by the research findings (QE8.2.4). Nearly half of the respondents (49.2 percent) were in agreement that container sales offered an opportunity to raise additional sources of revenue (QE8.2.4). The availability of containers, scattered all over the globe, due to trade imbalances and the extra costs incurred to reposition them to profitable trades, implies it may be necessary for shipping agents to dispose of them through selling.

PIERS Trade Intelligence (2011) contends that, as long as there are trade imbalances, carriers and terminal operators will continue to be challenged by empty containers. Boile, Theofanis and Mittal (2004: 3) argue that ports have expanded and residential areas behind the ports have acquired more land for housing, hence the storage of empty containers is becoming an increasingly serious problem, requiring special attention. This has presented an opportunity for container sales, made more attractive since the cost of manufacturing new containers from China has gone down, which presents an opportunity for shipping agencies to earn revenue from container sales.

According to Jensen's (1986) free cash flow theory, it is suggested that managers may attempt to 'build their empires' by entering new markets, when they have discretion over ample free cash flows (Brush *et al.* 2000), potentially at a cost to shareholders (Kim *et al.* 2004). The implication is therefore that, although the survey results confirmed agreement, theory advocates for caution be taken against container sales, as

this is a saturated market and management may push for it in attempts to build their empires, not because it is a viable business.

A number of respondents however, expressed pessimism, arguing that the containers were not easy to sell, as the market was already saturated; making inroads in such a market was difficult. With nearly half of respondents in agreement, the study concluded that there is potential for container sales and recommends that shipping agents need to exploit the opportunities offered (QE8.2.4).

(QE8.2.5) Bulk wholesale purchase of slots for resale to customers

The findings concluded that bulk wholesale purchase of slots for resale to customers is another way for shipping agencies to diversify operations, with over half of the respondents agreeing (QE8.2.5). According to Kirkman (2012), this is demonstrated in the case of the slot sharing agreement between Diamond Shipping and Maersk, on the Europe South trade route. On the one hand, Maersk liner has excess capacity and with the low freight rates on the market, they would benefit from this arrangement. On the other hand, Diamond Shipping has an established market and can fill the slots, resulting in a mutually beneficial agreement.

According to Chen and Lai (2010: 1), alliance cooperation in the contemporary liner shipping industry has been a popular approach adopted by carriers, for extending service scopes and/or reducing investment risks. The authors further argue that concrete means of collaboration, such as joint fleet, slot charter, slot purchase, and slot exchange, are normally employed in practice. Nayyar (1993) argues that benefits, from a positive reputation in an existing business and from economies of scope, are available from related but not from unrelated diversification, implying that the valuation effect of diversification is more positive for related than unrelated lines of business. As a related activity for shipping agencies, bulk wholesale purchase of slots for resale may be viable, but due to industry constraints, such as overcapacity and low freight rates, this may not yield many gains. It is advisable that caution should be taken when shipping firms consider this option.

The study, however, also revealed that nearly a tenth of the respondents disagreed that bulk wholesale purchase of slots for resale to customers is another way for shipping agencies to diversify operations (QE8.2.5). This is significant, in that the global shipping market is characterised by low demand, and the implication is that shipping agents will possibly find it difficult to fill the slots and invite the risk of running losses.

QE8.2 Conclusion, recommendation on freight and logistics expansion

From the findings, it was concluded that it is feasible for shipping agents to diversify into the following freight and logistics operations: inland freight (QE8.2.1); over-border transport (QE8.2.2); intermodal transport (QE8.2.3); and container sales (QE8.2.4); as well as bulk wholesale purchase of slots for resale to customers (QE8.2.5).

The study has added to what is known about the feasibility of expansion into freight and logistics areas of inland freight (QE8.2.1), over-border transport (QE8.2.2), intermodal transport (QE8.2.3), container sales (QE8.2.4) and bulk wholesale purchase of slots for resale to customers (QE8.2.5), through confirmation that it is feasible for shipping agencies to expand into these areas. The argument that it is feasible for shipping agencies to expand into freight transportation is hard to dispute, with the exception of instances when larger operators competitively work to squeeze out smaller players. For the majority of participants, expansion into freight transportation is very beneficial.

The findings also conclude there are opportunities for growth through diversification into freight transport for shipping agencies, with policy implications including the need for shipping agencies to look into ways of growing business along the global shipping supply chain operations of freight transport. Policy recommendations are that shipping agencies need to widen income streams, by tapping into the opportunities existing in freight transport, as there is no indication that the global shipping recession will rescind any time soon.

From the study, there were indications that container sales, is a saturated market, where existing opportunities for widening income streams are limited. However, from the interviews held, it is recommended that more research is needed in this area, in order to gain a greater depth of information regarding potential in this market. Nayyar (1993) argues, though, that benefits from positive reputation in an existing business and from economies of scope are available from related but not from unrelated diversification, implying there is a more positive valuation effect of diversification for related, than unrelated lines of business. The implications are that it is attractive for shipping agencies to venture into the freight and logistics market and both the theory and the survey results confirm this.

Whilst the findings of the study could be applied in most instances, there were some important exceptions. In particular, despite majority agreement, it was found that some participants expressed negative reactions to the market potential of container sales and this calls for a further study, to determine the market potential of the global container sales market.

(QE8.3) Charterers Agency

With more than three quarters of the respondents (76.9 percent) in agreement, the research also concluded it is feasible for shipping agents to diversify into bareboat chartering (QE8.3.1). Furthermore, it was concluded that it is viable to venture into time chartering (QE8.3.2), voyage chartering (QE8.3.3), appointing OWN independent representative (QE8.3.4), as well as stockpile reporting (QE8.3.5). The findings indicated that, while most of the respondents were in agreement, there was over a third (39.1 percent) that disagreed it is feasible for shipping agencies to diversify, by expanding their business into time chartering (QE8.3.2).

According to (BIMCO 2015), the time charter market, for Panamax-sized ships and those smaller in capacities and with a beam of less than 32.25 meters, is not doing well. The authors further argue that the prospects for any significant change are not good, due to cascading taking its toll, while more efficient and cost effective ships make their way down through the trading lanes. The theory also postulates that it is better to leverage firm's structure with debt as a firm's capital structure (i.e., the

relative mix of debt and equity capital) is an important governance mechanism that shapes monitoring and incentives (Jensen and Meckling 1976; Williamson 1988) and impacts corporate diversification strategy (Kochhar 1996). The implications are that chartered vessels are likely to be put to better use, given that payment for their use to the owner must be made, unlike the case where the operator owns the vessel and may just be willing to absorb losses due to poor performance.

QE8.3 Conclusion, recommendation on charterers' agency expansion

The conclusion from the findings, with almost all respondents agreeing (90.8 percent), is that it is feasible for shipping agents to diversify into voyage chartering (QE8.3.3). The findings also added to the knowledge that it is feasible to appoint OWN independent representative, as trust shows stronger significance in influencing attitude and purchase intention (Chen 2009; Jarvenpaa *et al.* 2000; Pavlou 2003; Verhagen *et al.* 2006) (QE8.3.4). The same applies for stockpile reporting (QE8.3.5), where specialist representatives are appointed to work on behalf of the agency. From the findings, it is recommended that specialist personnel in the field of charterers' agency need to be employed or outsourced, in order for the shipping agency to penetrate this market sector successfully. However, Hoskisson and Hitt, (1990) caution that inappropriate diversification can destroy firm value.

6.2.4 Identifying factors that will facilitate diversification

(QE9.1) Penetration into the freight and logistics market through:

(QE9.1.1 – QE1.1.6) Marketing it's offering to potential clients and partners

The findings conclude that marketing a shipping agency's offering to potential clients and partners (QE9.1.1), industry knowledge (QE9.1.2), industry experience (QE9.1.3), and having appropriate infrastructure (QE9.1.4), as well as providing quality service (QE9.1.5) and outsourcing services (QE9.1.6), are important requirements for penetration by shipping agents into the freight and logistics markets.

Distinctive capabilities, including a flexible business model, deep expertise in key customer industries and 360-degree control using IT, are considered important. High performers will differentiate themselves further, by offering supply chain management

as a shared service to customers. According to Knigge (2013), in order to drive the continuous innovation of customer-facing applications, shipping agents will leverage IT-driven process management collaboratively with customers.

Porter (1987) argues that the prime value of corporate-relatedness, lies in sharing skills among the different value chains in a diversified firm. It is therefore important for the shipping agency firm considering diversification, to align its skills resources in such a manner that they can be shared across the different firms within the conglomerate. The results from the survey are consistent with the theory in this area of marketing and the implications are that sharing skills is important in diversified firms.

Shipping and Transport (2014), argues that agents also need to maintain proper and courteous conduct, when dealing with port authorities on behalf of principals, and must possess operational knowledge, communications skills, and clear and efficient accounting, as these are all agency essentials. The authors conclude that the shipping agency is a people business, where honesty and decency are the fundamentals.

QE9.1 Conclusion, recommendation on penetrating freight and logistics market

The findings, consequently, concluded that it is imperative for shipping agents to equip themselves with essential requirements, to ensure competitive service delivery (QE9.1.5), such as in-depth market knowledge (QE9.1.2) and experience (QE9.1.3). Furthermore, the study finds that appropriate infrastructure (QE9.1.4), such as flexible IT support systems, is important to penetrate the freight and logistics market.

The theory also confirms that managing expansion requires the development and transfer of tacit knowledge between operations to exploit synergies (Kogut and Zander 1993). More than a tenth of the respondents were, however, in disagreement and the contending views expressed, include that small shipping agencies have little room for competing with the larger players, who enjoy scale of economies. The significance of these findings is that small players will find it difficult to survive the stiff competition within the freight transport industry.

Adner and Snow (2010) also show how new technology introduction by an outsider may actually reveal sufficient knowledge of consumer preference to incumbent firms, to allow a profitable strategy of remaining with the old technology. The theory agrees with Adner and Snow's survey results (2010) and implies that these considerations are important, before the shipping firm decides into which areas to diversify and how. It is recommended that further research in this area be conducted, in order to enhance the knowledge about the potential in this market.

The policy recommendation is that shipping agencies need to possess sound market knowledge, as well as experience and supporting IT systems, in order to successfully penetrate the freight and logistics markets. The lack of participation in the freight and logistics markets also poses challenges that affected the quality of the findings.

Penetration into the husbandry services market through:

(QE9.2.1) A good reputation in shipping

The research findings indicate that more than a third of the respondents agreed (36.9 percent) and further, almost a quarter strongly agreed (21.5 percent) a good reputation in shipping was important for successful entry into vessel husbandry services (QE9.2.1). However, over a third of the respondents disagreed, and this is significant, in that possibly, without a reputation or known track record, it is difficult to secure a vessel husbandry service, as liners would prefer an agent with a known alliance partner or track record.

According to Lorange and Fjeldstad (2010), successful firms are those willing to experiment with new things, they are not too conservative. Firms should therefore, look outside their boundaries to stimulate innovation. The theory suggests an important aspect for shipping firms considering diversification, is not to be too cautious and traditionalistic but to venture out into new areas along the supply chain and take advantage of opportunities therein. This agrees with the survey results and therefore, with more than half of respondents (58.4 percent) agreeing, the findings conclude a good reputation in shipping is important, in order to penetrate the vessel

husbandry services market. The study recommends that shipping agencies should strive to gain and attain a brand name in the markets they operate.

(QE9.2.2) Port experience

The findings further conclude, with more than two thirds of the respondents (67.6 percent) agreeing, that port experience is important for a shipping company to penetrate the husbandry market (QE9.2.2). Other respondents indicated that, while industry knowledge is essential, nothing beats experience and postulated that, when recruiting staff, they consider experience more, as it enables them to hit the road running in penetrating the husbandry services, with less learning experience.

According to Kearney (2012: 7), experienced staff have the potential to optimise port stays. The author further argues that these employees are able to consider various factors, including that of port performance and the frequency with which port stays are serviced, while in addition, balancing head- and backhaul cargo flow, as well as plugging performance gaps. Nayyar (1993) maintains that benefits from a positive reputation in an existing business and from economies of scope, are available from related but not from unrelated diversification, implying that the valuation effect of diversification is more positive for related than unrelated lines of business. The implications are that port experience is a related aspect of the shipping agency business and is transferable to other areas, for related diversification.

The findings therefore, conclude that port experience is an important consideration in shipping agency diversification into husbandry services and recommend that port experience, where lacking, needs to be outsourced or the agency needs to form partnerships with other players that possess the relevant experience.

(QE9.2.3) Good relationships with the ports, customs and emigration authorities

Over half of the respondents (61.6 percent) further indicated that a good relationship with the ports, customs and emigration authorities is essential and the findings reflect agreement by the respondents (QE9.2.3). Such good relations with authorities will guarantee customer satisfaction and maintain a high agency reputation in the industry.

OECD research finds customs and administrative procedures have a substantial effect on international trade. Also, cumbersome customs and administrative procedures have been found to be a challenge for developing countries, in exporting to developed and other developing countries (Wilson 2007).

Penrose (1959) distinguishes explicitly between resources and the services that a firm can derive from them. The principal difference is that one single resource may provide a variety of services. In fact, at any given moment, the resources of a firm could be dedicated to a number of different activities (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). This is consistent with the study findings; as more than half of the respondents were in agreement. It was concluded that good relationships with the ports, customs and emigration authorities are important, in order to penetrate the vessel husbandry services (QE9.2.3). The implication of this conclusion is that shipping agents need to establish good working relations with authorities, as this also improves their brand image.

(QE9.2.4) Capability of processing quick, accurate and detailed disbursement accounts (P/DA)

The research also determined that a shipping agency must be capable of processing quick, accurate and detailed disbursement accounts (QE9.2.4) and more than two thirds of the respondents (69.2 percent) agreed. The conclusion signifies the importance of the function of accountability in agency/principal relationships. Agent members of the Association of Ship Brokers and Agents (USA) Inc. (ASBA) have raised the bar for agency companies, by implementing an annual certification process, intended to assure principals of member agent's quality and credibility, in the areas of sound handling of principals' cash, adequacy of insurance coverage and competence of staff (ASBA 2014: 18).

Resources and the services a firm can derive from them are explicitly distinguished by Penrose (1959), where one single resource may provide a variety of services, as the principal difference. The resources of a firm could at any given moment, in fact, be

dedicated to a number of different activities (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). This corroborates survey results and the implication is that it is therefore important that such skills be harnessed and utilised in other areas of related diversification, where they can leverage the firm's competitive position.

It is also observed that nearly a third of the respondents did not agree that capability of processing quick, accurate and detailed disbursement accounts is important for penetrating the husbandry services market (QE9.2.4) and this could be attributed to other views held by the respondents. The implication is that respondents who disagreed did not view the processing of quick, accurate and detailed disbursement accounts as important, while yet other respondents resonated that securing clients and serving them, were more important than the disbursement accounts. This was the same result, as the agreement by respondents that establishing sound contact with all sorts of suppliers of specialised services was important (QE9.2.5), to which over half of the respondents agreed (53.8 %). A tenth of the respondents (10.8 %) did, however, not agree, implying that contacts with suppliers of services may not be very significant (QE9.2.5).

QE9.2 Recommendation on husbandry market penetration

From the findings, with nearly three quarters of the respondents (69.2 percent) in agreement (QE9.2.4), it was concluded that shipping agencies need to be capable of processing quick, accurate and detailed disbursement accounts (P/DA). The policy recommendations are that shipping agencies should be capable of being accountable to the principal, so as to save costs, as well as to prove competence with quality service provision, which provides a competitive advantage in penetrating the husbandry services market. Where the competence is not available or expensive to employ, outsourcing is recommended to cut costs.

Theory also cautions against diversification, as Stultz (1990) argues diversified firms will invest too much in lines of business with poor investment opportunities. It is therefore, important to carefully consider which areas of diversification the shipping agency invest in, as returns may not be as rewarding.

Penetration into the charterers' market through:

(QE9.3.1) Removing trade flow dislocations

The findings also concluded that, for shipping agents to penetrate the charterers' market, there should be no trade flow dislocations (QE9.3.1). Trade flow dislocations affect empty container positioning and these result in trades becoming unprofitable. More than half of the respondents agreed.

Li *et al.* (2007: 406) seek to answer the problem of how best to deal with the imbalance problem, confirming that a large number of empty containers has accumulated in import-dominant ports. Therefore, it is important to balance imports and exports in container shipping, so as to optimise operations and reduce costs.

