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CONTRIBUTIONS TO BOOKS

●   Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

●   Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

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DYNAMIC AND CENTRALIZED NETWORK INTRUSION DETECTION SYSTEM FOR REAL TIME WEB APPLICATIONS

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ABSTRACT

An application and data complexity increase process of web services are moved to a multitier designing in web server runs the application front-end logic and data. IDS models network behaviours in user sessions across the front-end web server and the back-end database. Then monitor web and subsequent database requests, we are able to ferret out attacks these independent IDS not able to identify. We quantify the limitations of any multitier IDS training sessions and functionality coverage. We implemented EACCK using an NS2 for detecting the malicious nodes and apply an efficient approach. IDS is used to detect attacks in multi-tiered web services and classify through Hierarchal clustering Algorithm. Our approach can create ordinary models of isolated user session. The web front-end (HTTP) and back-end (File or SQL) network transactions with data volumes are used to classify them.

KEYWORDS

data complexity, malicious nodes, multitier web services.

1. INTRODUCTION

Intrusion detection system monitors a computer system in real-time for activity indicative of attempted or actual access by unauthorized persons or computers. It captures network or system activities for malicious activities or policy violations to a management station and so on. IDS approach the goal of detecting suspicious traffic in unique ways. The network based (NIDS) and host based (HIDS) intrusion detection systems are available. NIDS is a network security system and it focusing on the attacks that come from the inside of the network (authorized users). We classify the design of the NIDS according to the system interactivity property, there are two types: on-line and off-line NIDS.

The On-line NIDS deals with the network in real time and it analyses the Ethernet packet and applies it on the some rules to decide whether there is an attack or not. The off-line NIDS deals with a stored data and pass it on a some process to decide if it is an attack or not. Some systems may attempt to stop an intrusion attempt but this is neither required nor expected of a monitoring system. The Intrusion detection and prevention systems (IDPS) are primarily focused on identifying logging information about them, and reporting attempts.

Then organizations use IDPS for other purposes, like identifying problems with security policies, analyzing existing threats and detecting individuals from violating security policies. The IDPS have become a necessary addition to the security infrastructure of nearly every organization. The IDPS record information mostly related to observed events notify security administrators of important observed events and produce the reports. The IDPS can also respond to a detected threat by attempting to prevent it from succeeding. They use lot of techniques, which involve the IDPS stopping the attack itself, and changing the security environment (e.g. reconfiguring a firewall) or changing the attack's content.

1.2 HIDS AND NIDS

There are two types of intrusion detection system are available that is Network Based (NIDS) and Host Based (HIDS) intrusion detection systems.

1.2.1 NETWORK INTRUSION DETECTION SYSTEMS

The Network Intrusion Detection Systems (NIDS) are placed at the strategic point within the network to monitor traffic to and from all devices on the network. It performs an analysis of passing traffic on the entire subnet, and then matches the traffic that is passed on the subnets to the library of known attacks.

If once an attack is identified, or abnormal behaviour is monitor, the alert can be sent to the administrator. For example, NIDS would be installing it on the subnet where firewalls are located in order to see if someone is trying to break into the firewall. Then one would scan all inbound and outbound traffic, however doing so might create a bottleneck that would impair the overall speed of the network. OPNET and NetSim are commonly used tools for simulation network Intrusion detection systems. The NIDS Systems are also capable of comparing signatures for similar packets to link and then drop harmful detected packets which have a signature matching the records in the NIDS.

1.2.2 HOST INTRUSION DETECTION SYSTEMS

The Host Intrusion Detection Systems (HIDS) run on individual hosts or devices on the network. A HIDS monitor the two bounds such as inbound and outbound packets from the device only and it will alert the user or administrator in case suspicious activity is detected. Then it takes a snapshot of existing system files and matches it to the previous snapshot also. If the important files were modified or deleted, an alert is sent to the administrator to investigate. An example of HIDS can be seen on mission critical machines, which are not expected to change their configurations. The Intrusion detection systems can also be system-specific using custom tools and honey pots.

1.3 PASSIVE AND REACTIVE SYSTEMS

In passive system, the intrusion detection system (IDS) sensor detects a potential security breach, and logs the information then signals an alert on the console or owner. In a reactive system it also known as an intrusion prevention system, The IPS auto-responds to the suspicious activity by resetting the connection or by reprogramming the firewall to block network traffic from the assumed malicious source. The term IDPS is commonly used where this can happen automatically or command of an operator; systems that both "detect (alert)" and "prevent".

1.4 STATISTICAL ANOMALY-BASED IDS

IDS are anomaly based will monitor network traffic and compare it against an established baseline. The baseline will identify what is the "normal" for that network and what sort of bandwidth is generally used. This issue is that it may raise a False Positive alarm for a valid use of bandwidth if the baselines are not intelligently configured.

1.5 SIGNATURE-BASED IDS

The signature based IDS will monitor packets on the network and compare them against a database of signatures or attributes from known abnormal threats. This is similar to the way most antivirus software detects malware. There will be a delay between a threat being discovered in the wild and then signature for detecting that threat being applied to the IDS. During that delay time the IDS would be unable to detect the new threat.

1.6 INTRUSION PREVENTION SYSTEM

Intrusion Prevention Systems (**IPS**), also known as **Intrusion Detection and Prevention Systems** (**IDPS**)it is a network security appliance that monitor network and/or system activities for malicious activity.

The main performance of intrusion prevention systems is to identify malicious activity, log information of this activity, and it attempts to block/stop it, and report it. Intrusion prevention Systems are considered extensions of intrusion detection systems because it both monitors network traffic and/or system activities for malicious activity. The main difference is unlike intrusion detection systems; Intrusion prevention systems are able to actively prevent/block intrusions are detected. More specifically, IPS can take actions such as sending an alarm, dropping the malicious packets, resetting the connection and/or blocking the traffic from the offending IP address. An IPS can also correct Cyclic Redundancy Check (CRC) errors, and unfragment packet streams, prevent TCP sequencing issues, and clean up unwanted transport & network layer options

1.6.1 CLASSIFICATIONS

Intrusion prevention systems can be classified into four different types:

1. **Network-based intrusion prevention system (NIPS)**: analyze the entire network for suspicious traffic by analyzing protocol activity.
2. **Wireless intrusion prevention systems (WIPS)**: it monitors a wireless network for mistrustful traffic by analyzing the wireless networking protocols.
3. **Network behaviour analysis (NBA)**: it examines network traffic to identify threats that create unusual traffic flows, such as distributed denial of service (DDoS) attacks, certain forms of malware and policy violation.
4. **Host-based intrusion prevention system (HIPS)**: an installed software package which monitors a single host for mistrustful activity by analyzing events occurring within that host.

1.6.2 DETECTION METHODS

The majority of intrusion prevention systems utilize one of three detection methods: let us consider that signature-based, statistical anomaly-based and stateful protocol analysis.

1. **Signature-Based Detection**: Signature based IDS captures the packets in the Network and compares with pre-configured and pre-determined attack patterns known as the signatures.
2. **Statistical anomaly-based detection**: The statistical anomaly-based IDS determines the network activity such as what sort of bandwidth is generally used, what protocols are used, what ports and devices generally connect to each other's and then alerts the administrator or user when traffic is detected which is anomalous.
3. **Stateful Protocol Analysis Detection**: it identifies deviations of protocol states by comparing observed events along with "The predetermined functions of usually accepted definitions of benign activity".

2. RELATED WORK

Y.Zhang, W. Liu, and W. Lou proposed in this paper Signature-based (SBS) and anomaly-based (ABS) are used here. SBS systems the implementation of the system is limited and is not designed to dealing with buffer overflow/underflow attacks, while our system is able to mitigate also non-control-data attacks. This issue leads eventually to the corruption of the entire database. These attacks that can be rolled-back and limited to attacks against the web server itself, while our focus also includes also all server-side components such as CGI programs, server-side scripts, and back-end databases. Rely on pattern recognition techniques they maintained in the database of the signatures of previously known attacks and compare them with analyzed data. An alarm is raised when the signatures are matched with that. On the other hand, ABS systems build a statistical model describing the normal network traffic, and any abnormal behaviour that deviates from the model is identified [2].

Kiran Dhangar, Deepak Kulhare, Arif Khan proposed in this paper address the issue, researchers and vendors have proposed alert correlation, an analysis the process that takes the alerts produced by intrusion detection systems and produces compact reports on the security status of the network under the surveillance. Although a number of correlation approaches have been suggested, but there is no consensus on what this process is and/or how it should be implemented and evaluated. In particular, this existing correlation approaches operate only the few aspects of the correlation process, such as the fusion of alerts that all are generated by different intrusion detection systems in response to a single attack, and/or the identification of multi step attacks that represent a sequence of the actions performed by the same attacker. The Correlation tools that do cover multiple aspects of the correlation process are evaluated "as a whole," without an assessment of the effectiveness of each component of the analysis process [17].

Alec Yasinsac, Sachin Goregaoker proposed in this paper focus on some security problems that are directly that attributable to faulty application logic, such as programs that fail to check authentication information before proceeding, and then one limitation of our intrusion detection system is that it does not detect attacks that exploit logic errors. It has one drawback that is Limitations of these signature engines are detecting the attacks and whose signatures are previously stored in database; a signature must be created for every attack; and novel attacks cannot be detected. And this technique can be easily deceived because they are only based on regular expressions and string matching. These kinds of mechanisms only look for strings within packets transmitting over wire [18].

Bharat S. Dhak, Shrikant Lade proposed in this paper the Users or administrators are must manually inspect the application for signs of an the attack that exploited the vulnerability, and if an attack is found, they must track down the attacker's and then actions and repair the damage by manually. When the administrator learns of security vulnerability in a web application, he or she can use WARP to check whether the vulnerability was recently exploited, and to recover from any resulting intrusions and one problem with this is attacks can affect users' browsers, making it difficult to track down the extent of the intrusion purely on the server. WARP's workflow begins with the administrator deciding that he or she wants to make a retroactive fix to the system, such that is applying a security patch or changing permission in the past[22].

3. PROPOSED WORK

An IDS system only considers models the network behaviour of user across both the front-end web server and the back-end database without any clear partitioning. By monitoring both web and subsequent database requests, we are able to ferret out attacks those independent IDS not able to identify. The limitations of any multitier IDS in terms of training sessions and functionality coverage cannot be done for all the users in the network. In this paper we present a system to detect attacks in multi tiered web services and classify through clustering Algorithm. Our approach created to normality models of isolated user sessions that include both the web front-end (HTTP) and back-end (File or SQL) network transactions with respect to Data volumes and classifies them. The system is implemented to lightweight virtualization techniques, assign each user's web session to a dedicated container, an isolated virtual computing environment. We use the cluster algorithm which is accurately associated with the web request with the subsequent DB queries. The system builds a causal mapping profile by taking both the web server and DB traffic into account. The system uses a multitier approach makes web applications retain their simplicity for the user and complexity for the attacker.

3.1 ADVANTAGE OF PROPOSED

The proposed model along with open source NS2 in Linux platform which is a container stored in the web server and is available in the admin end. The container file consists of the information about the query, ip address, date and time of visit. It consists of all records i.e., the information about all the clients who are all

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visited the web site with their database query. From input streams provides a better characterization of the system for anomaly detection because the intrusion sensor is more precise normality model that detects a wider range of threats. To evaluate the detection results for the system, analyze classes of attacks like deterministic mapping, sql injection, empty query list and etc. this process is done when deployed a prototype on a system that Ns2.

4. EXPERIMENTAL RESULTS

Malicious nodes drop all the packets that pass through it. The simulation results that are based on PDR. We observe that all acknowledgment-based IDSs perform better than the Watchdog scheme. Our proposed scheme EAACK surpassed performance when there are 20% of malicious nodes in the network. From the results, Table 1 represent the acknowledgment-based schemes, including TWOACK, AACK, and EAACK, are able to detect misbehaviours with the receiver collision and limited transmission power. When the number of malicious nodes reaches 40% to our proposed scheme EAACK's performance is lower than TWOACK and AACK. We generalized the result of the introduction of MRA scheme, when it takes too long receive an MRA acknowledgment from the destination node that waiting time exceeded to the predefined threshold.We observed that DSR and watched scheme achieve the best performance, as they don't require acknowledgment scheme to detect misbehaviour works. For the rest of the IDS, AACK is the lowest overhead. This is largely due to the hybrid architecture which significantly reduced to network overhead.

