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(ICEFB-22)

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Editorial:

We cordially invite you to attend the International Congress on Economy, Finance, and Business (ICEFB-22), which will be held in Lusaka, Zambia on May 25th, 2022. The main objective of ICEFB-22 is to provide a platform for researchers, students, academicians as well as industrial professionals from all over the world to present their research results and development activities in Economy, Finance, and Business. This conference provides opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relations and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on Economy, Finance, and Business. All accepted papers were subjected to strict peer-reviewing by 2-4 expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results on Economy, Finance, and Business but also provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities and research institutes. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference.

Since March 2022, the Organizing Committees have received more than 40 manuscript papers, and the papers cover all the aspects in Economy, Finance, and Business. Finally, after review, about 10 papers were included to the proceedings of ICEFB-2022.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of International Conference 2022. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions make this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers especially, we would like to thank to organizing committee for their hard work.

Acknowledgement

ISER is hosting the International Congress on Economy, Finance, and Business this year in month of May. International Conference on Economy, Finance, and Business will provide a forum for students, professional engineers, academician, and scientist engaged in research and development to convene and present their latest scholarly work and application in the industry. The primary goal of the conference is to promote research and developmental activities in Economy, Finance, and Business and to promote scientific information interchange between researchers, developers, engineers, students, and practitioners working in and around the world. The aim of the Conference is to provide a platform to the researchers and practitioners from both academia as well as industry to meet the share cutting-edge development in the field.

I express my hearty gratitude to all my Colleagues, staffs, Professors, reviewers and members of organizing committee for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to travel such a long distance to attain this conference.

Dr. Chi-Yuang San
Director
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CONTENTS

Streamlining the Hospital Discharge Process in a Tertiary Care Hospital with a Holistic Approach

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***Abstract*— There is an enormous need to improve the efficiency of the health care services to the best possible extent such that they can reach near perfection in their administrative activities. One such area that needs to be streamlined is the hospital discharge process, which has many sub processes. The time taken for discharge has always been a major factor while assessing the patient satisfaction in a hospital. A hospital discharge demonstrates the trouble of inter-organizational activities within a multifaceted health care structure which can be best solved by using multi-method innovative approaches.**

***Key Words:* Hospital Discharge Process, Streamlining, Turnaround Time, Patient Satisfaction**

I. INTRODUCTION

The required volume of health care services is almost the same size of the human population, as the need of healthcare services start from the moment they are born and continues throughout their life time. A healthcare system can be defined as "A set of facilities and organizations that participate in providing services that relate to individuals' health and well- being."[1] The total hospital experience of any inpatient can be alienated in three distinct phases, namely admission, intervention, and discharge.Hospital discharge is considered as one of the multiple changeovers within the drive of patient's care [2].

1.1Challenges in Hospital Discharge Process

Exclusively, hospital discharge demonstrates the difficulties of inter-organisational procedures within a multifaceted health and care structure. National policies suggest that [3] Inappropriate or weakly planned discharge processes can result in patient risks, additional resource costs, delayed recovery and readmissions. Hospital discharge is as a result understood as a 'vulnerable stage' in the care trail that exemplifies the prospects for ensuring patient safety situated between care positions.

1.2 Hospital Discharge Planning

Discharge planning is defined as "An ongoing process that facilitates the discharge of the patient to the appropriate level of care. It involves a multidisciplinary assessment of patient/family needs and coordination of care, services and referrals'' [4] The formation of a plan relies greatly on interaction between the physician, nurses, patient, family, and other healthcare experts and any essential long period care amenities. Discharge planning is afflicting from lack of information, poor contact and harmonization between sharp and long-lasting care [5].

1.3Quality in Health Care

Hospital is a vital sector in the service industry. Today, everybody is anxious about the superiority of Health Care amenities and the term "Quality" becomes an indispensable element that is very much required in the health care atmosphere to keep the errors as minimal as possible. In the course of achieving Quality, each process in the Hospital wishes to be optimized to the fullest contentment of the patients [6].

There are numerous Quality tools, nevertheless, the most famous ones are "the seven basic quality tools" identified by Ishikawa (1976): "Histograms, Cause and Effect Diagrams, Check Sheets, Pareto Charts, Flow Charts, Control Charts and Scatter Diagrams". These tools are sufficient for data compilation and scrutiny.

1.4 Patient Satisfaction - SERVQUAL

"SERVQUAL" was developed by Parusaraman et al. (1985; 1988), and has been widely accepted and made use of it as a common instrument that confines the multidimensionality of service excellence. The pragmatic testing which gave out five dimensions, which are: Tangibles, Reliability, Responsiveness, Empathy and Assurance

This study aims to identify the gaps in the hospital discharge process by studying the existing discharge process and analysing those gaps by using quality control tools to streamline the process and to assess patient satisfaction level during hospital discharge by using SERVQUAL model. Based on the analysis of these two parameters recommendations are given on how to streamline the entire discharge process such that the work flow is improved and turnaround time can be reduced and areas which need to be focused to elevate patient satisfaction.

II. METHODOLOGY

The research carried out was a cross sectional study which was exploratory and post facto in nature for a period of six months, from January 2016 to June 2016 in a tertiary care hospital in Bangalore. The process mapping was carried out for a period of two months with a sample of 185 patients for the entire discharge process for planned as well as unplanned hospital discharges which brought out the core problem areas. The entire discharge process was stratified into 5 mainareas where in key processes of discharge takes place. With these stratified areas real time recording of the turnaround time (TAT) of the discharge process was carried out for a period of two months incorporating all the hospital discharges taking place from 8 AM to 6 PM, with a final population size of 185 patients. Secondly, patient satisfaction questionnaire which comprised of 13 questions in the form of 5 point likert scale, from strongly disagree (1) to strongly agree (5) was prepared. A pilot study was carried out to see the telephonic response for 30 samples, out of which 21 had responded. A factor analysis method, varimax (orthogonal rotation method) was carried out for the entire population in the SPSS where in 4 factors were eliminated to interpret the data better. Finally 9 variables were selected and the questionnaire (Appendix-1) was modified.

III. RESULTS AND ANALYSIS

The process mapping was done for a period of two months for 185 samples. The samples were followed throughout the process starting from the doctor’s order for discharge till bill clearance. After mapping the core problem areas were identified and based on the process mapping and the hospital HIS software, the stratification of steps was done for recording hospital discharge TAT. The entire hospital discharge process was broken down into 5 major steps which run down serially as follows; mark patient for discharge, discharge summary preparation time, return of medication, pharmacy clearance and bill clearance. The hospital discharge turnaround time has been segregated for self-pay and insurance patients; 136 patients for self-pay and 48 patients for insurance.

The total over all mean of TAT for insurance patients is 293 mins. By plotting a Pareto’s chart it can be observed that most of the time for insurance patients is consumed at the bill clearance area which is about 61% of the overall time consumed. It is a known fact that there is an involvement of external factor for insurance patients, where there is involvement of a third party administrator involved. The hospital currently does not have a TPA desk in their billing area which needs to be there to minimize the time and complications in bill payment. The next two areas which are considered to be important are the discharge summary preparation time and the time taken to return the medication which take up about 11% and 12% respectively. The total over all mean of TAT for self-pay patientsis 157 mins. In the Pareto’s chart for the self-pay patients the major area which needs attention is the bill clearance area, which even includes the pharmacy clearance as well.

For getting a better output in the results only the departments having more than 10 cases have been taken into consideration of comparisons amongst the departments. All the departments selected for comparison and analysis are highlighted in green and the least time taken in violet and the most time taken in red. The average time taken to mark for discharge was least for general surgery cases which were 16 mins and the highest is for internal medicine which was 45 mins. The reason which can be attributed for taking such a long time is due to deficiency of the nurses in the internal medicine section. Due to excess load of work and more number of cases, the nurses delay the process of marking discharge in the HIS. Another reason is the lack of systems in the nursing station which delay the process. The discharge summary preparation time taken is the least for the OBG department which accounts to 9 mins and the highest for integrated liver care. Firstly, the reason why OBG department takes the least time is due to the planned discharges whether the discharge summary is kept ready well in advance by the doctors. Secondly, the consultants in the OBG department themselves do the discharge summary instead of the duty doctors. For return of medications the least time is taken by the OBG department which is about only 3 mins, the reason again being only planned discharges wherein the medicines are returned well in advance. On the other hand, the Gastroenterology cases take the most amount of time i.e, 41 mins. The least time taken for pharmacy clearance is by the General Surgery department and the most by OBG and for bill clearance is least by Internal Medicine and the most by OBG. Both pharmacy clearance and Bill clearance are noted to be highest of OBG as most of the cases are insurance covered which is the major reason for delay. After finding out the major gaps from the process maps and the TAT of the hospital discharge process, cause and effect diagramswere madeto bring out all the problem areas leading to delay.Analyzing all five parameters, benchmarking was undertaken to appropriate least time taken during the discharge process.

Now coming to the Patient Satisfaction Assessment, factor analysis was carried out where in the variables were grouped under empathy, reliability and responsiveness for factors 1 2 and 3 respectively. The highest significance for empathy is given for patient ambience (.718), for reliability is timely discharge summary (.843) and response to queries (.765) for responsiveness. The other two individual variables under factor 4 and 5 have very high significance values .849 and .918 respectively, which can be grouped under reliability and assurance respectively.By this it can be said that Patient ambience, Timely discharge summary, Response to queries, Clarity in post discharge instructions and Intimation of discharge completion time plays a very important role in the patient satisfaction and is perceived very significant by the patients. Along with factor analysis the means of the results obtained was calculated as well.

IV. DISCUSSION

After the entire analysis it is clear that there are major problems in the processes are pertaining to pharmacy clearance, discharge summary preparations and bill clearance. The turnaround time for the average time for self-pay patients was calculated to be 157 mins (2 hours 37 mins) which definitely needs improvement. On the other hand average time for the insurance patients was calculated as 293 mins (4 hours 53 mins). Since the billing for insurance is not in the hands of the hospital the main focus should be to improve the internal processes. The next most crucial area which needs improvement is the hospital discharge summary preparation time. The paper "Reducing and optimizing the cycle time of patients discharge process in a hospital using six sigma DMAIC approach"[7] also brought out that one of the major reasons for delay is the discharge summary preparation. The mean TAT recorded in the study for the hospital was the mean 234.35 minutes and they kept the target of 135 minutes. In another study "Improving Patients Discharge Process in Hospitals by using Six Sigma Approach" had a purpose to minimize the percentage of insured patients whose discharge time from hospital above 50 minutes [8].

While carrying out analysis department wise, the most TAT was observed in the OBG department and the least in the gastroenterology department. Though the OBG department has the least time taken for the discharge summary preparation and return of medications the overall TAT is very high because, firstly they were mostly insurance covered and secondly the new born baby celebrations are performed before discharging the patients. In the study "Improving the Hospital Discharge Process with Six Sigma Methods"[9], conducted in Ohio, Orthopedic surgery discharges took much longer on average than other discharges because of mandated physical therapy in the afternoon. This therapy was being used partly to assess whether the patients were ready for discharge. By comparing the departments the best practices of the departments can be adopted to improve the process in the lacking areas.

The hospital discharge patient satisfaction questionnaire which was attributed to reliability, responsiveness, assurance and empathy gave results where the hospital was very much lacking in responsiveness. Hence the hospital must focus on the improving the responsiveness. On the other hand patient friendliness of the nursing staff and the patient ambience which come under empathy, have a higher weightage on the agreeable side and showed positive patient satisfaction. Regarding reliability, timely discharge summary and clarity in post discharge instructions showed positive patient satisfaction, where as the transparency of hospital charges and bills was on the side of disagreeability. On the whole reliability of the hospital is under neutral.

V. RECOMMENDATIONS AND SUGGESTIONS

Below given are the recommendations for the hospital to streamline the hospital discharge process based on the analysis of the problem areas.

•Formulation of SOPs: One of the most crucial things that have to be started is the formulation of the standard operating protocol for the hospital discharge process, to give a clear idea for the staff to go about. A systematically detailed protocol will minimize the errors and the confusions in the process there by speeding up things.

•IT issues: By solving the IT issues, 50% of the delays can be minimized in the discharge process, since every single step is system based and the hospital is moving towards a paper free hospital. Hence the IT department needs to seek out all these issues as soon as possible.

•Pharmacy department improvements: There are a few mandatory things that need to be improved:

Preparation of a drug formulary for the hospital

Incorporation of a separate purchase department in the hospital

-Taking the list of most commonly prescribed medications from the consultants and adding them in the HIS well in advance instead of last minute delays due to it.

-Converting the entire medicine list into either generic name or brand names, to avoid confusions.

-Separating inpatient and outpatient pharmacy services.

•Eliminating duplication of work: The nurses are complicating their work by entering the work sheet in both systems as well as manually.

•Work load management for nurses: The nurses need to be taken classes on workload management and multi-tasking.

Training of nurses in both professional level and personal level can prove to be of good importance.

•Training in HIS: Training in HIS for the newly appointed nurses and duty doctors.

•Radiology TAT: Since there are major delays in the radiology report, they can start recording TAT to monitor their time after bringing in necessary improvements like appointing attenders, addition of an extra printer and improving the communication with the IPD.

•Increase in the man power: The needs to be an increase in the ward boys/attenders, nurses and the duty doctors for smooth functioning of the discharge process as well for the entire hospital.

•Increase in the equipment: There is a major need for increasing in the systems in the hospital, mainly in the IPD and pharmacy. An extra printer needs to be placed in the radiology department. There is need for more lifts in the hospital as well.

These are certain recommendations which can be incorporated in the hospital for improvement in the process and minimizing the delays. After implementing these recommendations the hospital discharge TAT can have targets which are brought out from internal benchmarking like:

Mark for discharge: 1 minute; Discharge summary preparation: 9 minutes; Return of medication: 4 minutes; Pharmacy clearance: 10 minutes; Bill clearance for self-pay patients: 17 minutes.

These targets will help the hospital to check their level of streamlining and process improvement.

VI. CONCLUSION

The hospital discharge process is one of the major areas in the hospital which needs improvement and it is a multi functional process involving many process interlinked with various departments. It is one of the most time consuming process in a hospital and a major reason for patient dissatisfaction and also affects the hospital revenue when not done in time. The main areas which need improvement are the discharge summary preparations, pharmacy clearances and to minimize the errors by the nurses. Other important improvements which are needed for minimizing the cycle time are eliminating duplication of work by the nurses, increasing the manpower, proper training of HIS to the hospital personnel using it and increase in equipments. There will a lot of improvement and reduction in the turnaround time and the smooth flow of the processes by eliminating these gaps.

VII. ACKNOWLEDGEMENT

At the end of my dissertation I would like thank my guides, Ms. Aileen J and Dr. H S Srivatsa without whom this project would not have been completed. I would also take this opportunity to thank and extend my gratitude to Chief Administrator of M.S. Ramaiah Hospital, Dr. Narendranath V and HOD, Department of Hospital administration, Dr. Shalini D for their timely help and guidance.

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APPENDIX

Appendix 1

S no	Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	The nursing staff was patient friendly and understanding					
2	Hospital's response to queries was quick					
3	Billing and the charges were explained correctly					
4	The discharge summary was given on time					
5	The doctor/duty doctor explained the Post discharge instructions					
6	The ward nurses were responsive and available when needed					
7	The patient was explained about the time taken for discharge completion					
8	The discharge was completed in the said time					
9	The patient was taken till the exit by hospital attenders (in wheel chair, stretcher)					

A Study to Assess the Surgical Safety Compliance in an Operation Theater of Tertiary Care Hospital

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Abstract— traumatic injuries, unnecessary surgical deaths, and medical error continues to raise .The main aim of this paper is to assess the surgical safety compliance in an operation theatre of Tertiary care hospital.

This paper is focused on study of all the surgical safety compliance in an operation theatre complex. The data was collected by observing Anaesthetists, Surgeons and operation theatre nurses who are all involved in the surgical procedures in the various operation theatres in the tertiary care teaching hospital.

Collected data was analyzed by using frequency, percentage and is presented in the form of table and diagrams. The difference in the percentages among the various categories of the items such as Sign in (100% compliance with confirmation of patient identity and 98% with confirmation of the site of operation, patient confirmation of procedure in 95% of cases and 100% check by Anesthetists for patient safety), Time out (confirmation of the procedure in 94.4% of cases, 100% consistency in the verification of instrument sterility by nurses, the equipment issues were addressed well (99%), the antibiotic prophylaxis given within 60 minutes (100%) and Sign out (Equipment was addressed well (99%),100% labelling of specimen was done accurately) has been calculated. This paper shows the surgical safety compliance in an operation theatre and provides suggestions for improving the compliance.

Key Words: **Surgical Safety Compliance, Surgical Safety Checklist, Operation Theatre, Operating room, Sentinel events.**

I. INTRODUCTION

The World Health Organization (WHO) in 2008 launched the Surgical Safety Checklist as an instrument to enhance safety in operations for operating personnelandto reduces unnecessary surgical deaths and problems. The checklist was designed following international consultation with anesthetists, nurses, surgeons, patient safety specialists and patients, to support the safety practices and better communication and to encourage team work between clinical authorities [1].

Surgical care has been a necessary part of the health care over the world for a century. As the occurrence of cardiovascular disease, major injuries, and cancers continue to increase, the effect of surgical involvement on general health systems has been increasing. Each year in the world, 234 million surgical procedures are performed. On assessing all surgical operations, the problems usually occur in 3% to 16% of cases[2].
To ‘err’ is human, but a small medical error can prove fatal. Clinical experts say this is high time that suitable steps are taken to minimize the scope of mistakes in medical treatment, especially in the Operation Theatres over the world. This amounts to around 1 operation per 25 people and indicates that patient safety is more important in public health. The plan for the hospital to design their infrastructure and surgical procedures mainly around patient safety and comfort needs to be tightly managed [3].

The Operation Theatre can be a hazardous place for healthcare staffs and patients alike. For example, plastic surgeons need a better knowledge of different pre-operative aspects like confirmed identity, site, procedure and consent to reduce these risks. As the significance of team work becomes more evident, direct communication skills, intra-operatively, preoperatively and postoperatively become an equally important factor. [4]

II. LITERATURE REVIEW

The current studies have revealed that operative complication can be reduced, if safety checklist is used. The hospital under study has adopted the WHO safety checklist.

This is administered in 3 phases on arrival of the patient into the Operation Theatre namely, before skin incision phase, time-out and after skin incision phase. The means (ranges) of the compliance to the checklist items was 57% (28-100%) before skin incision, 68% (34-100%) for Time Out, and 45% after skin incision. Limitation of this study: High-turnover theatres were given preference and this means that specialties such as neurosurgery which have a predominance of longer cases were not represented in the audit.[5]Another study was conducted in tertiary care hospital study on communication failure in operation theatres. Study demonstrated that ineffective group communication is usually the cause of clinical mistakes. The objective of the study was to describe the reasons for failure of communication in an operation theatre and to divide the outcomes.[6] A study was conducted involving two hospitals, each of which had a current root-cause analysis and wrong-site surgery incident reporting system. The study revealed that the surgical safety checklists contribute to developing surgical patient safety. When asked about the 8 particular elements of the time-out checklist, the percentage of respondents who believe the element was "very significant" varied widely, from to highs of over 80 percent for correct procedure, correct side, and patient identity to a low of 14 percent for the introduce the team members [7]. A global study conducted to compare the patient outcome pre and post implementation of the WHO Safety Checklists, show a overall reduction in the after surgery problems and mortality. These findings were reproduced in another study conducted in more than one medical centre contributing to the conclusion that concerns are growing related to surgical safety in an operating room [8].

III. METHODOLOGY

Study design: A descriptive study design

Participants: All the surgeons, anesthetists and Operation Theater nurses who are currently working in the tertiary care hospital were taken as the participants for the data collection.