While there are many studies in support of Rumelt's (1974) original findings that related diversified firms perform better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt 1982; Palepu 1985, Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989), there is a growing number of scholars that find the opposite (Michel and Shaked 1984; Chatterjee 1986); or are indifferent (Lubatkin, 1987). The implication is that the shipping firm needs to closely examine the niche that it seeks to penetrate, in order to best fit its strategic resources, in a way that generates a competitive advantage for the firm, as a solution to the inconclusive consideration of whether there is relatedness or not. (See page 46).

(QE9.3.2) To penetrate the charterers' market a shipping company should have experience in handling all customs documentation / formalities

The findings further conclude that, with more than half of the respondents (56.3 percent) agreeing, the agency should have experience in handling all customs documentation/formalities for smooth loading and discharging of cargo, to avoid berthing delays to the vessel (QE9.3.2). The implication is that this helped to cut vessel call costs and calling time, which would save principals money and keep the vessels on schedule.

Chi (1994) concludes that, to be strategic, a resource must be imperfectly mobile and imperfectly imitable, and hence, strategic resources are almost necessarily firm specific and this agrees with the findings. The implications are that it is important that such skills are harnessed and consolidated upon in the organisation, to the extent that it may not be easy for competitors to imitate.

(QE9.3.3) Experience in assessing and reporting on port status and conditions

The study also revealed that nearly all the respondents (98.1 percent) agreed that experience in assessing and reporting on port status and conditions is important (QE9.3.3). Furthermore, over half of the respondents (52.3 percent) strongly agreed and this represented confirmation that experience in assessing and reporting on port status and conditions is important (QE9.3.3).

According to Port and Harbor Risk Assessment and Safety Management Systems in New Zealand (2004: 13), the skills base is crucial to the success of the initial risk assessment and is key to the development of the port or harbour safety system that must follow. The authors further point out that those experienced in applying the theory of risk assessment, but with little maritime or port/harbour navigational or other such operational understanding, may face an uphill struggle to produce a consistent assessment.

Kearney (2012: 7) asserts that experienced staff have the potential to optimise port stays and this is supported by the survey results. These knowledgeable employees are able to consider various factors, including that of port performance and the frequency with which port stays are serviced, while also balancing head- and backhaul cargo flow, as well as plugging performance gaps. Therefore, the implication is that to be strategic, a resource must be imperfectly mobile and imperfectly imitable, and hence strategic resources are almost necessarily firm specific (Chi 1994).

(QE9.3.4) Ability to save expenses and achieve quick turnaround time

The study concluded, in addition, that the handling of cargo documents and smooth loading and discharging of cargo, to achieve a quick turnaround time, is important in penetrating a charterers market (QE9.3.4).

According to Studer (1969), technological progress has empowered the construction of larger, faster and more economical vessels, but organisational and cargo handling innovations in the ports have not kept pace; in many instances, the line-haul savings achieved by larger vessel are negated by excessive idle time in port, during which many costs continue unabated. The findings confirm agreement with literature, with over half of the respondents agreeing (61 percent), signifying it is imperative for shipping agencies to have the ability to save expenses and achieve quick turnaround-time in the ports (QE9.3.4).

Conclusion, recommendation on penetrating charterers' market

The study has added to what is known about what will facilitate transformation into charterers' agency market. The implication is that shipping agencies should work towards removing trade flow dislocations, possess experience in handling all customs documentation / formalities, possess experience in assessing and reporting on port status and conditions, as well as the ability to save expenses and achieve quick turnaround time, as these factors are critical in facilitating transformation.

Rumelt (1974) argues that diversifiers should generally exhibit better performance when they enter related markets (Bettis 1981; Datta et al. 1991) because the firm is more likely to be able to leverage its core resources and capabilities in related markets and this confirms agreement with the survey results. (See page 55).

6.2.5 Identifying how transformation will be achieved

(QE10.1 – QE10.12) Identifying how transformation will be achieved

The study concludes with agreement that transformation will be achieved through chartering ones' own feeder vessels to serve principals (QE10.1), developing smart IT systems to enable taking on additional principals (QE10.2), representing other ships'

agencies locally (QE10.3), as well as having competent and experienced staff (QE10.4).

Diversification helps to reduce earnings volatility because the cash flows across the firm's various markets will be imperfectly correlated, thereby allowing firms to employ more debt in their capital structure and hence enjoy the concomitant cost of capital and tax benefits (Barton and Gordon 1988; Kim *et al.* 1993; Kochhar and Hitt 1998; Low and Chen 2004; Lowe *et al.* 1994). (See page 54). The findings are consistent with the theory and confirm diversification opportunities for shipping companies in chartering ones' own feeder vessels to serve principals (QE10.1).

According to ASBA (2014), the maritime principals ranked the qualities deemed most important in their decision to appoint a ships agent. The survey findings indicate that a fiscally responsible company trained boarding agents and past experience with the ship agent, as well as the agent's experience with the cargo and vessel type, were important considerations in evaluating a shipping agency's performance.

It is further asserted that a Certified Agent Member must maintain well-trained staff that is service oriented and armed with knowledge to make necessary decisions on behalf of their principal. Agemar shipping agency in Venezuela considers that, in order to survive, it is necessary for a shipping agency to offer high quality, consistent services at competitive prices, top level shipping agency industry expertise, integrity, and financial strength, longstanding working relationships with port authorities and government entities, as well as efficient turnarounds of vessels.

Ingram and Neumann (2006) find that, in detailed descriptions of occupations, four major skill factors can be distinguished: intelligence, fine motor skills, coordination and strength. Behind these broad factors, however, hides a multitude of more specific skills often used in particular occupations and industries. Some skills are accumulated through formal education. Many other skills, in contrast, are acquired during the working life of individuals, for example by learning-by-doing and on-the-job training

processes and all contribute to the pool of skills necessary to having competent and experienced staff (QE10.4).

This is consistent with the findings of this study, as the agreement by the majority of the respondents was confirmed, implying that each of the factors necessary for transformation to be achieved are important.

QE10.4 Offering exceptional service

Kurukulasuriya (2015) maintains that strong local knowledge, excellent relationships with the authorities, and GAC's own fleet of launches enable the company to provide efficient, timely and round-the-clock services to customers. The author further attributes the success to factors that include relationships with authorities, high quality service, as well as financial strength.

It is noted that more than a third of the respondents (35.4 percent) strongly agreed that transformation could be achieved through exceptional service (QE10.4). It is significant that Kurukulasuriya (2015) confirms the viewpoint expressed by some respondents, who contend that, without financial strength, most small shipping agencies would not survive.

QE10.5 – QE10.6 Carrier haulage ratio / Securing own trucks

The findings conclude it is feasible to expand carrier haulage ratio, with over half of the respondents strongly agreeing (QE10.5). One of the respondent stated that, under the current shipping market, outsourcing is emerging as a necessity for shipping companies to maintain a competitive edge in the market. Furthermore, almost two thirds of the respondents (60 percent) agreed that securing own trucks or renting trucks, to manage inland deliveries, was important in transforming the shipping agency into the freight and transport logistics market (QE10.6).

According to Augustine (2015), an experienced Business Processes Outsourcing player (BPO), with in-depth domain knowledge and expertise in complex processes, such as shipping documentation, customer service, terminal operations and analytics-

driven vessel plans, can assist shipping companies to reduce the risks related to market volatility and gain an edge in the market. The author further argues that an outsourcing partner, with global delivery capabilities, also meets the regulatory needs of global companies.

If a carrier haulage ratio or securing own trucks is to be key in attaining diversification, then a silo focus within the organisation should be avoided. Silo focus refers to an organisational design where services are divided, with no cross-fertilisation within departments. That leads to incomplete implementation of strategy and hinders innovation because knowledge is not shared (Lorange and Fjeldstad 2010).

Transforming through changing working hours, branding, reefer services and container sales

The findings conclude that, in transforming shipping agencies, changing of working hours to suit seasonality was important, with nearly two thirds of the respondents agreeing (QE10.8). Furthermore, the findings conclude that almost two thirds of the respondents (73.8 percent) agreed and nearly a quarter (20 percent) strongly agreed that a good brand name was important in achieving transformation into the new areas (QE10.9). In addition, nearly two thirds of the respondents (61.5 percent) agreed and almost a quarter (23.1 percent) strongly agreed that offering reefer monitoring services was important in achieving transformation (QE10.10). The findings further conclude, with almost all of the respondents (83 percent) agreeing that offering logistics services was important to achieve transformation (QE10.11).

The differences between resources and the services a firm can derive from them are explicitly distinguished by Penrose (1959, who states the principal difference is that one single resource may provide a variety of services, with the resources of a firm being dedicated to a number of different activities, at any given moment (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). The results confirm the theoretical proposition that branding, reefer services and container services markets can be diversified into, through utilising existing resources to service these markets.

Moreover, it was noted that, despite over half of the respondents agreeing, more than a fifth of the respondents disagreed that transformation into these new areas would be achieved by offering container sales services (QE10.12). Furthermore, over a quarter of the respondents disagreed that transformation into these new areas would be achieved by changing working hours to suit customer seasonality/trends (QE10.8). The different perspectives held, includes that changing working hours to suit customers' trends would affect working conditions and remuneration for the workers. The implication is that it may, in turn, affect worker morale and ultimately, performance.

QE10 Conclusions and recommendations on how transformation will be achieved

The conclusion from the study is that each shipping agency must ensure its employees are trained and professional (QE10.4). Further, it is important to pay attention to amounts due from/to principals in the company's general ledger, which must be supported by detailed accounting and reporting for principals, agreeing in total to the general ledger.

The theory, however, suggests that firms need to adopt a systems approach in their human resource management because individual practices are easily imitable, whereas coherent systems are not (Progoulaki and Theotokas 2010).

In addition, detailed accounting/reporting for principals, including a listing of cash receipts and disbursements (by invoice) for sample voyages, with total amounts due to/from the principal for each selected voyage and in total, must be stated at the end of the reporting period. To achieve these, smart IT systems need to be in place, which enable the agency to take on additional principals (QE10.2). Shipping agents ought to maintain separate files for principals, to include supporting documentation. All transactions for principals must be supported by invoices and/or receipts.

According to ASBA (2015), shipping agencies must maintain well-trained staff that is service oriented and armed with knowledge to make the necessary decisions on behalf of their principals. The authors further argue that shipping agents have to maintain a

proper and courteous conduct, when dealing with port authorities on behalf of principals and that operational knowledge, communications skills, and clear and efficient accountings, are all agency essentials.

The findings recommend that shipping agencies should provide relevant, timely, accurate information, in order to improve performance and develop into a brand in the industry (QE10.9). The realisation that customers have higher expectations of the ship agency they deal with and how they expect them to interact, may be a significant route to a successful relationship, which is important in achieving transformation.

6.3 The global shipping recession questionnaire: Shipping Questionnaire

6.3.1 (QR7.1 – QR7.4) Factors responsible for the global shipping recession:

In understanding the cause of the global shipping recession, it is important to recognise that before the crisis, the shipping industry was already riddled by the problems of low freight rates and oversupply. However, the global economic crisis caused a slump in world trade and this, in turn, affected demand for cargo – hence container shipping was affected.

Financial crises sometimes appear to be driven by “irrational” factors. These include sudden runs on banks, contagion and spill-overs among financial markets. Indeed, the idea of “animal spirits” (as a source of financial market movements) has long occupied a significant space in the literature attempting to explain crises (Keynes 1930; Minsky 1975; Kindleberger 1978).

Stopford (1997: 2) points out that, to understand the economic and political forces that mould developments in the shipping market, there must be appreciation for the two-way interaction between developments in shipping and the world economy. According to Lunga (2012: 224), such an understanding will assist in projecting and fostering a better understanding thereof, in a predominantly South African context.

Brooks, Pallis and Perkins (2014) argue that scenario testing tended to be ignored in the bubble economy at the turn of the century, with globalisation driving trade on top

of economic expansion and consequent, strong, sustained growth in container shipping. Linear, even exponential, growth was expected by many to continue for years. The authors conclude that the financial crisis of 2007 and subsequent economic recession, exposed the deficiencies in this mind set.

However, though the housing bubble was not the cause, it was the effect for, in the last decade, many western countries, including Britain, Greece, Ireland, Italy, Spain, and the US, began to fall behind in global competitiveness, losing production and jobs to developing nations, such as China and India (Atkinson and Ezell 2012).

Question QR7 sought to explore these causes and indeed, many respondents agreed the problems in the global shipping industry were more complex and went beyond just the global economic crisis.

(QR7.1) Easy credit

The findings reflect significant agreement by the respondents that easy credit led to the ordering of larger vessels, which in turn led to oversupply (QR7.1). It is noted, however, that oversupply had already been a problem prior to the recession. With low freight rates prevailing on the market over the past decade, shipping lines opted to compete through scale economies brought about by larger vessels, which are more efficient. There was agreement by more than half of the respondents that easy credit created an opportunity to invest in newer, larger vessels and this created problems of oversupply (QR7.1).

“Attitude is defined as the degree to which the individual favors the behavior being examined” (Ajzen 1991). The prevailing attitude towards lending by the banking sector contributed to the financial crisis of 2008-9.

Castonguay (2010) postulates that economic and political challenges, from port congestion, fluctuating fuel costs and security regulations, to green initiatives, existed before the 2008 financial meltdown and the global recession that followed in its wake. The author further argues that economic warning signs existed before September 2008,

yet economists and industry analysts were predicting slower growth, not a sudden decrease in international trade and cargo transportation.

The excessive growth of lending capital and taking out bad loans on real estate, was the first mechanism. This, subsequently, resulted in the development of a second mechanism, the creation of loan pools by banks with extreme profits, but clearly understated risks. The third mechanism was the fact that, on a local level, there was no real regulation or control of these developments (Attali 2009).

The results are consistent with the literature and this signifies that easy credit was a facilitator, rather than a cause, of the global shipping recession, assisting shipping lines to invest in newer, large vessels that exacerbated the problem of oversupply in the industry.

(QR7.2) European Union debt crisis

The findings confirm that the EU debt crisis was a factor that caused the global shipping recession (QR7.2). Other respondents held different views, however, and the role of the EU debt crisis is noted. According to Sterdyniak (2010), the 2008-2009 financial crisis was caused by the blindness and the greed of financial markets and institutions, by unsustainable macroeconomic strategies, undertaken both in mercantilist countries (China, Germany) and in Anglo-Saxon countries, and not by the high burden of public expenditure, debts or deficits.

Theories suggest that bubbles can appear without distortions, uncertainty, speculation, or bounded rationality (Garber 2000; and Scherbina 2013).

According to Kavas (2013), the crisis was in light of a set of interwoven factors and the author observes there have been changes in the overall international environment, such as the Eurozone debt crisis, the fragile revival of the US economy and a contraction in China's growth rate, which have had a huge impact on shipping as well. This is probably why there were some respondents who disagreed and held the view that it was not the EU debt crisis that caused the global shipping recession. The

findings therefore concluded, with nearly three quarters of the respondents agreeing, that the EU debt crisis had a role to play in the global shipping recession and this is confirmed by literature.

The global financial and economic recession of 2008 has resulted in a sharp downturn of the economy and the shipping market. This has, directly, led to a rapid fall in demand for transport and related services. This decline is attributed to the low demand in Europe for manufactured goods, on the back of the euro zone crisis (Kalgora and Christian 2016). The results were consistent with literature and this signifies confirmation that the European debt crisis contributed significantly to the global economic crisis.

(QR7.3) Pro-growth biased forecasts

Over half of the respondents were in agreement and furthermore, more than a third strongly agreed that pro-growth biased forecasts had resulted in misleading indicators that failed to detect the looming crisis and this caused the severe effect of the global shipping recession (QR7.3).

According to Brooks *et al.* (2014: 7), the difficulty of predicting future demand for ports is widely acknowledged and all long-term projections face uncertainty. The authors further argue that forecasts need to examine alternate scenarios, at the very least to test different overall rates of economic and trade growth.

According to the theory of planned behaviour (Ajzen 1988, 1991), human behaviour is guided by three kinds of considerations: behavioural beliefs, normative beliefs, and control beliefs. This theory confirms the survey results, which conclude that pro-growth biased forecasts were unreliable predictors in times of recession.

Drewry Maritime (2014) highlights that freight rates are now largely determined by carrier behaviour. Furthermore, industry profitability has little to do with carrying more boxes, since freight rates remain historically weak. Profitability is driven by cost cutting, which is further bolstered by the continued sale of non-core assets.

This further strengthens the argument that pro-growth forecasts are biased or at least unreliable, in the current global shipping environment. The findings conclude that more factors should be taken into account, when forecasting demand. According to Drewry Maritime (2014), this includes factors, such as the constant delivery of new ships, and the focus on cost reduction by the shipping lines.