Fig.1 representing to EAACK requires digital signature at all acknowledgment process and it's managed to maintain lower network overhead in most cases. We conclude to happen as a result of the introduction of our hybrid scheme.

Fig.2 representing to set all malicious nodes sends out false misbehaviour report to the source node whenever it is possible. This scenario setting is designed to test the IDS performance to under the false misbehaviour report. The achieving simulation results are based on PDR. When malicious nodes are 10%, EAACK performs to 2% better than AACK and TWOACK. When the malicious nodes are at 20% and 30%, EAACK outperform to all other schemes and maintains the PDR to over 90%. We believe that the MRA scheme is mainly contributes to this performance. EAACK is worked into detecting false misbehaviour report. In terms of RO, owing to the hybrid scheme, EAACK maintained lower network overhead and compared to TWOACK in most cases, as shown in. However, RO rises rapidly with the increase of malicious nodes. The simulation results provide the malicious nodes the ability to forge acknowledgment packet.

TABLE 1: SUMMARY OF PACKET DELIVERY AND ROUTING OVERHEAD

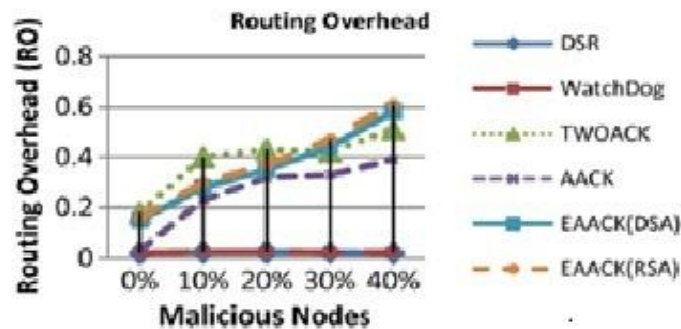|	Malicious Nodes: 0%	Malicious Nodes: 10%	Malicious Nodes: 20%	Malicious Nodes: 30%	Malicious Nodes: 40%
Scenario 1: Packet Delivery Ratio					
DSR	1	0.82	0.73	0.68	0.66
Watchdog	1	0.83	0.77	0.7	0.67
TWOACK	1	0.97	0.96	0.92	0.92
AACK	1	0.96	0.96	0.93	0.92
EAACK(DSA)	1	0.96	0.97	0.93	0.91
EAACK(RSA)	1	0.96	0.97	0.92	0.92
Scenario 1: Routing Overhead					
DSR	0.02	0.023	0.023	0.022	0.02
Watchdog	0.02	0.025	0.025	0.023	0.023
TWOACK	0.18	0.4	0.43	0.42	0.51
AACK	0.03	0.23	0.32	0.33	0.39
EAACK(DSA)	0.15	0.28	0.35	0.44	0.58
EAACK(RSA)	0.16	0.3	0.37	0.47	0.61
Scenario 2: Packet Delivery Ratio					
DSR	1	0.82	0.73	0.68	0.66
Watchdog	1	0.83	0.75	0.69	0.68
TWOACK	1	0.93	0.84	0.82	0.79
AACK	1	0.93	0.85	0.82	0.8
EAACK(DSA)	1	0.95	0.92	0.87	0.79
EAACK(RSA)	1	0.95	0.92	0.86	0.79
Scenario 2: Routing Overhead					
DSR	0.02	0.023	0.023	0.022	0.02
Watchdog	0.02	0.025	0.025	0.023	0.023
TWOACK	0.18	0.2	0.38	0.4	0.52
AACK	0.18	0.19	0.24	0.22	0.51
EAACK(DSA)	0.22	0.25	0.33	0.32	0.64
EAACK(RSA)	0.23	0.265	0.35	0.34	0.68
Scenario 3: Packet Delivery Ratio					
TWOACK	1	0.91	0.79	0.65	0.61
AACK	1	0.91	0.79	0.64	0.62
EAACK(DSA)	1	0.95	0.84	0.75	0.75
EAACK(RSA)	1	0.95	0.85	0.75	0.75
Scenario 3: Routing Overhead					
TWOACK	0.18	0.2	0.37	0.37	0.51
AACK	0.03	0.2	0.3	0.26	0.37
EAACK(DSA)	0.08	0.22	0.35	0.4	0.58
EAACK(RSA)	0.09	0.23	0.37	0.41	0.68

FIG. 1: PACKET DELIVERY RATIO
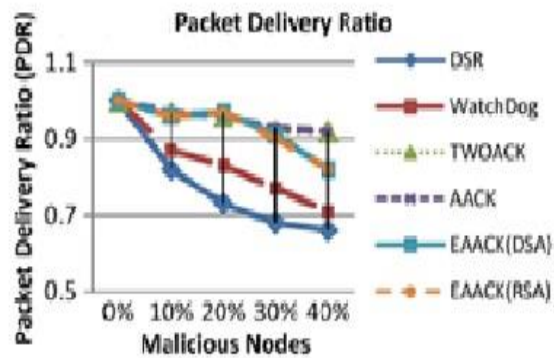
FIG. 2: ROUTING OVERHEAD

EAACK performance classified into different types of attacks, we proposed to three state settings are simulated to the different types of misbehaviours or attacks. This state imitates a basic packet dropping attack. Malicious nodes are simply dropped to all our packets that they receive. The purpose of this scenario test is the performance of IDS against two weakness of Watchdog namely, receiver collision and limited transmission power. System is designed to test IDS performances are against to false misbehaviour report. In this case, malicious nodes are always dropped the packets that receive and send back a false misbehaviour report whenever it is possible. This scenario is used to test the IDS performances when the attackers are enough to forge acknowledgment packets and claiming positive result while, in fact, it is negative. Watchdog is not an acknowledgment-based schemed because it's not eligible for this scenario setting.

5. CONCLUSION

The attacker uses active or passive attacks to violate either confidentiality of sensitive data or integrity of transmitted data by alter the real information. Different kinds of active and passive attacks can bring serious disruption in overall performance of Network. Passive attacks do not harm the network or network resources; Active attacks are worked into the drop or misdirect routing packets. To counter passive attacks and to ensure secrecy and confidentiality of data, we are used to apply similar kind of mechanism. To counter packet dropped or misdirect to kinds of active attacks and modified to the security mechanism proposed.

The security mechanism is proposed to sends passive acknowledgement to each and every successful delivery of packet. For example, if a source node sends 100 packets to destination node through intermediate nodes and the destination node sends back 100 passive acknowledgements to source node for every packet arrived. Keep in view the limited resources and bandwidth in network we can't use this kind of heavy mechanism. The reason is that, such mechanism is greatly increase routing overheads and creates congestion. A packet counter is introduced at every node included to cluster head. Node "e" forwards 300 packets to cluster head. When cluster head is not received to any further packets from node "e" till fixed interval of time and it assumed that node "e" is no more packets to send. The cluster head is send a packet count of 300 to node "e," which means that cluster head successfully received to 300 packets.

When node "e" receives the packet count from cluster head which matches to its own packet count, it means node "d" is not malicious and all their packets successfully relayed through node "d". Our mechanism is per session basis contrary proposed to the packet bases mechanism. Proposed security model can counter many kinds of active attacks such as black hole, grey hole, and wormhole. Black hole is a compromised node and it's located as intermediate node between source and destination, it is worked into drop all their packets passing through it.

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OVERVIEW OF TRAJECTORY DATA MINING AND THE TECHNIQUES USED

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ABSTRACT

The advances in location-acquisition and mobile computing techniques have generated massive spatial trajectory data, which represent the mobility of a diversity of moving objects, such as people, vehicles, and animals. Many techniques have been proposed for processing, managing, and mining trajectory data in the past decade, fostering a broad range of applications. In this article, we present a systematic approach on the major research into trajectory data mining, providing a panorama of the field as well as the scope of its research topics. This paper also introduces the methods that transform trajectories into other data formats, such as graphs, matrices, and tensors, to which more data mining and machine learning techniques can be applied. Finally, some public trajectory datasets are presented.

KEYWORDS

stay point detection, noisy filtering, segmentation, compression, map matching, tensor, clustering, patterns.

1. INTRODUCTION

A spatial trajectory is a trace generated by a moving object in geographical spaces, usually represented by a series of chronologically ordered points, for example, $p1 \to p2 \to \cdots \to pn$, where each point consists of a geospatial coordinate set and a time stamp such as $p = (x, y, t)$. The advance in location-acquisition technologies has generated a myriad of spatial trajectories representing the mobility of various moving objects, such as people, vehicles, and animals. Such trajectories offer us unprecedented information to understand moving objects and locations, fostering a broad range of applications in location-based social networks [1], intelligent transportation systems, and urban computing [2]. The prevalence of these applications in turn calls for systematic research on new computing technologies for discovering knowledge from trajectory data. Under the circumstances, trajectory data mining has become an increasingly important research theme, attracting the attention from numerous areas, including computer science, sociology, and geography.

FIG. 1: PARADIGM OF TRAJECTORY DATA MINING
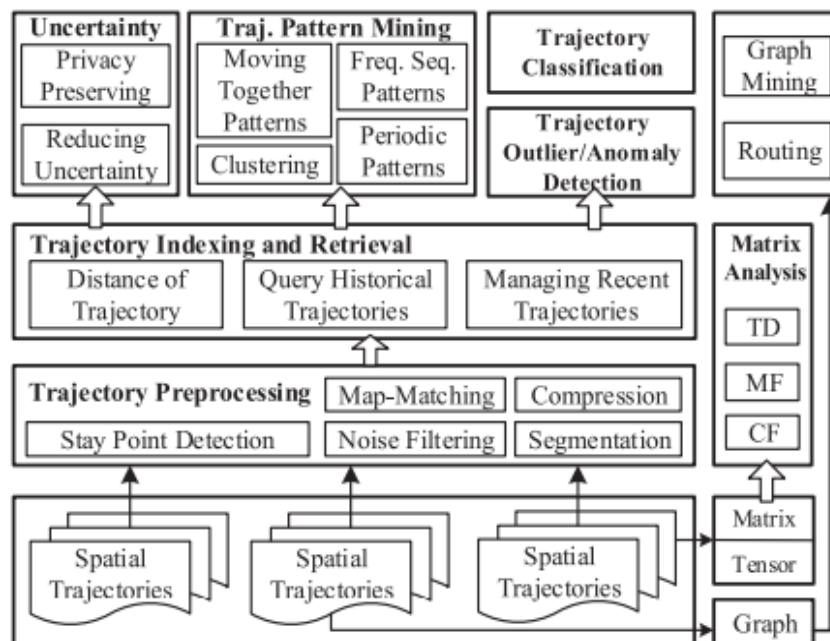
Intensive and extensive individual research has been done in the field of trajectory data mining. However, we are lack of a systematic review that can well shape the field and position existing research. Facing a huge volume of publications, the community is still not very clear about the connections, correlations and difference among these existing techniques. To this end, a comprehensive survey that thoroughly explores the field of trajectory data mining, according to the paradigm is shown in Figure 1.

Before using trajectory data, we need to deal with a number of issues, such as noise filtering, segmentation, and map matching. This stage is called trajectory preprocessing, which is a fundamental step of many trajectory data mining tasks. The goal of noise filtering is to remove from a trajectory some noise points that may be caused by the poor signal of location positioning systems (e.g., when traveling in a city canyon). Trajectory compression is to compress the size of a trajectory while maintaining the utility of the trajectory. A stay point detection algorithm identifies the location where a moving object has stayed for a while within a certain distance threshold. A stay point could stand for a restaurant or a shopping mall that a user has been to, carrying more semantic meanings than other points in a trajectory. Trajectory segmentation divides a trajectory into fragments by time interval, spatial shape, or semantic meanings, for a further process like clustering and classification. Map matching aims to project each point of a trajectory onto a corresponding road segment where the point was truly generated.