Sampling: Data collection was for one month in the Operation Theater of the tertiary care hospital. A sample size of 450surgeries, each in General Surgery, Orthopedics, Ophthalmology, Obstetrics, Gynecology and Urology departments were selected using purposive sampling technique for observational study. The very first and last surgery of the day, as per the schedule in the Operation Theatre, was observed by the investigator till the sample size was covered.

Tools and Techniques: Collected data was analyzed by using frequency, percentage and presented in the form of table and diagrams. The difference in the percentages among the various categories of the item- Sign in, Time out and Sign out is calculated.

IV. RESULTS AND ANALYSIS

Section—a Sign-in:

Table 4.1Compliance to "Confirmation of the patient site, procedure, identity and consent"

Patient has confirmed	Frequency				Percentage (%)			
	Yes	No	N/a	Total	Yes	No	N/a	Total
Confirmed identity	100	0	0	450	100	0	0	100
Confirmed site	441	9	0	450	98	2	0	100
Confirmed procedure	428	22	0	450	95	5	0	100
Confirmed consent	415	35	0	450	92.2	7.8	0	100

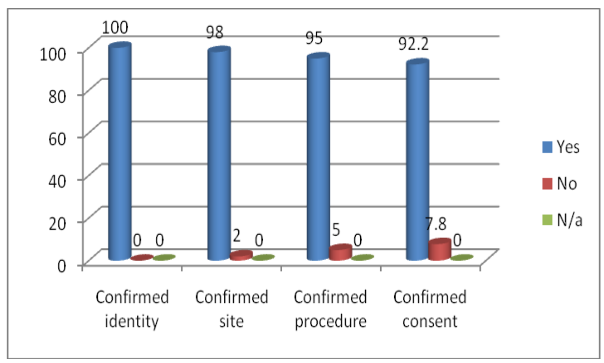

Figure 4.1 Compliance to "Confirmation of the patient site, procedure, identity and consent"

Results

Table 4.1 and Figure 4.1 illustrate Compliance to"Confirmation of Patient identity, Site, Procedure and Consent". It shows out of 450 surgical cases 100%of them have confirmed identity, 98% (441) patients have confirmed operation sites and 95% (428) of the patient have confirmed the procedure. The confirmation of the consent by patient during sign in procedure was 92.2%(415).

Table 4.2Percentage compliance for site marking

	Frequency	Percentage (%)
Yes	**409**	**91**
No	**10**	**2**

N/a	**31**	**7**
Total	**450**	**100**

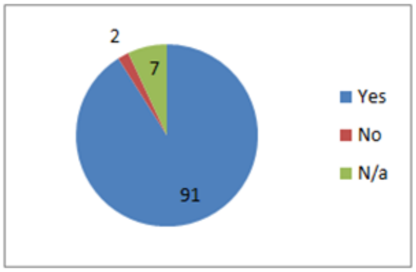

Figure 4.2 the data for site marking

Table 4.2 and figure4.2 show the data recorded for site marking of 450 different patients. It was only in 91% (409)of patients that site marking was done. Site marking was not applicable for 7%(31)of patient.

Table 4.3 Percentage of cases with completed Anaesthesia safety check

	Frequency	Percentage (%)
Yes	**450**	**100**
No	**0**	**0**
N/a	**0**	**0**
Total	**450**	**100**

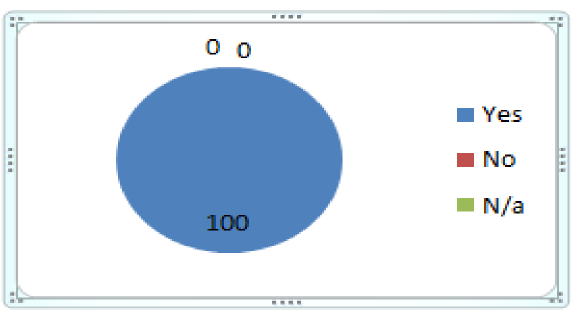

Figure 4.3 Percentage of cases with completed Anaesthesia safety check

Table 4.3 and figure 4.3 showthe anesthesia safety check was 100%and it is thoroughly met in all the departments.

Table 4.4 Pulse oxymeter on patient and functioning

	Frequency	Percentage (%)
Yes	**450**	**100**
No	**0**	**0**
N/a	**0**	**0**
Total	**450**	**100**

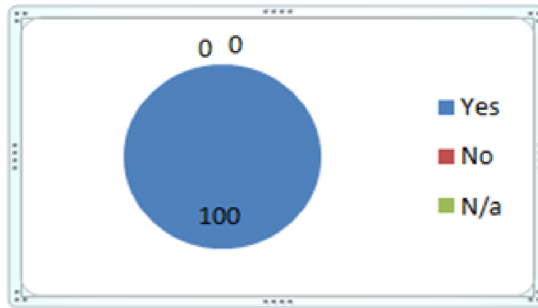

Figure 4.4 Pulse Oxymeter on Patient and functioning

Table 4.4 and figure 4.4 Revealsthe pulse oxymeter was used for every patient who underwent surgery and all the pulse oxymeter were functional during operative phases 100%.

Table 4.5: Risk management assessed:

Does patient have	Frequency				Percentage (%)			
	Yes	No	N/a	Total	Yes	No	N/a	Total
Known allergy	0	450	0	450	0	100	0	100
Difficult airway/aspiration risk	4	446	0	450	1	99	0	100
Adequate Intravenous fluid planned	450	0	0	450	100	0	0	100
Risk of >500ml blood loss	13	437	0	450	2.9	97.1	0	100

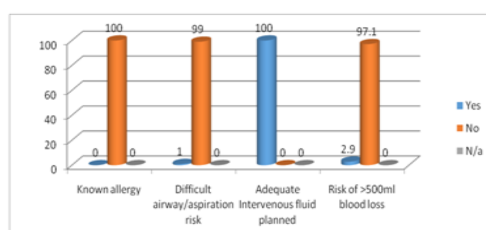

Figure 4.5 Risk management assessed

Table 4.5 and figure 4.5 Show the risk management assessed. it is seen that risks associated with known allergy, different airway aspiration, blood loss and adequacy of iv fluid were assessed in all 450(100%) cases.

Section --B Time out:

Table 4.6 Introduction of team members by name and role:

	Frequency	Percentage (%)
Yes	**450**	**100**
No	**0**	**0**
N/A	**0**	**0**
Total	**450**	**100**

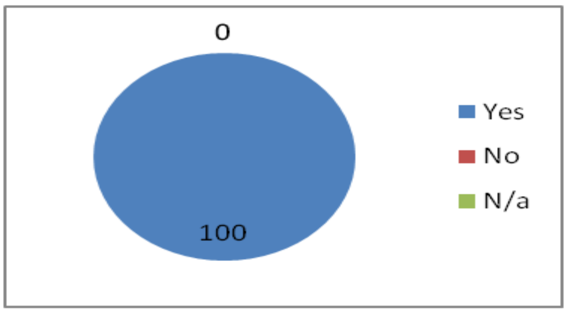

Figure 4.6 Introduction of team members by name and role

Table 4.6 and figure 4.6it is evident that introduction of the surgical team members including surgeons, anaesthetist and nurses before taking up the surgery is 100%.

Table 4.7 Verbal confirmations by surgeons, Anaesthesia professionals and nurse about patient, site and procedure:

Verbal confirmation of	Frequency				Percentage (%)			
	Yes	No	N/a	Total	Yes	No	N/a	Total
Patients	393	57	0	450	87.3	12.7	0	100
Site	385	65	0	450	85.6	14.4	0	100
Procedure	425	25	0	450	94.4	5.6	0	100

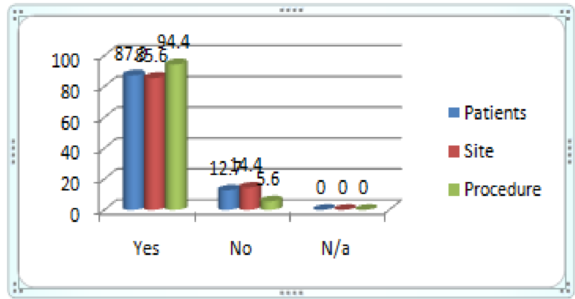

Figure 4.7 Verbal confirmations by Surgeons, Anaesthesia Professionals and Nurse about Patient, Site and Procedure:

Table 4.7 and figure 4.7 describe that the surgeons, anaesthesia professionals and nurse verbally confirm patients in 393(87.3%) of cases and do not confirm 57(12.7%), confirm the site in 385(85.6%) and not confirm the site in 65 (14.4%) and confirm the procedure in 425 (94.4%) and do not confirm the procedure in 25(5.6%).

Table 4.8Anticipated critical events-surgeon review:

Surgeons reviews	Frequency				Percentage (%)			
	Yes	No	N/A	Total	Yes	No	N/A	Total
Critical events	18	432	0	450	4	96	0	100
Operative duration	63	387	0	450	14	86	0	100
Anticipated blood loss	22	428	0	450	4.9	95.1	0	100

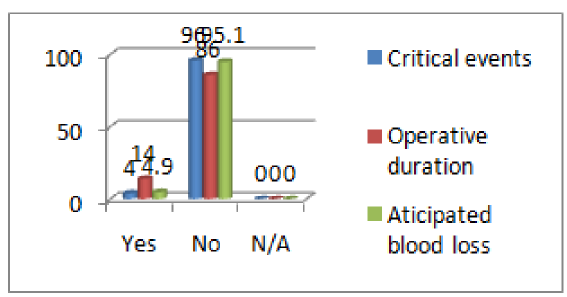

Figure: 4.8Anticipated critical events-surgeon review

Table 4.8 and figure 4.8 show the anticipated events as per surgeons review was in about 18 cases(4%), operative duration assessed by surgeon's review was done in

63(14%) cases and anticipated blood loss was shown in 22(4.9%) cases.

Table 4.9 Anaesthesia team reviews: are there any patient specific concern

	Frequency	Percentage (%)
Yes	**0**	**0**
No	**450**	**100**
N/a	**0**	**0**
Total	**450**	**100**

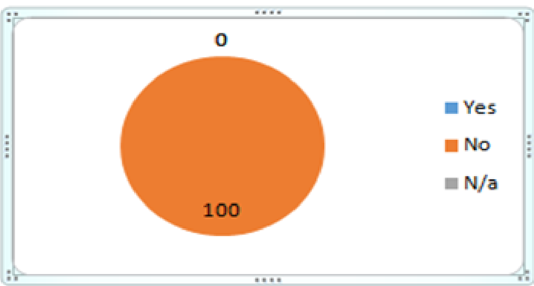

Figure4.9 Anaesthesia team reviews; are there any patient specific concern

Table 4.9 and Figure 4.9 Show there was no specific concern found among 450 patients as per Anaesthesia team reviews.

Table 4.10: Nursing team reviews

Nursing Reviews on	Frequency				Percentage (%)			
	Yes	No	N/A	Total	Yes	No	N/A	Total
Has sterility including indicators results	450	0	0	450	100	0	0	100
These equipment issues or any other concerns	5	445	0	450	1.1	98.9	0	100

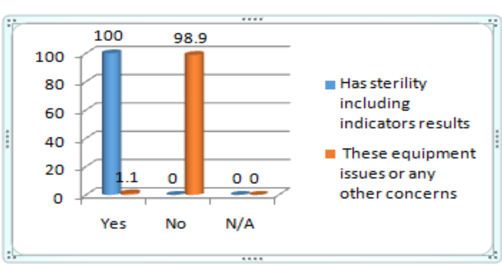

Figure 4.10 Nursing team reviews

Table 4.10 and figure 4.10 make the nursing team reviews on confirmation of sterility indicator results has been confirmed to 100% the confirmation of the equipment issue was found to be in 5(1.1%) cases.

Table 4.11 Details Antibiotic prophylaxis given during the last 60minutes

	Frequency	Percentage(%)
Yes	**450**	**100**
No	**0**	**0**
N/a	**0**	**0**
Total	**450**	**100**

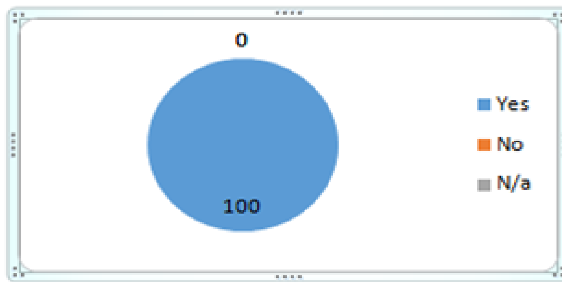

Figure 4.11Details of Antibiotic Treatment given during the last 60 minutes

Table 4.11 and Figure 4.11, in all the 450 cases,before the start of surgical procedure. Antibiotic prophylaxis had been given in the last 60 minutes.

Table 4.12Details about essential imaging been displayed

Details aboutessential imaging displayed		
	Frequency	**Percentage (%)**
Yes	**284**	**63.1**
No	**13**	**2.9**
N/a	**153**	**34**
Total	**450**	**100**

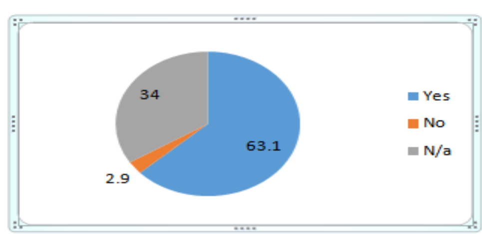

Figure 4.12 Details about essential imaging been displayed

Figure 4.12 and Table 4.12 reveals that among 450 patients, the essential images were displayed for 284(63.1%) cases. In case of 13(2.9%), radiological images were not displayed and remaining 153(34%) radiological images were not applicable.

Section -- C sign – out

Table 4.13 Nurse verbally confirmed with the team

	Frequency	Percentage(%)
Yes	450	100
No	0	0
N/a	0	0
Total	450	100

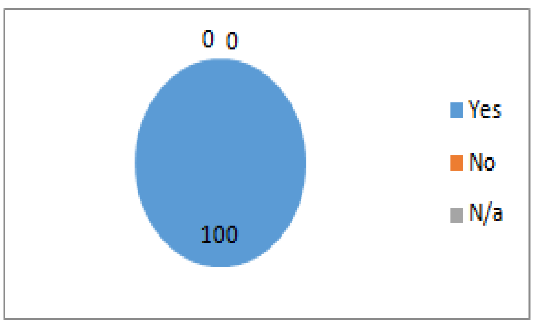

Figure 4.13 Nurse verbally confirmed with the teamof Surgeons and anesthetist

Table 4.13 and figure 4.13 Shows the Nurse verbally confirmed with the team of Doctors and Anesthetist 100%.

Table 4.14Name of procedure is stated as recorded

	Frequency	Percentage (%)
Yes	437	97.1
No	13	2.9
N/A	0	0
Total	450	100

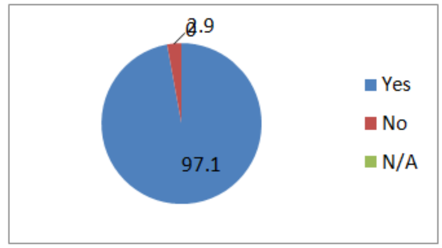

Figure: 4.14Name of procedure is stated as recorded

As per Figure 4.14 and Table 4.14 describe that out of 450 cases, the name of the procedure are recorded in. 437(97.1%) cases and do not record only in 13(2.9%) cases.

Table 4.15 The instrument sponge and needle count are correctly recorded

The instrument sponge and needle count or correct		
	Frequency	Percentage (%)
Yes	413	91.8
No	37	8.2
N/A	0	0
Total	450	100

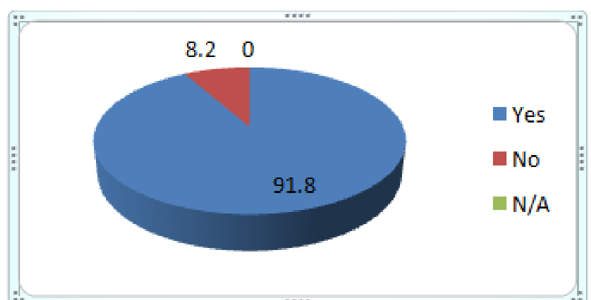

Figure 4.15 the instrument sponge and needle count are correctly recorded

Table 4.15 and figure 4.15 we can observe that, during 413 (91.8%) cases. the needle, sponge and instrument counts were correct, and during 37(8.2%) cases there were incorrect count.

Table 4.16Confirmation that the specimen (if any) is correctly labeled

How the labelling of the specimen(including patient name	Frequency	Percentage (%)
Yes	450	100
NO	0	0
N/A	0	0
Total	450	100

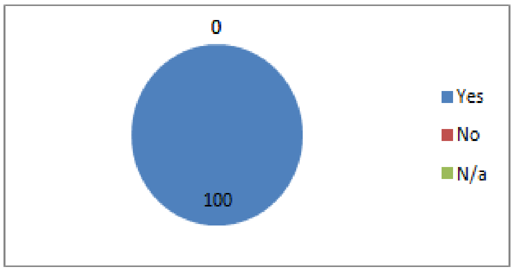

Figure 4.16 Confirmation that the specimen (if any) is correctly labeled

Table 4.16 and figure 4.16 Highlights that the specimen taken for the histopathological diagnosis during the surgical procedure was labeled correctly 100%.The labels put on the specimen indicated the name, age, and inpatient department number.

Table 4.17 whether there is any instrument risk to be addressed

Whether there any equipment problem to be addressed		
	Frequency	Percentage (%)
Yes	5	1.1
No	445	98.9
N/A	0	0
Total	450	100

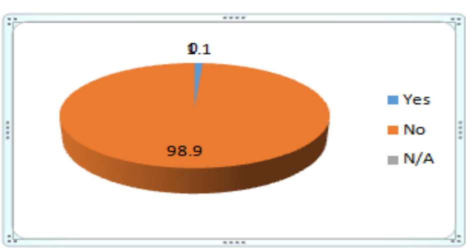

Figure: 4.17 whether there is any instrument risk to be addressed

Table 4.17 and Figure 4.17 show the out of 450 patients, only 5(0.1%) of them were seen with those concerns and rest of 445(98.9%) were without any issue.

Table 4.18Anaesthesia professional, Nurse and Surgeon review the key concerns for retrieval and management of the patient

	Frequency	Percentage (%)
Yes	439	97.6
No	11	2.4
N/a	0	0
Total	450	100

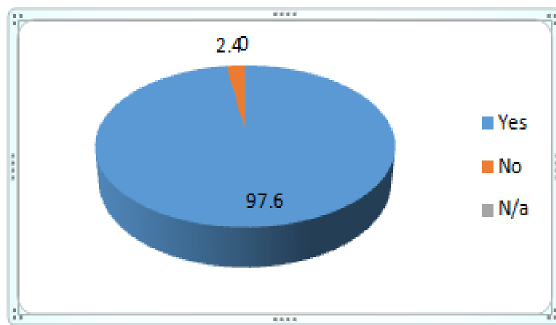

Figure4.18Surgeon's, Anesthetist's and Nurses enumerates or deny any key concerns for the recovery and care of the patient

V. FINDINGS

As per the lists of table 4.18 in all the 450 cases anesthetist, nurse and Surgeon review the key concerns for healing and care of the patient in 439 (97.6%) cases.

- 'There was a high rate of administration of the Sign In, Time Out and sign out 3 phases' also
- The best compliance was within items relating to patient procedure, consent, identity and, where valid, side or site of operation ,
- Anaesthetistsafety check for the patient Completed,
- Checking for the Pulse oxymeter on patient and functioning good.
- Introduction of team members and their role done. Verbal confirmation by surgeons,
- Anesthetists and nurses about patient's anticipated critical events done.

- ❖ Antibiotic prophylaxis given 60 minutes before the procedure in all cases.

VI. RECOMMENDATIONS AND SUGGESTIONS

Study has Highlighted Suggestions That could improve the use of Checklist in Operating Theaters.