Hessing, D.J., Kinsey, K., A., Elffers, H. and Weigel, R. H. (1988) examined the TRA, in relation to tax evasion, and contrasted self-reports with official documentation. Findings indicate that attitudes and subjective norms significantly correlate with self-reported behaviour, but did not correlate with documentary evidence. The implication is that caution should be taken against forecasts in general, given the volatility of the world economy and world trade.

(QR7.4) Decline in global trade volume

The findings confirm that the global trade volume decline contributed to the global shipping recession (QR7.4). De Monie, Rodrigue and Notteboom (2011) assert that the growth of maritime transportation is strongly correlated with the growth of international trade, as maritime shipping and ports are the main physical support for international trade transactions.

The curtailment of economic activities and consumption has resulted in a drop of trade volumes and low demand for maritime transport. It is therefore, not surprising the shipping market has suffered, along with the global financial and economic crisis (Kalgora and Christian 2016). This is further confirmation that global trade volume decline contributed to the global shipping recession (QR7.4).

Furthermore, Wilmsmeier (2013) observes that, since 2008, there has been acceleration in the increase in the size of vessels deployed in all regions of the world, with ships of 18 000 TEU capacity being introduced on the busy Asia-Europe routes, displacing post-Panamax size vessels (5 000-13 000 TEUs), onto routes operated by smaller vessels since early 2013. Recently, the region saw vessels grow to 9 000 TEU

on West Coast routes and 11 000 TEUs on routes to ports in Argentina. The author argues that these bigger vessels serve a continuously increasing demand, based more on the dynamics of the Latin America and Caribbean (LAC) economies, rather than the global seaborne trade development trends.

QR7 Recommendations, conclusions on factors that caused the global shipping recession

From the findings it was concluded that, in spite of different views regarding the contribution of decline in world trade to global shipping recession, the prevailing view is that conclusively, the world trade slump of 2008/9 contributed to the global shipping recession. Forecasts for container shipping were based on global trade forecasts and it had not been anticipated that world trade would fall, hence the unpreparedness of the shipping industry in reacting to the crisis.

Easy credit (QR7.1), European Union debt crisis (QR7.2), pro-growth biased forecasts (QR7.3) and decline in global trade volume (QR7.4) were confirmed as factors that caused the global shipping crisis.

The global financial and economic recession of 2008 has resulted in a sharp downturn of the economy and shipping market. This has led directly to a rapid fall in demand for transport and related services, with this decline attributed to low demand in Europe for manufactured goods, on the back of the euro zone crisis (Kalgora and Christian 2016).

The policy recommendations are that shipping agencies need to continually monitor developments in the global political and economic sphere, as changes in these areas can affect their business operations negatively. The volatility of the global shipping industry has implications for shipping agencies, to diversify their business in order to mitigate the losses that can come from one sector and result in business failure. However, some limitations to this study were on the use of self-reported data, which contain several potential sources of bias that should be noted as limitations: selective

memory and telescoping (recalling events that occurred at one time as if they occurred at another time).

6.3.2 (QR8) Impact of the global shipping recession

(QR8.1) Impact of the global shipping recession on liner shipping:

The findings confirm there was significant negative impact of the global shipping recession on liner shipping (QR8.1).

According to Faeste *et al.* (2015), it is noted that, in 2012, multiple challenges were plaguing companies, particularly container liners, or carriers. The challenges include record losses, depleted cash reserves, the spectre of bankruptcy, and slowing demand for carriers' services. Equally sobering, competitive pressure in the liner industry was intensifying, along with price wars, triggered by carriers' reactions to a self-inflicted supply-demand imbalance.

The shipping sector is often referred to as a global market, moderately concentrated, that takes the form of an oligopoly (Sys 2009). This theory is consistent with the findings, and implies a severe impact on liner shipping from the global economic crisis, due to the oligopolistic nature of the market.

Faeste *et al.* (2015) furthermore state that BCG's 2014 analysis of the industry in 2013 and 2014, reveals that the picture has not changed much since 2011. The authors argue that, following the volatile period from 2009 through 2011, observers were hoping the industry would bounce back somewhat, buoyed by economic recovery from the most recent global recession, but the eagerly anticipated uplift has not yet materialised. Indeed, by 2015, companies are still grappling with numerous challenges, driven primarily by overcapacity and a highly fragmented industry structure.

Observations on impact of the global shipping recession

The observations confirm the agreement by respondents that the recession impacted severely on shipping liners. Nonetheless, other respondents differed, notably due to the view that the problems in the shipping industry are self-inflicted, since shipping

liners went on to order larger, newer vessels, as part of competitive strategies and this caused tonnage oversupply, hence the recession.

This is confirmed by Trant and Liddane, (2010: 5), who maintain that the container market is likely to have suffered most from the economic downturn, probably because the recent shipping boom produced a major spike in container tonnage, with the delivery of many, very large vessels. The authors further contend that container capacity has more than doubled since 2000 and with the increased size and number of ships on order; there is excess container tonnage in a declining market and charter rates have severely decreased. This reveals consistency between the theory and the findings.

At some point in time, the elements of negative expectations arising from the global financial and economic crisis could have also had psychological effects on the container-ship market. (Kalgora and Christian 2016). The implication is that the container shipping market was severely affected by the global economic crisis.

(QR8.2) Impact of the global shipping recession on shipping agencies:

The findings additionally confirm that shipping agencies were severely affected by the recession, with a negative impact, and over half of the respondents agreed (QR8.2). Shipping agents derive their income from international trade activity, specifically from boxes moved. The recession caused the volumes handled to fall and so did the income from box fees. So serious was the impact that some shipping agencies merged or were being forced to restructure and reduce staff, as well as explore any means to cut costs, in order to survive the recession.

Notteboom and Mercx (2006) argue that there is pressure to develop more value added services, and diversification is perceived as the safest and easiest way to get there. According to Photis *et al.* (2011), diversification is mostly used by larger players that have enough resources and capabilities to operate several activities conjointly, in different locations. Carbone and Stone (2005) further contend that shipping companies diversified mainly through merger and acquisition.

The brand new giant ships, delivered at the peak of the financial and economic crisis, were much too big for the transported cargos, and they often sailed half empty, if at all. The container shipping sector, once one of the biggest beneficiaries of globalisation, was then threatened to turn into one of its chief casualties (Kalgora and Christian 2016). The results are in agreement with the theory and imply that shipping agencies were severely affected by the global economic crisis.

The current world credit crisis has caused a sharp fall in the GDPs of most states, especially in the West. This has, in turn, resulted in an approximate, twofold decline in trade, as the growth engine went into reverse, and a further magnified fall in the demand for shipping services followed. All elements of shipping are adversely affected, some more so than others, with those that operate in short-term or voyage charters being severely affected. (Trant and Liddane 2010: 4).

(QR8.3) Impact of the global shipping recession on global supply chain:

The global supply chain includes all service providers in the global shipping industry and these were all affected by the shipping recession. They include, shipping freight forwarders, freight transporters, logistics, and all other service providers in the supply chain. The findings confirmed a negative impact of the global shipping recession, since nearly two thirds of the respondents agreed (QR8.3).

General overcapacity of the container fleet, in the wake of the financial crisis, is also inclined to increase vessel size on lower volume routes, as older, smaller vessels are retired to make use of newer, more productive and fuel efficient vessels. According to Brooks *et al.* (2014: 11), larger ships are appearing in ports on lower volume routes, with very large 10 000 TEU capacity and 16m draft ships already operate on the relatively low-volume North-South trades serving the east coast of South America.

Literature further confirms that smaller players are being pushed out of the market and the global supply chain sector is likely to emerge consolidated (Brooks 2009) and this is in agreement with the findings. The implications are that caution should be taken by

shipping agencies who seek to penetrate the freight transport market, as there is competition in that market.

This confirms changes taking place in the industry, as a result of the global shipping recession. Newer, larger ships coming on the trade have different implications for each partner in the supply chain. However, the findings indicate agreement and signify that the global supply chain was also severely impacted by the shipping recession.

(QR8.4) Impact of the global shipping recession on freight transporters:

The study findings reveal that the global shipping recession had a negative impact on freight transporters (QR8.4). This reflects agreement that freight transporters were also negatively affected by the global shipping recession.

The recession has had an avalanche effect on road freight and its associated industries. According to Trant and Liddane (2010: 6), the sharp drop in GDPs that occurred in European countries was accompanied by a fall in demand for road haulage, resulting in a magnified reduction in demand for auxiliary services and for new transport equipment, with a combined loss of an estimated 140,000 jobs in the industry as a whole.

The literature also confirms (Oswald et al. 2013) that shipping lines use diversification to protect their businesses against cyclicalities and volatility and to maintain or achieve an over average performance. The implication is that freight transporters were severely affected by the global economic crisis of 2008-9.

(QR8.5) Impact of the global shipping recession on husbandry services:

The findings further confirm there was a large negative impact and over a third agreed that there was a negative impact on husbandry services, as a result of the global shipping recession (QR8.5). This confirms that the global shipping recession had a negative impact on husbandry services.

The classical view in finance is that risk sharing, i.e. diversification, is always valuable (Samuelson 1967). Therefore, interdependence is valuable and, indeed, what we should expect and this is in agreement with the research findings.

As a result of the decrease in trade, many vessels were not operating along their normal schedules, but were instead, forced to sit idle at ports, in the absence of business. According to Lewis (2009), in April 2009, an estimated 10 percent of the world's 10,650 in-service bulk carriers and container ships were sitting empty and at anchor, waiting for contracts and cargo. The theory is in agreement with the findings and this implies that the global shipping recession had a negative impact on husbandry services.

QR8 Conclusions, recommendations on impact of the global shipping recession

From these findings, it is concluded that there was a significant, negative impact on liner shipping, shipping agencies, the global supply chain, freight transport services and vessel husbandry services, due to the global shipping recession (QR8). The severity of the recession was concluded to have affected all players in the global shipping recession. The extent to which each player was affected differed, yet there was agreement among the respondents that the recession affected all sectors in the supply chain.

Furthermore, the literature confirms the use of diversification by shipping lines as a measure of protection against cyclicity and volatility and to maintain or achieve an over-average performance (Oswald *et al.* 2013).

The study therefore added to the knowledge that the global shipping recession had a negative impact on shipping industry players, including shipping agencies, shipping liners and freight transporters. Studies examining the relationship between the global economic crisis (2008) and the global shipping recession have been conflicting, in terms of the emergence of larger ships on the market after the recession. The implication is that this is an area requiring further investigation, as to whether the emergence of larger ships has benefited the industry or not and how it has affected the

competitiveness of the industry, as it appears to have exacerbated the problem of oversupply.

6.3.3 (QR9) Consequences of the global shipping recession:

The consequences of the shipping recession varied in intensity, depending on sectors. However, its severity cannot be understated, with all sectors affected. The research findings show agreement that the global shipping recession had severe consequences for liner shipping, shipping agents, freight and logistics, as well as charterers' agency (QR9). The industry was struggling with overcapacity and low freight rates before the recession and the industry is still in recession, while the situation has been made worse by overcapacity, caused by the arrival of newer, larger vessels.

(QR9.1.1 – QR9.1.4) Consequences of the global shipping recession on freight transport:

The demand for transport, especially in the freight sector, declined dramatically in 2009; prices were falling while the cost of infrastructure use is increasing (Tajani 2009).

(QR9.1.1) Decline in seaborne trade:

The research concluded that the decline in seaborne trade is a consequence of the global shipping recession (QR9.1.1). However, more than a quarter of the respondents disagreed (26.2 %) and furthermore over a tenth (13.1 %) strongly disagreed (QR9.1.1).

According to information from Germany's Verband Deutscher Reeder (VDR), international shipping lines suffered losses of USD 20 billion in 2009. Deutsche Bank Research (2011: 2) argues that the reasons for these losses are; the global economic crisis was marked by a slump in trading activities and investment. They further contend this had a knock-on effect on container shipping, since the fortunes of the sector are very closely correlated with global trade developments.

Literature also confirms that the global financial and economic crisis has significantly affected the container-ship market and the shipping industry as a whole (Kalgora and Christian 2016).

The implication is that there is a positive relationship between world trade volume and container volumes moved. A respondent stated that the economic slump in Europe affected container shipping because goods are no longer produced closer to their markets; China is now producing goods for markets as far as Europe and America, with these goods mainly transported by container ships. With over half of the respondents agreeing, the study concluded that the decline in seaborne trade was a consequence of the global shipping recession.

(QR9.1.2) Larger companies can survive through leaner times and increase market share while smaller operators go out of business:

The study concluded that the decline in seaborne trade was a consequence of the global shipping recession (QR9.1.2). However, the arrival of larger, more efficient vessels, the discovery and introduction of LNG as a fuel for shipping vessels, as well as the improvement in world trade, give hope for improvement but the recovery is not immediate and the shipping industry needs tactics to survive.

The market is saturated, and the industry is now in a race for market share. The quest to take share is squeezing out smaller players and has started another wave of price wars. McKinsey and Company (2014) contend that shipping companies are forsaking their guidelines on pricing, both in spot rates and general rate increases, and choosing not to enforce contracts with customers.

The literature also informs that related diversification may be costlier to coordinate than unrelated diversification (Hill *et al.* 1992; Jones and Hill 1988; Nayyar 1993). Furthermore, smaller players are being pushed out of the market and the global supply chain sector is likely to emerge consolidated (Brooks 2009). The implication is that the shipping recession has increased the levels of competition within the global shipping industry.

(QR9.1.3) Other transporters will be forced to change their business models:

The findings reveal that transport businesses will be forced to change their business models, as a result of the global shipping recession (QR9.1.3).

With growth no longer a given, shipping and offshore companies are being forced to take a critical look at their business models. To survive, the traditional shipping industry will have to operate more flexibly (Pwc 2014). Sanders *et al.* (2015) argue that many carriers are not large enough to play the global-scale game, and they lack a strong position as niche specialists. To break out of this middle position, many of these carriers have entered alliances to boost scale, but the majority remains unprofitable. Sanders *et al.* (2015) contend they therefore need to rethink their business model, clarifying how they plan to achieve a sustainable, competitive advantage.

As carriers reconsider their business models, some have diversified into offering freight and logistics services. DAL, in 2013, diversified into freight and logistics services, in addition to the port agency services provided through DAL Agency (SA). The company opened doors to a sister company, Simba Africa Logistics, which now offers vessel husbandry and logistics services to the principal and these findings are consistent with the literature.

A cautious approach is, however, implied since, by sharing risks, intermediaries decrease the risk of individual failure, but increase the risk of massive, systemic failure (Ibragimov *et al.* 2010: 334).

(QR9.1.4) Trend for single businesses to offer a full service package:

The research findings show there will be a trend for single businesses to offer a full service package, including some or all of logistics, freight forwarding, warehousing, cargo handling, transportation and intermodal services along the supply chain (QR9.1.4). This could be achieved, either through outsourcing, or through alliances and partnerships. (See page 45).

Pwc (2014) observes that nearly half of all transportation and logistics CEOs (48 percent) plan to form a new alliance in 2015. As an alternative to mergers and acquisitions, most aim to partner with customers, suppliers and business networks or trade organisations, mainly to gain access to new customers and geographic markets.

“Perceived usefulness is defined as the degree to which the individual believes that a technology would improve his/her job performance” (Davis 1989). Therefore, even as the industry is integrating, there is a need to integrate the technology aspects too. One example is the NAVIS software for container movement at port terminals for Electronic Data Interchange (EDI), used by every transporter at the terminal. The results are consistent with the literature and imply that there is a trend for single businesses to offer a full service package.

QR9.1 Conclusion, recommendations on consequences of the global shipping recession on freight transport

The conclusion from the study points to a trend that freight transporters have been severely affected by the global shipping recession, with significant declines in seaborne trade (QR9.1.1), small companies being squeezed out by competition (QR9.1.2), other transporters changing their business models (QR9.1.3) and a trend to offer a full service package by single businesses (QR9.1.4); this is confirmed by both results and literature. The implications are that shipping agencies need to consider partnering with larger, experienced players in the freight transport business, in order to successfully penetrate those markets, since the global shipping recession has also had a negative impact on the freight transport market.

(QR9.2.1 – QR9.2.6) Consequences of the global shipping recession on liner shipping:

(QR9.2.1) Idle vessels for shipping liners:

The study results confirm that shipping liners suffered from idling vessels (QR9.2.1). However, it is further noted that idling vessels is also a tactic employed by shipping liners to reduce oversupply of tonnage and raise the freight rates, in accordance with

market forces. In this regard, it was noted that a significant number of the respondents disagreed.