Many online applications require instantly mining trajectory data (e.g., detecting traffic anomalies), calling for effective data management algorithms that can quickly retrieve particular trajectories satisfying certain criteria (such as spatiotemporal constraints) from a big trajectory corpus. There are usually two major types of queries: the nearest neighbors and range queries. The former is also associated with a distance metric.

2. TRAJECTORY DATA

In this section, we classify the derivation of trajectories into four major categories, briefly introducing a few application scenarios in each category. Trajectory data representing human mobility can help build a better social network [3] and travel recommendation [4].

2.1. Mobility of people: People have been recording their real-world movements in the form of spatial trajectories, passively and actively, for a long time.

- **Active Recording:** Travelers log their travel routes with GPS trajectories for the purpose of memorizing a journey and sharing experiences with friends. Bicyclers and joggers record their trails for sports analysis.
- **Passive Recording:** A user carrying a mobile phone unintentionally generates many spatial trajectories represented by a sequence of cell tower IDs with corresponding transition times.

2.2 Mobility of transportation vehicles: A large number of GPS-equipped vehicles (such as taxis, buses, vessels, and aircrafts) have appeared in our daily life. For instance, many taxis in major cities have been equipped with a GPS sensor, which enables them to report a time-stamped location with a certain frequency. Such reports formulate a large amount of spatial trajectories that can be used for resource allocation [5], traffic analysis [6], and improving transportation networks [7].

2.3. Mobility of animals: Biologists have been collecting the moving trajectories of animals like tigers and birds, for the purpose of studying animals' migratory traces, behavior, and living situations.

2.4. Mobility of natural phenomena: Meteorologists, environmentalists, climatologists, and oceanographers are busy collecting the trajectories of some natural phenomena, such as hurricanes, tornados, and ocean currents. These trajectories capture the change of the environment and climate, helping scientists deal with natural disasters and protect the natural environment we live in.

3. TRAJECTORY DATA PREPROCESSING

This section introduces a fourfold of basic techniques that we need to process a trajectory before starting a mining task, consisting of noise filtering, stay point detection, trajectory compression, and trajectory segmentation.

3.1. Noise Filtering: Spatial trajectories are never perfectly accurate, due to sensor noise and other factors, such as receiving poor positioning signals in urban canyons. Sometimes, the error is acceptable (e.g., a few GPS points of a vehicle fall out of the road the vehicle was actually driven), which can be fixed by map-matching algorithms (discussed in Section 3.5). In other situations, as shown in Figure 2, the error of a noise point like p5 is too big (e.g., several hundred meters away from its true location) to derive useful information, such as travel speed. So, we need to filter such noise points from trajectories before starting a mining task.

3.2. Stay Point Detection: Spatial points are not equally important in a trajectory. Some points denote locations where people have stayed for a while, such as shopping malls and tourist attractions, or gas stations where a vehicle was refueled. We call this kind of points "Stay Points." As shown in Figure 2, there are two types of stay points occurring in a trajectory. One is a single point location, for example, Stay Point 1, where a user remains stationary for a while. This situation is very rare, because a user's positioning device usually generates different readings even in the same location. The second type, like Stay Points 2 shown in Figure 2, is more generally observed in trajectories.

3.3 Trajectory Compression: Basically, we can record a time-stamped geographical coordinate every second for a moving object. But, this costs a lot of battery power and the overhead for communication, computing, and data storage. In addition, many applications do not really need such a compression strategies (based on the shape of a trajectory) have been proposed, aiming to reduce the size of a trajectory while not compromising much precision in its new data representation [8]. One is the offline compression (a.k.a. batch mode), which reduces the size of trajectory after the trajectory has been fully generated. The other is online compression, compressing a trajectory instantly as an object travels.

3.4. Trajectory Segmentation: In many scenarios, such as trajectories clustering and classification, we need to divide a trajectory into segments for a further process. The segmentation not only reduces the computational complexity but also enables us to mine richer knowledge, such as sub-trajectory patterns, beyond what we can learn from an entire trajectory.

FIG 2: A) NOISE FILTERING, B) STAY POINT DETECTION, C) TRAJECTORY COMPRESSION, D) TRAJECTORY SEGMENTATION, E) MAP MATCHING
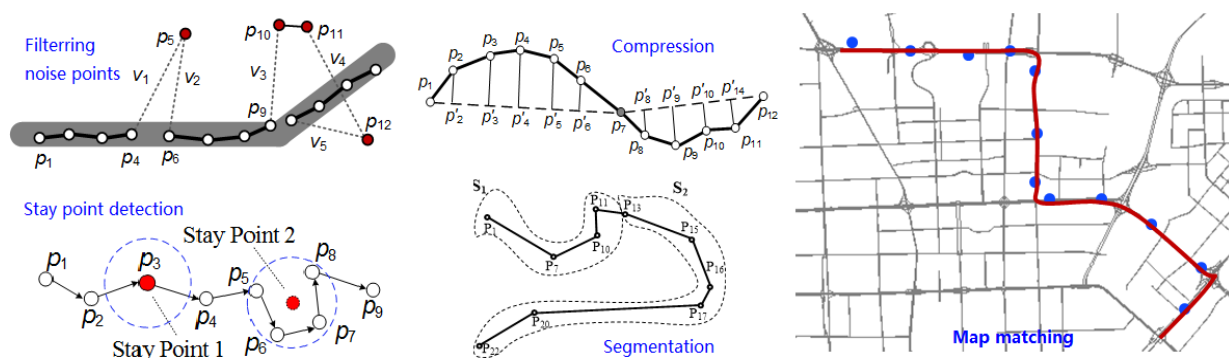
3.5. Map Matching: Map matching is a process to convert a sequence of raw latitude/longitude coordinates to a sequence of road segments. Knowledge of which road a vehicle was/is on is important for assessing traffic flow, guiding the vehicle's navigation, predicting where the vehicle is going, and detecting the most frequent travel path between an origin and a destination, and so forth. Map matching is not an easy problem, given parallel roads, overpasses, and spurs [8].

4. TRANSFER TRAJECTORY TO OTHER REPRESENTATIONS

4.1. From Trajectory to Graph: Trajectories can be transformed into other data structures, besides being processed in its original form. This enriches the method-ologies that can be used to discover knowledge from trajectories. Turning trajectories into graphs is one of the representative types of transformation. When conducting such a transformation, the main effort is to define what a node and an edge is in the transformed graph. The methods for transforming trajectories into a graph differentiate between one another, depending on whether a road network is involved in the transformation.

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FIG. 3: TRANSFORMING TRAJECTORIES INTO GRAPHS
A) A LAND MARK GRAPH   B) A REGION GRAPH
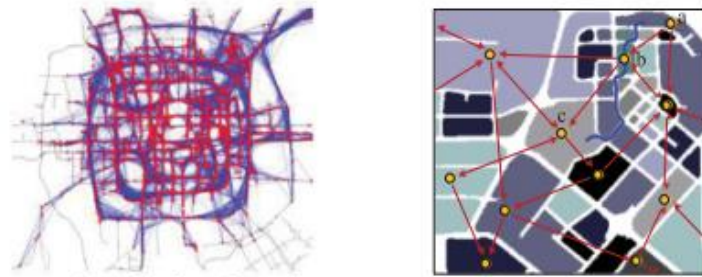
4.2. From Trajectory to Matrix: Another form that we can transform trajectories into is a matrix. Using existing techniques, such as CF and MF, a matrix can help complement missing observations. A matrix can also be used as an input to identify anomalies. The key of the transformation lies in three aspects: (1) what does a row mean, (2) what is a column, and (3) what does an entry denote?

4.3. From Trajectory to Tensor: A nature extension of the matrix-based transformation is turning trajectories into a (3D) tensor, where the third dimension is added to a matrix so as to accommodate additional information.

FIG. 3: TRANSFORMING TRAJECTORIES INTO MATRIX
A) TRAJECTORIES TO PATH   B) LINKS   C) LINKS TRAFFIC MATRIX   D) LINK-PATH MATRIX
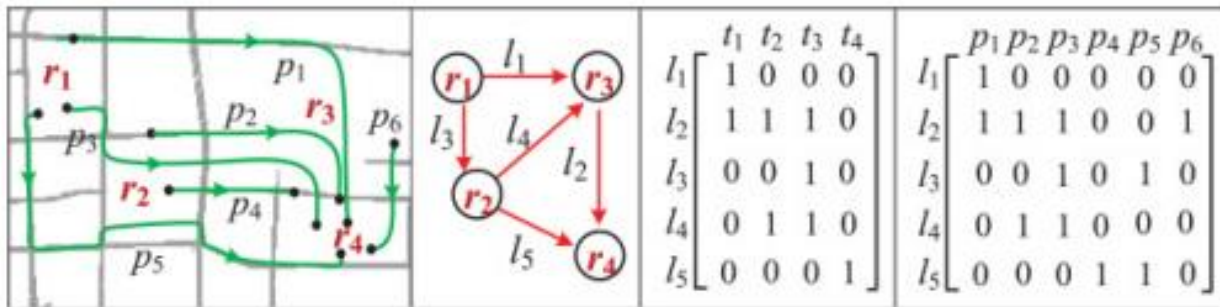
The goal of the transformation is usually to fill the missing entries (in a tensor) or find the correlation between two objects, like two road segments or gas stations. A common approach to solving this problem is to decompose a tensor into the multiplication of a few (low-rank) matrices and a core tensor (or just a few vectors), based on the tensor's nonzero entries. When a tensor is very sparse, in order to achieve a better performance, the tensor is usually decomposed with other (context) matrices in a framework of CF.

5. TRAJECTORY CLUSTERING

To find representative paths or common trends shared by different moving objects, we usually need to group similar trajectories into clusters. A general clustering approach is to represent a trajectory with a feature vector, denoting the similarity between two trajectories by the distance between their feature vectors. However, it is not easy to generate a feature vector with a uniform length for different trajectories, as different trajectories contain different and complex properties, such as length, shape, sampling rate, number of points, and their orders. In addition, it is difficult to encode the sequential and spatial properties of points in a trajectory into its feature vector.

FIG. 4: TRAJECTORY CLUSTERING BASED ON PARTIAL SEGMENTS [Li et al. 2010b]
A)   CLUSTERS OF SEGMENTS
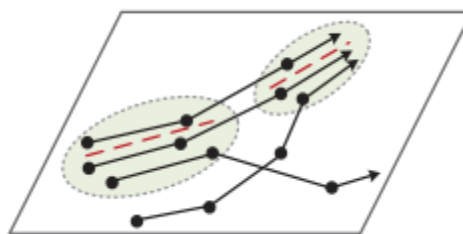
B) MICRO CLUSTERS   C) MACRO CLUSTERS
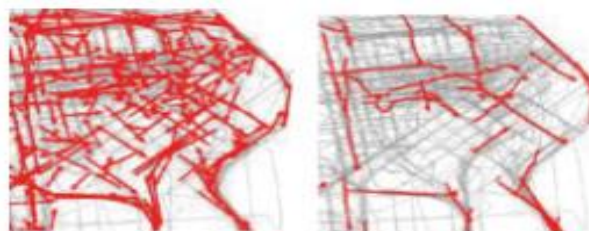
Gaffney and Smyth [1999] [9] and Cadez et al. [2000] [10] proposed to group similar trajectories into clusters by using a regression mixture model and the Expectation Maximization (EM) algorithm. This algorithm clusters trajectories with respect to the overall distance between two entire trajectories. However, moving objects rarely travel together for an entire path in the real world. To this end, Lee et al. [2007] [11] proposed to partition trajectories into line segments and to build groups of close trajectory segments using the Trajectory-Hausdorff Distance, as illustrated in Figure 4(a).

A representative path is later found for each cluster of segments. Since trajectory data are often received incrementally, Li et al. [2010b] further proposed an incremental clustering algorithm, aiming to reduce the computational cost and storage of received trajectories. Both Lee [2007] and Li [2010] adopted a Micro-and-Macroclustering framework, which was proposed by Aggarwal et al. [2003] to cluster data streams. That is, their methods first find mircoclusters of trajectory

segments (as demonstrated in Figure 4 (b)), and then group microclusters into macroclusters (as shown in Figure 4 (c)). A major insight of Li's work [Li et al. 2010b] is that new data will only affect the local area where the new data were received rather than the faraway areas.