- ❖ Audits should be performed on a weekly basis to improve the functioning of the operation theater.
- ❖ Surgeons should be taken a stronger role in time out and sign out phases.
- ❖ Newly joined staffs had been "introduced" to the surgical safety checklist by personal heads "before joining" the surgical team.
- ❖ Multidisciplinary training should be conducted for operation theater staffs and to improve communication may increase the rates of compliance with the checklist.
- ❖ Prepare the checklist in a poster, whiteboard or other more participatory format so all theatre personnel can follow the checks and engage in the process.

VII. CONCLUSION

In Healthcare system, the concept of using a surgical safety checklist in surgical practice was encouraged by publication by WHO Surgical Safety Checklist. It was believed that by routinely checking common safety issuses and by better team communication morbidity and mortality could be addressed consistently.

The present study indicates that surgical safety checklist can contribute to improve patient safety. Adherence to the checklist helps in detecting the instances of human error, equipment malfunction and helps in identifying areas that need strengthening and streamlining. To develop safety of surgical operating procedures, key safety checks by all personnel at the following stages is necessary:

- ❖ Before taking the patient into operating room
- ❖ Prior to skin incision and
- ❖ Before the operating personnel leave the operation theater after surgery.

ACKNOWLEDGEMENT

Hence there are many instinctive clear benefits to the use of surgical safety checklist including the prevention of wrong patient/wrong site surgery. Use of surgical safety checklist is important, and the focus should be on supporting local implementation efforts.

Marvellous success can be achieved only through the guidance of well-experienced and qualified persons. Firstly, I would like to thank Dr Sarala K.S. Assistant Hospital Administrator Dissertation Supervisor, for her excellent guidance and kind cooperation during the entire Dissertation period.

It is my responsibility to extend my thanks to Professor Nagesha H N, Dissertation Supervisor, for extending his support and cooperation in completing my project work.

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Digital Marketing

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Abstract: **Digital marketing is referred to as the marketing of products or services using the aid of digital technologies. It relays mainly on the internet, but also including mobile phone, display advertising, and any other digital medium. Nowadays brands and businesses utilize technology and digital marketing for their marketing People choose digital devices instead of going to physical shops.**

Online marketing which is also called internet marketing, involves use of interactive, virtual spaces for the sake of promoting and selling goods and services .It includes email marketing, search engine marketing(SEM),social media marketing ,many types of display advertising and mobile advertising. Online advertising involves both a publisher and an advertiser. Other potential participants include advertising agencies, an ad server and advertising affiliates. In this method virtual space is used to put marketing messages on websites to attract internet users

E-mail marketing, using e-mail for sending promotional messages to internet users has been considered one of the more effective method of online marketing .Among its benefit points to "high response rate" and "low costs" of e-mail marketing and believe that this advantages "are rapidly turning e-mail marketing into an invaluable tool". Affiliate marketing and social media marketing are other online marketing methods .affiliate marketing refers to the process of gaining a commission by promoting products or services of another company. social media marketing is a term used to describe the process of boosting website trapping or brand awareness through the use of social media networking sites.

The main advantages of digital marketing are empowering effect ,avoid geographic barriers ,efficient target reach, better results ,immediate result, cost effective ,wide audience .It also possess some disadvantages like copyright, taken unserious, not appropriate to ,high competition ,damage from negative ,lack of trust. However it is the most advanced technology of market.

I. INTRODUCTION

Digital marketing is an umbrella term for the marketing of products or services using digital technologies, mainly on the internet, but also including mobile phones, display advertising, and any other digital medium. The way in which digital marketing has developed since the 1990s and 2000s has changed the way brands and businesses utilize technology and digital marketing for their marketing.

Digital marketing campaigns are becoming more prevalent, as digital platforms are increasingly incorporated into marketing plans, and as people use digital devices instead of going to physical shops. Digital marketing activities are search engine optimization (SEO), search engine marketing (SEM), content marketing, influencer marketing, content automation, campaign marketing, and e-commerce marketing, social media marketing, social media optimization, e-mail direct marketing, display advertising, e–books, optical disks and games, and any other form of digital media. It also extends to non-Internet channels that provide digital media, such as mobile phones, call-back and on-hold mobile ring tones.

The term *digtal marketing* was first used in the 1990s, but digital marketing has roots in the mid-1980s when the Softad Group, now Channel Net, developed advertising campaigns for automobile companies, wherein people would send in reader reply cards found in magazines and receive in return floppy disks that contained multimedia content promoting various cars and offering free test drives.

Digital marketing became more sophisticated in the 2000s and the 2010s, and the proliferation of devices able to access digital media has led to great growth of digital advertising; statistics produced in 2012 and 2013 showed that digital marketing was still a growing field.

Digital marketing is often referred to as 'online marketing', 'internet marketing' or 'web marketing'. The term *digital marketing* has grown in popularity over time, particularly in certain countries

a. Ease of access

A key objective is engaging digital marketing customers and allowing them to interact with the brand through servicing and delivery of digital media. Information is easy to access at a fast rate through the use of digital communications. Users with access to the Internet can use many digital mediums, such as Face book, YouTube, Forums, and Email etc. Digital communications it creates a Multi-communication channel where information can be quickly exchanged around the world by anyone without any regard to whom they are. Social segregation plays no part through social mediums due to lack of face to face communication and information being wide spread instead of to a selective audience. This interactive nature allows consumers create conversation in which the targeted audience is able to ask questions about the brand and get familiar with it which traditional forms of Marketing may not offer.

b. Competitive advantage

By using Internet platforms, businesses can create competitive advantage through various means. To reach the maximum potential of digital marketing, firms use social media as its main tool to create a channel of information. Through this a business can create a system in which they are able to pinpoint behavioral patterns of clients and feedback on their needs. This means of content has shown to have a larger impingement on those who have a long-standing relationship with the firm and with consumers who are relatively active social media users. Relative to this, creating a social media page will further increase relation quality between new consumers and existing consumers as well as consistent brand reinforcement therefore improving brand awareness resulting in a possible rise for consumers up the Brand Awareness Pyramid. Although there may be inconstancy with product images; maintaining a successful social media presence requires a business to be consistent in interactions through creating a two way feed of information; firms consider their content based on the feedback received through this channel, this is a result of the environment being dynamic due to the global nature of the internet. Effective use of digital marketing can result in relatively lowered costs in relation to traditional means of marketing; Lowered external service costs, advertising costs, promotion costs, processing costs, interface design costs and control costs.

c. Effectiveness

Brand awareness has been proven to work with more effectiveness in countries that are high in uncertainty avoidance, also these countries that have uncertainty avoidance; social media marketing works effectively. Yet brands must be careful not to be excessive on the use of this type of marketing, as well as solely relying on it as it may have implications that could negatively their image. Brands that represent themselves in an anthropomorphizing manner are more likely to succeed in situations where a brand is marketing to this demographic. “Since social media use can enhance the knowledge of the brand.

***Establishment of customer exclusivity*:** A list of customers and customer‟s details should be kept on a database for follow up and selected customers can be sent selected offers and promotions of deals related to the customer‟s previous buyer behaviour. This is effective in digital marketing as it allows organisations to build up loyalty over email.

***Low Technical Requirements*:** In order to get the full use out of digital marketing it is useful to make you advertising campaigns have low technical requirements. This prevents some consumers not being able to understand or view the advertising campaign.

II. INEFFECTIVE FORMS OF DIGITAL MARKETING

Digital marketing activity is still growing across the world according to the headline global marketing index. Digital media continues to rapidly grow; while the marketing budgets are expanding, traditional media is declining (World Economics, 2015). Digital media helps brands reach consumers to engage with their product or service in a personalised way. Five areas, which are outlined as current industry practices that are often ineffective are prioritizing clicks, balancing search and display, understanding mobiles, targeting, viewability, brand safety and invalid traffic, and cross-platform measurement (Whiteside, 2016). Why these practices are ineffective and some ways around making these aspects effective are discussed surrounding the following points.

Digital marketing communications

Changing at an impressive speed, digital marketing constantly evolving technologies, and the way people using them, is transforming not just how you access your information but how you interact and communicate with your friends on a global scale. People are embracing digital technology to communicate in ways that would have been unimaginable just a few short years ago. No longer the preserve of tech-savvy early adopters, today ordinary people are integrating digital technologies continuously into their everyday lives (Ryan, 2014). The global population of people who are online in the Internet was around 2.1 billion at the end of March 2011 (Internet World Stats). By mid-2012 the figure had already climbed to almost 2.5 billion people online. Direct marketing communication (DMC) is described as the use of new digital communication channels or technology tools to create an integrated and measurable communication process that helps companies acquire and retain customers while building a deeper relationship with them (Mulhern, 2009). Other terms closely related with DMC include “e-marketing”, “Internet marketing” and “new media” (Hennig-Thurau et al., 2010). DMC has its roots in interactive marketing and one-to-one marketing (Wymbs, 2011) and, as a concept, is preferable to either e-marketing or Internet marketing, which are more limited in focus.

Customers now represent the personalization and participation as they become contributors to content and creators of marketing communication, rather than just passive objectives (Hennig-Thurau et al., 2010). The majority of digital marketing agencies now undertake the changes from advertising products to building brands. It is now more about establishing lifestyles, experiences and sensitivities around brands. Changing from trying to influence consumer perceptions of the brand to telling a storied product is the trend of digital agencies now. Customers have become content creators and active participants in the communication process. Recent improvement in communications technology, such as the upswing of interactive media, has put emphasis on some of the interactivity and proficiency. Recent studies have claimed that social media, as one part of DMC, should concentrate on lead generation by releasing attention-grabbing content with a clear call-to-action element (Bodnar and Cohen, 2012). Researchers agreed that creating awareness and strengthening the brand are the two most important objectives of marketing communications (Karjaluoto, Mustonen, & Ulkuniemi, 2015).

Using digital marketing in the newly introduced digital era enables brands and businesses to create a whole new relationship and communication channel with their customers and raises new opportunities for businesses to develop the value of their brand. The widespread use of technology is moving marketers closer to one-on-one as the web not only offers merchants the ability to communicate instantly with each other, but also allows the customer to talk back and that makes it possible for companies to customize offers and services, start conversation and gain valuable feedback, In allowing this, it builds on the relationship a brand has with its customers and allows customers the opportunity to have personal relationships with the brands, strongly influencing the brand loyalty of a customer.

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Forecasting Performance of GARCH Family Models in the Indian Commodity Markets

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Abstract: **The present paper examines the forecasting ability of the GARCH family models with reference to the Indian commodity markets. The study uses four futures indices of the Multi Commodity Exchange of India (MCX) which represent the commodities across sectors such as agriculture, energy and metals. MCX also maintains a composite index MCXCOMDEX that encompasses the other futures indices MCXAGRI, MCXENERGY and MCXMETAL The symmetric GARCH model and three asymmetric EGARCH, TARCH and PARCH variants have been used to test the forecasting efficiency of these models. The mixed results indicate that any single model's claim to forecasting efficiency across the four indices is not justified.**

***Index Terms*—GARCH, Commodities, Futures, Forecast**

I. INTRODUCTION

Commodities are regarded as the fourth asset class after equity, fixed income instruments and money market instruments. Constitution of the Chicago Board of Trade (CBOT) in 1848 marked the beginning of organized commodity trading on an exchange [1]. Organized commodities trading in India began in the year 1875 with the establishment of Bombay Cotton Trade Association. In 1900, futures trading in oilseeds was introduced with the setting up of the Gujarati Vyapari Mandali. Since then, India has had a rich history of trading in commodity futures till mid-1960s when it was discontinued due to war, natural calamities and ensuing shortage of commodities. Since 2003, trading in commodities has seen a phenomenal growth in India.

The Forward Contracts (Regulation) Act of 1952 laid the foundation stone for the governance of commodities futures contracts and all the commodity exchanges were regulated by the Forward Markets Commission (FMC) under the Ministry of Consumer Affairs, Food and Public Distribution, Government of India. Though the FMC was overseeing the operations in the Indian commodities markets for over 60 years, its powers were limited which is thought to be the cause for fluctuations and irregularities in the market. To streamline the regulations, curb speculations and promote growth, it was decided that the FMC would merge with SEBI (Securities and Exchange Board of India). This announcement was made by the Finance Minister in his budget speech in February 2015. This merger aims to "increase economies of scope and economies of scale for the government, exchanges, financial firms and stakeholders".

Commodity markets perform four important functions: Price Discovery, Price Risk Management, Improve competitiveness in the Imports and Exports, and provide Benefit for farmers and agriculturists[2]. To meet food and raw material requirements and manage supply-demand scenarios, forward contracting in commodities was carried out in India for a long time. But forward contracts give rise to price risk and hence, the need for this price risk management. This can be done effectively through futures contracts. A Commodity futures contract is an agreement to buy (or sell) a specified quantity of a commodity at a future date, at an agreed price when entering into the contract. While futures contracts as an investment product exists for a variety of financial instruments, its uniqueness as a commodity derivative makes it an attractive investment product

Commodity futures allow producers to insure themselves against unfavorable variations in commodity prices. The markets allow non-producer investors to receive a return for bearing a risk on commodity price fluctuations. Through organized exchanges, these risks are borne by a large number of investors/speculators for a premium. This leads to efficient price discovery since a large number of participants bring in variety of expectations and opinions on the behavior of the underlying assets.While some commodities are storable, some are not; the use of each product in production stage varies; quality differs. These features of the underlying commodities make it much more complicated for organized exchanges as it becomes difficult to handle and commands a vast amount of resources and infrastructure.

India presently has 17 commodity exchanges of which six are national level commodity exchanges. Of these, the most important ones are Multi Commodity Exchange of India Limited (MCX) National Commodity and Derivative Exchange (NCDEX) National Multi Commodity Exchange of India Ltd (NMCE). According to the Forward Markets Commission's 2013-2014 Annual Report, MCX contributed 85% of FMC's revenues and is the largest commodities exchange in India followed by NCDEX, Mumbai (11.30 %), NMCE, Ahmedabad (1.51 %), ICEX, Mumbai (0.84 %), ACE Mumbai (0.46%) and UCX, Navi Mumbai (0.72%). MCX offers trading in over 50 commodities. In addition, it maintains four Commodity Futures Indices (MCXCOMDEX, MCXMETAL, MCXAGRI and MCXENERGY), four Commodity Spot Indices (MCXSCOMDEX, MCXSMETAL, MCXSAGRI and MCXSENERGY) and three Rainfall Indices (RAINEXIDR, RAINDEXMUM and RAINDEXJAI).

Commodities' trading in India has seen phenomenal growth in the recent past as evidenced in Figure 1. It is also infamous for wild price fluctuations which is generally attributed to speculative participants[3]–[5].

Given the nature of the underlying and its relation to the Indian economy, it is of utmost importance that this market needs to be thoroughly analyzed. This paper is an attempt to capture and model the volatility in the Indian Commodity Markets using the GARCH family of models.

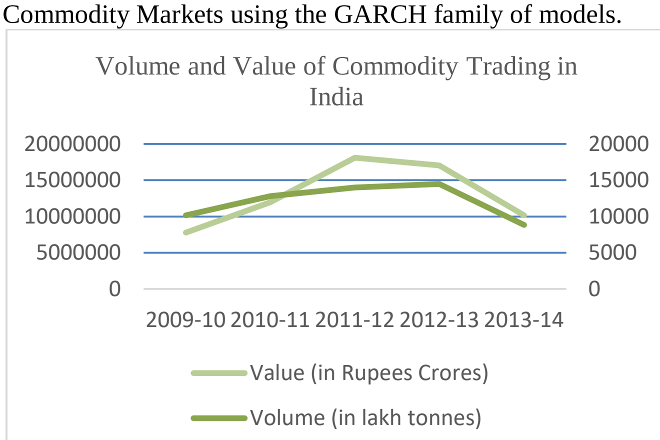

Figure 1: Growth of Indian Commodity Markets

II. LITERATURE REVIEW

Prior studies in commodities markets have focused on price discovery[2], [6], [7], lead-lag relationship between futures and spot markets[8] and efficiency of commodity markets[9]–[11]. Introduction of derivatives trading in Indian commodity markets has been a topic of much debate for producers, consumers, researchers and policy makers. While some researchers believe that commodity derivatives have increased speculative activity and volatility, some others have shown that these products have reduced volatility thereby improving stability.

Indian agricultural commodities futures markets are not yet mature and efficient [12]. But Indian Commodity markets exhibit an efficient price discovery in place [2], [6]. When Granger Causality, Co-integration and Vector Error Correction Models are applied in the process of process of price discovery on pepper prices, it was found that there is unidirectional causality from futures to spot prices in the futures market [6]. Price discovery role of futures market might be affected by liquidity and market size [13].

For agricultural commodities such as maize, chickpea, black lentil, pepper, castor seed, soybean and sugar, it has been found that the futures and spot prices are cointegrated in the long term[14]. The study also revealed a short-term relationship between the two markets and that the futures market had the ability to predict spot prices for some of the commodities and the relationship was bi-directional for a few others.

An empirical analysis of the efficiency of spot and futures markets using Johansen cointegration techniquehas found that the futures market is unable to fully incorporate information which confirmed the inefficiency of the market. The study focused on the daily futures and comparable ready prices of five commodities across six Indian commodity exchanges. Hence the Indian agricultural commodities futures markets are not yet mature and efficient [12].

An examination of the lead-lag relationship between the spot price of commodities and the associated futures contract in the Indian market scenario concluded that information first appears in futures market and then is transmitted down to the spot market. Hence, futures market enjoys greater leverage which attracts speculators. Also, speculative activity provides liquidity to the market and helps in price discovery [8]. Data for that particular study consisted of daily cash closing prices, daily futures settlement prices, total futures trading volume, and total futures open interest for the agricultural commodities barley, maize, mustard seed and pepper traded on National Commodity Exchange (NCDEX) in India.

Commodity price volatility exhibits a leptokurtic behaviour [15]. It makes futures prices difficult to forecast because futures price becomes wider. Since the accuracy of forecasting is decreased, it makes it difficult for both producers and consumers to protect their welfare[16]. In addition, supply/demand, weather conditions, change in trading volumes, terms of trade shocks and exchange rates also caused an increase in price volatility [15]. These studies also establish the need for hedging commodity prices [15]. The studies on Indian commodity markets have recommended the strengthening and autonomy of the Forwards Market Commission and also the need for well-developed warehousing and market linkages to make them more efficient [2]. Literature on Indian commodity markets has mainly focused on agricultural commodities[17]–[26]or is limited to few commodities traded on national exchanges. This study contributes to the existing literature on the Indian commodities markets by studying the Indices being maintained by Multi Commodities Exchange of India Limited (MCX) viz. MCXCOMDEX, MCXMETAL, MCXAGRI and MCXENERGY. Commodity indices capture the broad market sentiments and studying these instruments gives a macro view of the markets as compared to the micro view by studying an individual commodity. As with other markets, volatility of futures prices is a concern and there is a need to develop a model to efficiently forecast the futures prices in order to better understand the behavior of these markets. The GARCH family models have been very popular in literature for studying and modelling volatility. The usefulness of these models in studying the Indian commodity markets will provide deeper insight into the concealed behavior that these markets exhibit.

III. DATA AND METHODOLOGY

This study employs futures data of four commodity indices actively traded on the Multi Commodity Exchange (MCX) – MCXCOMDEX, MCXMETAL, MCXENERGY and MCXAGRI. The MCXCOMDEX is a composite index comprising of MCXMETAL (40%), MCXENERGY (40%) and MCXAGRI (20%). The daily closing price of the four indices has been considered for this study. MCX considers only the near month active contract price for index computation.

As with equity indices, Indian commodity market indices encompass all the commodities available for derivative trading in the market and provide a good overall sense of the commodity markets. Indices also give a macro perspective which is helpful in understanding the volatility of the market. Table I lists the four indices being maintained by the Multi Commodity Exchange of India and their components.