The emergence of the crisis in 2008 led to a severe demand cut for liner shipping services. It immediately led to a drop in freight rates and overcapacity in all shipping routes. However, the industry reacted, postponing part of the order book, idling and scrapping the less economic vessels, but also reverting to slow steaming (Cariou 2011), thus reducing the transport capacity of the liner fleet.

BIMCO (2015) confirm that, for the entire 2014, ships with a combined capacity of 500,000 TEU were expected to be sold for demolition, which is why they believed idling is a very effective, but also temporary tool, to adjust the deployed fleet growth up, as well as down.

According to Chen and Lai (2010: 23), bigger ships have lower transport costs per unit of cargo; hence, bigger ships will have a lower lay-up point. This drives smaller or inefficient ships into layup during recessions. The authors conclude that on a longer time frame, shipping supply can be increased by building more-efficient ships or can be reduced by scrapping old ones.

The literature therefore, agrees with the findings that, to mitigate or even counter the effects of the crisis, measures were taken; the shipping companies have laid up vessels and laid off workers around the world (Kalgora and Christian 2016). The implication is that shipping lines were taking drastic cost-cutting measures that include job losses, as they restructure their operations in light of the global shipping recession.

(QR9.2.2) Overcapacity of vessels enhanced by the arrival of new deliveries:

The introduction of new and bigger ships in 2010 (18 000 TEU vessels) has led to increased overcapacity and the result was the layup of 480 ships, mostly in Singapore. According to Lunga (2012: 226), this added to the number of those vessels already laid up as a result of the global economic recession.

Employment of new, larger vessels resulted in overcapacity and this is one of the major problems the shipping industry is grappling with, in the aftermath of the global economic crisis of 2008/9.

The newer, bigger vessels are more fuel efficient, require fewer crew members and carry more volumes, hence achieving scale economies, so they are perceived positively. Literature confirms that technologies perceived to be less complex have a higher possibility of acceptance and use by potential users. Ease of use has been found to be an important determinant in the technology adoption decision (Davis 1989). On the down side however, the new fleet has caused overcapacity in the container shipping market, hence low freight rates.

Several factors are responsible, notably trade's spotty recovery from the global financial crisis, and redoubled efforts by corporate customers to control costs. According to McKinsey and Company (2014), some of the pain is self-inflicted, as in past cycles the industry extrapolated the good times and foresaw an unsustainable rise in demand. It appears that building capacity will mostly not be needed.

The findings agree with literature that overcapacity was enhanced by the arrival of the new, larger vessels on trade routes, with over half of the respondents strongly agreeing (QR9.2.2).

As maintained by Sanders *et al.* (2015), overcapacity and a fragmented industry structure continue to plague container shipping. As a result, carriers' profitability and total shareholder return are eroding, with only a handful of industry players who have managed to improve their margins. The authors further assert that to survive, carriers will have to step up their internal transformation efforts, as well as extract greater value from their alliances and this implies that overcapacity has resulted in loss of revenue for shipping firms.

Impact of overcapacity on smaller ships

Rising bunker prices from 2006 incentivised lines to build larger ships, in an effort to reduce energy costs/TEU and gain competitive advantage, at the risk of over-supply. Further, oversupply is likely to continue to cause falling rates, despite withdrawal of some older ships. Garratt and Teodoro (2013) argue that smaller ships will lose viability rapidly and that, in practice, medium-sized operators have also invested in larger ships to survive. The authors further find that, withdrawing 3-7,500 TEU ships only cuts capacity by seven percent, which is inadequate to balance supply and demand and more radical cuts in the global fleet are required for utilisation to recover.

(QR9.2.3) Low freight and charter rates:

The findings conclude that low freight and charter rates were the result of the global shipping recession impact; there were over a tenth of the respondents who disagreed (QR9.2.3).

According to Augustine (2015: 1), there are two problems pushing this industry to the brink; oversupply and fuel prices. Although recovery of economic activity is expected to resuscitate the shipping industry, excess capacity and high fuel prices will weaken growth prospects.

Haralambides (2004) considers conference price-fixing as a low cost arrangement towards self-regulation of the industry

According to Sanders *et al.* (2015), owing to the persistent overcapacity, freight rates will continue to remain under pressure as carriers strive to fill vessels, while many factors, in addition to the supply-demand gap, influence freight rates, making forecasts unreliable. The authors further contend that examples include carriers' failure to stick to published general-rate increases and less transparent surcharges factored into all-in rates, such as the bunker adjustment factor (BAF), congestion and security surcharges. The literature agrees with the findings that low freight and charter rates had significantly resulted in income losses for the shipping firms and the implications are that shipping firms need to diversify, in order to survive the recession.

In contrast to freight rates, time charter rates increased slightly in early 2015, due to increases in operating expenses (opex) – costs related to crew, maintenance, and consumables on board. Sanders *et al.* (2015) asserts that carriers are likely to experience declining time charter costs, as longer-term contracts, signed during peak periods, are renewed at substantially low rates.

The Global Insight Report (2005), prepared for the EC during the review of the block exemption, did not find any evidence that competition among liner shipping carriers would lead to “inherent instability”. The report concluded that stability of supply can be enhanced by competition and by the removal of the potential instability in conference membership.

(QR9.2.4) Slow steaming: Shipping

The findings confirm that shipping lines have resorted to slow steaming, due to rising fuel costs and this tactic has been successful (QR9.2.4). To tide over the existing crisis, shipping majors are looking at ways and means to survive the storm, even if it means adopting strategies that are unconventional and unheard of, until recently. Augustine (2015: 2) argues that, as immediate measures to survive, the industry is forging non-traditional alliances, resorting to 'slow steaming' strategies, re-aligning services and pulling out from unprofitable routes.

Further confirmation from literature asserts that ease of use represents the degree to which an innovation is easy to understand and operate (Rogers 2003) or the degree to which the particular technology is free of effort (Davis 1989). The implication is that slow steaming has become an accepted tactic for reducing fuel consumption in container shipping and it has worked effectively to date.

Chen and Lai (2010: 25) argue that, should the freight rate remain below equilibrium and carriers do not anticipate an improvement in the shipping market, active supply will decline, as a result of the decrease in the average speed of vessels at sea; carrying quantities of cargo that are less than the maximum cargo-carrying capacity of vessels; slow operations in loading and discharging; as well as laying up of vessels.

(QR9.2.5) Mergers among shipping liners:

The findings further validate that mergers and retrenchments are a consequence of the global shipping recession (QR9.2.5). The search for cost reduction is another reason behind the formation of international alliances and collaborative agreements. According to Baird (2000: 175), single sourcing and JIT supply procedures can also promote greater integration of activities between affiliates, as liaison with suppliers becomes increasingly handled in one location, rather than several.

Furthermore, the theory confirms economies of scope, whereby the diversified firm is an efficient form for organising economic activities (Penrose 1959) and this is in agreement with the findings.

Sanders *et al.* (2015) further contend that, although VSAs today focus on optimising members' slot costs and network reach, a value-added alliance model can unlock far more substantial value, in the form of cost synergies gained through joint procurement, joint operations, and equipment pools. The implications are that we are likely to see more mergers and consolidation moves from shipping lines, as they seek to reduce costs through international alliances and collaborative agreements.

(QR9.2.6) Downsizing and retrenchments:

The findings confirm that downsizing and retrenchments characterise the shipping industry (QR9.2.6). One respondent confirmed this trend, adding it was mostly the large shipping companies that were retrenching, as a result of mergers and acquisitions. Nxumalo (2015) further indicates that the shipping industry in South Africa had shed 600 jobs in 2015, instead of creating them. The author blames the government, saying red tape is hindering progress and tying up R8 billion worth of orders.

For organisations, the theory confirms there are strategic decisions that can be taken, for example Progolaki and Theotokas (2010) describe how shipping firms can build sustainable, competitive advantage, based on human resource. This confirms that,

while laying off workers may be a measure taken to survive the short-term, there are competitive advantages to be gained from human resources.

QR9.2 Conclusion, recommendations on consequences of the global shipping recession on shipping liners

The results of the study conclude that shipping liners have been severely affected by the global shipping recession, with consequences in idling ships (QR9.2.1); overcapacity of vessels, enhanced by the emergence of newer larger ships on the market (QR9.2.2); low freight rates (QR9.2.3), and slow steaming (QR9.2.4); as well as mergers among shipping liners (QR9.2.5); and retrenchments and downsizing (QR9.2.5). Overall, these results have several implications that include the need for cost-cutting measures, due to low freight rates limiting profitability of the global shipping industry. The study has also added to the existing knowledge on the redistribution or idling of old fleet, to be replaced by newer, bigger vessels; the significance of slow steaming, as a measure to reduce operational costs; and the need for smaller players to form alliances with bigger players, in order to survive liner shipping competition.

(QR9.3.1 – QR9.3.5) Consequences of the global shipping recession on shipping agencies:

(QR9.3.1) Fewer vessels calling at ports:

The study findings also confirm that the effects of the global shipping recession also resulted in fewer vessels calling at ports for agencies to attend to (QR9.3.1).

According to Wright (2005), on the ports front, the advent of bigger ships has meant scale opportunities for liner operators, as ship owners prefer big ships, owing to the potential gains from cost economies (Wright 2005).

Compatibility is defined, as the degree to which technology fits with the potential existing values and experiences (Rogers 2003). This is in agreement with the findings and implies that larger vessels have affected port operations.

Furthermore, as vessels are getting bigger, vessel replacements are taking place in various trade routes. In 2014, the SAECS fleet was replaced with eight new, powerful container ships and DAL entered into new trade areas, such as North Africa, the Middle East and India, to expand market share (Essberger 2011: 1).

(QR9.3.2) Decline in freight rates affecting shipping agents:

The findings also confirm an increase in shipping agencies' operational costs, including office space per head count (QR9.3.2).

According to UNCTAD (2013: 73), the overall low freight rates observed in 2012 reduced carriers' earnings close to, and even below operating costs, especially when bunker oil prices remained both high and volatile. This confirms the conclusion from the findings; with almost all respondents agreeing that decline in freight rates was a consequence of the global shipping recession's impact on shipping agencies (QR9.3.2).

Transpacific Stabilization Agreement (TSA), "have not typically been able to raise average rate levels, in spite of the member lines' ability to discuss and agree upon voluntary rate actions" (OECD 2015). This is in agreement with the research findings and the implications are that we are not likely to see any major upward shift in the freight rates soon, due to the oligopolistic nature of the container shipping industry.

(QR9.3.3) An increase in shipping agencies operational costs including office space per head count:

The study also revealed that consequences of the global shipping recession for shipping agencies are an increase in shipping agencies operational cost, including office space per head count (QR9.3.3).

It is believed that the potential remaining in cost savings in transportation alone are limited. Therefore, there is pressure to develop more value added services, and diversification is perceived as the safest and easiest way to get there (Notteboom and Mercx 2006).

The theory also justifies diversification to achieve greater debt capacity because if a merger of the two firms entails no costs, it will benefit both firms, as the resulting cash flows will be less volatile (Stulz 1990). This decreased volatility of cash flows also gives the more diversified firms greater debt capacity, than less diversified firms of similar size. The implications are that shipping firms are more likely to benefit from diversification, than if they do not diversify. (See page 60).

According to UNCTAD (2013: 68), maritime transport is very cyclical and goes through periods of continuous busts and booms, with operators enjoying healthy earnings or struggling to meet their minimum operating costs. Therefore, the findings conclude, with almost three quarters of the respondents agreeing that consequences, of the global shipping recession for shipping agencies, are an increase in shipping agencies operational costs, including office space per head count (QR9.3.3).

(QR9.3.4) Shipping agencies closing doors or amalgamating:

The results also find that consequences, of the global shipping recession for shipping agencies, are that shipping agencies are closing doors or amalgamating (QR9.3.4).

The shipping industry has suffered job losses and retrenchments. Cash-strapped Hanjin Shipping Co. announced plans early in 2014, to close two loss-making container shipping lines within the first half of the year. The company subsequently discontinued its container shipping line service in May 2014, linking Asia and the Black Sea (ABS) and its New Trans Atlantic (NTA) service between the US East Coast and Northern Europe (The Korea Times 2014).

The literature also confirms shipping agencies closing doors or amalgamating. To mitigate or even counter the effects of the crisis, measures were taken; the shipping companies have laid up vessels and laid off workers around the world. Regardless, there were substantial cutbacks, job cuts and salary reductions were unavoidable, mostly due to the slowdown of the freight rate (Kalgora and Christian 2016). The implication is that the impact of the recession is so severe that restructuring and job

losses have been experienced in the shipping industry and diversifying firms may survive, while those firms that do not diversify, may not survive the recession.

Shipping agencies have also amalgamated or merged. According to Braemar.com (2015), Braemar Shipping Services' merged with ACM in 2015, as a way to strengthen and expand its ship-broking division, as well as to keep in step with the growth of their shipping and technical services businesses. The authors conclude that it was perceived that the merger with ACM would achieve the step change the company has been seeking.

The study therefore concludes that consequences of the global shipping recession are that shipping agencies are closing doors or amalgamating.

(QR9.3.5) Cash flow problems resulting in higher credit risks:

The study also reveals that consequences of the global shipping recession for shipping agencies' cash flow problems, resulting in higher risks as bigger customers take longer to pay, with almost two thirds of the respondents agreeing (QR9.3.5).

One respondent at a shipping agency confirmed they faced difficulties in granting terms to customers, as perceived risk of default was high due to cash flow challenges. (See page 65). However, the respondent further explained that, should there be certainties about continuous cargo flows providing sufficient demand, they were willing to give terms to the customer.

Container carriers have significantly underperformed financially, compared to other industries. The weaker performance can be related to the combination of the capital-intensive operation and the high risks associated with the revenues. Shipping remains a very capital-intensive industry, where some assets are owned and others leased (Notteboom 2004)

QR9.3 Conclusion, recommendations on consequences of the global shipping recession on shipping agencies

The findings conclude that consequences of the global shipping recession for shipping agencies are that, there are now fewer port calls for vessels, due to larger fleet coming on the market (QR9.3.1); a significant decline in freight rates affecting shipping agency income that has persisted for over a decade (QR9.3.2); an increase in shipping agency operational costs, including office space per head count (QR9.3.3); and shipping agencies closing doors or amalgamating (QR9.3.4), as well as cash flow problems due to higher credit risk (QR9.3.5).

The policy recommendations from the findings are that shipping agencies need to diversify into other areas along the shipping industry supply chain, in order to mitigate and counter the negative effects from their core business and avoid closing doors. Further research is recommended in the area of amalgamations with other partners along the supply chain, as there is no conclusive literature available on the existence of stiff competition that may be an obstacle in penetrating these markets.

However, Villalonga (2000) argues that firms might use corporate diversification to engage in reciprocal buying with other, large firms, in order to squeeze out smaller competitors.

6.3.4 (QR10) Ways to move the shipping industry out of recession

(QR10.1 – QR10.3) Decisive factors in attaining profitability and sustainable recovery:

(QR10.1.1) Investors are expecting to reduce financing costs through reducing bunker consumption.

The findings reveal that investors are expecting to reduce financing costs through reducing bunker consumption, which is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.1). (See page 66).

According to Deutsche Bank Research (2011: 5), bunker consumption has been an issue in shipping for a long time and in 2007/08, speeds were reduced on many routes, as a consequence of rising oil prices. At that time, the priority was to achieve significantly lower fuel consumption, by reducing speeds. The authors assert that,

during the most recent crisis, lower fuel consumption continued to be an important argument.

It is shown by Fishbein and Ajzen's (1975) Expectancy-value Model that the subjective value of a given outcome affects the attitude, in direct proportion to the strength of the belief. The implication is that efforts to reduce bunker consumption through slow steaming have been expected to yield significant gains, hence the positive attention it has received from investors, and the survey results confirmed this.

The findings therefore, confirm, with almost two thirds of the respondents agreeing that investors' are expecting to reduce financing costs through reducing bunker consumption, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.1).

(QR10.1.2) Investors are expecting to reduce financing costs through maximizing fleet efficiency:

The study also reveals that investors' expectation of reducing financing costs through maximising fleet efficiency, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.2).

The theory postulates that the effect of perceived control declines and intention, is a sufficient behavioural predictor, in situations in which volitional control over the behaviour is high (Madden, Ellen and Ajzen 1992). The implications are that investors strongly believe in the need to maximise fleet efficiency and their intentions display a greater likelihood that they will act to achieve this. The survey results confirm this and the results are consistent with the theory. (See page 75).

According to Glave, *et al.* (2014), mega vessels coming on global trade routes have resulted in pressure to fill this capacity and capture the efficiency benefits of larger vessels, which has led to hasty decisions by carriers. The authors further argue that profits, in turn, have become exceptionally volatile, with record losses in 2009, followed by strong profits in 2010, and significant losses again in 2011.