6. TRAJECTORY PATTERN MINING

In this section, we study three major categories of patterns that can be discovered from a single trajectory or a group of trajectories. They are moving together patterns, sequential patterns, and periodic patterns.

6.1. Moving Together Patterns: This branch of research is to discover a group of objects that move together for a certain time period, such as flock [Gudmundsson and Kreveld 2006; Gudmundsson et al. 2004], convoy [Jeung et al. 2008a, 2008b], swarm [Li et al. 2010a], traveling companion [Tang et al. 2012a, 2012b], and gathering [Zheng et al. 2013; Zheng et al. 2014a]. These patterns can help the study of species' migration, military surveillance, and traffic event detection, and so on. These patterns can be differentiated between each other based on the following factors: the shape or density of a group, the number of objects in a group, and the duration of a pattern.

A major concern with flock is the predefined circular shape, which may not well describe the shape of a group in reality, and therefore may result in the so-called lossy-flock problem. To avoid rigid restrictions on the size and shape of a moving group, the convoy is proposed to capture generic trajectory pattern of any shape by employing the density-based clustering. While both flock and convoy have a strict requirement on consecutive time period, Li et al. [2010a] proposed a more general type of trajectory pattern, called swarm, which is a cluster of objects lasting for at least k (possibly nonconsecutive) time stamps.

FIG. 5: EXAMPLES OF MOVING TOGETHER PATTERNS
A) FLOCK, CONVOY AND SWARM   B) GATHERING
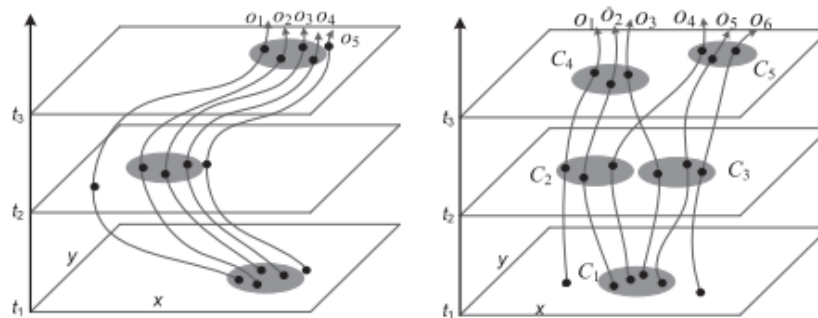
6.3. Mining Sequential Patterns from Trajectories: A branch of research is to find the sequential patterns from a single trajectory or multiple trajectories. Here, a sequential pattern means a certain number of moving objects traveling a common sequence of locations in a similar time interval. The locations in a travel sequence do not have to be consecutive.

When the occurrence of such a common sequence in a corpus, usually called support, exceeds a threshold, a sequential trajectory pattern is detected. Finding such kind of patterns can benefit travel recommendation [Zheng and Xie 2011b; Giannotti et al. 2007], life pattern understanding [Ye et al. 2009], next location prediction [Monreale et al. 2009], estimating user similarity [Xiao et al. 2014; Li et al. 2008], and trajectory compression [Song et al. 2014]. To detect the sequential patterns from trajectories, we first need to define a (common) location in a sequence. Ideally, in trajectory data, like user check-in sequences from a social net-working service, each location is tagged with a unique identity (such as the name of a restaurant). If two locations share the same identity, they are common. In many GPS trajectories, however, each point is characterized by a pair of GPS coordinates, which do not repeat themselves exactly in every pattern instance. This makes the points from two different trajectories not directly comparable. In addition, a GPS trajectory may consist of thousands of points. Without handled properly, these points will result in a huge computational cost.

6.4. Mining Periodical Patterns from Trajectories: Moving objects usually have periodic activity patterns. For example, people go shopping every month and animals migrate yearly from one place to another. Such periodic behaviors provide an insightful and concise explanation over a long moving history, helping compress trajectory data and predict the future movement of a moving object.

Periodic pattern mining has been studied extensively for time series data. For example, Yang et al. tried to discover asynchronous patterns, surprising periodic patterns [Yang et al. 2001], and patterns with gap penalties, from (categorical) time series. Due to the fuzziness of spatial locations, existing methods designed for time series data are not directly applicable to trajectories. To this end, Cao et al. [2007] proposed an efficient algorithm for retrieving maximal periodic patterns from trajectories. This algorithm follows a paradigm that is similar to frequent pattern mining, where a (global) minimum support threshold is needed. In the real world, however, periodic behaviors could be more complicated, involving multiple interleaving periods, partial time span, and spatiotemporal noises and outliers.

7. TRAJECTORY CLASSIFICATION

Trajectory classification aims to differentiate between trajectories (or its segments) of different status, such as motions, transportation modes, and human activi-ties. Tagging a raw trajectory (or its segment) with a semantic label raises the value of trajectories to the next level, which can facilitate many applications, such as trip recommendation, life experiences sharing, and context-aware computing.

In general, trajectory classification is comprised of three major steps: (1) Divide a trajectory into segments using segmentation methods. Sometimes, each single point is regarded as a minimum inference unit. (2) Extract features from each segment (or point). (3) Build a model to classify each segment (or point). As a trajectory is essentially a sequence, we can leverage existing sequence inference models, such as Dynamic Bayesian Network (DBN), HMM, and Conditional Ran-dom Field (CRF), which incorporate the information from local points (or segments) and the sequential patterns between adjacent points (or segments).

8. PUBLIC TRAJECTORY DATASETS

Collecting data is always the first priority of trajectory data mining. Thanks to researchers in this field, there are quite a few real trajectory datasets that are publicly available:

GeoLife Trajectory Dataset [GeoLife Data]: a GPS trajectory dataset from Microsoft Research GeoLife project [Zheng et al. 2010d], collected by 182 users from April 2007 to August 2012.

T-Drive Taxi Trajectories [T-Drive Data]: A sample of trajectories from Microsoft Research T-Drive project [Yuan et al. 2010a], generated by over 10,000 taxicabs in a week of 2008 in Beijing.

GPS Trajectory with Transportation Labels [Trajectory with transportation modes]: Each trajectory has a set of transportation mode labels, such as driving, taking a bus, riding a bike, and walking. The dataset can be used to evaluate trajectory classification and activity recognition [Zheng et al. 2008a, 2008b].

Check-in Data from Location-based Social Networks [User check-in data]: The dataset consists of the check-in data generated by over 49,000 users in New York City and 31,000 users in Los Angeles as well as the social structure of the users. Each check-in includes a venue ID, the category of the venue, a time stamp, and a user ID.

Hurricane Trajectories [Hurricane trajectory (HURDAT)]: This dataset is provided by the National Hurricane Service (NHS), containing 1,740 trajectories of Atlantic Hurricanes (formally defined as tropical cyclone) from 1851 to 2012. NHS also provides annotations of typical hurricane tracks for each month throughout the annual hurricane season that spans from June to November. The dataset can be used to test trajectory clustering and uncertainty.

9. CONCLUSION

The wide availability of trajectory data has fostered a diversity of applications, calling for algorithms that can discover knowledge from the data effectively and efficiently. This article shows the techniques concerned with different stages of trajectory data mining, recapping them by categories and exploring the differences between one another. This article also suggests the approaches of transforming raw trajectories into other data structures, to which more existing data mining techniques can be applied. And provides an overview on how to unlock the power of knowledge from trajectories, for researchers and professionals from not only computer sciences but also a broader range of communities dealing with trajectories. At the end of this article, a list of public trajectory datasets has been given and a few future directions have been suggested.

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THE MULTIFACETED INDIAN MIDDLE CLASS AND INDIA'S GROWTH STORY

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ABSTRACT

The main objective is to understand the potential of the new Indian middle class. The changes in their income, lifestyle and upward movement in the society. How these changes can affect the consumption and economy of our country. The secondary data source was utilized mainly from reports and various articles are taken to study. The general characteristics of this new middle class have changed in terms of income, education, spending patterns, consumption of electronic gadgets, culture. This change is correlated with the economic growth of India due to the liberalization policy which brought in by our government. The middle class has improved in their income levels, education, new professions, lifestyle and consumption. They are now identified as growth drivers for our economy.

KEYWORDS

middle class, lifestyle products, growth in India, new professions.

INTRODUCTION

Mc Kinsey Global Institute (Report May 2007) reported that Indian market will undergo transformation due to income rise of the middle class and their rise in population, which is projected as 583 million from the present 50 million by 2025. The reason for the middle class growth is attributed to the economic liberalization policies and neoliberal ideologies (Antonia 2007). There is rising affluence in the middle class due increasing disposable income (Munshi 2001). This has resulted in middle class being drivers of our economic growth and prosperity (Fernandes 2004, Rizvi 2007).

The survey of middle class households with annual incomes between Rs. 21 and Rs. 101 at 2001-2002 prices has 5.7 % population in these criteria. The 60% of cars and ac's and 25% of TVs, fridges and bikes are owned by the middle class. They are slowly moving to the luxury segment. (Jun 24,2005, Economic Times). OECD, 2010 reports states that Asian (expect Japan) middle class spending may be more than US, EU and Japan combined together in 2022. India alone may surpass US in 2021, China in 2023 and EU in 2026. It is projected that global middle class may increase from 1.8 billion in 2010 to 3.2 billion in 2020 and 4.9 billion in 2030 out of which 85% of growth is expected from Asia alone. This growth will automatically result in increase in urbanization rate from 30% to 48% in 2030 as per McKinsey Report 2010.

DEFINITION OF MIDDLE CLASS

NCAER's current definition identifies the middle class as comprising of two sub-groups: "seekers" with annual household income between Rs. 200,000 and Rs. 500,000, and "strivers" with annual household income between Rs. 500,000 and Rs. 1000000 at 2001/2002 prices. Assuming an average household size of 5 people and converting into constant 2005 purchasing power parity (PPP) dollar, these numbers would be about $8 to $20 per capita per day for seekers, and $20 to $40 per capita per day for strivers 2.

NCAER's classification of the middle class too has evolved over the two-decade period. While we used income as the primary criterion to define the middle class, the cultural parameters such as education, patterns of consumption and ownership of selected consumer goods are used to understand better the complexities underlying issues related to the middle class.

OECD report (2010) defined that the emerging middle class consumers are all those living with daily per capita income of between $10 and $100, adjusting for local purchasing power.

THE CHARACTERISTICS OF THE INDIAN MIDDLE CLASS

Consumer culture of the middle class is different and has its boundaries demarcated (Bauman 2001). They are different or special in self monitoring and self regulating themselves (Brosius 2010, p. 330). They live a cosmopolitan life (RadhaKrishna 2008). In contemperorary urban India, the conspicuous consumption of global brands, commodities and services, play a crucial role in distinguishing the new Indian middle class Mathur 2010 p.219. This new middle income group is corporate and consumer oriented in nature (Baiskar and Ray 2011). The reason for this cosmopolitan lifestyle is because of increasing disposable income and affluence. This has also resulted in sporting interest of Indian Middle Class (Fernandes, 2006). This lifestyle is predominantly urban who are employed in new age professions like the information Technology and business processing industries and are driving the economic growth of India (Ninjan, 2006, Borius 2010, Fernandes 2004, Lal 2008, Mishra 2006).

This Middle income group is said to be synonymous and a representation of our Country (Baviskar and Ray, 2011). The growth in India is attributed to liberalization policy. This growth has resulted in rich getting richer and poor getting poorer. This inequality can be bridged to certain extent by the financial upward mobility and political involvement of middle class at the expense of poor masses (Ahmed et al 2011).

We can trace the history of middle class from the 14th century as traders and travellers doing their business between nations (Rizwana Atiq, Zeeshan Amir, Asma Farooque, 2012). To tell you the history of our middle class, during the colonial rule the middle class is identified with the learned professionals (Mishra 1960). This is similar to Nehruvian statism and Gandhian austerity. In contrast New Indian Middle class is identified with economic liberations, global capitalism and consumer orientations. These aspects have resulted in new lifestyle or a complete change in lifestyle (Brosius 2010, Fernandes 2011).