Table I: List of MCX indices and their components

Index	Components	Weights
MCXCOMDEX	MCXMETAL Index	40.00%
	MCXENERGY Index	40.00%
	MCXAGRI Index	20.00%
MCXMETAL Index	Gold	38.03%
	Silver	24.15%
	Copper	17.83%
	Zinc	5.00%
	Aluminium	5.00%
	Nickel	5.00%
	Lead	5.00%
MCXENERGY Index	Crude Oil	88.53%
	Natural Gas	11.48%
MCXAGRI Index	Ref. Soy Oil	19.55%
	Potato	23.80%
	Chana	20.70%
	Crude Palm Oil	15.95%
	Kapaskhalli	10.00%
	Mentha Oil	10.00%

A. *GARCH Family models*

The GARCH model is effective in capturing the time-varying nature of volatility and models it as conditional variance. It expresses the conditional variance of the error term as a linear function of the lagged squared residuals and the lagged residual conditional variance. GARCH also captures volatility clustering found to be highly evident in financial data. The GARCH approach is a common and simple way to use historical data to study volatility as it is designed to track variations in volatility through time. The GARCH model is symmetric in nature i.e., it treats both good news and bad news with equal importance. Since Leverage Effect is very common in financial data, this symmetric nature of GARCH model may prove to be a limitation. To overcome this, variants of GARCH such as TGARCH, EGARCH etc. were developed which are asymmetric in nature and capture the Leverage Effect more effectively.

B. *The GARCH (1,1) model*

In a GARCH (p,q) model given by [27], p represents the order of the moving average ARCH terms and q represents the order of autoregressive GARCH terms.

$Y_t = \omega + \alpha_1 X_t + \varepsilon_t$ Where$\varepsilon_t \sim N\ (0, \sigma_t^2)$ ………………….(1)

$\sigma_t^2 = \omega + \sum_{t=1}^{p} \alpha_i \varepsilon_{t-1}^2 + \sum_{j=1}^{q} \beta_j \sigma_{t-j}^2$ ………………….(2)

Where

Equation (1) represents the conditional term

Equation (2) is the conditional variance equation
In both the above equations ω is a constant.
In Equation (2),
$\varepsilon_{t-1}^2$is the ARCH term which is represents the volatility from the previous period and is measured as the lag of the squared residual form the mean equation
σ_{t-j}^2 is the GARCH term which represents the forecast variance of the previous period
The GARCH (1,1) model refers to the presence of a first order moving average ARCH term and a first order autoregressive GARCH term. The mean and the variance equations for the GARCH (1,1) model are as follows:

$Y_t = \omega + \alpha_1 X_t + \varepsilon_t$ ………………….(3)

$\sigma_t^2 = \omega + \alpha\ \varepsilon_{t-1}^2 + \beta\ \sigma_{t-j}^2$ ………………….(4)

C. The Threshold GARCH (TARCH) Model

The TARCH model was introduced by both [28]and [29]independently. It is an asymmetric GARCH model factors in the 'leverage effect' and good news and bad news have differential effect on the model. An additional term ε_{t-k}^2 is added to the GARCH equation to account for possible asymmetries. As with GARCH(1,1), $\varepsilon_{t-1}^2$is the ARCH term which is represents the volatility from the previous period and σ_{t-j}^2 is the GARCH term which represents the forecast variance of the previous period

$\sigma_t^2 = \sum_{t=1}^{p} \alpha_i \varepsilon_{t-1}^2 + \sum_{j=1}^{q} \beta_j \sigma_{t-j}^2 + \sum_{k=1}^{r} \gamma_k \varepsilon_{t-k}^2 I_{t-k}$
………………….(5)

In Equation (5), $I_t = 1$ if $\epsilon_t < 0$ and 0 other wise. Good news is represented by ϵ_{t-1}> 0 and has an impact of α_i while bad news is represented by ϵ_{t-1}< 0 and has in impact of$\alpha_i + \gamma_i$.
$\gamma_i \neq 0$ implies that the impact of news (good or bad) is asymmetric. $\gamma_i > 0$ implies evidence of leverage effect and that bad news increases volatility.

D. The Exponential GARCH (EGARCH) Model

Nelson [30]proposed the EGARCH model which is specified by the conditional variance equation

$\log(\sigma_t^2) = \sum_{t=1}^{p} \alpha_i \mid \frac{\varepsilon_{t-1}}{\sigma_{t-1}} \mid + \sum_{j=1}^{q} \beta_j \log(\sigma_{t-j}^2) + \sum_{k=1}^{r} \gamma_k \frac{\varepsilon_{t-k}^2}{\sigma_{t-k}}$ ………………….(6)

The EGARCH model implies that the conditional variance is exponential (hence log), rather than quadratic as implied by the other GARCH variants. As with GARCH(1,1), $\varepsilon_{t-1}^2$is the ARCH term which is represents the volatility from the previous period and σ_{t-j}^2 is the GARCH term which represents the forecast variance of the previous period.
While α represents the symmetric effect of the model and β represents the persistence in conditional volatility, γ in Equation (6) is a measure of the asymmetry or leverage effect.
γ =0 denotes that the model is symmetric. γ < 0 indicates that positive news generates less volatility than negative news. Conversely, γ > 0 indicates that negative shocks have a higher impact than positive news.

E. The Power GARCH (PARCH) Model

In the PARCH model proposed by Taylor[31], the standard deviation is modelled rather than the variance with the estimation of the power parameter δ. As with GARCH(1,1), $\varepsilon_{t-1}^2$is the ARCH term which is represents the volatility from the previous period and σ_{t-j}^2 is the GARCH term which represents the forecast variance of the previous period. The optional γ parameter is included to capture the asymmetry. The PARCH model estimates the variance as:

$\sigma_t^{\partial} = \omega + \sum_{t=1}^{p} \alpha_i\, (|\varepsilon_{t-1}| - \gamma_i \varepsilon_{t-i})^{\delta} + \sum_{j=1}^{q} \beta_j \sigma_{t-j}^{\partial}$
………………….(7)

Where δ > 0, $|\gamma_i| \leq 1$ for *i*=1, ……, *r*, $\gamma_i = 0$ for all*I* >*r* and *r*≤ *p*

IV. EMPIRICAL ANALYSIS

The period of study is from May 2006 to March 2016. Daily closing data of MCXCOMDEX, MCXMETAL, MCXENERGY and MCXAGRI gives us 2921 observations. The entire sample is divided into two parts: observations for model building and hold-out-sample observations for validating the model. Data from May 2006 to December 2015, which comprises of 2858 observations is used to estimate the models. Data from January 2016 to March 2016 has been reserved as the hold-out sample for out-of-sample forecasting. Table II. displays key descriptive statistics of the four indices.

Preliminary investigation verify the stationary of data by employing Augmented Dickey-Fuller test [32]and Philips-Perron test reveals that the raw price data is not stationary. GARCH family models assume stationary of the data series. Hence, to achieve stationarity, the returns series is used. It is calculated as

$$R_t = ({}^{P_t - P_{t-1}}/_{P_{t-1}})$$

Table II: Summary Statistics of Daily Closing Prices

	MCXCOMDEX	MCXAGRI	MCXENERGY	MCXMETAL
Mean	3319.296	2434.445	3185.105	4228.806
Median	3516.8	2343.01	3189.145	4505.98
Maximum	4689.6	3716.58	5137.1	5741.31
Minimum	1736.44	1570.77	1479.48	2096.69
Std. Dev.	625.2075	418.6217	726.3934	871.229
Skewness	-0.648681	0.748024	0.145595	-0.804573
Kurtosis	2.388679	3.525445	2.345845	2.422481
Jarque-Bera	163.8632	200.3022	40.84589	232.8559

The skewness and kurtosis statistics clearly indicate the presence of fat tails and extreme values. Kurtosis > 3 also indicates that the right tails are extreme.

To model the data for GARCH, EGARCH, PARCH and TARCH, 2855 daily observations are used. Models are estimated by the method of maximum likelihood and errors are studies for three types of conditional distributions - Gaussian, Student's t and Generalized Error Distribution(GED). Three statistics –Akaike Information Criterion (AIC), Schwarz Information Criterion (SIC) and Hannan-Quinn Criterion (HQC) are used to rank the models. Lower the value of the statistic, better is the model. The table below displays the ranks of the models for each of the indices – MCXCOMDEX, MCXAGRI, MCXENERGY and MCXMETAL.

Individual rank of each model for the three assumptions of error distribution is indicated below the respective statistic. The last row indicates the sum of the individual ranks and the definitive rank in parenthesis.

V. RESULTS AND DISCUSSION

The results of the various tests along with test statistics have been discussed below.

Table III: Statistical verification and ranking of models for MCXAGRI

AGRI	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
AIC	-6.42899	-6.966632	-6.905238	-6.453749	-6.966632	-6.905238	-6.429641	-7.004686	-6.935546	-6.4051	-6.976142	-6.914406
	11	3	7	9	3	7	10	1	5	12	2	6
SIC	-6.416471	-6.952027	-6.890633	-6.44123	-6.952027	-6.890633	-6.415036	-6.987995	-6.918855	-6.386322	-6.955277	-6.893542
	10	3	7	9	3	7	11	1	5	12	2	6
HQC	-6.424476	-6.961366	-6.899972	-6.449235	-6.961366	-6.899972	-6.424374	-6.998667	-6.929527	-6.398328	-6.968618	-6.906883
	10	3	7	9	3	7	11	1	5	12	2	6
	31(10)	9(3)	21(7)	27(9)	9(3)	21(7)	32(11)	3(1)	15(5)	36(12)	6(2)	18(6)

The AIC, SIC and HQC for the four models across the three error distributions for MCXAGRI index have been displayed in Table (III). All three statistics strongly favour PARCH(1,1) model and Student's t distribution. The asymmetric models PARCH, TARCH are shown to be better suited for MCXAGRI than the symmetric GARCH model.

Table IV: Statistical verification and ranking of models for MCXENERGY

ENERGY	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
AIC	-5.646674	-5.69258	-5.699234	-5.645671	-5.692184	-5.698548	-5.645977	-5.691898	-5.698534	-5.646928	-5.692814	-5.699059
	10	6	1	12	7	3	11	8	4	9	5	2
SIC	-5.634155	-5.677974	-5.684629	-5.631066	-5.675492	-5.681857	-5.631372	-5.675206	-5.681842	-5.62815	-5.671949	-5.678194
	9	5	1	11	6	2	10	7	3	12	8	4
HQC	-5.64216	-5.687313	-5.693967	-5.640404	-5.686165	-5.692529	-5.64071	-5.685879	-5.692515	-5.640157	-5.68529	-5.691535
	9	5	1	11	6	2	10	7	3	12	8	4
	28(9)	16(5)	3(1)	34(12)	19(6)	7(2)	31(10)	22(8)	10(3)	33(11)	21(7)	10(3)

Table (IV) discusses the efficiency of models for MCXENERGY. The symmetric GARCH(1,1) model with GED clearly ranking above the rest. The GED distribution is better suited for this index than the other error distributions.

Table V: Statistical verification and ranking of models for MCXMETAL

METAL	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
AIC	-6.396202	-6.492245	-6.509658	-6.391942	-6.491216	-6.508021	-6.39551	-6.491916	-6.509086	-6.409332	-6.492771	-6.51125
	10	6	2	12	8	4	11	7	3	9	5	1
SIC	-6.383684	-6.47764	-6.495053	-6.377337	-6.474525	-6.491329	-6.380905	-6.475225	-6.492394	-6.390554	-6.471906	-6.490386
	10	5	1	12	7	3	11	6	2	9	8	4
HQC	-6.391688	-6.486978	-6.504391	-6.386676	-6.485197	-6.502001	-6.390243	-6.485897	-6.503067	-6.402561	-6.485247	-6.503727
	10	5	1	12	8	4	11	6	3	9	7	2
	30(10)	16(5)	4(1)	36(12)	23(8)	11(4)	33(11)	19(6)	8(3)	27(9)	20(7)	7(2)

Table (V) discusses the statistics for MCXMETAL index. All three comparison statistics indicate that the GED is a better assumption for error distribution. It also shows the preference for GARCH(1,1) model over the rest. It should also be noted that the difference in the actual statistics for any model under the GED distribution is minimal.

Table IIII: Statistical verification and ranking of models for MCXCOMDEX

COMDEX	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
AIC	-6.614824	-6.678599	-6.683335	-6.610628	-6.677311	-6.681376	-6.614168	-6.67826	-6.68275	-6.614469	-6.675757	-6.680787
	9	5	1	12	7	3	11	6	2	10	8	4
SIC	-6.602305	-6.663994	-6.66873	-6.596022	-6.660619	-6.664685	-6.599563	-6.661569	-6.666058	-6.591518	-6.650719	-6.655749
	9	4	1	11	6	3	10	5	2	12	8	7
HQC	-6.61031	-6.673333	-6.678068	-6.605361	-6.671292	-6.675357	-6.608901	-6.672241	-6.676731	-6.606193	-6.666728	-6.671758
	9	4	1	12	7	3	10	5	2	11	8	6
	27(9)	13(4)	3(1)	35(12)	20(7)	9(3)	31(10)	16(5)	6(2)	33(11)	24(8)	17(6)

Table (VI) displays the model ranking for MCXCOMDEX index. The GED assumption is favoured along with extremely little difference in the statistics across the models. However, GARCH(1,1) is marginally better ranked than the other three.

Three (MCXENERGY, MCXMETAL and MCXCOMDEX)out of four indices show a strong affinity towards the symmetric GARCH(1,1) model. The GED error distribution assumption holds good for MCXENERGY, MCXMETAL and MCXCOMDEX. Although MCXAGRI has ranked PARCH(1,1) under the Student's t distribution as the highest, the symmetric GARCH(1,1) is also shown to be not far behind. The model specifications thus tested across AIC, SIC and HQC have not shown the effectiveness of asymmetric models over the symmetric models. All four indices have rejected the assumption of a normal error distribution. Hence, it can be deduced that the usual assumption of normal distribution which is frequently adopted in studying financial data is not justified.

Forecasting and performance evaluation

Forecasting performance is evaluated using the coefficients given by the forecasts output viz. Root Mean Squared Error (RMSE), Mean Absolute Error (MAE), Mean Absolute Percentage Error (MAPE) and Theil Inequality Coefficient (Theil U). The various models and assumptions of error distributions are measured for out-of-sample dynamic forecasting performance across the four error coefficients. The forecasting ability of the four models crossed with the three error distributions is tested against the reserved test sample of 63 observations.

Individual forecasting performance rank of each model for the three assumptions of error distribution is indicated below the respective statistic. The last row indicates the sum of the individual ranks and the definitive rank in parenthesis.

A common observation across the four indices is that any single model fails to establish its predictive supremacy over the rest. There is also a disagreement regarding the error distribution assumption across the indices.

Table IVII: Forecast performance of models for MCXAGRI

AGRI	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
RMSE	0.005604	0.005612	0.00566	0.005642	0.005657	0.009792	0.005616	0.005619	0.005624	0.005648	0.005617	0.005631
	1	2	11	8	10	12	3	5	6	9	4	7
MAE	0.004416	0.004414	0.004421	0.004424	0.004413	0.00586	0.004417	0.004416	0.004418	0.004427	0.004416	0.00442
	3	2	9	10	1	12	6	3	7	11	3	8
MAPE	107.9694	103.643	104.9437	126.4176	108.5861	99.27312	103.6924	102.4507	101.7087	98.66175	102.888	100.5513
	10	7	9	12	11	2	8	5	4	1	6	3
TIC	0.945318	0.966736	0.977089	0.889738	0.955587	0.994665	0.966664	0.977372	0.98418	0.990323	0.973546	0.994906
	2	5	7	1	3	11	4	8	9	10	6	12
RANK	16(1)	16(1)	36(11)	31(9)	25(6)	37(12)	21(4)	21(4)	26(7)	31(9)	19(3)	30(8)

Table (VII) displays the performance of various models in forecasting the returns for the MCXAGRI index. The GARCH(1,1) model outranks the other three models in the forecasting accuracy with Student's t distribution showing better performance irrespective of the model.

Table VII: Forecast performance of models for MCXENERGY

ENERGY	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
RMSE	0.028357	0.028356	0.028355	0.028359	0.028356	0.028355	0.028357	0.023205	0.028355	0.028358	0.028356	0.028355
	9	6	2	12	6	2	9	1	2	11	6	2
MAE	0.021167	0.021176	0.021214	0.02114	0.021159	0.0212	0.021167	0.018284	0.021214	0.02115	0.021163	0.021203
	6	8	11	2	4	9	6	1	11	3	5	10
MAPE	104.3597	105.686	109.5077	101.7687	103.9931	108.0739	104.3674	99.21186	109.5027	102.8175	104.5146	108.3862
	5	8	12	2	4	9	6	1	11	3	7	10
TIC	0.990388	0.987284	0.980415	0.994233	0.990484	0.982883	0.990378	0.986886	0.980422	0.993011	0.989294	0.982244
	9	6	1	12	10	4	8	5	2	11	7	3
RANK	29(11)	28(8)	26(6)	28(8)	24(2)	24(2)	29(11)	8(1)	26(6)	28(8)	25(4)	25(4)

Table (VIII) discusses the MCXENERGY index. The assumption of Student's t distribution shows a better performance than the normal distribution for any model. PARCH(1,1) , TARCH(1,1) and EGARCH(1,1) model show better forecast performance that GARCH(1,1) indicating that asymmetric models better suited for forecasting the MCXENERGY index.

Table IX: Forecast performance of models for MCXMETAL

METAL	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
RMSE	0.0086	0.008566	0.008557	0.008598	0.008564	0.008557	0.0086	0.008565	0.008557	0.008598	0.008566	0.008557
	11	7	1	9	5	1	11	6	1	9	7	1
MAE	0.006432	0.006419	0.006419	0.006432	0.006419	0.006419	0.006432	0.006419	0.006419	0.006431	0.006419	0.006419
	10	1	1	10	1	1	10	1	1	9	1	1
MAPE	99.98338	100.7011	102.2154	100.0304	101.0738	102.2926	99.98345	100.7999	102.1764	99.97544	100.7301	102.1692
	2	5	11	4	8	12	3	7	10	1	6	9
TIC	0.978529	0.940355	0.928596	0.976744	0.937465	0.928041	0.978562	0.939563	0.928879	0.97718	0.940037	0.928885
	11	8	2	9	5	1	12	6	3	10	7	4
RANK	34(11)	21(7)	15(1)	32(10)	19(5)	15(1)	36(12)	20(6)	15(1)	29(9)	21(7)	15(1)

The forecasting performance of the four models for MCXMETAL index is discussed in Table (IX). All the four models are ranked equally here, under the assumption of the GED. The forecast ability of the various models under the normal distribution is clearly not preferred.

Table X: Forecast performance of models for MCXCOMDEX

COMDEX	GARCH(1,1)			EGARCH (1,1)			PARCH (1,1)			TARCH (1,1)		
	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED	Normal	Student's t	GED
RMSE	0.009551	0.009539	0.009533	0.009551	0.009539	0.009533	0.009552	0.009539	0.009533	0.009592	0.009596	0.009581
	7	4	1	7	4	1	9	4	1	11	12	10
MAE	0.007404	0.007397	0.00739	0.007403	0.007397	0.00739	0.007404	0.007396	0.00739	0.007452	0.007467	0.007451
	8	5	1	7	5	1	8	4	1	11	12	10
MAPE	100.4394	100.7847	100.8576	100.4442	100.8039	100.8558	100.432	100.7982	100.862	103.5438	105.6926	106.3409
	2	4	8	3	6	7	1	5	9	10	11	12
TIC	0.986043	0.966874	0.955854	0.985142	0.966265	0.955663	0.986424	0.966226	0.955644	0.949468	0.934009	0.930052
	11	9	6	10	8	5	12	7	4	3	2	1
RANK	28(8)	22(5)	16(3)	27(7)	23(6)	14(1)	30(9)	20(4)	15(2)	35(11)	37(12)	33(10)

Table (X) discusses the ranking of various models for forecasting performance for the MCXCOMDEX index. The asymmetric EGARCH(1,1) has outperformed the other models followed by PARCH(1,1) and GARCH(1,1). The results are strongly in favour of asymmetric distributions under the GED assumption for MCXCOMDEX.