Sanders *et al.* (2015) assert that carriers should consider consolidating functions that require high-level skills (for example, stowage planning), to improve quality and reduce redundancy. The study therefore, concludes that investors' expecting to reduce financing costs, through maximizing fleet efficiency, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.2).

(QR10.1.3) Investors expecting to reduce financing costs through slow steaming:

The findings also confirm that the expectation of investors, to reduce financing costs through slow steaming, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.3).

According to Alphaliner (2010), slow steaming, or the reduction in the sailing speed of vessels, has also become an increasingly common practice in container liner shipping, as the amount and unit size of vessel capacity rises and the price of fuel increases. Furthermore, Notteboom and Cariou (2011) argue that slow steaming is claimed to reduce environmental emissions by ships at sea.

Davis 1989's TAM postulates that behavioural intention to use a new technology will lead to actual system use (Davis 1989: 320). Slow steaming is a practice that is now widely adopted in shipping, even as a short-term measure. The shipping liners' intention to reduce bunker consumption through slow steaming has led to actual use, effectively reducing fuel consumption.

However, Menachof and Dicer (2001: 143) assert that slow steaming added a new source of contention between shippers and ship owners regarding fuel surcharges, known as the Bunker Adjustment Factor or BAF, implemented by shipping lines since 1974. The authors further object that the way BAF is calculated is opaque, without uniformity, and involves a significant element of revenue, negating the effectiveness and cost of speed.

According to Akyuz and Lee (2014: 1), faster services significantly increase the bunker costs of the liner shipping companies and bunker costs constitute up to 60 percent of the total ship operating costs.

With almost three quarters of the respondents agreeing, the findings confirmed agreement that investors' expecting to reduce financing costs through slow steaming is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.3).

(QR10.1.4) Investors expecting to reduce financing costs through postponing new deliveries:

The findings further reveal that investors' expecting to reduce financing costs through postponing new deliveries, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.4).

Rex (2014) contends that, with regard to new shipbuilding, the surprisingly high contracting activity during 2013 enabled newbuilding prices to be increased at yards, which has attracted new orders. These yards represented 84 percent of the global yard capacity in 2013. Furthermore, the author argues that the shipping market remains excessively supplied by the current fleet, in addition to the vessels on order in the foreseeable future.

PU (Perceived Usefulness) is defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis 1989: 320). This theory confirms agreement with the survey results and implies accepting the perception that postponing or cancelling new vessel deliveries, will help to reduce the problem of overcapacity. (See page 67).

The findings therefore, conclude that investors' expecting to reduce financing costs through postponing new deliveries, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.4).

(QR10.1.5) Investors expecting to reduce financing costs through scrapping and idling some ships:

The findings also show that investors expecting to reduce financing costs through scrapping and idling some ships, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.5).

According to Chen and Lai (2010), ship scrapping is a business decision dependent on shipowners' predictions of the future operating profitability of ships, as well as their own financial positions. The authors further contend it is likely that unprofitable ships will be scrapped.

Triandis (1980) states that perceived control is expected to moderate the effect of intention on behaviour. Investors may perceive scrapping and idling vessels will reduce tonnage and they perceive they have control over reducing overcapacity through scrapping, which moderates the effect of intention on their behaviour. In this case, when the perceived control is high, there is a greater likelihood that scrapping and idling of vessels will be done. This is in agreement with the findings from the study.

As stated by Sanders *et al.* (2015), the industry is entrapped in a vicious cycle: to survive downward pressure overcapacity has imposed on prices, carriers seek to lower slots by acquiring new, larger and more efficient vessels. The authors further argue that the net influx spawns further overcapacity and lowers vessel utilisation, putting even more pressure on prices, with many forces driving this cycle and individual liners can address only a few of these.

Therefore, the study concludes that investors expecting to reduce financing costs through scrapping and idling some ships, is a decisive factor in attaining the global shipping industry's profitability and sustainable recovery (QR10.1.5).

(QR10.2.1) Investment in shipping is needed to continue operating existing ships in compliance with new regulations:

The findings confirm that investment in shipping is needed to continue operating existing ships in compliance with new regulations (QR10.2.1). Lyras (2010) argues that, at present, at least for smaller companies, shipping finance is still in short supply. This is not just for new ships but also for the investments needed to continue operating existing ships. Furthermore, the author maintains that, despite the large amounts of capital involved, the majority of shipowners are small- to medium-sized companies, with proprietary/entrepreneurial ownership. Lyras states: “Most shipping companies rely on commercial financing from banks that have traditionally had shipping experts who understood our unique business and its volatile and highly cyclical nature.”

The author concludes that most banks in the West are no longer providing finance, primarily as a consequence of their recent excesses and irresponsible management of credit in other sectors, as well as an endemic short-term view and approach to profitability in the financial world. Short-sighted is another word that could be applied.

Fishbein and Ajzen’s (1975) Expectancy-value Model stipulates that the subjective value of a given outcome affects the attitude, in direct proportion to the strength, of the belief. As long as there is a belief that, in the medium- to long-term, container shipping will be viable, investors will continue to finance shipping operations. This theory is consistent with the survey results, which confirmed agreement by respondents that investments in shipping will continue.

(QR10.2.2) Private equity funds have a bigger role to play given the global financial crisis and liquidity crunch:

The research findings further confirm that private equity funds have a bigger role to play, given the global financial crisis and liquidity crunch (QR10.2.2).

According to Shapiro (2009), in the current, dismal economic environment, private equity funds and their portfolio companies confront many of the same challenges, to remain productive, competitive and profitable, as other financial entities and companies. In addition, the author argues that, to the degree that easy credit and strong growth during the last expansion supported the entry and activities of private equity

funds that were relatively less skilled at governance and reorganisation, current conditions may expose their limitations and force many to retrench or exit.

Cornner and Armitage (1998) conclude that, at least in terms of using the TPB to develop interventions to change behaviour, belief importance measures may represent a useful additional variable. Accordingly, when there are strong beliefs among investors that they need to play a bigger role in financing shipping, an increase in private equity funding will, likely, be seen. The key, according to Cornner and Armitage (1998), is to consider the belief component regarding whether they believe in the need to increase shipping industry financing.

(QR10.2.3) Finance is required to secure strategic/global carrier alliances and partnerships that cover operations globally and offer additional advantages in container logistics:

The findings also reveal that finance is required to secure strategic/global carrier alliances and partnerships that cover operations globally and offer additional advantages in container logistics (QR10.2.3).

Photis *et al.* (2011) argues that strategic alliances do not aim for price fixing but instead for full integration of the service capabilities of the parties into one whole. The author further contends that, despite the fact there have been obvious advantages in the formation of strategic alliances, it might be claimed in certain circumstances that those advantages have not been achieved in practice. Consequently, some liner shipping companies have experienced instability and changes in strategic direction.

The issue of alliances and partnerships hinges on the trust element that prevails among shipping lines. Trust shows stronger significance in influencing attitude and purchase intention (Chen 2009; Jarvenpaa *et al.* 2000; Pavlou 2003; Verhagen *et al.* 2006). The greater the trust there is between shipping lines, the greater the likelihood that strategic alliances and partnerships will develop.

The study therefore, concludes that, with almost three quarters of the respondents agreeing, agreement was confirmed that finance is required to secure strategic/global

carrier alliances and partnerships that cover operations globally and offer additional advantages in container logistics (QR10.2.3).

(QR10.3.1) Harmonized standards and an operating environment with reduced administrative burden will increase profitability:

The findings indicate that harmonised standards and an operating environment, with a reduced administrative burden, will increase profitability and almost two thirds of the respondents agreed (QR10.3.1). Regulation (EU) 2015/757 of the European Parliament and of the Council of 29 April 2015 directed that, in order to further reduce the administrative burden for shipowners and operators, the monitoring rules should focus on CO₂, as the most relevant greenhouse gas emitted by maritime transport. Moreover, with nearly two thirds of the respondents in agreement, the findings conclude that harmonised standards and an operating environment with a reduced administrative burden, will increase profitability (QR10.3.1).

According to Rogers (1995), complexity represents the degree to which an innovation is perceived to be difficult to understand, learn or operate. The complexity surrounding regulatory issues will determine the success of complicity. The implication is that these regulations may actually drive profitability even lower and this is the perceived difficulty to operate that shipping liners are faced with.

(QR10.3.2) Bunker fuel with Liquid Natural Gas (LNG) will increase global shipping industry's competitiveness and increase profitability:

The findings also confirm that bunker fuel with Liquid Natural Gas (LNG) will increase the global shipping industry's competitiveness and increase profitability (QR10.3.2).

Egloff, Sanders, Guerrini, and Belsito (2015) contend that ship owners and operators must forecast the adoption of LNG, as they continue to confront challenging times. For years, the shipping industry's performance has been weighed down by the twin burdens of plunging freight rates and increasing bunker costs, and a full recovery is not in sight. The authors conclude that the plunge in crude oil prices that began in mid-

2014 and continued into early 2015, eased the pressure on margins, nonetheless, it is premature to declare victory in the struggle against bunker costs.

QR10 Conclusion, recommendations on decisive factors in attaining global shipping industry profitability.

QR10.1 Investors expecting to reduce financing costs

The study has added to the knowledge that investors are expecting to reduce financing costs through reducing bunker consumption (QR10.1.1), maximizing fleet efficiency (QR10.1.2), slow steaming (QR10.1.3), and postponing new buildings delivery (QR10.1.4). The findings conclude that bunker consumption is reduced through slow steaming but further questions the rise in the impact of slow steaming, on shipping liners and the shippers. This is an area for future research, as well as on the effectiveness of postponing new deliveries, to a market that already has an oversupply of tonnage.

According to theory (Triandis 1980), perceived control is expected to moderate the effect of intention on behaviour. When investors perceive they have less control over bunker consumption, vessel idling or scrapping, this is likely to affect their intention on behaviour of acting upon reducing financing costs in this way.

QR10.2 Financing issues

A limiting factor was the small size of the sample and lack of access to other global shipping corporate managers, which implies that the findings are only to be limited to the Southern Africa environment. Furthermore, the study added to the knowledge that investment in shipping needs to continue, in order to carry on operating existing ships under a new regulatory environment (QR10.2.1), private equity funds have a bigger role to play, given the liquidity crunch (QR10.2.2), and that finance is required to secure strategic global carrier alliances (QR10.2.3). Shipping liner finance remains critical in moving the shipping industry out of the recession. The practical implications are that investors need to continue with financial support for the shipping industry, in order to survive the recession.

As pointed out, the effect of intention on behaviour is expected to be moderated by perceived control (Triandis 1980). Thus, investors must gain the perception that they can do something to effectively reduce costs, in order for them to be able to act on financing shipping. It is important that they exercise perceived control positively. However, should losses continue with no immediate solution, investors will move their funds away from shipping and this will worsen the global shipping industry recession.

QR10.3 Impact of technical and regulatory requirements

The study also added to the knowledge that harmonised standards and an operating environment with reduced administrative burden, will increase profitability (QR10.3.1) and that replacing bunker fuel with LNG will improve the industry's competitiveness (QR10.3.2). It is recommended that more investment be channelled into the shipping industry, as operational costs are rising, due to environmental regulations and the search for alternatives to high bunker consumption. The practical implications are that shipping liners need to invest in new fleet, which will replace the older fleet and the new fleet complies with the use of LNG fuel for shipping vessels and is more efficient, conforming to environmental regulatory requirements.

The theory further confirms that technologies perceived to be less complex to use, have a higher possibility of acceptance by potential users and this is in agreement with the findings. Ease of use has been found to be an important determinant in technology adoption decisions (Davis 1989 in Ajjan and Hartshorne 2008: 73). The implication is that the industry is likely to embrace the use of LNG to improve industry competitiveness.

6.3.5 (QR11.1.1 – QR11.1.6) Conditions necessary for partners' in the industry to move out of the global shipping recession:

(QR11.1.1) The global shipping recession will be over when partners in the industry are able to increase freight rates:

The findings confirm that almost three quarters of the respondents agreed the global shipping recession will be over, when partners in the industry are able to increase freight rates (QR11.1.1).

As discussed by Chen and Lai (2010), a shipping cycle starts with a shortage of ships and increases in freight rates, which in turn, stimulates excessive ordering of new ships. The delivery of new ships brings about more supply in shipping capacity. It is concluded that the shipping cycle is a competitive process, in which supply and demand interact to determine freight rates.

Furthermore, the OECD (2002a: 75) states that, “liner shipping is about as “different” from other industries as, for example, trucking is to freight air services or freight air is to rail freight – with the exception that price-fixing is allowed in liner shipping and nearly universally dis-allowed in these other industries”.

Sanders *et al.* (2015), however, maintain that most carriers remain unprofitable. The few carriers that have managed to record a profit have maintained a laser sharp focus on operational improvements, in response to persistently decreasing freight rates. Disciplined network rationalisation and cost reduction measures, along with an increase in average vessel size aimed at lowering unit slot costs, have improved these companies’ earnings before tax.

The findings were therefore, in agreement with the literature and implies that the global shipping recession will be over, when partners in the industry are able to increase freight rates (QR11.1.1).

(QR11.1.2) The global shipping recession will be over when partners in the industry are able to improve the modal share by putting more goods onto rail and waterways:

The findings further show that the global shipping recession will be over, when partners in the industry are able to improve the modal share, by putting more goods onto rail and waterways (QR11.1.2).

As Hatch (2014: 1) explains, intermodality has also allowed rails to move back up the value chain. Rails had, for decades, ceded value added and consumer goods to the highway. With the development of modern intermodality, all that has changed. The author also observes that the movement into successfully handling value-added goods,

eventually brought higher margins but also higher cyclicity, as the findings during and after the 2008 crash and the (second) “Great Recession” have shown.

According to Ajzen (1991), control beliefs are the antecedents of PBC, and are concerned with the perceived power of specific factors to facilitate or inhibit performance of the behaviour. There is thus, a need for conviction among all partners about the urgency and importance of reviving the railways in South Africa, so that it may become viable again. Without a control beliefs component among stakeholders, we are not likely to see much change in terms of intermodal freight transport in South Africa.

Notteboom (2008: 5) contends that the rise of corridors is a highly relevant development to any policies aimed at generating a modal shift from road haulage to inland navigation, rail and short-sea shipping. Intermodal solutions, based on barges or rail, tend to be competitive on a number of high density traffic corridors.

The findings were therefore, in agreement with literature and implies that the global shipping recession will be over, when partners in the industry are able to improve the modal share, by putting more goods onto rail and waterways (QR11.1.2).

(QR11.1.3) The global shipping recession will be over when partners in the industry are able to trade freely without protectionism:

The findings, in addition, reveal that the global shipping recession will be over, when partners in the industry are able to trade freely, without protectionism (QR11.1.3).

Grainger (2008: 20) argues that the main objective of trade facilitation is to improve the overall trade environment and reduce trade costs. One respondent, during an interview, lamented that Africa can be a hard place to do business in, given challenges regarding the “softer factors” of promoting trade, such as customs and trade facilitation. The respondent further conceded that South Africa stands out in Africa in logistics performance and compares favourably on the global market.

Bribery and corruption are also problems and one respondent expressed frustration. According to Skadden *et al.* (2010), in February 2007, three subsidiaries of Vetco International Ltd., an oil services provider, pled guilty to violating the FCPA by paying bribes to Nigerian officials, through an unnamed third-party freight forwarding and customs clearance provider, widely reported as Panalpina. These are some of the soft issues that need to be collectively handled, if the shipping industry is to be moved out of recession.

Hence, the findings agree with the literature and imply that the global shipping recession will be over, when partners in the industry are able to trade freely, without protectionism (QR11.1.3).

(QR11.1.4) The global shipping recession will be over when partners in the industry are able to attain a balance of container volume in trade routes, and secure continual cargo volumes:

The findings also reveal that the global shipping recession will be over, when partners in the industry are able to attain a balance of container volume in trade routes, and secure continual cargo volumes (QR11.1.4).

According to UNCTAD (2013: 68), in 2012, shrinking cargo volumes, mainly on the main East–West containerised trade routes, combined with an oversupply of tonnage, in particular of large container ships, inevitably led to volatile container freight rates and a weaker market in general, while charter rates remained on the decline. The authors conclude that the same situation of over tonnage still persists, posing challenges for the global shipping industry in 2015.

Furthermore, the uneven performances among and within country groupings impacted the performance of containerised trade in 2014 (UNCTAD 2015: 3). The findings are in agreement with literature and the implication is therefore, that it is unlikely we will see a balance of container volume in trade routes in the foreseeable future.