The middle class requirements are housing, healthcare, education for their children, reasonable retirement funds, stable employment

LIFESTYLE CHANGE AND CONSUMPTION PATTERN

The middle class is identified as a very productive citizen with sporting and fitness being part of their lifestyle (Rajagopal 2011, p1009). The Asian Development Bank (ADB) advocates the developing countries to concentrate on policies to sustain the economic growth through concentrating on their middle class. In India especially consumer durables market is growing due to middle class. The lower class is slowly joining the middle class which is increasing the size of middle class. The Indian middle class is getting exposed to western culture and it is 50 million in size which is estimated to increase to 300 million in 2030(McKinsey Research). NCAER has estimated that the Indian Middle class population is to touch 547 million individuals with 113.8 million households. These help us to predict that India will have the world's fifth largest consumer market. It is expected that our country will add 1 billion people to the global middle class by 2039 leading to global recovery (Rizwana Atiq, Zeeshan Amir, Asma Farooque,2012).

The middle class as already discussed is more exposed to western culture which is capitalist in nature. This has resulted in educated young women joining the work force of the country and has more aspirations economically. This empowerment of women is driving our country's growth in lifestyle products especially consumer durables. The women after marriage enter into family life with very high aspirations and freedom from parents. They resemble dual income no kids' lifestyle of Americans. These young couple cannot live without cell phones, credit cards, flat screen televisions, laptops, computers and cars preferably instead of two wheelers (Jagdish Sheth 2009).

The consumption/demand for products are linked with lifestyle. Lifestyle is understood for segmenting purpose and is understood as lifecycle of the individual. This helps the marketers to understand the need of the consumer by his lifecycle, income and values with which he is raised. This pattern decides on the products the consumer is going to purchase and the marketer can focus on his segment needs.

CONCLUSION

We can understand that middle class in our country has to be concentrated as the growth of our country depends on this population. The influence of western culture and education abroad has brought in a lot of changes in the lifestyle and how we view life. Lifestyle is closely associated with the products we buy for our daily usage, how and where we buy and how we pay for them. Lifestyle changes are the main drivers for growth in our country and the growing middle class is boon. These middle class are the said to be the productive workforce within and outside the country. Thus we could also include women who are becoming empowered because of their education and driving changes in the society and consumption pattern. We can now see more lifestyle products and capitalism is seen in our economy.

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A STUDY OF THE RELATIONSHIP BETWEEN INCREASING NETWORK OF AUTOMATED TELLER MACHINES (ATMs) AND BANKS' PROFITABILITY

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ABSTRACT

This research paper seeks to examine whether a relationship can be established between the growing proportion Automated Teller Machines (ATMs) and the profitability of banks taking into account the parameter of profit per employee (PPE). The research methodology relies upon collection and analysis of secondary data. The results and findings show that there is a significant relationship between ATM/Brach ratio and profit per employee (PPE) of banks. The findings would be useful in evolving appropriate strategies to promote the use of ATMs as the preferred channel for distribution of banking products and services to cater to the needs of clientele, enhance market share and ultimately boost profits.

KEYWORDS

alternate delivery channels, Automated Teller Machines (ATMs), Profit Per Employee (PPE)

INTRODUCTION

In India, the traditional model for banking has been through branch banking. Over the past two decades or so, technology enabled alternate delivery channels of banking, also known as electronic or e-banking have gained popularity. Automated Teller Machines (ATMs) are an important alternate delivery channel. During the last decade or so, Banks have aggressively promoted ATMs as a cost-effective alternative to branches. The total number of ATMs installed in the country, which was 17,642 at end-March 2005 has crossed 1,00,000 as of March 2013. The table below gives a bank-wise break-up.

TABLE 1: ATMS OF SCHEDULED COMMERCIAL BANKS (AS AT END-MARCH 2013)

Sr. No	Bank group	On-site ATMs	Off-site ATMs	Total number of ATMs
1	2	3	4	5
I	Public sector banks	40,241	29,411	69,652
	1.1 Nationalised banks*	20,658	14,701	35,359
	1.2 SBI Group	18,708	13,883	32,591
II	Private sector banks	15,236	27,865	43,101
	2.1 Old private sector banks	4,054	3,512	7,566
	2.2 New private sector banks	11,182	24,353	35,535
III	Foreign banks	283	978	1,261
IV	All SCBs (I+II+III)	55,760	58,254	1,14,014

Source: Report on Trend and Progress of Banking in India 2012-13

Note: *: Excluding IDBI Bank Ltd.

The above data reveals that off-site ATMs, which are more cost efficient account for more than half the total ATMs in the country. On scrutiny of the bank-wise data available with IBA, it is observed that 13 (out of 26) private sector banks had more number of ATMs than branches as on 31st March 2013. In case of public sector banks, the number is 6 (out of 26 PSBs).

However, the deployment of ATMs has been predominantly in Tier I & II centres. With a view to expanding the reach of ATMs to Tier III to VI centres, RBI has permitted nonbank entities to set up and operate ATMs – White Label ATMs (WLAs). The first WLA became operational in Chandrapada, a Tier V town, in Thane district, Maharashtra in June 2013. At present, there are seven White Label ATM Operators in the country.

Recent additions to the family of ATMs include innovative ATMs such as micro ATMs, mobile ATMs and card-less biometric ATMs.

REVIEW OF LITERATURE

E-banking has redefined the banker-customer relationship and taken it to new heights. According to Meuter et al., 2000, technology is capable of providing unexpected pleasant surprises to the customers thereby delighting them. Wind (2001) opines that e-banking offers alternative approaches by which banks can provide individual offerings and services to attract customer interests, increase customer loyalty, and repeat transaction. There is faster delivery of information from the customer and service provider, thus differentiating Internet enabled electronic banking system from the traditional banking operation. (Singhal and Padhmanabhan, 2008; Salawu et al. 2007). E–banking has thus become an important channel to sell products and services; leading to a paradigm shift in marketing practices, resulting in high performance in the banking industry (Christopher et al. 2006; Brodie et al 2007; Singhal and Padhmanabhan, 2008).

E-banking also offers cost benefits to banks. Electronic banking would help financial institutions to lower cost which is very crucial for the long term survival of the banks (Burnham, 1996).

Galal *et al.* (1994), World Bank (1995), and La Porta and Lopezde-Silanes (1997) support the view that privatization helps improve performance. The RBI (2003) did present a comparative position of the performance and efficiency ratios of five government owned PSBs, five partially privatized government-owned banks (divested PSBs), and those banks that were already in the private sector. However, statistical significance was not tested.

Although some studies have measured the efficiency of Indian banks, their analysis is restricted either to the pre-liberalization period (see Bhattacharyya et al., 1997) or to a single year in the post-liberalization period (see Sathye, 2003).

Only a recent study by Kumbhakar and Sarkar (2003) investigates the impact of financial liberalization by calculating growth in the total factor productivity (TFP) of 23 public sector banks and 27 private domestic banks during 1985–1996 (their study excludes foreign banks). Kumbhakar and Sarkar (2003) measure TFP growth by estimating a translog cost function, and decompose TFP growth into a technological change, a scale, and a miscellaneous component. They find considerable over-employment of labour in Indian banks and find little evidence to suggest that the liberalization enhanced the productivity of banks, especially that of public sector banks. Kumbhakar and Sarkar suggest that public sector banks in India have become too dominant to feel the impact of changes in the economic environment brought about by financial liberalization.

Bhattacharyya et al (1997) studied the impact of the limited liberalization initiated before the deregulation of the nineties on the performance of the different categories of banks, using DEA. Their study covered 70 banks in the period 1986-91. They constructed one grand frontier for the entire period and measured technical efficiency of the banks under study. The authors use advances, investments and deposits as outputs and interest expense and operating expense as inputs. They found public sector banks had the highest efficiency among the three categories, with foreign and private banks having much lower efficiencies. However, public sector banks stated showing a decline in efficiency after 1987, private banks showed no change and foreign banks showed a sharp rise in efficiency.

The main results accord with the general perception that in the nationalized era, public sector banks were successful in achieving deposit and loan expansion. It should be noted, however, that the use of one grand frontier for the entire period implies that technical change is not separately accounted for.

Das (1997) analyses overall efficiency- technical, allocative and scale- at PSBs. In the period 1990-96, the study found a decline in overall efficiency. This occurred because there was a decline in technical efficiency, both pure and scale, which was not offset by an improvement in allocative efficiency. The study, however, pointed out that the deterioration in technical efficiency was mainly on account of four nationalised banks.

Further, Das (1999) compares performance among public sector banks for three years in the post-reform period, 1992, 1995 and 1998. He finds a certain convergence in performance. He also notes that while there is a welcome increase in emphasis on non-interest income, banks have tended to show risk-averse behaviour by opting for risk-free investments over risky loans.

Sarkar, Sarkar and Bhaumik (1998) compared performance across the three categories of banks, public, private and foreign, in India, using two measures of profitability, return on assets and operating profit ratio, and four efficiency measures, net interest margin, operating profit to staff expense, operating cost ratio and staff expense ratio (all ratios except operating profit to staff expense having average total assets in the denominator). The authors attempted these comparisons after controlling for a variety of non-ownership factors that might impact on performance: asset size, the proportion of investment in government securities, the proportion of directed credit, the proportion of rural and semi-urban branches, and the proportion of noninterest income to total income. They found that, in the comparison between private banks and PSBs, there was only a weak ownership effect.

Ram Mohan (2002) found a trend towards convergence in performance among the three categories of banks- public, private and foreign- using financial measures of performance. Ram Mohan (2003) found that this result was reinforced by a comparison of returns to stocks in the three categories- the evidence was that returns to public sector bank stocks were not significantly different from returns to private sector bank stocks.

T. T. Ram Mohan & Subhash Ray (September 2004) made a comparison between PSBs and their private sector counterparts based on measures of productivity that use quantities of outputs and inputs. They used Tornqvist and Malmquist indices of total factor productivity to measure of performance. They used loan income, investment income and non-interest income as outputs. For inputs, they used interest cost and operating cost (which includes labor and non-labor, noninterest costs). The period of study was 1992-2000. They concluded that there was little evidence to support the proposition that productivity is lower in public sector banks relative to their peers in the private sector.

OBJECTIVE
To study whether a relationship can be established between the ATM/Brach Ratio and Profit Per Employee (PPE) of Indian Banks

HYPOTHESIS
H0: There is no significant relationship between ATM/Branch Ratio and PPE (r=0).
H1: There is a significant relationship between ATM/Branch Ratio and PPE (r≠0).

RESEARCH METHODOLOGY
Type of Research: Descriptive Research
Type of Data: Secondary Data
Sampling Unit: Banks
Sample Size: 44
Statistical Test: Bivariate Correlation
DATA COLLECTION
The Bank-wise data of number of Automated Teller Machines (ATMs) and branches was compiled from publications of Indian Banks' Association (IBA) entitled "Performance Highlights of Private Sector Banks-2012-13" and "Performance Highlights of Public Sector Banks-2012-13".