Out-of-sample forecasting of the 63 samples tested against the various models under the three assumptions of conditional error distributions show that all the four indices prefer non-normal error distributions which capture the fat-tails of the data series. While MCXENERGY and MCXCOMDEX show better forecasts with asymmetric models, MCXAGRI shows a better performance under GARCH(1,1). MCXMETAL ranks all the models equally but with the assumption of non-normal error distribution.

VI. DISCUSSION

The GARCH family models are employed to capture, model and forecast volatility for the four commodity indices (MCXAGRI, MCXENERGY, MCXMETAL and MCXCOMDEX). The efficiency of the models has been tested with both in-sample forecasts and out-of-sample forecasts. Ideally, the best fit model should also be the best forecasting model. The statistics indicate that for the MCXAGRI index, while PARCH(1,1) is a better fit, GARCH(1,1) gives better forecasting performance as found in other studies also.[14], [16] and [4]

The symmetric GARCH model in its lowest order (1,1) is a better fit for MCXENERGY, MCXMETAL and MCXCOMDEX. MCXENERGY has a better forecasting performance with GARCH(1,1) for in-sample forecast and PARCH(1,1) for out-of-sample forecast. Similarly, MCXMETAL shows TARCH(1,1) as a better forecasting model for in-sample data and GARCH(1,1) for out-of-sample data. No single model establishes its superiority over the others in the sample of commodity indices used for this study, as evidenced in some other studies.[33]
It should also be noted that for every index and every model, the assumption of a non-normal conditional error distribution is evident.[33]

VII. CONCLUDING COMMENTS

This paper has attempted to examine the forecasting performance of the popular GARCH family models in the Indian Commodity Markets. It makes use of the four commodity indices maintained by Multi Commodities Exchange of India (MCX) – MCXCOMDEX, MCXAGRI, MCXENERGY and MCXMETAL.

As evident from the statistics obtained, the results are mixed regarding the best fit model and the two types of forecast for the four commodity indices. The ability of a model to cope with the asymmetry, which appears prominently in the data set, also has no bearing on the forecast performance of the model. This could also be due to the inherent parameter instability of the long data set being used for the study. In such a situation, it is difficult to arrive at a definitive conclusion regarding a single model which is ranked high for both model specification and forecasting performance. This however, does not undermine the usefulness of the GARCH models in studying time series data. Adding more specifications to the model's variance equation may better capture the essence of volatility and thereby, improve forecast ability. Also, commodities in general and agricultural commodities in particular, have been traditionally known to be influenced by exogenous variables which distort the volatility levels and make it more difficult to model than equity instruments.

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Understanding The Impact Of Land Acquisition, Rehabilitation And Resettlement (Amendment) Bill (LARR) And Its Consequences On Land Acquisition In India.

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Abstract: **Land acquisition is the process by which land owned by private persons is compulsorily acquired. It is different from the purchase of land, which is a contract between a willing seller and a willing buyer on mutually acceptable terms. Acquisition is where the land owner has no choice over parting with the land, and is forced to relinquish his property. Therefore, the process of acquisition overrides the property rights of the private land owner. This can be justified only if a case can be made for greater public benefit in taking away someone's land ownership rights. Land acquisition in India refers to the process by which the union or a state government in India acquires private land for the purpose of industrialization, development of infrastructural facilities or urbanization of the private land, and provides compensation to the affected land owners and their rehabilitation and resettlement.**

I. INTRODUCTION

Land acquisition in India is governed by the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR) and which came into force from 1 January 2014. Till 2013, land acquisition in India was governed by Land Acquisition Act of 1894. On 31 December 2014, the President of India promulgated an ordinance with an official mandate to "meet the twin objectives of farmer welfare; along with expeditiously meeting the strategic and developmental needs of the country". An amendment bill was then introduced in Parliament to endorse the Ordinance. Lok Sabha passed the bill but the same is still lying for passage by the Rajya Sabha. On 30 May 2015, President of India promulgated the amendment ordinance for third time. Union Government of India has also made and notified the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Social Impact Assessment and Consent) Rules, 2014 under the Act to regulate the procedure. The land acquisition in Jammu and Kashmir is governed by the Jammu and Kashmir Land Acquisition Act, 1934.

This paper focuses on the issues and conflicts happening due to land acquisition in India and the related consequences on the society at large. The paper also deals with Proposed Amendments by the government in the existing Land Acquisition, Rehabilitation and Resettlement Act, 2013 and alternative proposals to land acquisition.

II. PURPOSE OF LARR

As per the Act, the union or state governments can acquire lands for its own use, hold and control, including for public sector undertakings and for "public purpose", and shall include the following purposes:

- for strategic purposes relating to naval, military, air force, and armed forces of the Union, including central paramilitary forces or any work vital to national security or defense of India or State police, safety of the people;
- for infrastructure projects as defined under the Act;
- project for project affected families;
- project for housing for such income groups, as may be specified from time to time by the appropriate Government;
- project for planned development or the improvement of village sites or any site in the urban areas or provision of land for residential purposes for the weaker sections in rural and urban areas;
- Project for residential purposes to the poor or landless or to persons residing in areas affected by natural calamities, or to persons displaced or affected by reason of the implementation of any scheme

undertaken by the Government, any local authority or a corporation owned or controlled by the State.

The land can be acquired for private bodies for certain purposes:

- for public private partnership projects, where the ownership of the land continues to vest with the Government, for public purpose as defined in the Act;
- For private companies for public purpose.

Six facts bout Land Acquisition, Rehabilitation and Resettlement (Amendment) Bill, 2015

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Amendment) Bill, 2015, popularly known as Land bill, was adopted by the Lok Sabha on Tuesday. Here are the six important facts you need to know. Source: prsindia.org

The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Amendment) Bill, 2015 seeks to Amend the Act of 2013 (LARR Act, 2013).

1. The Bill creates five special categories of land use: 1. defense, 2. rural infrastructure, 3. affordable housing, 4. industrial corridors, and 5. infrastructure projects including Public Private Partnership (PPP) projects where the central government owns the land
2. The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (Amendment) Bill, 2015 seeks to amend the Act of 2013(LARR Act, 2013).
3. The Bill exempts the five categories from provisions of the LARR Act, 2013 which requires the consent of 80 per cent of land ownersto be obtained for private projects and that of 70 per cent of land owners for PPP projects.
4. The Bill allows exemption for projects in these five categories from requiring Social Impact Assessment be done to identify those affected and from the restrictions on the acquisition of irrigated multi-cropped land imposed by LARR Act 2013.
5. The Bill brings provisions for compensation, rehabilitation, and resettlement under other related Acts such as the National Highways Act and the Railways Act in consonance with the LARR Act.
6. The Bill changes acquisition of land for private companies mentioned in LARR Act, 2013 to acquisition for ‘private entities’. A private entity could include companies, corporations and nonprofit organizations.

III. DEVELOPMENTS IN REAL ESTATE SECTOR

The union cabinet has approved 20 major amendments to the real estate regulatory bill that seeks to protect home buyers as well as help investments in the real estate industry grow. These changes were based on the recommendations of the select committee of Rajya Sabha that had examined the bill pending in the upper house of the parliament.

- The updated bill now mandates projects on 500 sq metres of area or with eight flats to also be registered with the regulatory authority instead of 1,000 sq metres proposed earlier, bringing in a larger number of projects under the regulator's ambit.
- Builders will now have to deposit at least 70% of the sale proceeds, including land cost, in a separate escrow account to meet construction cost. Earlier proposal was 50% or less of sale proceeds.

IV. ISSUES RELATED TO LAND ACQUISITION

Some of the important issues surrounding the Land Acquisition are discussed below. The major land acquisition and conflicts happen in the densely populated areas of the countryside.

1. Eminent Domain

The power to take property from the individual is rooted in the idea of eminent domain. The doctrine of eminent domain states, the sovereign can do anything, if the act of sovereign involves public interest. The doctrine empowers the sovereign to acquire private land for a public use, provided the public nature of the usage can be demonstrated beyond doubt. The doctrine is based on the following two Latin maxims, (1) Saluspopuli suprema lex (Welfare of the People Is the Paramount Law) and (2) Necessitaspublica major est quam (Public Necessity Is Greater Than Private Necessity).In the history of modern India, this doctrine was challenged twice (broadly speaking) once when land reform was initiated and another time when Banks were nationalized.

The Constitution of India originally provided the right to property (which includes land) under Articles 19 and 31. Article 19 guaranteed that all citizens have the right to acquire, hold and dispose of property. Article 31 stated that "no person shall be deprived of his property save by authority of law." It also indicated that compensation would be paid to a person whose property has been taken for public purposes (often subject to wide range of meaning). The Forty-Fourth Amendment of 1978 deleted the right to property from the list of fundamental rights with an introduction of a new provision, Article 300-A, which provided that "no person shall be deprived of his property save by authority of law" (Constitution 44th Amendment, w.e.f. 10.6.1979). The amendment ensured that the right to property" is no more a fundamental right but rather a constitutional/legal right/as a statutory right and in the event of breach, the remedy available to an aggrieved person is through the High Court under Article 226 of the Indian Constitution and not the Supreme Court under Article 32 of the Constitution.

State must pay compensation at the market value for such land, building or structure acquired (Inserted by Constitution, Seventeenth Amendment) Act, 1964, the same can be found in the earlier rulings when property right was a fundamental right (such as 1954 AIR 170, 1954 SCR 558, which propounded that the word "Compensation" deployed in Article 31(2) implied full compensation, that is the market value of the property at the time of the acquisition. The Legislature must "ensure that what is determined as payable must be compensation, that is, a just equivalent of what the owner has been deprived of"). Elsewhere, Justice, Reddy, O Chinnappa ruled (State Of Maharashtra v. Chandrabhan Tale on 7 July 1983) that the fundamental right to property has been abolished because of its incompatibility with the goals of "justice" social, economic and political and "equality of status and of opportunity" and with the establishment of "a socialist democratic republic, as contemplated by the Constitution. There is no reason why a new concept of property should be introduced in the place of the old so as to bring in its wake the vestiges of the doctrine of Laissez Faire and create, in the name of efficiency, a new oligarchy.

2. Legislative changes

The 2013 Act focuses on providing not only compensation to the land owners, but also extend rehabilitation and resettlement benefits to livelihood looser from the land, which shall be in addition to the minimum compensation. The minimum compensation to be paid to the land owners is based on a multiple of market value and other factors laid down in the Act. The Act forbids or regulates land acquisition when such acquisition would include multi-crop irrigated area. The Act changed the norms for acquisition of land for use by private companies or in case of public-private partnerships, including compulsory approval of 80% of the landowners. The Act also introduced changes in the land acquisition process, including a compulsory social-impact study, which needs to be conducted before an acquisition is made.

The new law, also has some serious shortcomings as regards its provisions for socioeconomic impact assessment and it has also bypassed the constitutional local self governments by not recognizing them as "appropriate governments" in matters of land acquisition.

3. Monetary compensation

Major Indian infrastructure projects such as the Yamuna Expressway have paid about INR 2800 crores (US$500 million) for land, or over US$25,000 per acre between 2007 and 2009. For context purposes, this may be compared with land prices elsewhere in the world:

- According to The Financial Times, in 2008, the farmland prices in France were Euro 6,000 per hectare ($2,430 per acre; IN Rs. 1,09,350 per acre).
- According to the United States Department of Agriculture, as of January 2010, the average farmland value in the United States was $2,140 per acre (IN Rs. 96,300 per acre). The farmland prices in the United States varied between different parts of the country, ranging between $480 per acre to $4,690 per acre.

A 2010 report by the Government of India, on labor whose livelihood depends on agricultural land, claims that, per 2009 data collected across all states in India, the all-India annual average daily wage rates in agricultural occupations ranged between IN Rs.53 to 117 per day for men working in farms (US$354 to 780 per year), and between IN Rs. 41 to 72 per day for women working in farms (US$274 to 480 per year). This wage rate in rural India study included the following agricultural operations common in India: ploughing, sowing, weeding, transplanting, harvesting, winnowing, threshing, picking, herdsmen, tractor driver, unskilled help, masonry, etc.The compensation for the acquired land is based on the value of the agricultural land, however price increases have been ignored. The land value would increase many times, which the current buyer would not benefit from. Secondly, if the prices are left for the market to determine, the small peasants could never influence the big corporate tycoons.

Also it is mostly judiciary who has awarded higher compensation then bureaucracy.

4.Delayed projects

Delayed projects due to mass unrest have caused a damaging effect to the growth and development of companies and the economy as a whole. Earlier states like Maharashtra, Tamil Nadu, Karnataka, and Andhra Pradesh had been an attractive place for investors, but the present day revolts have shown that land acquisition in some states pose problems.

V. CONSEQUENCES OF LAND ACQUISITION IN INDIA

The consequences of land acquisition in India are manifold. The empirical and theoretical studies on displacement through the acquisition of land by the government for development projects have so far focused on the direct and immediate adverse consequences of land acquisition. Most of the analytical as well as the descriptive accounts of the immediate consequences of land acquisition for development projects draws heavily from Michael Cernea’s ‘impoverishment risk model’, which broadly enumerated eight ‘risks’ or ‘dimensions’ of development-induced displacement.

These eight risks are very much direct and basic in nature which is (i) landlessness, (ii) joblessness, (iii) marginalization, (iv) loss of access to common property resources, (v) increased morbidity and mortality, (vi) food insecurity, (vii) homelessness and (viii) social disarticulation. Recently L.K. Mahapatra has added ‘loss of education’ as another impoverishment risk in situations of displacement (Mahapatra 1999).

But apart from these direct and immediate effects of land acquisition there are more subtle and indirect effects of this coercive and centralized legal procedure, which have a bearing on various decentralized and participatory democratic processes, and institutions of the state power. Land reforms and the Panchayati raj institutions are the two most important areas, which are being vitiated by land acquisition.Of all the states of India, the consequences and controversies around land acquisition in West Bengal has recently gained a lot of national and international attention. The peasant resistances against governmental land expropriation in Singur(a place in the Hoogly district) and Nandigram(a place in the East Medinipur district) has finally led to the fall of the communist party(Marxist) led government in West Bengal, which ruled the state through democratic election for 34 years. The communist led left front government of West Bengal under the economic liberalization policy adopted by the Central/Union government of the country shifted from its pro-farmer policy and took to the capitalist path of industrial development, which at the micro-levels endangered the food security of the small and marginal farmers as well as sharecroppers who formed the vote bank of the left front government of West Bengal. The new anti-communist Trinamul Congress led government of West Bengal which came to power in the state in 2011 through a massive electoral victory is yet to develop any comprehensive resettlement and rehabilitation policy for the thousands of families affected by various development projects. The new government has enacted a law on 14 June 2011, in the West Bengal Assembly named ‘Singur Land Rehabilitation and Development Act, 2011’. With this law, the West Bengal government has reacquired about 1000 acres of farmland from the Tatas which wasgiven to the company for building a small-car manufacturing factory in 2006 by the then Left Front government. The Trinamul government’s intention was to return 400 acres of farmland to the ‘unwilling’ farmers around whom the agitation against the Left Front government was organised by the Trinamul Congress party. However, now the whole issue seems to have fallen into a long legal battle between the present state government and the Tatas, as the latter has challenged the ‘Singur Land Rehabilitation and Development Act’ in the court. As a result, the Trinamul government has not yet been able to return the land to those ‘unwilling farmers’ nor have they received any compensation (The Statesman, 12 January 2012).In another case of governmental land acquisition for housing at North 24 Parganas district of West Bengal, the farmers began to cultivate their farmland which were acquired but remained unutilized. According to media report these farmers were assured by the Trinamul Congress party leaders before the election that their land, which is about 1687 acres would be returned to them if the party could come to power. However, now these farmers are turning their backs to the Trinamul Congress, since the party has not kept its pre-election promise (The Statesman, 11 February 2012). Under the above disturbing episodes, it may be worthwhile to narrate the glaring incident of the opposition leveled by Mamata Banerjee, the present chief minister of West Bengal to the draft Land Acquisition (Amendment) Bill 2007 in the Lok Sabha. At that time Miss Mamata Banerjee was the Railway Minister of the Central Government. She opposed to a clause of the bill which empowered private companies to acquire up to 70 per cent land directly from farmers and landowners. The remaining 30 per cent could be acquired by the state government. Miss Banerjee wanted private companies to buy 100 per cent of the land, according to a report (The

Statesman, 26 July 2009). It seemed that Miss Banerjee would have allowed the amended Bill to be passed if the Lok Sabha agreed to modify the 70/30 proportion to 100 per cent purchase by the companies under the principle of willing-buyer-willing-seller.

Eminent domain doctrine has been widely used in India since the era of Independence, with over 21.6 million people in the period of 1951-90. They have been displaced with large-scale projects like dams, canals, thermal plants, sanctuaries, industrial facilities, and mining .These occurrences are generally categorized as "development-induced displacement".

The process of land acquisition in India has proven unpopular with the citizenry. The amount reimbursed is fairly low with regard to the current index of prices prevailing in the economy. Furthermore, due to the low level of human capital of the displaced people, they often fail to find adequate employment.

The draft of the government's National Policy for Rehabilitation states that a figure around 75% of the displaced people since 1951 is still awaiting rehabilitation. However, it should be noted that displacement is only being considered with regard to "Direct Displacement". These rehabilitation policies do not cover fishermen, landless laborers, and artisans. Roughly one in ten Indian tribal's is a displaced person. Dam projects have displaced close to a million Adivasis, with similar woe for displaced Dalits. Some estimate suggests 40 percent of displaced people are of tribal origins.

There have been a rising number of political and social protests against the acquisition of land by various industrialists. They have ranged from Bengal, Karnataka, and Uttar Pradesh in the recent past. The acquisition of 997 acres of land by Tata motors in Bengal in order to set up a factory for the cheapest car in India was protested (Singur Tata Nano controversy).At least a decade before the Singur episode similar events occurred in West Bengal, although the opposition parties and other civil society organizations remained silent at that time. Similarly, the SardarSarovar Dam project on the river Narmada was planned on acquired land, though the project was later canceled by the World Bank.

The Land Acquisition Act of 1894 allowed the government to acquire private lands. It is the only legislation pertaining to land acquisition which, though amended several times, has failed to serve its purpose. Under the 1894 Act, displaced people were only liable for monetary compensation linked with market value of the land in question, which was still quite minimal considering circle rates are often misleading ,Land acquisition related conflicts during the post-reform period in India has shown three distinctive tendencies; (1) Technocracy and Bundle of Rights, (2) Power-land Regulation Nexus, and (3) Disappearing Commons.

Displaced Tribals			
Project	**State**	**Displaced Population**	**Tribal Percentage**
Karjan	Gujarat	11,600	100
SardarSarovar	Gujarat	2,00,000	57.6
Maheshwar	Madhya Pradesh	20,000	60
Bodhghat	Madhya Pradesh	12,700	73.91
Icha	Bihar	30,800	80
Chandil	Bihar	37,600	87.92
KoelKaro	Bihar	66,000	88
Mahi Bajaj Sajar	Rajasthan	38,400	76.28
Polavaram	Andhra Pradesh	1,50,000	52.90
Maithon&Panchet	Bihar	93,874	56.46
Upper Indravati	Odisha	18,500	89.20
Pong	Himachal Pradesh	80,000	56.25
Ichampalli	Andhra Pradesh	38,100	76.28
Tultuti	Maharashtra	13,600	51.61
Daman Ganga	Gujarat	8,700	48.70
Masan Reservoir	Bihar	3,700	31
Ukai Reservoir	Gujarat	52,000	18.92
Tamnar	chhattisgarh	59999	

Source: Singh, Satyajit (1997). Taming the waters. Oxford University Press. p. 284.