(QR11.1.5) The global shipping recession will be over when partners in the industry are able to secure strategic/global carrier alliances:

The study findings also show that the global shipping recession will be over, when partners in the industry are able to secure strategic/global carrier alliances – partnerships that cover operations globally and offer additional advantages in container logistics (QR11.1.5).

According to Tung (2014: 11), Chinese shipping carriers account for less than one-third of the market share. The author further observes that China Shipping Container Lines Co. is teaming with other container lines, signalling positively that those Chinese shipping carriers are also starting to expand their market share through vessel-sharing.

Capacity agreements that go beyond operational groupings or which account for a high market share, can yield anti-competitive rates, through reducing overall capacity. Limited antitrust exemptions should not be allowed to cover price fixing and rate discussion (OECD 2002a).

Sanders *et al.* (2015) confirm that VSAs and firmer alliances let carriers jointly deploy the most economic vessels to serve specific trades, provide more departures in key ports, and achieve wider network coverage. The authors also observe that, sharing spreads the utilisation burden of larger vessels among more companies and clients, and carriers can, therefore, offer a good product at low cost.

According to OECD (2002a) and Phang (2009), it was recognised in Europe that reliability of liner services was not enhanced by conferences and prices for individual contracts were based on conference tariffs, providing an extreme power to carriers. The theory agreed with the research findings and the implication is that vessel sharing agreements are likely to continue to be used by shipping firms, as they seek to overcome challenges of low freight rates in the global container shipping market.

(QR11.1.6) The global shipping recession will be over when partners in the industry are able to remove provisions that restrict cabotage to achieve full liberalization:

The findings confirm that the global shipping recession will be over, when partners in the industry are able to remove provisions that restrict cabotage, to achieve full liberalisation (QR11.1.6).

Countries with long coastlines – Chile among them — may be able to attract cargoes to move by short sea shipping, rather than roads, but current regulatory barriers may restrict this potential. A tradition of protected trades, limited to vessels flying the national flag, exists in many nations, including North and South America. As indicated by ICS (2014: 17), cabotage services represent an opportunity, when considered under the prism of spare capacity on ships that could be utilised. This is particularly important when the long coastline is at the end of a pendulum service, as in Chile; the liner company is more likely to drop the last port on a pendulum should a port be dropped from the string, in a re-design of its networks. The authors conclude that adding cabotage traffic can make a difference to the economics of maintaining service on the last leg.

According to Pavlou (2003), trust is one of the most effective tools for reducing uncertainty and risks.

The findings therefore, conclude that with all respondents in agreement, agreement was confirmed that the global shipping recession will be over, when partners in the industry are able to remove provisions that restrict cabotage, to achieve full liberalisation (QR11.1.6).

(QR11.2.1 – QR11.2.4) Ending the recession when players in the shipping industry are able to maximize profits by reducing costs:

(QR11.2.1) The global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through working with paperless utilities:

The findings show that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through working with paperless utilities (QR11.2.1).

Shipmentlink (2015) explains that EDI (Electronic Data Interchange) enables the streamlining of processes and increasing productivity, by automating the interchange of information between the back office and the carrier's system. The authors further argue that it features direct and automatically linked data, avoiding duplication and rekeying of data, improved data quality by reducing manual errors, and it is paperless.

Perceived self-efficacy is said to refer to "belief in one's capabilities to organize and execute the course of action required producing a given level of attainments" (Bandura 1988: 624). The implication is there is need for a firm belief that it is possible to work with paperless utilities as a core belief among shipping companies, in order to realise this, which is in agreement with the research findings.

The findings therefore imply that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs, through working with paperless utilities (QR11.2.1).

(QR11.2.2) The global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through outsourcing local agency work as opposed to in-house offices:

The findings also reveal that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through outsourcing local agency work, as opposed to in-house offices (QR11.2.2).

According to Lundquist (2014), outsourcing offers all the benefits of a full-service backroom, without the fixed overhead costs; payment is only for fulfilment when sales are generated. The author further asserts outsourcing can help enterprises be more efficient, stay more competitive and serve their clients better.

Shi (2007), however, advises caution on outsourcing, by asserting that the vendor's capabilities to perform well in outsourcing should be dealt with mindfully because the

vendor's inability to perform will affect the client's performance to achieve competitive advantage.

The findings thus agree with the literature and imply that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through outsourcing local agency work, as opposed to in-house offices (Q11.2.2).

(QR11.2.3) The global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through eliminating redundant office functions, and/or combine functions:

The findings also reveal that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through eliminating redundant office functions, and/or combine functions (QR11.2.3).

Langley (2014) finds some encouraging results that suggest a slight increase in outsourcing of strategic, customer-facing, and IT-intensive logistics activities. The author further contends that, the continuing economic uncertainties in the global marketplace, may persist in dampening significant growth and innovation in the 3PL sector.

Self-efficacy refers to "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura 1991: 257). (See page 71). From discussions held with some shipping agency executives, it is very painful to come to a decision to reduce staff and this is what they are actively trying to avoid every time.

It is held by Mullich (2013) that, as the market matures, companies contracting for outcomes are exploring fresh ideas and seeking new answers to streamline finance and accounting processes. Furthermore, the author observes they are expanding outsourcing to new areas of finance and accounting, new industries, and new sizes of companies.

The findings therefore, agree with the literature and imply that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through eliminating redundant office functions, and/or combine functions (QR11.2.3).

(QR11.2.4) The global shipping recession will be over when players in the industry are able to maximize profits by reducing costs through reducing office costs by allowing seasonality of staff:

The findings reveal, additionally that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through reducing office costs, by allowing seasonality of staff (QR11.2.4).

Kirkman (2012), however, observes there were gains to be made through cost cutting measures, such as closing unprofitable business units or offices and consolidating work from a centralised office. The author argues that agents can engage superintendents or a few individuals working at the ports, with a virtual office.

The findings therefore, conclude that the global shipping recession will be over, when players in the industry are able to maximise profits by reducing costs through reducing office costs, by allowing seasonality of staff (QR11.2.4)

Conclusion and recommendations on maximizing profits through cost cutting measures.

The study recommends that the practical implications for the shipping industry are: a need to work towards increasing freight rates (QR11.1.1); increasing modal share by rail (QR11.1.2); trade freely without protectionism (QR11.1.3); and attain a balance of container cargo (QR11.1.4); as well as securing strategic global carrier alliances and removing provisions that restrict cabotage, to achieve full liberalisation (QR11.1.5), in order to move the industry out of recession.

The study added to the knowledge that harmonised standards, with reduced administrative burden, will increase profitability, and replacing bunker fuel with LNG, will improve the shipping industry's competitiveness. The major limitation is that LNG fuel cannot be used on an old fleet of vessels, hence it is a long-term solution and that despite globalisation, realising free trade is still a global challenge that has no immediate solution.

6.4 Bivariate analysis

6.4.1 Expansion of shipping agency business

Bivariate analysis for Education (QE3)/feasibility for shipping agencies to diversify by expanding their business (QE8), indicates a difference in responses of education, regarding the impact of the global shipping recession on the global supply chain (Table 6.1 appendix). However, individual analysis on pairs did not show anything specific. The significance of this analysis is that it appears as if the higher their qualification, the more respondents disagree.

6.4.2 (QR5) Industry knowledge/ (QR10.1 – QR10.3) How transformation is to be achieved

(QR5) Industry knowledge/ (QR10.1) Investors expecting to reduce financing cost

There is a difference in responses of respondents with different experience in the industry (χ^2 (2, N=65) = 8.917, p=.012) (Table 6.1 appendix). More specifically, those with five to 10 years' experience show more agreement that investors are expecting to reduce financing costs. (Z (N=42) = -2.842, p=.004). This would facilitate an understanding that participants with more experience showed a greater understanding on the need to reduce financing costs in global shipping

(QR5) Industry knowledge/ (QR10.2) Finance issues

There is difference in responses of respondents with different experience in the industry (χ^2 (2, N=65) = 15.980, p<.0005) (Table 6.1 appendix). More specifically, those with five to ten years' experience show agreement that investment in shipping is required, private equity funds have a bigger role to play given the global financial crisis and liquidity crunch, and that finance is required to secure partnerships that cover

operations globally, more than those with 16 – 20 years' experience ($Z (N=42) = -3.945, p<.0005$). The significance is that it suggests participants that were more experienced, may have understood the need for private equity funds to assist in financing global shipping operations.

(QR5) Industry knowledge/ (QR10.3) factors that will increase global shipping industry's competitiveness and increase profitability

There is a difference in the responses of respondents with different industry knowledge, regarding factors that will increase the global shipping industry's competitiveness and increase profitability ($\chi^2 (2, N=65) = 7.336, p=.026$) (Table 6.1 appendix). More specifically, those with five to ten years' industry knowledge showed more agreement on factors that will increase the global shipping industry's competitiveness and increase profitability. ($Z (N=40) = -2.553, p=.011$). The significance is that more experienced participants may understand the global shipping industry's competitiveness better and agree on ways to increase profitability, hence experience is likely to have played an important role in validating the results concerning factors that will increase competitiveness in the shipping industry.

6.4.3 Bivariate analysis – Shipping environment objectives

QR5 Experience and QR7.2 The EU debt crisis resulted in reduced demand

There is a significant difference in responses of respondents with different experience in the industry ($\chi^2 (3, N=65) = 8.954, p=.03$) (Table 6.2 appendix). More specifically, those with 16 - 20 years' experience show more agreement that the EU economic debt crisis resulted in reduced demand for exports to Europe. ($Z (N=51) = -2.474, p=.013$). The significance of this conclusion is that more experienced participants were likely to have understood the factors relating to demand for exports to Europe and this validated the results of the study.

QR5 Experience and QE7.3 Expansion into Charterers' Agency Service

A significant difference was found from respondents with different experience in the industry ($\chi^2 (3, N=65) = 8.624, p=.03$) (Table 6.2 appendix). More specifically, those with 16 - 20 years' experience show more agreement ($Z (N=51) = -2.698, p=.007$).

This is significant in that it justifies that experienced participants had a common understanding of the opportunities available in charterers' agency services.

6.5 Conclusion

This chapter examined the interpretation of the findings from the two questionnaires on the objectives for shipping agency expansion and transformation, as well as on the impact of the global shipping recession. The findings were interpreted, with reference to the responses received and related literature and theory, together with conclusions and recommendations for each research questions. Demographic factors were also analysed and a Bivariate analysis drawn.

Implications for each question were obtained, based on the findings from both literature and survey, and the next chapter will examine the conclusion to the research and implications drawn from the study, for both managerial and study applications.

CHAPTER 7

Conclusions

7.1 Introduction

This chapter presents the conclusions and recommendations of the study. The chapter examines the research objectives of what was investigated, what new findings were discovered, the distinctive contribution of the thesis, for both theory and managerial applications, as well as the implications of the study in terms of both theory and managerial contributions. Limitations of the research and areas for future research are also identified.

7.2 Importance of the topic

The global shipping industry has fallen into a recession characterised by low earnings, layoffs and low freight rates, which shipping companies, in particular the container shipping industry, have battled to survive. The entry of larger vessels, to an industry already troubled by oversupply of tonnage, has made immediate solutions for recovery bleak and it is, therefore, logical to investigate ways for shipping agencies to survive through diversification and identify ways to aid recovery of the global shipping industry.

7.3 Objectives of thesis: What was investigated?

The primary objective of the research is to develop a framework of diversification options to the shipping industry.

The supporting objectives of the research are to:

- Identify areas for shipping companies to expand their operations, through penetrating other markets along the supply chain.
- Identify the causes of the global shipping recession.
- Examine factors that are critical in moving the global shipping industry out of the recession.

7.4 Summary of what was found – what is new?

The theories of diversification and theory of human behaviour have been applied, in a study aimed at developing a framework of strategic diversification opportunities for shipping companies in South Africa. The study is particularly relevant for the shipping supply chain executive and contributes to managerial decision-making, in terms of analysing their capability to create and apply knowledge in their competitive strategies. The study further confirmed, through both the literature and research findings that the strategy of related diversification enables shipping firms to exploit economies of scope.

It was confirmed that diversification helps to reduce earnings volatility because the cash flows across the firm's various markets will be imperfectly correlated, thereby allowing firms to employ more debt in their capital structure and hence enjoy the concomitant cost of capital and tax benefits. It was also found that resource sharing and skill transfers enable the diversified firm to reduce overall operating costs in one or more of its divisions. The study also corroborated that the container shipping industry has undertaken cost cutting measures that include idling vessels, laying off workers and slow steaming, in order to survive the global shipping recession. These measures have not been sustainable, hence the need for consideration of longer-term strategic options, such as diversification along the global shipping supply chain.

7.5 Distinctive contribution of thesis

7.5.1 Theoretical contribution

This thesis forms a distinctive contribution to the knowledge of the subject of container shipping, through a South African perspective that provides a framework for shipping agencies diversification options, under conditions of a global shipping recession. The thesis further affords evidence of originality, shown by the discovery of new themes emerging from existing theories and conducted through a mixed methods study and the exercise of independent, critical power.

7.5.2 Managerial contribution

The major contribution of this study to both knowledge and practice, lies in the development of a framework that supports organisations in the South African shipping industry, in analysing their capability to create and apply knowledge in their competitive strategies, under recessionary conditions. The competitive strategies are based on diversification of the container shipping agency.

7.6 Implications of the study: Theoretical contribution

7.6.1 Cost cutting measures

The literature also reveals that, according to Kearney (2012), while rationalisation and cost-cutting measures are appropriate answers to volatile and fiercely competitive markets, such measures fail to address fundamental, structural market challenges in the foreseeable future. Consequently, Kearney (2012) suggests diversification can only be a short-term measure that fails to address fundamental, structural challenges and cannot be a permanent solution to the shipping firms in recession.

The theory suggests the strategy of related diversification enables firms to exploit economies of scope (Teece 1982; Porter 1987). However, Penrose (1956) postulates that expansion into new markets may be motivated not just by attractive opportunities in the new market but also by poor prospects in the firm's existing markets. To mitigate or even counter the effects of the crisis, measures were taken; the shipping companies have laid up vessels and laid off workers around the world. Regardless, there were substantial cutbacks, job cuts and salary reductions were unavoidable, mostly due to the slowdown of the freight rate (Kalgora and Christian 2016).

It is found by Chen and Lai (2010: 1) that alliance cooperation in the contemporary liner shipping industry, has been a popular approach adopted by carriers for extending service scopes and/or reducing investment risks. The authors further argue that concrete means of collaboration, such as joint fleet, slot charter, slot purchase, and slot exchange, are normally employed in practice. The implications of these theoretical

arguments are that diversification can be beneficial to a shipping firm operating in a global shipping industrial recession, such as this one.

7.6.2 Knowledge and skills transfer

The theory also confirms that managing expansion requires the development and transfer of tacit knowledge between operations to exploit synergies (Kogut and Zander 1993). (See page 57). More than a tenth of the respondents were, however, in disagreement and the contending views expressed, include that small shipping agencies have little room for competing with the larger players, who enjoy scale of economies. The significance of these findings is that the freight transport industry offers stiff competition, and small players will find it difficult to survive.

One single resource may provide a variety of services. In fact, at any given moment, the resources of a firm could be dedicated to a number of different activities (Penrose 1959; Teece 1982; Montgomery and Hariharan 1991). This is consistent with the research findings; as more than half of the respondents were in agreement. It was concluded that good relationships with the ports, customs and emigration authorities is important, in order to penetrate the vessel husbandry services (QE9.2.3).

The implication from the study is that each shipping agency must ensure its employees are trained and professional (QE10.4). Further, it is important to pay attention to amounts due from/to principals in the company's general ledger, which must be supported by detailed accounting and reporting for principals, agreeing in total to the general ledger. The theory, however, suggests that firms need to adopt a systems approach in their human resource management because individual practices are easily imitable, whereas coherent systems are not (Progoulaki and Theotokas 2010).

7.6.3 Diversification

Notteboom and Mercx (2006) maintain there is pressure to develop more value added services, and diversification is perceived as the safest and easiest way to get there. According to Photis *et al.* (2011), diversification is mostly used by larger players that have enough resources and capabilities to operate several activities conjointly, in

different locations. Carbone and Stone (2005) further contend that shipping companies diversify mainly through merger and acquisition.

7.6.4 Related or unrelated diversification

While there are many studies that have supported Rumelt's (1974) original findings, of related diversified firms performing better than those that are unrelated (Montgomery 1979; Bettis 1981; Rumelt, 1982; Palepu 1985, Varadarajan 1986; Varadarajan and Ramanujam 1987; Lubatkin and Rogers 1989), there is a growing number of scholars that find the opposite (Michel and Shaked 1984; Chatterjee 1986); or are indifferent (Lubatkin 1987). The implication is that the shipping firm needs to closely examine the niche it seeks to penetrate, in order to best fit its strategic resources in a way that generates a competitive advantage for the firm, as a solution to the inconclusive consideration of whether there is relatedness or not.