RESULTS & DISCUSSION
Data has been analysed with the help of IBM SPSS Version 20.0.
Level of Significance: α= 0.05

TABLE 1: CORRELATIONS- ATM/BRANCH RATIO & PPE

		ATM to branch ratio	PPE
ATM to branch ratio	**Pearson Correlation**	1	.507**
	Sig. (2-tailed)		.000
	N	44	44
PPE	**Pearson Correlation**	.507**	1
	Sig. (2-tailed)	.000	
	N	44	44

Observation
r=0.507
P=0.000
N=44

CHART 1: ATM/BRANCH RATIO AND PPE
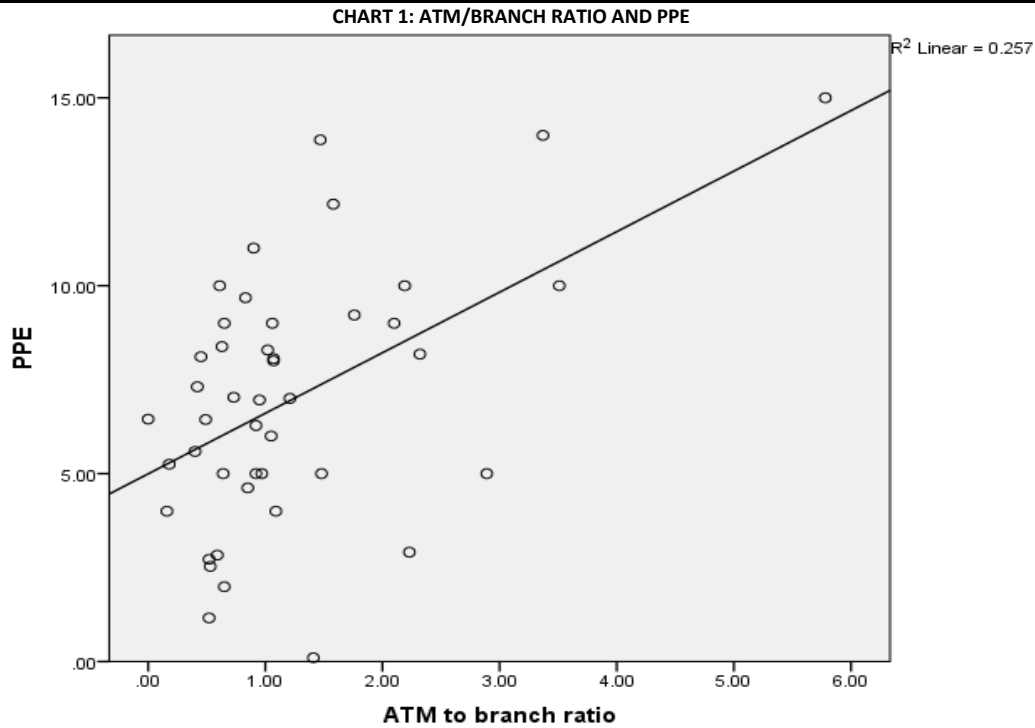
Source: RBI Data & Performance Highlights of Public & Private Sector Banks- 2012-13- IBA Publication

CONCLUSION

Since P value (0.000) is less than level of significance (0.05), the null hypothesis is rejected.

Hence, it is concluded that there is a relationship between ATM/Branch Ratio and PPE.

The ratio r=0.507 suggests a positive moderate relationship between the two variables.

RECOMMENDATIONS

Banks should evolve appropriate strategies for installation of more Automated Teller Machines (ATMs) as the study has found that a higher ATM/Branch ratio has a positive moderate impact on profitability as measured by Profit Per Employee (PPE).

LIMITATIONS

The study is restricted to public and private sector banks only. Foreign banks, co-operative banks and regional rural banks have been excluded from the study due to time and financial constraints.

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THE DEMAND FOR INTERNATIONAL RESERVES: A CASE STUDY OF INDIA

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ABSTRACT

Global international reserve holdings have accelerated sharply in recent years. Among top ten major reserves holders, India comes on eighth position as on March 2016. Developing countries particularly India is in line to hoard international reserves. This study uses autoregressive distributed lag (ARDL) approach to estimate India's demand for international reserves for quarterly period of 1985Q1-2014Q4. Our results suggest that the India's demand for international reserves is mainly determined by trade openness and propensity to import. Our study shows that demand for reserves in India is highly sensitive to current account vulnerability and less sensitive to the economic growth.

KEYWORDS
India, international reserves, unit root, cointegration.

1. INTRODUCTION

A country accumulates international reserves to finance external payment imbalances, intervening in international capital markets and secure a buffer to cushion the economy against financial crises. International reserves are "Those external assets that are readily available to and controlled by monetary authorities for direct financing of payment imbalances through intervention in exchange markets to affect the currency exchange rate, and/or for other purposes" (Balance of Payments Manual, [International Monetary Fund], 2014). International reserves or foreign exchange reserves are a country's external assets that include gold, Special Drawing Rights (SDRs), foreign currency deposits and bonds held by monetary authorities, gold and reserve position at the IMF. The top ten holders of international reserves account for nearly two-thirds of the world's total international reserves. Most of them are from Asia. China, with USD 3.2 trillion as on March 2016, tops the list. Ten years ago it had only USD 822 billion. Second is Japan with USD 1.2 trillion at the end of 2015. The list is going on but India comes on eighth position with nearly USD 361 billion as on March 2016.

Research on international reserves was started during 1960s particularly when Heller (1966) presented the estimations of the optimum level of international reserves by comparing marginal cost to marginal benefit. As strong justification to hold reserves have been provided it is important to analyse the determinants of international reserves. The issue of the determination of reserves has broadly been discussed in the literature (see Heller, 1966; Frenkel and Jovanovic, 1981; Lane and Burke, 2001; Flood and Marion, 2001; Irefin and Yabaa, 2012; Grubel, 1971; Kenen and Yudin, 1965); Kelly, 1970; Frenkel, 1974; Heller and Khan, 1978; Clark, 1970; Ben-Bassat and Gottlieb, 1992; Chin-Hong et al., 2011; Claassen, 1975; Courchene and Youssef, 1967; Edwards, 1983; Huang and Shen, 1999; Lizondo and Mathieson, 1987; Landell-Mills, 1989; Lane and Burke, 2001; Aizenman and Marion, 2002; Eichengreen and Mathieson, 2000; IMF, 2003; Romero, 2005; Malathy and Madhumati, 2007; Obstfeld et al., 2008, 2009; Prabheesh et al., 2007; Shegal and Chandan, 2007 and Gantt, 2010). They were able to get some explanatory variables as determinants of international reserves through empirical research. The determinants of reserves holding reported in the literature can be grouped into five categories: economic size of economic growth, current account vulnerability, capital account vulnerability, exchange rate flexibility, and opportunity cost. 'Buffer stock model' is largely used among all these models. The model suggests that monetary authorities hold international reserves as a buffer to control variations in external payment imbalances. This model has been remained as applicable in floating exchange regime as it was during the Bretton Woods regime.

Badinger (2002) stated that the conventional theory of reserves demand have some deficiencies. First, it assessed the demand in separation from the domestic money market, thus neglecting the importance of monetary approach to balance of payments. Second, it confronted the spurious regressions because nearly all studies estimated the demand for reserves employing Ordinary Least Squares or two stage least square methods. Third, the studies analysed the cross-sectional data, thereby neglecting the institutional characters of individual economies. This paper is an endeavor to overcome most of these issues to determine international reserves demand function for India making use of the Autoregressive Distributed Lag (ARDL) approach.

The rest of the paper is organized as: After this introduction, section 2 presents relevant literature review, section 3 provides need for the study; section 4 objectives of the study, section 5 research methodology, section 6 results and discussion, section 7 findings and conclusion in Section 8 following the limitations in section 9.

2. LITERATURE REVIEW

Talahite and Beji (2013) addressed the issue of international reserves in India and Tunisia and provided some possible alternative policy to the accumulation of international reserves. Chin-Hong et al. (2011) examined the determinants of international reserves in Malaysia applying cointegration technique proposed by Johansen and Juselius (1990) over the period spanning from 1975 to 2007. They found that international reserves and the specified determinants have long run relationship. The economic size and opportunity cost had respectively positive and negative relationship to the reserves. Irefin and Yabaa (2012) estimated Frenkel and Jovanovic's buffer stock model in case of Nigeria using Autoregressive Distributed Lag Approach (ARDL) proposed by Pesaran et al. (2001) over the period 1999Q1-2011Q2. They found that monetary policy rate, exchange rate, income and imports had a long run relationship to international reserves. Khan et al. (2005) analysed Pakistan's reserves demand function deploying cointegration technique and error correction model over the period 1982Q1 to 2003Q2. They set up a stable long-run reserves demand in Pakistan. The long run reserves policy of Pakistan appeared to be determined by foreign trade, volatility of balance of payments and opportunity cost of holding reserves.

Dash and Narayanan (2010) examined the relationship among trade flows, exchange rate and demand conditions in terms of their impact on international reserves in India using multivariate cointegration technique developed by Johansen (1995) and vector error correction model on monthly data over the period 1994:Jan-2008:Oct. Their study found that a long run and significant relationship existed among exports, world exports and real effective exchange rate. The study suggested

that a minimum amount of reserves was desirable as a precautionary motive. Shegal and Chandan, (2007) analyzed international reserves demand in a co-integration-error correction framework for India. Their study has utilized quarterly data from 1990Q2 to 2006Q1. They employed Gross domestic product, money supply, short run external debt, Portfolio investment and variability in the balance of payment as independent variable whereas international reserves as dependent one. They estimated most of the variables had significant influence on international reserves in India. The study suggested that India hold international reserves mainly for precautionary purpose. Chakravarty (2009) assessed buffer stock model for foreign reserves demand in Indian context assuming high capital mobility and exchange rate flexibility. He employed Autoregressive Distributed Lag Approach (ARDL) and volatility of international transactions, opportunity cost, exchange rate flexibility and some scale variables as independent variables whereas international reserves minus gold as dependent one. He used a different volatility measure i.e. export receipts volatility. Their findings showed that the demand for international reserves was related positively to international transaction volatility and a scalar variable while opportunity cost exhibited negative relationship. However, he couldn't show flexibility of exchange rates a significant variable impacting reserves demand of Indian economy.

Aizenman and Marion (2002) compared the demand for foreign exchange reserves in the Far-East with the developing economies. They found that accumulation of international reserves is the result of many economic factors like volatility of international transactions, political considerations and exchange rate arrangements. After Asian financial-crisis in 1997, their model under predicted international reserve holdings. Their study proved that 'sovereign risk and costly tax collection to cover fiscal liabilities lead to a large precautionary demand in reserves'. Peter and Machiel (2004) stated that the objective of managing international currency reserves has changed from retaining liquidity to expand total profit. They recognized long-term local government bonds, international government bonds and equities as those investments which give high return. Frenkel (1978) stated that (MPI) i.e. marginal propensity to import determines openness to external shock of a country and hence it would exhibit positive relation with international reserves. Marginal propensity to import (MPI) was computed as the ratio of imports to GDP. He concluded that "optimal reserve holdings would increase as the volatility of reserves increased." He showed that reserves volatility was certainly a strong predictor of international reserve holdings.

3. NEED/IMPORTANCE OF THE STUDY

International reserves have lucid involvements for exchange rate stability. They have implications for financial markets and in short for overall economic activities. A continuous debate can be seen in the literature about the need to keep international reserves [see Aizenman & Marion (2002, 2002a)]. Participants have diverse views about reserve holdings. Some economists argue that international reserves are ineffective and unutilised as Friedman (1953) defied that under fixed exchange rate system international reserves remain unutilised. On the contrary, some economists argue that international reserves are essential to settle down the payment imbalances in balance of payment [see Kemal (2002)]. By accumulating large stocks of international reserves, monetary authorities can purchase national currency in international capital markets, to stabilize its value. In brief, international reserves play a crucial role for the economy. Keeping in mind these things, we empirically determine the demand for international reserves for India.

4. OBJECTIVES

We set the following objectives to determine the demand for international reserves for Indian economy:
- To determine international reserves demand function for India.
- To introduce autoregressive distributed lag (ARDL) approach to identify the determinants of international reserves.
- To suggest some policy implications to policy makers regarding financial policies for Indian economy.

5. RESEARCH METHODOLOGY

We used time series data of quarterly frequency for the period of 1985Q1-2014Q4. Our estimation process involves overall five variables namely total international reserves (IR), economic growth (Econ), vulnerability to external shocks (Imp), real effective exchange rate (Reer) and trade openness (Topen). Total international reserves is the dependent variable and rest are independents. According to IMF balance of payments manual, international reserves are those external assets that are readily available to and controlled by monetary authorities for meeting balance of payments financing needs; intervention in exchange markets to affect the currency exchange rate; and other related purposes. We use the definition of international reserves suggested by International Financial Statistics. International reserves comprise of- (i) Gold (ii) foreign currency deposits of the monetary authority (iii) Reserve position in the IMF (iv) Special Drawing Rights. We exclude gold from international reserves for the purpose of our analysis for three reasons. First, gold accounts for only 3 per cent of world reserves holding when evaluated at 35 SDRs per ounce. Second, gold holdings of developing economies are negligible. Third, there is concern whether monetary authorities consider gold as liquid as international currency holdings. Generally, central banks regard gold as 'the lender of last resort'.