VI. PROPOSED AMENDMENTS

The current Narendra Modi lead National Democratic Alliance (India) government driven Land Acquisition Amendment Bill in the Lok Sabha on 10 March 2015 has seen a tough resistance from key position parties in India who have called the proposed amendments "anti farmer" and "anti poor". The proposed amendments remove requirements for approval from farmers to proceed with land acquisition under five broad categories of projects. While the bill was passed in Lok Sabha, it still needs approval from the Rajya Sabha, where the current government does not have a majority, for the proposed amendments to become effective.

The following are the main "disputation points":

- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 defines 'consent' clause as "land can only be acquired with approval of the 70% of the land owners for PPP projects and 80% for the private entities. But the proposed amendments by the Narendra Modi government does away with consent clause for Industrial corridors, Public Private Partnership projects, Rural Infrastructure, Affordable housing and defense projects.
- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 says the land unutilized for 5 years should be returned to the owner, but the amendment proposed by NDA government intends to change to 5 years or any period specified at the time of setting up the project.
- While the,The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 allows private companies to acquire land but the proposed amendment allows any private entity to acquire land.
- According to the new amendment if any government official conducts any wrongdoing he or she cannot be prosecuted without prior sanction from the government.
- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 mandated the social assessment before land acquisition but the NDA government's proposed bill does away with this requirement.

The National Democratic Alliance (India) government came under heavy attacks from opposition parties and farmer organization for the proposed Land Acquisition bill amendments. The opponents of the Land acquisition bill claim the bill to be "anti-farmer" and "pro corporate". They claim that the amendments are aimed at "benefiting the large corporate houses". The opposition Indian National Congress has opposed the bill in and out of Parliament. Sonia Gandhi, the chairperson of UPA and Indian National Congress, called the bill "anti-poor" and "anti-farmer". She alleged that the bill will "break the backbone of India". Samajwadi party leader Mulayam Singh Yadav said the Modi government is "taking anti-farmer stand" and is "favoring industrialists".

Not only the opposition parties but also other organization that traditionally supported BharatiyaJanta Party such as MazdoorSangh, BhartiyaKisanSangh and AkhilBhartiyaVanvasiKalyan Ashram have come heavily against the amendments proposed by the Narendra Modi lead NDA government. As per the BharatiyaKisanSangh, the Modi government's land ordinance tweaks the fundamentals of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 passed by the UPA government and supported by the BJP two years ago.

VII. ALTERNATIVES

One of the alternative proposals to land acquisition is leasing the land from landowners for a certain lease period. Proponents cite how land acquisition policies by Governments unwittingly encourage rampant land speculation making the projects expensive since huge portion of investment would be need to be allocated for land acquisition costs. According to them, policies of land acquisition gave way to political cronyism where land is acquired cheaply by securing favors from local governments and sold to industries at steep markup prices. Leasing land, may also support sustainable project development since the lands need to be returned to the landowners at the end of the lease period in a condition similar to its original form without considerable environmental degradation. When the land is leased then anybody who has to otherwise give up land or livelihood will be compensated for its growing valuation over time. In this model, the landowner lends her land to the government for a steadily-increasing rent, or through an annuity-based system as currently practiced in Haryana and Uttar Pradesh.

Some industries already follow the model of leasing lands instead of acquiring it. Energy development projects such as oil & gas extraction usually lease lands. Renewable energy projects such as Wind Power farms projects often lease the land from land owners instead of trying to acquire the land which could make the projects prohibitively expensive.

VIII. CONCLUSIONS

The five types of projects being exempt from the provisions of social impact assessment, restrictions in case of multi-cropped land and consent are broad and may cover many public purpose projects.

The Act requires consent of 70% of landholders for PPP projects, and 80% for private projects. Acquisition, being different from purchase, implies that land owners were unwilling to part with the land. Requiring consent from them may be impractical. Also, it is not clear why the consent requirement depends on who owns the project.

The amendments in the Bill propose to expedite the process of acquisition. However, the changes in the Bill will reduce the time for acquisition from 50 months to 42 months.

The removal of the provision that deemed the head of department guilty, and addition of a new requirement of prior sanction to prosecute government employees may raise the bar to hold them accountable.

The change in the retrospective provision may be ineffective in cases instituted until 2014 in light of a recent Supreme Court judgment.

The revised bill now includes an enabling provision for arranging insurance of land title, which is currently not available in the market. This will benefit buyers and sellers both in situations where the title of the land is held invalid.

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Store Atmospherics: The Key to Retail Shoppability

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Abstract: **Background: Consumer shopping has undergone a paradigm change since the advent of global giants into the Indian retail industry. Retailers are confronted with the challenge of attracting customers, converting them and gaining loyalty. As a consequence retailers have realized a need to design retail outlets to capture consumer attention, plan store layout to facilitate easy access of products, motivate consumers to spend more time at outlets, motivate unplanned purchases and to create a satisfying shopping experience for customers. Research Method: There are four contributing factors to store atmospherics, which are ambience, design, signs & symbols and service which are the independent variable in the research, while the experience perceived by the customer is known as moderating variable and the customer behavior as the dependent variable. A structured questionnaire is employed to collect data and Likert scale was adopted. Cronbach's alpha is estimated to determine the reliability of the research instrument. Data is compiled and analyzed using SPSS 16.Chi-square test is undertaken to determine the association between variables, association strength between variables is measured using correlation analysis and the extent of influence of the independent variables on the dependent variable in measured by employing regression analysis. Results: It is concluded that all four dimensions of store atmospherics have a significant influence on customer experience. Results of logistic regression reveals that customer experience from the four dimensions of store atmospherics considered for the study, rationalize 79 percent of customer behavior.**

***Index Terms:*— store atmospherics, customer experience, customer behavior,**

I. INTRODUCTION

The retail sector, globally, has grown exponentially over the past decade. International retail giants are exploring new markets, especially the developing economies due to their promising market size. The emphasis here is to diversify risk by investing in markets with different maturity levels and diverse consumer profiles to ensure they have a balanced optimal portfolio. India has proved to be one of the attractive destination for the international retails giants. A research report published by KPMG in 2014 forecasts the Indian retail sector to grow to US$ 1.3 trillion by 2020, registering a Compound Annual Growth Rate (CAGR) of 16.7 per cent over 2015-20. The Indian retail sector is characterized by the dominance of the un-organized sector with 92 per cent of the revenue being generated by this sector alone; there is a tremendous scope for market consolidation (CRISIL Research Estimate- 2014).

Consumer shopping has undergone a paradigm change since the advent of global giants into the Indian retail industry. Retailers are confronted with the challenge of attracting customers, converting them and gaining loyalty. As a consequence, retailers have realized a need to design retail outlets to capture consumer attention, plan store layout to facilitate easy access of products, motivate consumers to spend more time at outlets, motivate unplanned purchases and to create a satisfying shopping experience for customers (Levy & Weitz 2009). A study undertaken by Joza et al.(1999) opined that retailers considered a three aspects namely, size , colour and style of their retail outlets, as a marketing tactic to influence consumer purchase. There exists tremendous research evidence on the effect of retail store environment on consumer behaviour. The influence of emotions and a particular environment has been documented by Donovan and Rossiter in 1982. However this study did not focus on deriving an association between the influence of environment on consumer emotions or behavior. This phenomenon was then labeled as store 'atmospherics' by Kotler (1972) who defined it as "buying environments [designed] to produce specific emotional effects in the buyer that enhance his purchase probability". Retailers have taken cognizance of the fact that store atmospherics have a significant impact of consumer behavior, and considerable amount of research has been undertaken on the influence of dimensions of store atmospherics on consumer behavior. The objective of this research output is to present an empirical support to the theoretical framework that outline the impact of dimensions of store atmospherics on consumer behavior.

Highlight a section that you want to designate with a certain style, and then select the appropriate name on the style menu. The style will adjust your fonts and line spacing. Do not change the font sizes or line spacing to squeeze more text into a limited number of pages. Use italics for emphasis; do not underline.

II. LITERATURE REVIEW

In the domain of service marketing, 'service scape' has been defined as the surroundings in which service encounters take place. Bitner (1992) defined service scape as "all of the objective physical factors that can be controlled by the firm to enhance (or constrain) employee and customer actions", in which he measured the influence of physical surroundings on consumer and employee response. Beker et al.(1992) further opined that atmospheric effect had a significant effect of employees as well as customers. Significant research has been carried out to explore the influence of elements of service scape on consumer response and employee productivity. Based on previous literature and with an objective of limiting the scope of this research to retail environment, we define store atmospherics as any dimension of the retail environment that can be controlled by a firm to enhance customer and employee reactions. The scope of this research paper is to explore the effect of retail atmospherics on consumer response.

Since the dawn of the term store atmospherics, researchers have debated on it's components. Several studies have been undertaken to assess the influence of components of store atmospherics, like color, lighting, music and fragrance on consumer shopping behavior. Baker (1987) has proposed three broad dimensions of store atmospherics, namely ambient, design and social factors. The ambient dimension includes background conditions like air quality, temperature, noise, scent and cleanliness that exist below the level of our immediate awareness. The design dimension includes aesthetic (architecture, color style, material décor, texture and patters) and functional (layout, comfort, signage and accessories) dimension. The social dimension includes number & behavior of other customers and the service personnel that include their number, appearance and behavior. The conceptual framework of this study is presented in figure 1. It is adopted and modified from the research work undertaken by Singh et al., (2014).

In an investigation undertaken by Sinha et al. (2004), it is concluded that ambience of a store has a significant influence on choice of store by consumers. It is also observed that store ambience plays an instrumental role on initiating store loyalty (Baker et al.1992). Research evidence also indicates the effect of music on consumer shopping behavior. It is observed that music played at the store influences the attitude of customers towards the store and towards the service personnel (Milliman, 1982). Studies have also proven a significant influence of the music played at the store on time spent at the store and volume of sales (Garlin and Owen, 2006; Kang et al. 2011). But the extent of influence is influenced by the type of music played (Milliman 1986), and the age of the consumer (Yalch & Spangenberg 1988). The effect of ambient temperature on consumer shopping has been explored by. Researchers. It is concluded that acceptable temperature level has a positive influence on shopping by, extreme temperature lead to a high probability of the customer avoiding the retail outlet (Baker, 1987). Aroma at the outlet has also been examined by researchers. Bradford & Desrochers (2009) opined that the presence of an aroma had a significant positive influence on consumer behavior. Scholars have also concluded that the presence and absence of an aroma may lead to the approach avoidance consumer response as proposed by Mehrabian and Russell in 1974. In addition, it is also proposed that aroma had a significant association to gender. It has been reported that 'rose maroc' attracted males and 'vanilla' attracted females and they spent more time at the store and increased their volume of purchase (Spangenberg et al.2006).

Design factors that influence consumer buying behavior consists of two dimensions store layout (Baker, 1987) and product assortment (Mohan et al.2012). Store layout refers to the manner in which aisles, shopping carts are arranged, size and shape of the outlet, and the spatial orientation among them (Cowles, 2002). Mohal et al.(2013) concluded product assortment offered by a retailer had a significant positive influence consumer shopping. In a study undertaken by Bitner (1992), it was concluded that a logical store layout and optimal product assortment leads to positive customer experience. It is further substantiated by Michon et al. (2008) that adequate floor space has a significant positive influence on customer's mood and behavioral intentions.
According to Bitner (1992) many ques in the physical environment serve as explicit or implicit signals that communicate about the place to its users. Bhol (2012) opined that in-store displays constitute product displays, shelf displays and arrangement, in-door wall decorations. These factors have a significant bearing on consumer response and hence have been exhaustively been studied.

The last dimension of store atmospherics is service at the retail outlet. Literature reveals that a good quality of service provided over shadows any lapse in store experiences and results into a positive satisfying customer experience. Scholarly findings suggests a positive influence of number of retail personnel, their appearance and their behavior on customer response (Bohl, 2012; Bitner 1992; Baker et al., 1992; Mohan et al.2012). It is also concluded that higher number of service personnel at the retail outlet was perceived as high quality by customers (Parasuraman et al.1994).

Customer experience cannot be fully organized by retailers as it not involves customer emotions, perceptions and their impulse responses. Yoo and Macinnis (1998) concluded that in store characteristics and emotional experience of the customer at the store significantly influenced consumer attitude towards a store. Their research paper also proposed a need to yield a positive customer experience that could earn customer loyalty. In fact Johnston & Kong (2011) went on to describe customer experience synonymous to the relationship the customer developed with the business. Researchers in this domain have concluded that customer experience, conscious or sub-conscious, have a significant influence on customer behavior and dimensions of in store atmospherics on customer experience.

Consumer behavior here is defined as a consumer's intention to buy, willingness to spend more time and money at the store and his / her willingness to recommend the store to others (Wakefield & Brodgett, 1999; Grewal et al.003). Kang et al (2010) in their research paper concluded that 45 percent of the customers are driven by recommendations by friends and family. This emphasizes the need for retailers to develop strategies to enhance customer experience, which would have an influence to consumer buying.

III. MATERIALS AND METHODS

The study design is descriptive and it is conducted in a multi brand retail store in Mangalore. Study period was three months, January to March 2015. Sampling technique was purposive, a non-probability method. The sample size considered for this study is 1000. A structured questionnaire is employed to collect data and Likert scale was adopted. Cronbach's alpha is estimated to determine the reliability of the research instrument. Cronbach's alpha for ambience with five items is 0.767, while design with six items is 0.828, sign & symbol with three item is 0.841 and service with four is 0.859. The customer experience with four items Cronbach's alpha is 0.817 and customer behavior with four items is 0.853. Where ever Cronbach's alpha was less than 0.6, necessary corrections have been incorporated. Data is compiled and analyzed using SPSS 16.Chi-square test is undertaken to determine the association between variables, association strength between variables is measured using correlation analysis and the extent of influence of the independent variables on the dependent variable in measured by employing regression analysis.

IV. RESEARCH FINDINGS

The study population consisted of 1000 respondents among whom 71 per cent were males and 29 per cent were females. The demographic profile of the respondents is captured in table 1.

Correlation between customer experience (dependent variable) and store dimensions is assessed by the Karl Pearson's correlation coefficient (Table 2). All components of study have a significant positive correlation with customer experience. It is concluded that, correlation is 'strong' if 'r' value is greater than or equal to 0.5, 'moderate correlation' if 'r' value is in the range of 0.3 – 0.5, 'moderate correlation' and 'poor correlation' if 'r' value is below 0.3. Accordingly, the components between which the correlation was measured 'strong' were store design (r=0.583**), signs & symbols(r=0.577**) & service in store (r=0.549).

Regression analysis is performed to evaluate the influence of customer experience on customer behavior. Regression analysis confirmed that, customer experience had significant impact on outcome component (customer behavior). Results show that there is 71 per cent of the variance is explained by customer experience (Table 3). Regression analysis reveals that customer experience, explains 71 per cent of the variance of customer behavior at high significant levels. Hence the Regression Equation = C.B= 3.158+ 0.79C.E.

V. CONCLUSION

Extensive data analysis undertaken in this study indicates a good fit for the conceptual model proposed. It can be concluded that store atmospherics had a significant influence on customer experience, which in turn explained customer behavior (79 per cent variance). In the retail context, such studies need to be periodically undertaken to strengthen dimensions of store atmospherics to facilitate positive customer experience, and fill the relevant gaps. Such studies will reveal the challenging dimensions of store atmospherics, to facilitate corrective action by store managers. The study undertaken reveals that customer experience (ambience, design, signs & symbols and service) rationalizes customer behavior to a tune of 79 per cent. There exists scope for further research to explore the other dimensions of store atmospherics that will rationalize customer behavior further.

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SEM Study on Predictors of Women's Entrepreneurial Coping in Indian Perspective

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Abstract: **The phenomenon of rise of entrepreneurial tendencies across Indian women is not a new development. There are contextual and situation factors that otherwise restricted women's progress, are now supporting the women's rise across the society. This paper classifies the antecedents or the predictors of the phenomenon as observed across the social perspective in context of developing economy. The research interprets the impact of the women's self efficacies, adaptive capabilities, proactive engagement, market based orientations, perceptions of supports and coping abilities as determinants of her entrepreneurial engagement and embeddedness. The research leveraged the IBM SPSS and AMOS to analyze the data and to achieve path based relations across the assumed factors.**

Index Terms**—Abilities, Entrepreneurship, Extractive Factor Analysis, Women, Predictors, Validation**

I. INTRODUCTION

The women entrepreneurship is a rampant phenomenon in developed economies yet developing economies across Asian continent are gradually witnessing the social and economic change in the society. Yet there is observed incidence of the restraints and barriers to women's successful and consistent economic participation across the traditional and conservative societies. The research problem of women's entrepreneurship in Indian perspective owes a lot to the existing and determinant social and economic conditions across the economy. The autonomous women decision making has never ever been easy and a part of Indian household management and family affairs management across the ages. The decision of the women to become economically independent and earn equivalent to husband or even more, has always been viewed with suspicion. In fact the spousal support (husband's support) to women's independent venture evolution in Asian societies has always been a matter of extensive research and exploration. The study is posited across the women's economic decision making, seeking self employment as a career opportunity or self identity development, harnessing occupational expertise and embarking on a journey of employability amidst the odds

II. PROBLEM DEFINITION

The women's choice for visualization of the "entrepreneurship as a career avenue" has been a novel phenomenon which is separate from the case in context of men's (1). The career is an institutionalized form of earning a livelihood. And existing literature regards the self employment as one of the finest institutionalization of livelihood for life. The research posits itself in the environmental or the contextual approach with regard to "entrepreneurial orientation" in the prevalent economy. The approach regards the considerable impact of the individual's personal attitude, psychological determinants like the self efficacies and self determination as the crucial role of the surrounding conditions on the outcome entrepreneurial orientations (2). The family, the institutional factors like the social norms and the individual's perceived sense of support with regard to credit and government policy has been observed to impact the nurturing of the individuals (women's) entrepreneurial inclination over the time (3).

The surrounding environment has been observed to shape the women's inclinations (4) and the resultant contextual or the social chronology approach borrows extensively from the literature with regard to the development and the ability of the women to learn and transform as per the demands of the existing conditions has been observed to equally impact the tendencies to engage in venture building. The term "context" stands for the phenomenon of bringing together or weaving together (4) the diverse elements that have a substantial bearing on the outcomes and the power to either enable or constrain an outcome. The existing research studies on the environmental contexts (5) as such illustrate the substantial impact of the internal and external dimensions on the individual's potential building and the resultant activities. The existing literature (6) presents a rather complex approach towards interpreting the factors that either facilitate or restrain the female entrepreneurship.

A study on the explanatory factors of female entrepreneurship (7) analyzes the phenomenon as comprising the internal motivational reasons, external contexts (8), family aspects related to attainment of motherhood and issues related to the dominant cultural and social norms and ethos (9). Another study on the female participation in corporate entrepreneurship (10) interprets the phenomenon as involving the individual characteristics, process and contexts that are widely believed to shape the stage for entrepreneurship and resultant social and economic outcomes. The major impacting factors are highlighted here:

- **Psychological antecedents**: entrepreneurship based self efficacies (8), self determined occupational inclinations (11)

- **Customer Orientations** (3)
- **Contextual support based antecedents**: The spousal support (11), familial support (11)

- **Institutional support based antecedents**: government interventions and schemes (11), economic credit availability (7)

The women's direct interaction (11) with environmental forces (7) is largely believed to shape her inclinations for biased or meaningful engagement with the surrounding environment. The existing literature and the host of rampant studies emphasize the need for development of holistic interpretation of "embedded" contexts that influence and impact the women's respective capacity and potential to participate and engage in economic activities across the life time and especially in post marriage and post motherhood phase of life.

III. THEORETICAL DEVELOPMENT OF CONSTRUCT

The "contextual coping tendency" across women entrepreneurs is being believed to be influenced by the respective women's self efficacies, spousal support variances, proactive engagement in work, adaptive skill acquisition and application, perceptions of supports and effective orientations in market place (12).