Earnings volatility is reduced, with the help of diversification because firms are allowed to employ more debt in their capital structure, as the cash flows across the firm's various markets will be imperfectly correlated, and firms hence, enjoy the associated cost of capital and tax benefits (Barton and Gordon 1988; Kim *et al.* 1993; Kochhar and Hitt 1998; Lim *et al.* 2009; Low and Chen 2004; Lowe *et al.* 1994). (See page 59). The findings are consistent with the theory and imply a confirmation of diversification opportunities for shipping companies, in chartering own feeder vessels to serve principals (QE10.1).

A cautious approach is also, however, implied since, by sharing risks, intermediaries decrease the risk of individual failure, but increase the risk of massive, systemic failure (Ibragimov *et al.* 2010: 334). There appears to be no further cost reductions possible among shipping agents due to the recession, and it may be that some shipping agents would be closing their doors or amalgamating. However, Hill *et al.* (1992: 502) find that "...resource sharing and skill transfers enable the diversified firm either to reduce overall operating costs in one or more of its divisions". The literature is consistent with the findings and confirms diversification will cut costs for shipping agencies.

7.6.5 Financial crises

Financial crises sometimes appear to be driven by “irrational” factors. These include sudden runs on banks, contagion, and spill-overs among financial markets. Indeed, the idea of “animal spirits” (as a source of financial market movements) has long occupied a significant space in the literature attempting to explain crises (Keynes 1930; Minsky 1975; Kindleberger 1978). Stopford (1997: 2) points out that, to understand the economic and political forces that mould developments in the shipping market, there must be appreciation for the two-way interaction between developments in shipping and the world economy. According to Lunga (2012: 224), such an understanding will assist in projecting and fostering a better comprehension thereof, in a predominantly South African context. The implications are that there is a positive relationship between world GDP and world trade.

There was agreement by more than half of the respondents that easy credit created an opportunity to invest in newer, larger vessels and this resulted in problems of oversupply (QR7.1). When considering that attitude is defined as the degree to which the individual favours the behaviour being examined (Ajzen 1991), the implication of the findings is that the prevailing attitude towards lending by the banking sector contributed to the financial crisis of 2008-9 (QR7.2). (See page 64). Furthermore, the European Union debt crisis theories suggest that bubbles can appear without distortions, uncertainty, speculation, or bounded rationality (Garber 2000; and Scherbina 2013) and this implies that no one individual or institution can be blamed for causing the crisis.

7.6.6 Impact of the global shipping recession

The shipping sector is often referred to as a global market, moderately concentrated, that takes the form of an oligopoly (Sys 2009). This theory is consistent with the findings, and implies a severe impact on liner shipping from the global economic crisis, due to the oligopolistic nature of the market. Literature also confirms that the global financial and economic crisis has significantly affected the container-ship market and the shipping industry as a whole (Kalgora and Christian 2016).

7.6.7 Low freight rates

Haralambides (2004) considers conference price-fixing as a low cost arrangement towards self-regulation of the industry. According to Sanders *et al.* (2015), owing to persistent overcapacity, freight rates will continue to remain under pressure, as carriers strive to fill vessels, while many factors, in addition to the supply-demand gap, influence freight rates and making forecasts unreliable.

Theory implies there are economies of scope, whereby the diversified firm is an efficient form for organising economic activities (Penrose 1959); this is in agreement with the findings. As Chen and Lai (2010: 1) point out, alliance cooperation in the contemporary liner shipping industry has been a popular approach, adopted by carriers for extending service scopes and/or reducing investment risks. The authors further argue that concrete means of collaboration, such as joint fleet, slot charter, slot purchase, and slot exchange, are normally employed in practice. Compatibility is defined as the degree to which technology fits with potential existing values and experiences (Rogers 2003).

This is in agreement with the findings and implies that larger vessels have affected port operations. As stated by Sanders *et al.* (2015), the industry is entrapped in a vicious cycle: to survive downward pressure that overcapacity has imposed on prices, carriers seek to lower slots by acquiring new, larger and more efficient vessels. The implications of these theories are that there are benefits that can be tapped from the low freight rates induced by the recession, in the form of economies of scope, collaboration, and compatibility.

7.6.8 Financing issues

According to Fishbein and Ajzen's (1975) Expectancy-value Model, the subjective value of a given outcome affects the attitude, in direct proportion to the strength of the belief. The implication is that efforts, to reduce bunker consumption through slow steaming, have been expected to yield significant gains hence, the positive attention it has received from investors, and survey results confirmed this.

According to Ajzen (1991), control beliefs are the antecedents of PBC, and are concerned with the perceived power of specific factors, to facilitate or inhibit performance of the behaviour. This implies a need for conviction among all partners, about the urgency and importance of reviving the railways in South Africa, so that it may become viable again.

7.7 Implications of the study: Managerial contribution

The findings support the shipping agency expansion possibilities into offering freight and logistics services, vessel husbandry services, and charterers' agency services. This was confirmed by most of the respondents' agreement and was further supported by the literature. It was also confirmed that shipping agencies can expand geographically, through mergers, acquisitions and amalgamations.

7.7.1 Shipping agency growth recommendations

The policy implication with regards to the findings are that the current global shipping recession has affected shipping agencies negatively hence there is need for shipping agencies to look at expansion possibilities. Consequently, the policy implications are that shipping agencies need to expand into husbandry services, charterers' agency services, as well as freight transport and logistics, in order to survive the recession.

7.7.2 Growth into husbandry services

The study has added to what is known about feasibility of expansion into freight and logistics areas of inland freight, over-border transport, intermodal transport, container sales and bulk wholesale purchase of slots for resale to customers, through confirmation that it is feasible for shipping agencies to expand into these areas.

7.7.3 Growth into freight transportation

The policy recommendations are that shipping agencies need to widen income streams, by tapping into the existing opportunities in freight transport, as there is no indication that the global shipping recession will rescind any time soon.

7.7.4 Growth into charters agency

From the findings, it is recommended that specialist personnel in the field of charterers' agency need to be employed or outsourced, in order for the shipping agency to successfully penetrate this market sector.

The policy implication is that shipping agencies should work towards removing trade flow dislocations, possess experience in handling all customs documentation/formalities, possess experience in assessing and reporting on port status and conditions, as well as be able to save expenses and achieve quick turnaround time, as these factors are critical in facilitating transformation.

7.7.5 Factors that caused the global shipping recession

The policy implications are that shipping agencies need to continually monitor developments in the global political and economic sphere, as changes in these areas can affect their business operations negatively.

7.7.6 Consequences of the global shipping recession

The severity of the recession was concluded to have affected all players in the global shipping recession. The extent to which each player was affected differed, yet there was agreement among the respondents that the recession affected all sectors in the supply chain.

The policy recommendations are that shipping agencies need to consider partnering with larger, experienced players in the freight transport business, in order to successfully penetrate those markets, since the global shipping recession has also had a negative impact on the freight transport market.

7.7.7 Moving the global shipping industry out of the recession

The study has, furthermore, added to the existing knowledge on the redistribution or idling of old fleet, to be replaced by newer, bigger vessels; the significance of slow steaming, as a measure to reduce operational costs; and the need for smaller players to form alliances with bigger players, in order to survive liner shipping competition.

Although the findings concluded that bunker consumption is reduced through slow steaming, further questions arise on the impact of slow steaming on shipping liners and the shippers. The study also added to the knowledge that harmonised standards, with a reduced administrative burden, will increase profitability, and that replacing bunker fuel with LNG will improve the shipping industry's competitiveness.

7.8 Support for the key arguments

The findings further support the prediction that shipping agencies require market knowledge, industry experience, as well as appropriate IT platforms, in order to expand their business. The findings indicate, in addition, that outsourcing non-core business, qualified and experienced personnel and quality service, are important vehicles, necessary for shipping agencies to achieve the transformations.

The findings also endorse the model that the existence of overcapacity in container shipping is a contributing cause for the low freight rates that have prevailed for more than six years. The findings, in addition, offer insights into the growing trend for ordering new, larger vessels, which adds to the problems of overcapacity and worse, hence the freight rates remain low. Slow steaming, vessel demolition and order cancellation, together with strategic diversification strategies, are some of the ways identified to stir the industry out of recession.

7.9 Areas of interest

Areas of interest include bunker fuel cost, industry regulations and alternative sources of fuel. The use of LNG fuel for container shipping vessels has been successful, although use is restricted to new vessels. The implication is that the large scale use of LNG will only be realised in the distant future and this does not help the global shipping recession problems at present. It was also identified that short-term tactics employed by shipping liners included slow steaming and taking longer routes.

7.10 Future research opportunities

The issue of relatedness or ‘unrelatedness’ in diversification and its effect on organisational performance, has not been concluded in literature. Many studies have supported Rumelt’s (1974) original findings that related diversified firms perform better than those that are unrelated, yet others have found otherwise. This area requires further investigation.

Another area for future research is on port expansion and the advent of newer, bigger vessels. Further research is necessary to justify whether port expansion can also involve shipping agencies’ participation or other partners, in partnership with the port authorities, in order to perform some port activities, such as terminal handling or have these outsourced. Is it feasible to include players along the supply chain?

7.11 Limitations of current work

It is unfortunate that the current study did not include a specific question in a survey that, in retrospect, could have helped address a particular issue that emerged later in the study. This is on the likelihood of the impact, of the South African government’s involvement in the container shipping business, on other players in the South African container shipping industry. The issue has already been discussed at government level, through operation Phakisa, whose first phase of implementation will focus on unlocking the economic potential of South Africa’s oceans. There is a need for future researchers to revise the specific method for gathering data and incorporate this aspect.

Self-reported data

Self-reported data is limited by the fact that it can rarely be independently verified and that the researcher had to take what people say, at face value. However, the self-reported data could have contained several potential sources of bias that amount to study limitations.

These biases are:

- (1) *Selective memory* (selectively remembering experiences that occurred at some point in the past);
- (2) *Telescoping* (recalling events that occurred at one time as if they occurred at another time);
- (3) *Attribution* (attributing positive events and outcomes to one's own agency but attributing negative events and outcomes to external forces) and also *consideration* must be taken into account;
- (4) *Exaggeration* (representing outcomes as more significant than is actually suggested from other data).

Moreover, there are various dynamics that affect container shipping firms' strategic decision-making and the sustainability of external factors, which are not all covered in this thesis. Given the vast dynamics of the shipping industry, this research does not extend beyond the confines of liner shipping. Consideration must be made for the oligopolistic and perfect competition traits displayed in this industry, with pricing resembling significant competition and rivalry.

7.12 Conclusion

It is concluded that shipping agencies have opportunities to expand their business scope through transforming into vessel husbandry, freight and logistics, and charters' markets. Furthermore, it is concluded that the global shipping industry is still in recession, with unstable recovery and short-term fluctuations. Industry players are advised to redefine their business models and do away with redundant functions and non-core activities, while seeking alliances with stronger and better positioned partners along the supply chain.

The project's objectives have been achieved and a framework of growth through diversification for shipping agencies in South Africa was developed. This project has added to the literature available on the global shipping industry.

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Annexures/Appendices

Appendix 1: Questionnaire for Objective 1

Topic:

A framework of growth options through diversification among shipping agents in South Africa

Problem statement:

This research will develop a model of growth through diversification for shipping agencies in South Africa under recessionary conditions. The prolonged global shipping recession has affected shipping agency business ways are now being sought to expand their income streams through diversification. The thesis will be conducted in the South African shipping industry and its global shipping surrounds.

Objective 1:

The main objective of this thesis is to develop a framework of growth options for shipping agencies in South Africa. The growth options have been identified as offering inland freight transportation, husbandry services and charterers agency business.

The researcher seeks to identify the elements of the supply chain, what will facilitate the diversification and how the transformation will be achieved.

Appendix 1/ cont.

QUESTIONNAIRE FOR INDIVIDUAL INTERVIEWS

Shipping Agency Survey - First objective

RESPONDENT _____

Good day. My name is Izekiel Nohumba and I am conducting a doctoral research at Durban University of Technology on the expansion of shipping agency business in South Africa. Your faithful participation and input will be greatly appreciated as it will assist in adding to the existing body of knowledge, and is also useful for the development of the global shipping and freight logistics business. You are guaranteed that the information collected from this interview will remain confidential and will be used solely for the purpose of this research. You are also free to withdraw from the research at any time without any repercussions. Thank you! Please send the survey form to email: e.nohumba@gmail.com If you need further clarification, please contact me at +27 78 378 7529.

Instructions: Mark with an X where appropriate

Section 1- Demographic profiles for

QE1. What is your age?

| | |
|-------------|--|
| 25 or under | |
| 26 – 40 | |
| 41 – 55 | |
| 56 or older | |

QE2. What is your gender?

| | |
|--------|--|
| Male | |
| Female | |

QE3. What is the highest level of education you have successfully completed?

| | |
|---------------------------------------|--|
| High School or equivalent | |
| Vocational/technical school (2 years) | |
| Diploma | |
| Bachelor's degree | |
| Master's degree | |
| Doctoral degree | |
| Other: Specify _____ | |

QE4. Which ONE of the following best describes the area in which your organization falls?

| | |
|------------------------------|--|
| Liner shipping | |
| Shipping agency | |
| Freight and Logistics | |
| Port and terminal management | |

QE5. For how long have you been working in this industry?

| | |
|-------------------|--|
| Less than 5 years | |
|-------------------|--|

| | |
|---------------|--|
| 5 – 10 years | |
| 11 – 15 years | |
| 16 – 20 years | |
| Over 20 years | |

QE6. With which of the following areas of shipping and logistics are you familiar?

(You may select more than one area)

| | |
|-------------------------------------|--|
| 6.1 Liner shipping Agency | |
| 6.2 Port and husbandry Services | |
| 6.3 Freight transport and logistics | |
| 6.4 Charterers Agency | |

Section 2 - Identifying possible growth opportunities

QE7 (Agency expansion) Indicate your agreement with the following:

| | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------|--|-------------------|----------|---------|-------|----------------|
| QE7.1 | There are areas where shipping agency business can expand and widen income streams | | | | | |
| QE7.2 | It is feasible for shipping agencies to expand into husbandry services | | | | | |
| QE7.3 | The prospects for shipping agents to grow the business through offering charterers' agency services can be evaluated as viable | | | | | |
| QE7.4 | The opportunities available for shipping agents to diversify into freight transport and logistics services can be assessed as attractive | | | | | |
| QE7.5 | Diversifying into other areas will assist shipping agencies to reduce the risks related to market volatility in shipping. | | | | | |
| QE7.6 | Diversifying into other areas will assist shipping agencies to cut costs | | | | | |

4. Indicate your agreement on the feasibility for shipping agencies to expand their business into:

| QE8.1 | Husbandry Services and offer: | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---------|-------------------------------|-------------------|----------|---------|-------|----------------|
| QE8.1.1 | Crew change assistance | | | | | |
| QE8.1.2 | Cash to master transactions | | | | | |
| QE8.1.3 | Vessel security services | | | | | |

| | | | | | | |
|--------------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| QE8.1.4 | Bunker delivery coordination | | | | | |
| QE8.1.5 | Fuel and lubricants supplies | | | | | |
| QE8.1.6 | Waste and sewage removal | | | | | |
| QE8.1.7 | Communication services | | | | | |
| QE8.1.8 | Meet and greet (Transport services) | | | | | |
| QE8.1.9 | Statement of facts services | | | | | |
| QE8.1.10 | Arranging surveyors and technicians | | | | | |
| QE8.1.11 | Stevedoring services | | | | | |
| QE8.2 | Freight and logistics services and offer: | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QE8.2.1 | Inland freight transportation | | | | | |
| QE8.2.2 | Over border transportation | | | | | |
| QE8.2.3 | Intermodal transportation | | | | | |
| QE8.2.4 | Container sales service | | | | | |
| QE8.2.5 | Bulk wholesale purchase of slots for resale to customers | | | | | |
| QE8.3 | Charterers Agency services and offer: | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QE8.3.1 | Bareboat chartering services | | | | | |
| QE8.3.2 | Time chartering services | | | | | |
| QE8.3.3 | Voyage chartering services | | | | | |
| QE8.3.4 | Appointing OWN independent representative | | | | | |
| QE8.3.5 | Stockpile reporting services | | | | | |