Economic growth plays a crucial role in the determination of total international reserves. Economic growth is captured by real gross domestic product (GDP) for estimation purpose. Vulnerability to external shocks (Imp) is captured by total import of goods and services divided by real GDP. real effective exchange rate are taken in their real term and trade openness is proxied by sum of total export and total import of goods and services divided by real GDPAll figures used in this study (chapter) are in current US dollar. Data for all variables are obtained from the International Monetary Fund's *international financial statistics,* World Development Indicators of the World Bank and the database of OECD countries.

We develop following model relating total international reserves to some macroeconomic variables for India:

IR = f(Econ, Imp, Reer, Topen) (1)

The explicit form of this model is represented as under:

$IR_t = \beta_0 + \beta_1 Econ_t + \beta_2 Imp_t + \beta_3 Reer_t + \beta_4 Topen_t + \varepsilon_t$ (2)

All the variables were transformed into their logarithmic forms. Transformation is to avoid the situation in which the residuals may reflect multiplicatively accumulating errors or not normally distributed.The logarithmic form of our model will be:

$Ln(IR)_t = \beta_0 + \beta_1 Ln(Econ)_t + \beta_2 Ln(Imp)_t + \beta_3 Ln(Reer)_t + \beta_4 Ln(Topen)_t + \varepsilon_t$ (3)

Where IR is total international reserves minus gold, Econ is economic growth proxied by real gdp, Imp is propensity to import proxied by total import of goods and services divided by real gdp, Reer is real effective exchange rate in real terms and Topen is trade openness captured by sum of total export and total import of goods and services divided by real gdp. All terms are taken in current US dollar.

6. RESULTS AND DISCUSSION

In experiential research on the data that is time series in nature, generally the problem of unit root or non-stationarity arises. We employed Augmented Dickey Fuller (ADF) and Phillips Perron (PP) test to check stationarity of all the variables under study. Non-stationarity causes the conventional tools of econometrics such as ordinary least square (OLS) and two stage least square (2SLS) inappropriate. To avoid this problem, the co-integration technique has been proposed by Engle and Granger (1987); Johansen and Juselius (1990, 1992). The restriction for co-integration analysis is that all variables should be non-stationary at level and become stationary of the same order. The unit root tests available in the literature may be employed to determine order of integration. The results obtained from the available tests may differ based on power of the tests. This may produce a bias in selecting the unit root test which gives the same order of integration for each variable in the system. Another problem may arise also i. e., the variables under consideration may be integrated of different orders, which leaves the co-integration techniques useless. To avoid this problem, Pesaran and Shin (1999); Pesaran, Shin & Smith (2001) proposed a bounds testing autoregressive distributed lag (ARDL) approach which does not consider the order of integration. The ARDL approach can be applied to test any long run relationship despite of whether the variables become stationary at the same or different order. If any long-run relationship is found among the variables, we can assess long-run coefficients and corresponding lagged error correction term to understand the long-run effect of the variables and the speed of adjustment.

To capture the speed of adjustment, we can write equation (3) in an error correction format as:

$$\Delta LnIR_t = \beta_0 + \sum_{i=1}^{m} \beta_1 \Delta LnIR_{t-i} + \sum_{i=0}^{m} \beta_2 \Delta LnEcon_{t-i} + \sum_{i=0}^{m} \beta_3 \Delta LnImp_{t-i} + \sum_{i=0}^{m} \beta_4 \Delta LnReer_{t-i} + \sum_{i=0}^{m} \beta_5 \Delta LnTopen_{t-i} + \beta_6 \varepsilon_{t-1} + \mu_t \qquad (4)$$

Pesaran, Shin & Smith (1999) develop a two step process to estimate equationn (3). First, the null hypothesis (H_0) of non-existence of long-run relationship among IR_t, $Econ_t$, Imp_t, $Reer_t$ & $Topen_t$ is defined by $H_0 : \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = 0$. The approximate critical values for the F-statistics are obtained from Pesaran et. al (2001). Rejection of null hypothesis implies that a long-run relationship among IR_t, $Econ_t$, Imp_t, $Reer_t$ & $Topen_t$ exists. The relevant t-statistics to test the null hypothesis are the well-known F-statistics with critical values calculated by Pesaran et. al (2001). To apply the ARDL process, we model equation (3) as follows:

$$\Delta LnIR_t = \alpha_0 + \sum_{i=1}^{p} \beta_i \Delta LnIR_{t-i} + \sum_{j=0}^{p} \gamma_j \Delta LnEcon_{t-j} + \sum_{k=0}^{p} \gamma_k \Delta LnImp_{t-k} + \sum_{l=0}^{p} \theta_l \Delta LnReer_{t-l} + \sum_{m=0}^{p} \psi_m \Delta LnTopen_{t-m} + \lambda_1 LnIR_{t-1} + \lambda_2 LnEcon_{t-1} + \lambda_3 LnImp_{t-1} + \lambda_4 LnReer_{t-1} + \lambda_5 LnTopen_{t-1} + \varepsilon_t \qquad (5)$$

Where, all variables are defined as before. Pesaran and Shin (1999); Pesaran et. al (2001) tabulated two sets of critical values. One set assumes all variables are I(1) and another assumes all variables are I(0). This provides a band covering all possible classifications of the variables into I(1) and I(0) or fractionally integrated. If the calculated F-statistic lies above the upper level of the band, the null is rejected indicating co-integration. If the calculated F statistic falls below the lower level of the band, the null cannot be rejected supporting lack of co-integration. If, however it falls within the band, the result is inconclusive.

7. FINDINGS

The findings of the study are provided as under:

7.1 UNIT ROOT TEST

In Table (1) we have presented Augmented Dickey Fuller (ADF) and Phillips Perron (PP) test statistics for all the variables. From the table we can see straightaway that based on these tests, Reer is stationary at level while the other four variables namely LnIR, LnEcon, LnImp, LnTopen are nonstationary at the same level showing the integration order of I(0) and I(1) respectively. These results restrict us from the use of the standard co-integration techniques developed by Engle & Granger (1987). In such case the ARDL bounds testing approach of Pesaran et. al (1999) is useful in testing for the long run relationships among the variables.

TABLE 1: UNIT ROOT TEST RESULTS

Variables	Augmented Dickey Fuller (ADF)		Phillips-Perron (PP)	
	Level	*1st difference*	*Level*	*1st difference*
LnIR	-1.13	-5.94***	-1.30	-5.94***
LnEcon	0.14	-3.32**	0.11	-4.78**
LnImp	-1.13	-3.13**	-1.54	-5.08***
LnReer	-3.36**	-7.82***	-2.86	-7.82**
LnTopen	-1.12	-3.11**	-1.41	-5.33***

*** and****** denotes significant at 1% and 5% level.

7.2 CO-INTEGRATION

The bounds test for co-integration involves the comparison of the F-statistics against the critical values, which are extracted from Pesaran, Shin & Smith (1999), as explained earlier. Using equation (3), each variable in our model equation (2) is taken as a dependent variable in the calculation of the F-statistics. The calculated F statistics are provided in Table 2.

When international reserves is the dependent variable for India, the calculated F-statistic F_{IR} (IR/Econ, Imp, Reer, Topen) = 4.21 is higher than the upper bound critical value of 4.01 at the 5% significance level. However, when the rest of the variables in the model are taken as a dependent variable, the calculated F-statistic is lower than the lower bound critical value (2.86) at the 5% level. This suggests that the null hypothesis of no co-integration cannot be accepted for India and that there exists a unique co-integration relationship between international reserves and its determinants. In other words, we have established that international reserves, economic growth, propensity to import, real effective exchange rate and trade openness are co-integrated only when international reserves is the dependent variable.

TABLE 2: F-STATISTICS FOR COINTEGRATION

k	90% level		95% level		99% level	
	I(0)	*I(1)*	*I(0)*	*I(1)*	*I(0)*	*I(1)*
4	2.45	3.52	2.86	4.01	3.74	5.06

Calculated F-statistics:
F_{IR} (IR/Econ, Imp, Reer, Topen) = 4.21
F_{Econ}(Econ/IR, Imp, Reer, Topen) = 1.69
F_{Imp}(Imp/Econ, IR, Reer, Topen) = 2.01
F_{Reer}(Reer/Econ, IR, Imp, Topen) = 2.53
F_{Topen}(Topen/Econ, IR, Reer, Imp) = 1.37

Note: Critical values are extracted from Pesaran, Shin & Smith (1999); k is number of regressors.

7.3. LONG RUN AND SHORT RUN ESTIMATES

Having found a long-run relationship between international reserves and its determinants when international reserves is the dependent variable, we now estimate the long-run elasticities based on specification (2). The long run results are presented in Table 3. The model shows theoretically correct signs for the explanatory variables. Our results suggest that all the regressors except real effective exchange rate have a statistically significant effect on total international reserves. Interestingly, total international reserves seem to be mainly determined by the propensity to import and trade openness. For instance, our results reveal that a 1 per cent increase in trade openness induce an increase in international reserves by around 5 per cent. Meanwhile, we find that a 1 per cent increase in economic growth leads to a 0.32 per cent increase in international reserves whereas 1 per cent increase in import deter 2.5 per cent in international reserves. Our results suggest that all the determinants under consideration significantly affect India's demand for international reserves.

TABLE 3: LONG RUN ESTIMATES *(Dependent variablelnIR$_t$)*

Regressors	Coefficient	t-statistics
Constant	14.80	3.41**
lnEcon$_t$	0.32	2.64**
lnImp$_t$	-2.50	-2.88**
lnReer$_t$	0.66	1.43
lnTopen$_t$	4.95	5.39***

*** and ****** denotes significant at 1% and 5% level.

We follow Akaike Information Criteria for the selection of lag length which is determined as lag two. The short run estimates are presented in Table 4. The error correction term, ECT$_{t-1}$ is negative and is significant at 5 per cent level, making certain that the series is non-explosive and that long-run equilibrium is attainable.

ECT_{t-1} measures the speed at which international reserves adjust to changes in the explanatory variables before converging to its equilibrium level. The coefficient being 0.07 suggests that convergence to equilibrium to international reserves is only 7 per cent each quarter i.e. around 28 per cent disequilibrium eliminated every year in India.

TABLE 4: SHORT RUN ESTIMATES (*Dependent variable$\Delta lnIR_t$*)

Regressors	Coefficient	t-statistics
Constant	3.56	1.28
$\Delta lnECON_{t-1}$	0.37	0.64
$\Delta lnECON_{t-2}$	1.54	2.64**
$\Delta lnIMP_{t-1}$	-0.90	-1.58
$\Delta lnREER_{t-1}$	0.20	0.79
$\Delta lnTOPEN_{t-1}$	1.28	2.49**
ECT_{t-1}	-0.07	-1.90**
R^2		0.20
Durbin-Watson statistic		1.97
F-statistic		4.45

*, ** and ******* denotes significant at 10%, 5% and 1% level.

Table 5 provides a number of diagnostic tests which the short run model was tested for, including, tests of autocorrelation, normality and heteroskedasticity in the error stability term, and stability. We found no evidence of autocorrelation in the disturbance of the error term. The RESET test indicates that the model is correctly specified while the F-statistic indicate the predictive power/accuracy of the model. However, the model fails the Jarque-Bera normality tests suggesting that the residuals are not normally distributed but given the significantly large sample size, we can still use the normal distribution of the estimates asymptotically by relying on the Central Limit Theorem (Theil 1978). Finally, the R^2 of 0.20 indicates that 20 per cent of the variation in international reserves is explained by the variables in the model. Hence, based on these statistical properties, it is reasonable to say that the model is well behaved.

TABLE 5: DIAGNOSTIC CHECKS

Test	Statistics	p-value	Conclusion
Lagrange multiplier testSerial Correlation	3.65	0.46	No serial correlation
BPG Heteroskedasticity Test	15.19	0.00	No heteroskedsticity
Ramsey RESET Test	0.68	0.41	No misspecification
Jarque-Bera Normality test	463.05	0.00	Not normal

8. CONCLUSION

The study employed the cointegration technique known as bounds testing method to test for a long run relationship among international reserves, propensity to imports, real effective exchange rate and trade openness for India. We find evidence of a cointegration relationship among the variables in international reserves demand function only when international reserves is the dependent variable at 5 per cent level of significance. This not only allows us to investigate the long run estimates but also the short run elasticities of India's demand for international reserves.