Factor One: Women's self efficacies

As an internal psychological attribute, the women's internal self determination or her sense of self belief in her capability to be competent is among the foremost driver of "can do" spirit (17). Such notions have been observed to raise the probability of their success ratio to a larger extent with regard to the venture success. Another study observed the incidence of the role of entrepreneurial education (19) in shaping the entrepreneurial self efficacy as well as the differential impact of gender. The study further observed the women's self efficacy as impacting the women's levels of entrepreneurial intentions and the respective entrepreneurial behavior across time and space perspective (18).

Factor Two: Women's perceptions of spousal support

A study across the women based 121 start ups (19) established that the support of husbands in case of married women is crucial for the business venture success. The study further attributed the emotional support extended by the husband as determinant of the venture's success in longer run. The study further observed the direct linkages between the ability of the husband to financially support a venture and the relative success of the venture in question. The spousal support is regarded as vital for the career success in case of wives (20). The study on Taiwanese women established the incidence of the constructive impact of the supporting spouse on the women's respective employability and self determination to succeed in business environment (23). In Indian context, the family support to women's skilling (24) and work engagement (25) is been observed as a crucial restraining factor that often forbids her consistent participation in the economic decision making across the life time (26). The "age" as a variable has been stressed immensely across the developing economies as the age based stereo thinking is more dominant across the developing economies rather than the developed economies (27).

Factor Three: Proactive engagement

The women entrepreneurs seek their inspiration for proactive engagement, from the successful role models (28). In a study across female run entrepreneurial ventures, it was observed that more females insist on the signaling based performance than the males with regard to seeking legitimacy for their entrepreneurial actions (24). Another study across Spanish rural hinter lands established the linkage between the female entrepreneurial activity and the respective adoption of the role models (23). A study (18) across the women entrepreneurs revealed the prevalence of the impact of the women's own "trigger event" that sustains her drive and momentum, shapes her levels of self efficacies as well as impacts her entrepreneurial intentions to engage in venture creation and operations. The study further elaborated on the role of the formulation of entrepreneurial goal and opportunity exploration (25) in consolidating the women specific entrepreneurial behavior and motivations for engaging in the business action.

Factor Four: Adaptive skills

A host of academic studies (31) further illustrate the sizable influence of the women's accumulated and learned "career resources" on their respective abilities and the engagement in entrepreneurial activities (26). The studies further confirm the impact of the "dominant environment" on the latent potential and the entrepreneurial tendencies (13) in rural and backward areas across geography of developing nations (32). Another study across the small to medium sized enterprises in Asian economies further re-affirms the problem of women entrepreneurship success. As per the OECD publication, the country specific research on women entrepreneurship is relevant and significant as the women across the various nations possess infinite potential to contribute to economic growth and well being yet they are grossly under represented and their participation till date is grossly under satisfactory.

Factor Five: Orientations

A study summarizes the challenges (25) before successful women based entrepreneurship as involving the elements of orientations and motivations that overrule the social norms and mores. Such decisions by women to seek "economic resource allocation roles" have been observed as the outcome of the conditions that encourage her to seek opportunity across the existing social embeddedness and chart a new course of action.

Factor Six: Perceived Institutional Supports

The women's perceptions of support from across the institutions, credit institutions and the government bodies are another distinguishing factor (34). The women's perceptions with regard to government policy making and government bodies is not a noel phenomenon yet the governments across the world are supporting women's ownership and operations of enterprises. There are reported instances of government drafting of schemes yet the schemes fail to affect the apprehensions of the women entrepreneurs in the real economic setting (34).

IV.RESEARCH OBJECTIVES AND SCALE DEVELOPMENT

The research focused on the evaluation of the factors responsible for encouraging women to cope up with entrepreneurial requirements. The construct of self efficacy across women was measured with help of the Reddan scale. The women based occupational adaptive skills were measured with aid of the Fisher's adaptive skills scale. The women's proactive work tendencies were measured with help of Seibert's Proactive Personality 10 item Scale (PPS). The institutional support aspect was categorized as government support. The spousal support was measured with Vadnjal scale on the role of husbands in entrepreneurial start ups. The coping abilities were measured with help of Greenglass Proactive coping inventory instrument. The market orientations were measured with aid of Narver and Slater scales.

V. SAMPLE AND METHODOLOGY

The universe for the study comprised the women engaged in small to medium enterprise either in manufacturing or service sector in urban areas across Chandigarh capital region in Northern India. The sample size for the survey was 650 women run units and enterprises or small scale shops and boutiques and franchises or agencies. The insurance agencies operationalized by women were also considered for sample frame. The women run crèches, beauty outlets, tailoring units, cookeries, bakeries and multi documentation centers in urban peripheries were also included in sampling. The research relied on random sampling keeping in view the time and resource constraints. The likert based closed ended questionnaire was used as survey instrument for collecting data. The survey instrument was devised from across the sub scale items identifying the sole construct of coping and it's identified related factors.

VI. MEASURE DEVELOPMENT AND VALIDATION

The principal component analysis was incorporated for developing and validating the scale items. The oblimin rotation was conducted with SPSS release 24.0 to extract the loading factors and the scale reliability was tested with help of cronbach alpha. The pattern matrix and cronbach are mentioned in appendix. Upon extraction, the confirmatory factor analysis was conducted on the sub scale items with AMOS release 20.0. The research relied on the path coefficients or the inter item correlation for estimating the relations across the constituent variables.

VII. PATH DIAGRAMS AND OBJECTIVE ACHIEVEMENT

The research achieved the model fit across the hypothesized relationship across the variables. The women based self efficacies were observed to lead to 0.3 times correlated change in the proactive engagement. The factor of spousal support was reported to impact the proactive engagement and women coping tendencies as 0.1 times. The reported correlation between the adaptive skills and coping abilities was 0.2. The customer based orientations were observed to lead to times increase in women's competitor orientations which similarly impacted here coping abilities across the sample universe. The perceived government support was observed to lead to positive change in institutional support based perceptions, similarly the credit based support was espoused as leading to 0.1 times increase in women's perceptions with regard to perceived institutional support. In nutshell all the aspects (proactive engagement, self efficacies, adaptive skills, spousal supports, perceptions regarding institutional supports and orientations) were observed to be positively correlated with women's wholesome coping abilities. The hypothesized model vindicates the significant impact of the factors responsible for encouraging women to cope up with entrepreneurial requirements.

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Masterpieces of Literature: A Mirror on Darkness

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Abstract: **Darkness of any society has been mirrored through literature from times immemorial; across the world by different insightful writers. However, in this particular research paper the whole literature cannot be assessed but evaluates some works of literature to justify the credence of the title. The literary works which are analyzed here have milieus in different countries, particularly India, England and America written by Nathaniel Hawthorne, Joseph Conrad, Mulk Raj Anand, Arundhati Roy and Aravind Adiga. In this context; it is evaluated that caste system of Indian society is found to have its inherent weakness which rendered it unjust and exploitative over a period of time, giving rise to social injustices, disabilities and inequalities among a vast majority of the people. It gave birth to the division of society while promoting disunity and caste prejudices. The caste system was based on birth rather than individual talent and vocational choice. So, this created many disabilities for the talented individuals belonging to the lower castes. Therefore, the age-old evil of casteism has cast its grey shadow on the future of lower caste. It has been aggravated by narrow scope of its economic growth. This socio-economic destitute almost closes to it; the door of any political hope except using right to vote. Even the modern pollution has rendered the Indian society very ugly so for its depiction through literature is concerned. Infact, with the passage of time, its condition has worsened. All policies of reform have fallen far short of their goal. The urban population is enjoying the benefits of modern world after a fashion. But the rural life is lost in darkness. Besides, the Indian works of literature, in case of the European ones it is found that there the depiction has basis on distorted version of morality, inhuman relationships, social waywardness, moral erosion and so on.**

Keywords: **Darkness, immemorial, prejudices, destitute, analytical, divinity, imperialism, hypocrisy, mechanization, pessimistic, Servitude**

I. INTRODUCTION

In a general way, darkness implies ignorance, the very want of knowledge be it academic, moral or spiritual. However, literature takes a more penetrating view of darkness. It attempts to study its nature and multiple meanings associated with it. Often its working is subtle, and which can be revealed only through a keen insight. Reality, as is said, is different from appearance. Likewise, what is hidden to a common eye can be x-rayed through an analytical sight. Many a scholar delved into the concept of darkness and interpreted it in diverse ways. Infact, darkness is as old as humanity. The earliest humans lived a life of ignorance. They knew as much about the world as could help their survival. But they were possessed of an inborn drive for knowledge. They wanted to understand life better and discover what it could offer them. It certainly led them to more improved ways of living. As a result, the course of human evolution was determined. In this way, from ignorance to enlightenment a long distance was covered. But darkness could not be completely wiped out. Human self-satisfaction was its major reason. Many were simply content with food and sleep, and never wanted to think beyond. They did not see any point in intellectual feats and remained indifferent to it. Obviously, this ignorance was at their own cost but not thrusted on them.However, there were some unfortunate ones who were deprived of knowledge. They were not allowed to see light and were doomed to a bleak fate. They had to be satisfied with few bits and pieces of knowledge that they could gather from scattered sources. And they had no right to test whether what they got was right or wrong.

This unfortunate lot of the people was thrown into darkness for the sake of those who craved to bring them under their control. Evidently, the ignorant can be easily ruled, freedom comes from knowledge. In this context Jesus Said, “Know the truth and it will set you free.” It was outright against the lust for power. So, for their mean ends, some of those who had possessed knowledge held it from the masses, thereby forcing them into mental bondage. For instance, Shudras were fortified from reading the Vedas. Likewise, clergy barred laymen from reading the Bible. They were made to believe what so-called religious gurus preached. Karl Marx criticized it “Religion is the opium of the masses.”

Later on, this ill practice took new forms. Sometimes, colonizers tried to belittle the moral values of the colonized and to enforce their own idea of morality on them. The perception of darkness is also related to insignificance and vagueness, particularly moral issue which are not clear. Other times women were forced to accept that it was a men’s world and they were subordinates. Such disparity could be found in the different groups of any society also.

In the above cases, one group kept the other in dark for their selfish motives, which led to acute suffering and injustice. As a result, it began to be treated as a critical concern for literature. The causes and effects of darkness founded the basis of various literary theories and themes, which explored the subject widely.

To highlight the same, a significant portion of dark literature is centered on the western imperialism. The main goal of imperialism was to exploit the physical resources as well as to establish the political supremacy of the Europeans over African and Asian countries. But it did not seem to satisfy them sufficiently, their ambition rose higher. In their invasion, they saw a good chance to exploit the natives morally also. Having assumed their moral and intellectual superiority they took upon themselves what Kipling called 'the white man's burden'. The subject race had to submit to it because of their weak positions and had to learn what their white masters taught them.

Unfortunately, the prime motive of these moral reforms was to demean the native values and cultures. Infact, the natives were filled with love for what was foreign and hatred for what belonged to them. Their self identity was trampled and borrowed identity was placed instead. The reformists thought that mere conversion to the western ways could free the ruled from darkness. This mistaken view further blurred the latter's vision for their immature minds could not tell good from evil and light from darkness.

However, though the majority of natives were unaware of the Western hypocrisy, the voice of truth could not be suppressed long. Some Western thinkers rose against injustice and fought for the cause of the victimized. Being close to the imperialists, they could closely see their shallow schemes and brought them out in a loud and clear tone.

Daniel Defoe's major novel Robinson Crusoe is a symbolic representation of this reality. It depicts how Robinson Crusoe, a white man, tries to impose on a native black man his own concept of divinity assuming the latter in darkness. The native idea of divinity seems irrational to him.

Joseph Conrad's influential work the Heart of Darkness was drawn on similar European African dichotomy. It criticized the European superiority and brought to light the hollow attempts made by the colonizers to enlighten the Africans. He stressed that main intention of enlightenment was to prove Europe as a symbol of light and Africa a symbol of darkness. In truth, there was no genuine concern for the natives. It is aptly remarked that, "What may be initially superficially considered or expected to be 'light is dark' and vice versa". Thus, the works of Defoe and Conrad showed there was no honest desire of reform on the part of the imperialists. What they revealed 'was in conflict with the commonly perceived wisdom, of the time that Africa was being enlightened by the colonizing forces within Europe.' The assessment can be exemplified by the following lines:

II. PROBLEM DEFINITION

Here and there a military camp lost in a wilderness, like a needle in a bundle of hay- cold, fog, tempests, disease, exile, and death- death sulking in the air, in the water, in the bush. They must have been dying like flies here. . . . They were men enough to face the darkness. . . . They were no colonists; their administration was merely a squeeze, and nothing more, I suspect. They were conquerors, and for that you want only brute force . . . It was just rubbery with violence, aggravated murder on a great scale men going at it blind- as is very proper for those who tackle a darkness. (Conrad 18-19)

Also, T.S Eliot presented a deep insight into the moral and spiritual darkness of the early 20th century. In his classic poem The Wasteland, he drew on numerous mythical and spiritual sources pointing to the dark state of the modern society. He believed that the ill effects of mechanization have robbed humanity of its real worth which has resulted into moral and spiritual barrenness. He portrayed this era as devoid of illumination. His main focus was on the disillusionment brought about by the World War I.

Among novelists, Thomas Hardy is a prominent name in the field of dark literature. His works are invariably pessimistic. They describe miserable characters suffering at the cruel hands of an unseen fate. This inexplicable nature of life is essentially tragic in Hardy's view. For him all the pains and troubles of human life come from the ignorance of this unknown force, which controls our destinies. The world is uncertain and insecure; therefore, it is bound to be tragic. His Tess of the D'Urbervilles is a symbolic representation of this sombre reality.

Likewise, Nathaniel Hawthorne also shares this vision of life. He portrays vividly the version distorted morality that empowers society against the individual who is not free to enjoy their own liberty. Absence of illumination throws the innocent in isolation and forces them to submit to the strong. His The Scarlet Letter reflects the ugly side of this dark morality. The novel is a pathetic account of how custodians of society care more for their rigid code of conduct than precious human dignity. The statement has direct and appropriate words in its support from the novel as

"This woman has brought shame upon us all, and ought to die. Is there not law for it? Truly there is, both in the scripture and the statue-book. Then let the magistrates, who have made it of no effect, thank themselves if their own wives and daughters go astray!" . . . That is the hardest word yet! Hush, now, gossips! For the lock is turning in the prison door, and here comes Mistress Prynne herself." (Hawthorne 44)

The world views of Hardy and Hawthorne can be appropriately described in the words of Jeans Anouilh who said, “Tragedy is restful because you know that there is no more hope, dirty shrieking hope that you are caught at last like a rat in a trap.”

Further, since Adiga’s The White Tiger has been written in Indian context its theme can be discussed more clearly through the works of some Indian writers. They can present a concrete overview of the native life that helps to study Adiga’s treatment of the same (life). Considering it, we have included in this paper a brief short discussion on two Indian novels, i.e. Mulk Raj Anand’s Untouchable and Arundhati Roy’s The God of Small Things. Both are separated by six decades – the former one was written in (1930) and the later one (1998). Yet, their shared concern for the backward and underprivileged sections of the Indian Society relates them to The White Tiger.

Like Nathaniel Hawthorne in The Scarlet Letter, Mulk Raj Anand explores the evils of Indian society in his work of genius Untouchable. Mainly it focuses attention on a number of customs, traditions, social evils and so on. It was published in 1935. It attacked the ills of the caste system which has compelled major portion of Hindu people to live sub-human life. The novel provides a biting criticism on caste system and exposes the callousness and hypocrisy of the upper caste Hindus. The religious people who are considered God’s chosen lot but in practicality they are wolves in lamb’s clothes. According to Mulk Raj Anand, when these religious people are sexually attracted and caught in society, they blame the innocent people to whom they are attracted. Nobody can oppose them because traditionally they have dominated common masses. This is wretchedness on the part of the upper class. Not only these untouchables are not even allowed to draw water from their wells, to climb even the steps of their temples and the very shadow is supposed to pollute them (caste Hindus). Untouchables who are supposed to work for high caste Hindus are not allowed to enter their houses. The most disgusting thing is that the temples whose doors are closed for those who keep its grounds clean. Really appearance is deception. If an untouchable, even brushes against the clothes of High Caste Hindu, they must wash themselves and purify themselves with water. But they do not hesitate to molest a sweeper girl if they like her. The same has been put forth as by the author:

‘Tell me, tell me, that he didn’t do anything to you!’

Sohini was sweeping. She shook her head in negation. She couldn’t speak.

‘Tell me Sohini’, he said, turning fiercely at his sister, ‘how far did he go?’

She sobbed and didn’t reply.

Tell me! Tell me! I will kill him if. . . .’ he shouted.

‘He-e-e just teased me’, she at last yielded. ‘And then when I was bending down to work, he came and held me by my breasts.’

‘Brahmin dog!’ Bakha exclaimed. I will go and kill him!’ (Anand 55)

The book assets that in society, power is within high castes because the foundation of their power is so deep even the masses of untouchables are not able to shake it. The untouchables are made so passive and helpless, even that they cannot complain against their sister’s molestation. Servitude had completely paralyzed them, and they have lost their self-dignity.

Anand being a social novelist had felt the pulse of Indian nerve. Untouchable is a novel of the nineteen thirties when India was still a colony, when the evil of untouchability was prevalent through the country, and when Mahatma Gandhi was carrying on his crusade for the eradication of this evil and when the burning, torching and killing of untouchables was a daily event, when these oppressed or down-trodden people could not even complain or grumble.

Thus, lower castes were brought down to such pathetic conditions. Their ignorance was shamefully exploited for darkening their existence. With the passage of time, though these ills were moderated but they could not be tamed altogether. Infact, they throve well in the rural climate of the country. Roy’s The God of Small Things tried to review the lot of the ignorant in the modern India.

Roy, in her novel The God of Small Things, portrays untouchability, gender discrimination, patriarchy, injustice faced by woman in the androcentric society. Indian society, as is well known, is a patriarchal, male dominated society. Man enjoys a prominent position in Indian families. Woman has to rest content with a secondary position. She remains subservient to man. She is meant for man’s recreation and procreation. She is overall considered man’s property. The birth of a baby girl is a matter of sorrow in most of the Indian homes. She is considered a burden for her parents. So, right from the birth; woman is looked down upon while a male issue is accorded a VIP treatment.

All these aspects of anti-woman, Indian society have been exposed in The God of Small Things. Ammu, the protagonist, starts experiencing this discrimination right from her childhood days. She is denied seek higher education while her brother Chako is sent to Oxford for higher education. Ammu is not sent to college even in her own country. Lack of education poses a hurdle for her later in the novel. She is not qualified enough to make her job secure to support her family. She is denied the part from her father’s property. Here we have author’s words “A married daughter had no position in her parent’s home. As for a divorced daughter, she had no position anywhere at all. And as a divorced daughter from a love marriage” (Roy 46).

In the patriarchal society, the females are oppressed and prohibited while it is granted full recognition among males. Thus, when Chako plays amorous games with the women in the factory, a special back door entry is allowed into his bedroom. Mammachi, indulgently calls it “man’s need”. But at the same time when Ammu’s clandestine affair with Velutha, an untouchable, is discovered, the whole family feels outraged. She (Ammu) is locked like a mad. Velutha is falsely charged and tortured to death.

So, untouchability is Arundhati Roy’s main concern. The novel projects the plight of the untouchables through Velutha and to some extent his father. Untouchables are very efficient in every field but are offered a salary lesser than what they deserve. The untouchable (Velutha) suffers at the hands of the high-caste people for no fault of his. The poor untouchable’s only fault lies in the fact that he is well built and catches the fancy of high-caste girl. Velutha is charged with kidnapping of children, drowning of a child and attempting a rape of a young woman.

Thus, The God of Small Things brings to light these dark horrors of Indian society that have supposedly ceased to exist but in reality they still haunt the ignorant masses.

Though, the issue of untouchability has, not been addressed directly in The White Tiger yet the novels like: Untouchable and The God of Small Things give an insight into the biased character of Indian Society. These eventually help us to study the cause and effect of master-servant relationship along with illiteracy and socio-economic disparity.