Identifying factors that will facilitate diversification

QE9. Indicate your agreement with the following statements:

| | | | | | | |
|---------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| QE9.1 | For a shipping company to penetrate the <u>freight and logistics market</u>, it will need to... | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QE9.1.1 | market its offering to potential clients and partners | | | | | |
| QE9.1.2 | have industry knowledge | | | | | |
| QE9.1.3 | have industry experience | | | | | |
| QE9.1.4 | have the appropriate infrastructure | | | | | |
| QE9.1.5 | provide quality service | | | | | |
| QE9.1.6 | outsource the services by engaging other service providers to transport cargo | | | | | |

| | | | | | | |
|--------------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| QE9.2 | For a shipping company to penetrate the <u>husbandry market</u>, it will need to... | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QE9.2.1 | have a good reputation in shipping | | | | | |
| QE9.2.2 | have port experience | | | | | |
| QE9.2.3 | have a good relationship with the ports, customs and emigration authorities | | | | | |
| QE9.2.4 | be capable of processing quick, accurate and detailed disbursement accounts (P/DA) | | | | | |
| QE9.2.5 | establish sound contact with all sorts of suppliers of specialized services | | | | | |
| QE9.3 | For a shipping company to penetrate the <u>charterer market</u>... | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QE9.3.1 | there should be no trade flow dislocations | | | | | |
| QE9.3.2 | it should have experience in handling all customs documentation / formalities for smooth loading and discharging of cargo to avoid berthing delays to the vessel | | | | | |
| QE9.3.3 | it should have experience in assessing and reporting on port status and conditions | | | | | |
| QE9.3.4 | it should have the ability to save expenses and achieve quick turnaround time | | | | | |

Identifying how transformation will be achieved

E10. Indicate your agreement that transformation into these new areas would be achieved by:

| | | | | | | |
|--------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QE10.1 | Chartering one's own feeder vessels to service principals | | | | | |
| QE10.2 | Developing smart IT systems, generic to ships agency to enable taking on additional principals | | | | | |
| QE10.3 | Representing other ships' agency companies who may be well positioned in other countries but may need an "agent" to represent them in South Africa | | | | | |
| QE10.4 | Having competent and experienced staff to offer exceptional service | | | | | |
| QE10.5 | Expanding carrier haulage ratio vis-à-vis merchant haulages | | | | | |

| | | | | | | |
|---------|---|--|--|--|--|--|
| QE10.6 | Securing own trucks or rental trucks to manage inland deliveries | | | | | |
| QE10.7 | The bulk wholesale purchase of vessel slots for retail to customers. (Revenue will be capital gain, not just agency commission) | | | | | |
| QE10.8 | Changing working hours to suit customer seasonality/trends | | | | | |
| QE10.9 | Developing a good reputation / brand name in the industry | | | | | |
| QE10.10 | Offering reefer monitoring services (market niche) | | | | | |
| QE10.11 | Offering logistics monitoring services (market niche) | | | | | |
| QE10.12 | Offering container sales services (market niche) | | | | | |

Thank you for your participation

Appendix 2: Questionnaire for Objective 2

Topic:

A framework of growth options through diversification among shipping agents in South Africa

Problem statement:

This research will develop a model of growth through diversification for shipping agencies in South Africa under recessionary conditions. The prolonged global shipping recession has affected shipping agency business ways are now being sought to expand their income streams through diversification. The thesis will be conducted in the South African shipping industry and its global shipping surrounds.

Objective 2: The shipping recession

The research objective is to evaluate the causes and consequences of the global shipping recession and what can be done to move the industry out of the recession. The research seeks to evaluate the impact of the global shipping recession on shipping liners and the global chain, and examine how the recession has affected shipping agency and freight transport business. Further the research seeks to establish when global shipping recession will rescind and how?

QUESTIONNAIRE FOR INDIVIDUAL INTERVIEWS

Shipping Industry Survey- for second objective RESPONDENT _____

Good day. My name is Izekiel Nohumba and I am conducting a doctoral research at Durban University of Technology on the expansion of shipping agency business in South Africa. Your faithful participation and input will be greatly appreciated as it will assist in adding to the existing body of knowledge, and is also useful for the development of the global shipping and freight logistics business. You are guaranteed that the information collected from this interview will remain confidential and will be used solely for the purpose of this research. You are also free to withdraw from the research at any time without any repercussions. Thank you! Please send the survey form to email: e.nohumba@gmail.com If you need further clarification, please contact me at +2778 378 7529.

Instructions: Mark with an X where appropriate

Section 1: Demographic profile of managers and executives in the shipping industry

QR1. What is your age?

| | |
|-------------|--|
| 25 or under | |
| 26 – 40 | |
| 41 – 55 | |
| 56 or older | |

QR2. What is your gender?

| | |
|--------|--|
| Male | |
| Female | |

QR3. What is the highest level of education you have successfully completed?

| | |
|---------------------------------------|--|
| High School or equivalent | |
| Vocational/technical school (2 years) | |
| Diploma | |
| Bachelor's degree | |
| Master's degree | |
| Doctoral degree | |
| Other: Specify _____ | |

QR4. Which ONE of the following best describes the area in which your organization falls?

| | |
|------------------------------|--|
| Liner shipping | |
| Shipping agency | |
| Freight and Logistics | |
| Port and terminal management | |

QR5. For how long have you been working in this industry?

| | |
|-------------------|--|
| Less than 5 years | |
| 5 – 10 years | |
| 11 – 15 years | |
| 16 – 20 years | |
| Over 20 years | |

QR6. With which of the following areas of shipping and logistics are you familiar?
(You may select more than one area)

| | |
|---------------------------------------|--|
| QR6.1 Liner shipping Agency | |
| QR6.2 Port and husbandry Services | |
| QR6.3 Freight transport and logistics | |
| QR6.4 Charterers Agency | |

Identifying factors that caused the global shipping recession:**QR7. Indicate your agreement that the following factors caused the global shipping recession:**

| | | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|-------|---|-------------------|----------|---------|-------|----------------|
| QR7.1 | Easy credit leading to ship owners ordering larger vessels which led to oversupply | | | | | |
| QR7.2 | The E.U. economic debt crisis which resulted in reduced demand for exports to Europe | | | | | |
| QR7.3 | Pro-growth biased forecasts using compound annual growth (CAG) for forecasting container volumes which led to overestimation of future growth potential | | | | | |
| QR7.4 | Decline in global trade volume as a direct result of the global economic recession of 2008 | | | | | |

Evaluating the consequences of the global shipping recession**QR8. Indicate the extent of the impact the global shipping recession has had on the following:**

| | | Large negative impact | Negative impact | No impact | Positive impact | Large positive impact |
|-------|-------------------------|-----------------------|-----------------|-----------|-----------------|-----------------------|
| QR8.1 | Shipping liners | | | | | |
| QR8.2 | Shipping agencies | | | | | |
| QR8.3 | The global supply chain | | | | | |
| QR8.4 | Freight transporters | | | | | |
| QR8.5 | Husbandry services | | | | | |

QR9. Indicate your agreement that consequences of the global shipping recession are:

| QR9.1 | Freight Transport | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|--------------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| QR9.1.1 | Decline in seaborne freight (Container volumes) | | | | | |
| QR9.1.2 | The small and medium sized companies are squeezed out as larger companies can survive through leaner times and increase market share while smaller operators go out of business. | | | | | |
| QR9.1.3 | Other transport businesses will be forced to change their business models | | | | | |
| QR9.1.4 | There will be a trend for single businesses to offer a full service package including some or all of logistics, freight forwarding, warehousing, cargo handling, transportation and intermodal | | | | | |
| QR9.2 | Shipping Liners | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QR9.2.1 | Idle vessels | | | | | |
| QR9.2.2 | Overcapacity of vessels enhanced by the arrival of new deliveries whose orders were placed in previous years | | | | | |
| QR9.2.3 | Low freight and charter rates | | | | | |
| QR9.2.4 | Slow steaming due to rising fuel costs | | | | | |
| QR9.2.5 | Mergers among shipping liners | | | | | |
| QR9.2.6 | Downsizing/ retrenchments | | | | | |
| QR9.3 | Shipping Agencies | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QR9.3.1 | Fewer vessels calling at ports for agencies to attend to as ships are getting bigger | | | | | |
| QR9.3.2 | A significant decline in freight rates affecting shipping agents as they earn commission as a percentage of the freight | | | | | |
| R9.3.3 | An increase in Shipping Agencies operational costs, including office space per head count | | | | | |
| R9.3.4 | Shipping agencies closing doors or amalgamating | | | | | |
| R9.3.5 | Cash flow problems resulting in higher risks as big customers take a longer time to pay. | | | | | |

Ways to move the shipping industry out of recession?

QR10. Indicate your agreement that factors that are decisive in attaining global shipping industry's profitability and sustainable recovery include the following:

| QR10.1 | Investors expecting to reduce financing costs through: | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---------------|---|--------------------------|-----------------|----------------|--------------|-----------------------|
| QR10.1.1 | Reducing bunker consumption | | | | | |
| QR10.1.2 | Maximizing fleet efficiency | | | | | |
| QR10.1.3 | Slow steaming | | | | | |
| QR10.1.4 | Postponing new building deliveries | | | | | |
| QR10.1.5 | Scrapping and idling some ships | | | | | |
| QR10.2 | Financing issues: | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QR10.2.1 | Investment in shipping needs to continue operating existing ships in compliance with new regulations. | | | | | |
| QR10.2.2 | Private equity funds have a bigger role to play given the global financial crisis and liquidity crunch | | | | | |
| QR10.2.3 | Finance is required to secure strategic/global carrier alliances - partnerships that cover operations globally and offer additional advantages in container logistics | | | | | |
| QR10.3 | The impact of technical and regulatory requirements | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QR10.3.1 | Harmonized standards and an operating environment with reduced administrative burden will increase profitability | | | | | |
| QR10.3.2 | Replacing bunker fuel with Liquefied Natural Gas (LNG) will improve shipping industry's competitiveness and increase profitability | | | | | |

QR11. Indicate your agreement that the shipping recession will be over:

| QR11.1 | When partners in the industry are able to: | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---------------|---|--------------------------|-----------------|----------------|--------------|-----------------------|
| QR11.1.1 | Increase freight rates | | | | | |
| QR11.1.2 | Improve the modal share by putting more goods onto rail and waterways | | | | | |
| QR11.1.3 | Trade freely without protectionism | | | | | |
| QR11.1.4 | Attain a balance of container volume in trade routes, and secure continual cargo volumes | | | | | |
| QR11.1.5 | Secure strategic/global carrier alliances - partnerships that cover operations globally and offer | | | | | |

| | | | | | | |
|---------------|--|--------------------------|-----------------|----------------|--------------|-----------------------|
| | additional advantages in container logistics | | | | | |
| QR11.1.6 | Remove provisions that restrict cabotage to achieve full liberalization | | | | | |
| QR11.2 | When players in the shipping industry are able to maximize profits by reducing costs through: | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| QR11.2.1 | Working with paperless utilities | | | | | |
| QR11.2.2 | Outsourcing local agency work as opposed to in-house offices | | | | | |
| QR11.2.3 | Eliminating redundant office functions, and/or combine functions | | | | | |
| QR11.2.4 | Reducing office costs by allowing mobility and seasonality of staff | | | | | |

Thank you for your participation

Appendix 3: Bivariate Analysis Tables

Bivariate analysis – Objective 1

Table 6.1 Years in industry * Q10

| Test Statistics ^{a,b} | | | | | | | | | | | | |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| | q 10.1 | q 10.2 | q 10.3 | q 10.4 | q 10.5 | q 10.6 | q 10.7 | q 10.8 | q 10.9 | q 10.10 | q 10.11 | q 10.12 |
| Chi-Square | 8.917 | 15.980 | .217 | 2.347 | 1.562 | 3.204 | 1.971 | .415 | 2.833 | 7.336 | 2.883 | 1.079 |
| df | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Asymp. Sig. | .012 | .000 | .897 | .309 | .458 | .201 | .373 | .812 | .243 | .026 | .237 | .583 |

a. Kruskal Wallis Test

b. Grouping Variable: Yrs in Ind

| | | N | Mean | Std. Deviation |
|---------|-------------|----|------|----------------|
| q 10.1 | 5 - 10 yrs | 17 | 2.06 | .659 |
| | 11 - 15 yrs | 23 | 1.61 | .499 |
| | 16 - 20 yrs | 25 | 1.48 | .586 |
| | Total | 65 | 1.68 | .615 |
| q 10.2 | 5 - 10 yrs | 17 | 1.94 | .243 |
| | 11 - 15 yrs | 23 | 1.48 | .511 |
| | 16 - 20 yrs | 25 | 1.32 | .476 |
| | Total | 65 | 1.54 | .502 |
| q 10.10 | 5 - 10 yrs | 17 | 2.29 | .772 |
| | 11 - 15 yrs | 23 | 1.70 | .559 |
| | 16 - 20 yrs | 25 | 1.92 | .572 |
| | Total | 65 | 1.94 | .659 |

Ranks

| | Yrs in Ind | N | Mean Rank | Sum of Ranks |
|---------|-------------|----|-----------|--------------|
| q 10.1 | 5 - 10 yrs | 17 | 27.26 | 463.50 |
| | 16 - 20 yrs | 25 | 17.58 | 439.50 |
| | Total | 42 | | |
| q 10.2 | 5 - 10 yrs | 17 | 29.26 | 497.50 |
| | 16 - 20 yrs | 25 | 16.22 | 405.50 |
| | Total | 42 | | |
| q 10.10 | 5 - 10 yrs | 17 | 24.82 | 422.00 |
| | 16 - 20 yrs | 25 | 19.24 | 481.00 |
| | Total | 42 | | |

Test Statistics^a

| | q 10.1 | q 10.2 | q 10.10 |
|------------------------|---------|---------|---------|
| Mann-Whitney U | 114.500 | 80.500 | 156.000 |
| Wilcoxon W | 439.500 | 405.500 | 481.000 |
| Z | -2.842 | -3.945 | -1.670 |
| Asymp. Sig. (2-tailed) | .004 | .000 | .095 |

a. Grouping Variable: Yrs in Ind

Bivariate analysis – Objective 2

Table 6.2 Experience * Q7

| Ranks | | | |
|-------|-------------|----|-----------|
| | Yrs in Ind | N | Mean Rank |
| q 7.1 | <5 yrs | 1 | 44.00 |
| | 5 - 10 yrs | 9 | 34.17 |
| | 11 - 15 yrs | 27 | 29.80 |
| | 16 - 20 yrs | 24 | 30.63 |
| | Total | 61 | |
| q 7.2 | <5 yrs | 1 | 38.50 |
| | 5 - 10 yrs | 9 | 37.67 |
| | 11 - 15 yrs | 27 | 25.17 |
| | 16 - 20 yrs | 24 | 34.75 |
| | Total | 61 | |
| q 7.3 | <5 yrs | 1 | 38.00 |
| | 5 - 10 yrs | 8 | 36.00 |
| | 11 - 15 yrs | 27 | 24.00 |
| | 16 - 20 yrs | 24 | 35.67 |
| | Total | 60 | |
| q 7.4 | <5 yrs | 1 | 42.50 |
| | 5 - 10 yrs | 9 | 33.39 |
| | 11 - 15 yrs | 27 | 27.07 |
| | 16 - 20 yrs | 24 | 34.04 |
| | Total | 61 | |

Test Statistics^{a,b}

| | q 7.1 | q 7.2 | q 7.3 | q 7.4 |
|-------------|-------|-------|-------|-------|
| Chi-Square | 1.276 | 8.954 | 8.624 | 3.350 |
| df | 3 | 3 | 3 | 3 |
| Asymp. Sig. | .735 | .030 | .035 | .341 |

a. Kruskal Wallis Test

b. Grouping Variable: Yrs in Ind

Ranks

| | Yrs in Ind | N | Mean Rank | Sum of Ranks |
|-------|-------------|----|-----------|--------------|
| q 7.2 | 11 - 15 yrs | 27 | 22.17 | 598.50 |
| | 16 - 20 yrs | 24 | 30.31 | 727.50 |
| | Total | 51 | | |
| q 7.3 | 11 - 15 yrs | 27 | 21.31 | 575.50 |
| | 16 - 20 yrs | 24 | 31.27 | 750.50 |
| | Total | 51 | | |

Test Statistics^a

| | q 7.2 | q 7.3 |
|------------------------|---------|---------|
| Mann-Whitney U | 220.500 | 197.500 |
| Wilcoxon W | 598.500 | 575.500 |
| Z | -2.474 | -2.698 |
| Asymp. Sig. (2-tailed) | .013 | .007 |

a. Grouping Variable: Yrs in Ind