Furthermore, in view of The White Tiger the closest approach to the treatment of darkness can be gained from the writer himself. Adiga’s first novel Between the Assassinations was drawn on similar theme. In a way, The White Tiger can be dubbed as sequel to Between the Assassinations. The latter discusses the lot of the poor section of the Indian society.

Between the Assassinations was written in 2005; its focus is on the poverty and misery of Indian society. Religio-socio-political conflicts are revealed in humour and irony. The poor people struggle very hard to make both ends meet. But they fail because the structure of the society is so brutal they have to live in utter destitute. Because of their poverty they are employed in very tough jobs, where they loose even their eye sight. Here we have an account “He didn’t want their eyes on him: those eyes that were being damaged, while their fingers created golden shirts that he could sell to American ballroom dancers” (Adiga 40).

More to the point, the poor people are put behind the bars for very small matters, at the same time criminals belonging to upper strata of the society move freely. It can be exemplified by a Dalit bookseller named Xerox, who lands in prison for selling a copy of The Satanic Verses and a poor employee of the rich Mr. Engineer is forced to own up the accidental killing by his boss. Similarly in The White Tiger, Balram is blackmailed to own upon accidental killing to protect his master Ashok’s wife. According to the same novel one more darkening constituent of Indian society is pollution. It seriously affects every living thing including humans. It is a serious problem because of rapid deforestation, industrialization, unplanned urbanization etc. Environmental pollution disturbs the ecology of the country. Here Adiga questions the traditional notion of the truth and salvation. He wonders how a polluted river can purify soul! It cannot even cure physical impurities. It is plain to see this reality. But ignorance has totally blinded the people .Adiga says: “Why I am talking of Mother Ganga, daughter of the Vedas, river of illumination, protector of us all, breaker of the chain of birth and rebirth. Everywhere this river flows that area is the Darkness.” (Adiga TWT 15)

Advancement in Science and technology has brought luxurious things like automobiles and so on. Further, establishment of industries and factories were done everywhere. Consequently it gave rise to air pollution, which chokes people. Capital of every country is considered its face. It should be very clean and free from pollution. In this case Delhi or we can say capital of India gives us dark picture:

Rush hour in delhi cars, scooters, motorbikes, auto-rickshaws, black taxis, jostling for space on the road. The pollution is so bad that the men on the motorbikes and scooters have a handkerchief wrapped around their faces – each time you stop at a red light, you see a row of men with black glasses and marks on their faces, as if the whole city were out on a bank heist that morning.

There was a good reason for the face masks; they say the air is so bad in Delhi that it takes ten years off a man’s life.” (Adiga TWT 133)

Further, Between the Assassinations explores the darkness both among the upper and lower classes of the society. In it, we find the smack addict Ramachandran forces his little daughter Soumya to do the filthy errand for him.

The dreams of the poor people are crushed by the leading class. They (poor) are crushed because they want resources. Even the people are judged by the caste but not by the content of their character that is a main problem rife in Indian society. This caste struggle gives rise to conflicts among the society. Here author says “I have burst a bomb to end the 5,000-year old caste system that still operates in our country. I have burst a bomb to show that a man should not be judged, as I have been, merely by the accident of his birth.” (Adiga 59)

Consequently, in the conflict of caste-system, poor people adopt extreme means like Marxism and Maoism. These so-called revolutionary means do not illumine their way, but simply exploit their ignorance. Thus, so for we have discussed the major works in national and international dark literature.

Moreover, a detailed analysis of the Indian social structure is necessary for a more comprehensive study of the concept of darkness in literature.

Nowadays untouchability is a serious crime. The very idea of caste system still prevails in the minds of many Hindus. Still inter caste marriage are not allowed in many traditional and rural families of India. Associations and organizations based on caste still exist in India and are playing crucial role in perpetuating the idea of caste system. Sometimes caste remains responsible for violence and bloodshed in colleges and in the rural Indian society. In educational institutions students often form group on the caste basis. A part from this, caste plays an important role in politics, the temple administration which are run by government officials. Still lower castes are employed by higher castes to perform menial and degrading jobs. So, according to the words of Professor Colonel K. Prabhakar Rao “Hindu Society is plagued by the ills of caste system and late, this problem has taken the proportions of goliath and is threatening the very integrity of the nation. The society in India is rather divided on the basis of caste and not a single day passes without an incident where caste becomes the focal point” (Rao 1).

Therefore, it seems that the problem of untouchability vanished outwardly but the incidents like: train burning and looting of the shops reminds us that the caste system has deep roots and it is hard to abolish it. Practice of untouchability lowers the image of Hinduism in the eyes of the world. Although the practice of untouchability has been banned but is being practiced for selfish motives still.

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What synergy! Role of Language and the Five Senses in Expression and Eternalisation of a Brand

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Abstract: **Noam Chomsky, the famous linguist proposed a progressive definition of Language and its role in the existence of human life as, "A language is not just words. It's culture, a tradition, a unification of a community, a whole history that creates what a community is, because it's all embodied in a language." Thus language is an effective entity, an eternal bridge that connects thoughts, ideas, products and people. Language is words, it is also feelings, it is an amalgamation, an association, sometimes dissociation of the five senses that play a key role in the vicinities of human existence. Martin Lindstrom has aptly supported the above quote as, "As the world of communication is constantly changing, Interaction has become one of the main catalysts." Further, to define the role of Language, the five senses of human beings also play an indispensable role in their description as they are closely inter-related. In today's scenario, 'Brand' is a symbol or outcome of such Language and Expression, to which everyone would relate in one way or another. This paper is an attempt to describe the synergy that the collaboration of five senses and the thread of Language create in Expressing and Eternalizing a Brand.**

Keywords: **Brand, Brand Perception, Communication, Language, Senses, Sensory Experience.**

I. INTRODUCTION

Language is the first essential thing that is required to communicate, to express, to describe, to clarify, the thoughts of human mind. Professor John McWhorter described the importance of language in his book 'The Story of Human Language', "By language, we do not mean solely words, but the grammar that we use to put them together to produce utterances that reflect the impressions of our lives, experiences, and environment, as well as enable us to affect people and events around us." Language being an important part of communication can take any of the forms whether it is verbal or non-verbal. Brand on the other hand is an identity or a symbolic image of a company created through language in customers' mind, by which they co-relate their products or services. The most acceptable definition of Brand is given by the American Marketing Association (AMA), "Brand is a name, term, sign, symbol or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors." The human senses through which most of the Brands communicate their ideologies, their visions, their inside stories are related to the non-verbal form of communication. A Brand tries to target either on any one of the five senses viz sight, smell, sound, taste, touch or more than one out of the five mentioned above. The language used by the Brands to promote and advertise their products should be memorable, easily pronounced, and quickly identified by the consumers. To make this process easier, Brands take the help of the five senses to make their image more effective and impactful for consumers' comfort, acceptance and convenience.

Brand elements like name, texts, font size, symbols, graphics, packaging, color, jingle, tagline, scents, sounds, tastes, movements, ambassadors and many other; work as brand association which consequently influence the purchasing power of the consumers. To make these associations memorable, the Brands cater towards the role of senses in order to express their thought in a convenient manner. Martin Lindstrom, the famous marketing expert and guru taps the sensory organs of humans with his thought and language in his visionary book 'Brand Sense'. He writes about how language, thought and symbols influence senses and eventually appeal to the market place. Lindstrom says, "Brand Language starts from the bottom up and not suddenly placed on the top like a piece of decorative icing." Therefore it is necessary to develop the understanding of senses and language before applying these concepts to the Brand. The insightful knowledge of Senses and Language will further open up ways which shall eventually lead in making the Brand Eternal.

II. ROLE OF SENSES

The famous German philosopher Immanuel Kant once said, "All our knowledge begins with the senses, proceeds then to the understanding, and ends with reason." The sensory experience created by the brands gives the reason to the consumers to connect with their likeable brand in an easy manner. The emotions attached with the brand are also kept in mind before communicating and advertising about the product. The language and words chosen for the marketing and branding purpose should work like a bridge between the consumer and the Brand. Liz Doig approves the ideology of working on language before finalizing the tone and word choice of the Brand and states that, 'Language is the strongest vehicle for creating synchronization and communication between the consumer and the Brand.' This communication further should be able to speak about the Brands with clarity about its vision, its thoughts, its ideas, its credo, its beliefs and its values. Doig considers the Brand Tone of Voice as the top element in the hierarchy of elements of a successful Brand. Senses also form an integral part of word choice as the thoughts, emotions and experiences attached with the Brand are further described by targeting any of the five human senses. A brief description about all the five senses is mentioned as follows-

2.1 Sight-

Vision or Sight is one such sense to which people generally rely upon easily. Robert Delaunay has very well described about sight as, "The eye is the most refined of our senses, the one which communicates most directly with our mind and consciousness." According to one of the researches done in the field of senses in the year 2013, it has been confirmed that 80% of the commercial and shopping communication is done through sight. The products are likely to be purchased if they are able to attract the consumers from their outer appearance initially and then with their other qualities. Lindstrom also states that Sight is the most used sense in the field of advertising and marketing; and has the power to overrule other senses (Lindstrom, 2005). It is believed to be most responsive to the environment and therefore has the ability to influence the purchasing power of the consumers (Kotler and Lindstrom, 2005). Now here language plays its key role to communicate with the consumers and there are some words like 'Free', 'Discount', 'Sale', 'Offer', 'Concession' etc which fetches the consumers attraction towards the product by conveying the idea of decreased rate or price of the related product. The moment a consumer steps out in the market, his first attention will move towards the name, sign, symbol, text, color, size, shape and such details about the Brand. If a Brand is able to approach the consumer for its product offerings on these parameters, there are higher chances that the consumer will revert to its likeable or regular Brand.

2.2 Smell-

Smell is closely related with the human brain and research says that this sense is responsible for generating more than 75% of the human emotions. The human brain is closely related with the terms like memory, mood, stress, anxiety, concentration etc. which are somehow associated with human experiences. These experiences lead to the stimuli of any such thing which relates the consumers with their olfactory sense. You can close your eyes, cover your ears, refrain from touch, and reject taste, but the smell is part of the air we breathe, it can never be turned off (Lindstrom, 2005). Industries like Food, Beverages, Apparels, Furniture, Airlines, Electronic Appliances, Hotels & Restaurants are known for their trademarked fragrance or odor or aroma through which the consumers not only identify their particular brand but they continue to be with it for its pleasing smell. It can also be said that aromas can awaken memories, activate emotions, reduce stress and influence people's mood which increase the consumer's loyalty towards the Brand (Esomar, 2014). When it comes to word choice for selecting related words, then one can think of the words like Flowery, Foul, Fragrant, Honeyed, Musty, Perfumy, Smelly, Pungent, Rotten, Spicy, Sweet, Strong, Balmy etc. to describe the smell of the Brand. According to the characteristics of these words, the Brand will further select the word to advertise and promote its product.

2.3 Sound-

The human beings are surrounded with ample of informative sounds in their everyday life which have a good impact on their moods, memories, emotions and experiences. Sound is closely related to Sight and most of the times they both work together to give desired results. Hence it is said that after sight, sound stands second in terms of leading dimensions of today's brand building process (Lindstrom, 2005). One can recall the Brand easily if he remembers the sound related to the Brand whether it is in the form of jingle, tagline, title song or any other verbal thing. Lindstrom and Kotler based on their joint study presented a fact that the share of hearing sense in relation to brand building process is 41%, which means its role cannot be ignored while marketing. The consumers' defined their better experience of shopping in such Malls and Showrooms where there is a light, soft and soothing music gets tuned up as a background music. Researchers say that the tone, tempo and pitch of the track or music playing around affect the mood of the buyers which somehow affects the purchasing power of the consumers.

2.4 Touch-

Touch is a step beyond sight, sound and smell. It is a facilitator of communication to the one who can speak and also for those who are unable. As John Keats said, "Touch has a memory" so the memory of the perfect brand will put an everlasting impact on consumers mind which will further make the Brand Eternal. Tactile often termed as Haptics, is a sense of touch which comes from a Greek word 'Haptico'. It is said that the human skin is known for its innumerable sensory receptors that can be easily manipulated by softness, material, quality, comfort and texture of the product. Haptics is used many times for feedback purpose also as it is a method used to define the quality of the product. The packaging or designing of the product involves a good, soothing and personal touch which provokes such emotions and experiences leading to memories related to the product. According to the market survey, it is observed that customers' decision making majorly depends on their tactile experiences whether it is Food, Clothing, Car or any other thing. People are habitual of touching the product while shopping and purchasing them. The reason behind it is that the touch they feel stimulates their emotions and experiences which increases their mood towards purchasing the product. People describe their touch experiences by using words like shiny, smooth, sticky, creamy, sleek, glossy, serene, silky, mild, velvety etc. Therefore language plays an important role in describing the senses and their experiences.

2.5 Taste-

Taste is closely related with Smell as it is a universally accepted fact that the smell attracts the audiences first and then they think of its taste. This sense specifically has a special role in industries like Food, Beverages, Hotel & Restaurants where all the decisions are taken on the basis of the taste experiences of the audiences. Howard Moskowitz once said that the mind knows what tongue wants. Therefore it's a human mind which gives signals about the product and its taste. The appearance of the product also matters when it comes to selecting one out of multiple products or brands and the color of the dish gives hint about its taste whether it is sweet, salty, sour or bitter. Taste is formed from the mixture of these elements and different tastes are distinguished by various combinations with a more sophisticated use of smell (Kotler and Lindstrom, 2005). Therefore in this way we have seen how language affects the senses and how senses further enhance the impact of the language in the making of a Brand.

III. SYNERGY BETWEEN LANGUAGE AND BRAND SENSE

Martin Lindstrom considered the role of Senses and Language as an important thing in the Brand Building Process and therefore presented the concept of creating Smashable language to show synergy between the Language and the Senses as, "The key to forming a smashing language is to integrate it into every single piece of communication that your company is responsible for, including all internal and external communication." The sensory experience created by the language used by the Brands further leads this concept to Brand Loyalty which shows how it has created a synergy to make Brands memorable in customer's mind by using any of the five senses. The sensory experience related to the product can say a lot about the product and can also mould the recognition and perception of consumers. The internal and external communication referred above includes all important details about a company, which customers are intended to know by the way of senses. Liz Doig further adds to this as, "Different professions have their own ways of using language. For example, Lawyers use words in a very particular way." (Doig, 2014). It also talks about the kind of consistency which is required to communicate in business platforms. It demonstrates how a clear, distinct voice can lead to form the image and culture of successful brands like Apple and Google in positioning these brands in the marketplace. She finds that language is a powerful vehicle to bring change and whole organization can witness this change by offering what their customers' want and by understanding their relationship with the Brand. Companies that have an erratic history of change in the tone, word choice, and literature, have also witnessed a drastic change in their statistics as well as in profits, awareness or engagement. As each sense responds in a different manner, therefore their expression in terms of language used will also be different. The Figure 1 given below describes how expression comes out of the senses with respect to the language-

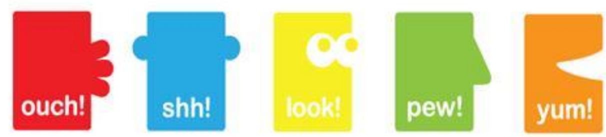

Figure 1: Sensory Branding

Source: newagemarketing.wordpress.com

Companies like Disney, Kellogg's, Coke and Gillette are significant representations and examples of well known Brands that have brought about creative synergies between the language and senses. Let's say, Disney is one of the world's largest and leading family entertainment and media enterprise well-known and identified by the people of all age groups. There are many things about the company which are famous like two black ears can instantly be recognized by Mickey Mouse being part of Disney group. To make their name memorable, the Disney Corporation has incorporated Disney characters into the structure of their California headquarters (Lindstrom, 2005). In the leading cities where headquarters of the company are situated, the pathways are given the names of the well-known Disney characters or celebrities which make the visitors wonder about them. This naming strategy has helped in leveraging the Brand by extending it to every aspect of their environment. It resulted in the below mentioned Tag Statements of Disney. It says,

"Welcome to our kingdom of dreams-the place where creativity and fantasy go hand in hand spreading smiles and magic at every generation." (Lindstrom, 2005) The keywords used by the Brands are easily identified by the customers' as they are synonyms with their Brand names. Disney has been credited with the biggest database of such customers that consider it as a Brand which welcomes them with the words like 'fantasy', 'magic', 'promise', 'smile', 'dreams' etc. Further it can be seen that the employees working at Disney tend to use these words in their communication as well with the customers'. For example, to wish and encourage their customers' at a Disney resort or Disney Cruise or Disney Restaurant or Disney Studio, the employees reply them as, "Have a Magical Day!!" So for the customers also it is taken as a part of their vision and marketing. The keywords used for the communication purpose are termed as the Disney-Branded words as these words have larger impact on customers' mind than their logo and any other thing. According to the Brand sense study, it has been proved that more than 80% of the world's population directly relates these genetic words with Disney (Lindstrom, 2005). These words are used frequently in Disney's written publications, songs, story lines, on Disney Channels to create a strong association and connection between Disney and Fantasy and Magic and Dreams and Smile and so on. Disney has also survived the language smash test where without any reference of the Brand, a word, or a sentence or a column selected from the Brand's publications and then also the Brand was successfully recognized by the customers'. In this way Disney has taken the ownership of these words by using language as a tool of communication. According to the Figure 2 given below it can be observed how Disney has created synergy using a Smashable language that shows the administrative world of Disney which directly approaches to the 'Market EARS' not the marketers.

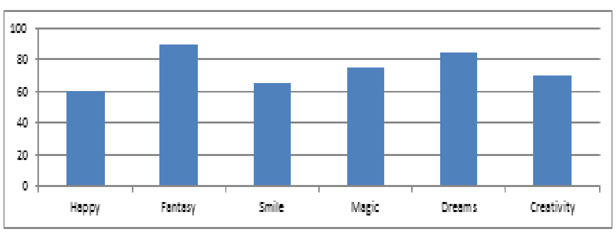

Figure 2 (Source: Martin Lindstrom, Brand Sense, p. 51)

IV. CONCLUSION:

The essence of becoming an Eternal Brand is putting all the senses together in a correct combination with proper tone and word choice selected by the Brand. Each sense caters to the individual needs of the customers' to which their experience is attached. The Recognition and Perception about the Brand can vary according to the marketing strategies followed. New innovative ideas in an attractive and easily understandable language are always acceptable by the customers'. To conclude it can be said that the making of one such eternal, successful and signature brand is possible if all the characteristics of a Brand are combined together in such a way that the Vision, the Credo, the Thought process, the Motto must be clearly expressed and understood by the consumers'. A smashing thought expressed in a smashing manner, with effective language and communication incorporating all the five senses in advertising and marketing campaigns creates lasting brands.

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Measurements to Support Farmers' Markets - a South African German Comparison

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Abstract---Farmers' markets have become fashionable places for shopping, entertainment, and socializing, and in many cases are not only sources of cheaper or more convenient shopping. With the growth of the craft and the organic food movements, such products are often marketed through farmers' markets. Entertainment is also often provided. Such shopping locations often charge premium prices. Why farmers' markets have become so popular may be due to a variety of reasons such as shopping, entertainment, and socializing. Furthermore, a variety of different factors may cause customer satisfaction or dissatisfaction. This research identifies what attracts customers to farmers' markets and what creates satisfaction for the customer. A quantitative study was used, based on a sample of 1141 respondents from an e-mailed survey. It is also a comparative study between a developed nation (Germany) and a developing nation (South Africa). The research culminated in a Kano model for farmers' markets in each of the countries. There was considerable similarity in the 'delight' and 'performance' factors in the two countries, but only South Africa has 'basic' factors, while Germany had none. The study has thus contributed to knowledge about consumer behaviour and attitudes towards farmers' markets and provides suggestions to increase their attractivity.