We find that trade openness has positive impact while propensity to import have negative on international reserves while real effective exchange rates show no significance in our model. These results are consistent with theory, are significant except real effective exchange rate and have plausible magnitudes. Our results suggest that trade openness and propensity to import determine India's demand for international reserves in the long run.

Our study reveals that existing patterns of growing trade openness and greater exposure to financial shocks by India go a long way towards accounting for observed accumulation of international reserves. This confirms that large holding of international reserves is the outcome of foreign trade and India accumulates large stockpiles of reserves mainly for precautionary purposes to avoid external shocks.

9. LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

- We do not consider the cost of accumulation of international reserves. Future research may include this variable to improve the results.
- Our study does not consider any significant effect of Asian financial crisis 1997 and global recession of 2008 on Indian economy.
- We do not employ any dummy variable for the crisis effect. Further research may be done by using the dummy.

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A STUDY ON CONFLICT MANAGEMENT STRATEGIES ADOPTED BY MOTOR PUMP SET INDUSTRIES WITH SPECIAL REFERENCE TO COIMBATORE CITY

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ABSTRACT

This project was undertaken to study the conflict management and strategies adopted in selected motor pump set industries of Coimbatore city. The aim is to study and describe the various aspects of conflict management strategies adopted by the employees and it is an attempt to find the perception towards conflict-handling intention. When people with different backgrounds, temperaments, and points of views, values, needs, personalities and attitude interact, it is likely that some type of conflict may arise. The conflict may also develop due to perceptual differences of an individual. When there is more than one person involving in an activity, it is very clear that there may be chances for conflicts among them. Conflict is inevitable and necessary for the growth of any organization though it is harmful sometimes. Conflict has considerable influence on employee behavior, performance and satisfaction. The attitude about conflict has changed overtime. Earlier, conflict was considered to be unnecessary and harmful. Now conflict is held to be inevitable and desirable.

KEYWORDS
conflict management, motor pump set industries.

INTRODUCTION

Among the four factors of production, man is the living being and the prior cause for the success of the organization than the other factors, so any organization consists of number of human resources who move towards achieving the organizational goals. Thus group effort is needed for the smooth running of any business. But when there is more than one person involving in an activity, it is very clear that there may be chances for conflicts among them. Conflict is inevitable and necessary for the growth of any organization though it is harmful sometimes is a conscious awareness of occurrences, unfair treatment, status incongruities and goal differences.

OBJECTIVES OF THE STUDY
1. To identify the factors that lead to conflict.
2. analyze the after effects of various conflict among the employees.
3. To analyze the various conflict resolving strategies.

RESEARCH METHODOLOGY
As the researcher aims to study and describe the various aspects of conflict management strategies adopted by the employees and also seek to find out the association if any with selected socio-demographic variables with regard to conflict management. Hence the researcher has adopted descriptive cum diagnostic research design. The data for the study were collected from the employees of Coimbatore city.

- **Research design**: The researcher aims at analyzing the conflict management strategies adopted by the Motor pump set industries of the Coimbatore City. Coimbatore is one of the leading manufacturer of the motor pump set in India. This is the reason for choosing this sector for the research.
- **Area of the study**: The research is undertaken in the Coimbatore City of Tamilnadu State. The study was done only with a selected number of industries.
- **Sample size**: The sample size used for the study is 80.
- **Statistical tools used**: To arrange and interpret the collected data the following statistical tools were used.
➢ Percentage Method
➢ Chi-Square
- **Period of the study**: The field work for the study was conducted during the period between January 2016 to March 2016. The researcher collected information directly from the employees. Register were used as a secondary source to obtain the no: of employees.
- **Hypothesis of the study**:
➢ Higher the adoption of solution oriented and non-confrontational strategies by the respondents higher will be their conflict management.
➢ There is a significant association between educational qualification of the respondents and overall-score of conflict management strategies.

LIMITATIONS OF THE STUDY
- The researcher has taken only limited employees for the study and so it cannot be generalized to all other cadres.
- The researcher has adopted Conflict management strategies and was unable to concentrate on solution job stress related areas

REVIEW OF LITERATURE
- Vigil & King (2000), observed that the use of integrated style of managing the conflict is likely to create better and higher commitment.
- According to Rahim (2002) Conflict management involves designing effective strategies to minimize the dysfunction of conflict and enhance the constructive function in order to optimize learning and effectiveness of an organization.
- Ford (2007) posited a four-way process which includes assessment & inquiry, design, implementation & evaluation aimed at achieving the decision at work place.
- Obi (2012), defined workplace conflict as the act of discontentment or contentment.

ANALYSIS & INTERPRETATION

TABLE 1: SHOWING THE RESPONDENTS DESIGNATION

Sl. No	Designation	No. of Respondents (N = 80)	%
1	Manager	10	12.5
2	Executive	40	50
3	Staff	30	37.5
4	TOTAL	80	100

The above table shows that the half of the respondents i.e. 50% comprises of executives and the other half includes managers (12.5%) and staffs (37.5%)

TABLE 2: SHOWING THE RESPONDENT'S DEPARTMENT

Sl. No.	Department	No. of Respondents (N =80)	%
1	Production	21	26.25
2	Finance	12	15
3	Marketing	20	25
4	Quality control	15	18.75
5	R&D	12	15
	Total	80	100

The table shows that 26.25% of respondents belongs to production department, 15% belongs to finance department, 25% belongs to marketing department, 18.75% belongs to quality control department and remaining 15% from R&D department.

TABLE 3: SHOWING THE RESPONDENT'S EDUCATIONAL QUALIFICATION

Sl. No.	Educational Qualification	No. of Respondents (N = 80)	%
1	UG	15	18.75
2	PG	31	38.75
3	Diploma	20	25
4	ITI	14	17.5
	TOTAL	80	100

The above table shows that majority of respondents (38.75%) have PG qualification, 25% has done Diploma, 18.75% have UG qualification and the remaining 17.5% is ITI.

CHI-SQUARE TEST

TABLE 4: TABLE SHOWING ASSOCIATION BETWEEN EDUCATIONAL QUALIFICATION OF THE RESPONDENTS AND THEIR CONFLICT MANAGEMENT STRATEGIES

Sl. No.	Educational Qualification	Strategies			X^2
		Low	Moderate	High	
1.	**Solution Orientation:** ITI Diploma UG PG	 8 9 7 3	 11 9 7 3	 3 7 3 3	6.17 Df = 6 P>0.05 Significant
2.	**Non confrontation** ITI Diploma UG PG	 6 10 12 6	 9 9 7 3	 4 7 3 4	4.255 f=6 P>0.05 Significant
3.	**Control** ITI Diploma UG PG	 7 11 10 8	 7 8 10 2	 3 8 2 4	6.382 Df=6 P>0.05 Significant
4.	**Conflict Management** ITI Diploma UG PG	 6 12 9 7	 6 9 9 2	 6 9 3 2	4.974 Df=6 P>0.05 Significant

The above table shows that there is a significant association between educational qualification of the respondents and solution oriented, non-confrontation, control dimensions of conflict management strategies and overall score.

FINDINGS

- 38.75% of the respondents have PG degree
- Half of the respondents (50%) are executives.
- 6.25% of the respondents are from Event management department.
- 17.5% of respondent's education qualification is ITI.
- Most of the respondents (38.3%) perceive moderate level conflict management strategies.

SUGGESTIONS

- Counseling programs can be organized to make the employees emotionally independent.
- The organization can implement programs like meditation, yoga and other recreation programs to their employees at different levels to reduce their job stress.
- Personality development programs must be given to the employees to attain uniqueness.

CONCLUSION

Conflict is a part of everyday life of an individual or of an organization. Conflict has considerable influence on employee behavior, performance and satisfaction. It also affects an organization's effectiveness. Conflict differs from competition. In competition one party does not try to frustrate the attempts of another, but it happens in conflict. Energizing conflicting parties, promoting change and increasing organization effectiveness are some of the positive consequences of conflict. Conflict is considered to harmful earlier, but now it is inevitable and desirable. so the conflict should be managed efficiently in an organization.

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LI-FI IS FUTURE TECHNOLOGY OF WIRELESS COMMUNICATION

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ABSTRACT

The purpose of the paper depicted that Light Fidelity Technology is more secure, reliable and efficient than Wi-Fi Technology. Li-Fi stands for Light-Fidelity. Li-Fi Technology, proposed by the German physicist—Harald Haas, provides transmission of data through illumination by sending data through an LED light bulb that varies in intensity faster than the human eye can follow. In this paper, the author will discuss the construction of Li-Fi, Design and working of Li-Fi, Recent advancement of Li-Fi, Comparison between Li-Fi and Wi-Fi. Further, the author will provide the advantages and application of Li-Fi in this modern era.

KEYWORDS
light fidelity, LED, wireless fidelity, radio waves, visible light communication.

INTRODUCTION

In the technology era, The new wireless communication technology Li-Fi that will be transmission data through lights .The current wireless networks that connect us to the internet are very slow when multiple device are connected. As the number of device that access the internet increase the fixed bandwidth available make its more and more difficult to enjoy high data transfer rate and connect secure a network.

Li-Fi transmission of data through illumination by taking the fibber out of fiber optic by sending data though an LED light bulb that various in intensity faster than the human eye can follow. Li-Fi comprises a wide range of frequencies and wave lengths, from the infrared through visible and down to the ultraviolet spectrum. It includes sub-gigabit and Giga bit class communication speeds for short medium and long ranges, and unidirectional and bidirectional data transfer using line of sight or sight or diffuse links, reflections and much more. Professor Harald Haas, the Chair of Mobile Communications at the University of Edinburgh, is recognized as the founder of Li-Fi. He coined the term Li-Fi and is the co-founder of pure Li-Fi. He gave a demonstration of a Li-Fi prototype at the TED Global conference in Edinburgh on 12th July 2011. He used a table lamp with an LED bulb to transmit a video of a blooming flower that was then projected onto a screen. During the talk, he periodically blocked the light from the lamp with his hand to show that the lamp was indeed the source of the video data. Li-Fi can be regarded as light-based Wi-Fi, i.e. instead of radio waves it uses light to transmit data. In his TED talk, Professor Haas highlighted the following key problems of Wi-Fi that need to be overcome in the near future:

1) Capacity: The radio waves used by Wi-Fi to transmit data are limited as well as expensive. With the development of 3G and 4G technologies, the amount of available spectrum is running out.

2) Efficiency: There are 1.4 million cellular radio masts worldwide. These masts consume massive amounts of energy, most of which is used for cooling the station rather than transmission of radio waves. In fact, the efficiency of such stations is only 5%.

3) Availability: Radio waves cannot be used in all environments, particularly in airplanes, chemical and power plants and in hospitals.

4) Security: Radio waves can penetrate through walls. This leads to many security concerns as they can be easily intercepted.

Li-Fi addresses the aforementioned issues with Wi-Fi as follows:

5) Capacity: The visible light spectrum is 10,000 times wider than the spectrum of radio waves. Additionally, the light sources are already installed. Hence Li-Fi has greater bandwidth and equipment which is already available.

6) Efficiency: LED lights consume less energy and are highly efficient.

7) Availability: Light sources are present in all corners of the world. Hence, availability is not an issue. The billions of light bulbs worldwide need only be replaced by LEDs.

8) Security: Light of course does not penetrate through walls and thus data transmission using light waves is more secure.

CONSTRUCTION OF Li-Fi SYSTEM

Li-Fi is a fast and cheap optical version of Wi-Fi. It is based on Visible Light Communication (VLC). VLC is a data communication medium, which uses visible light between 400 THz (780 nm) and 800 THz (375 nm) as optical carrier for data transmission and illumination. It uses fast pulses of light to transmit information wirelessly. The main components of Li-Fi system are as follows:

a) a high brightness white LED which acts as transmission source.

b) a silicon photodiode with good response to visible light as the receiving element.

LEDs can be switched on and off to generate digital strings of different combination of 1s and 0s. To generate a new data stream, data can be encoded in the light by varying the flickering rate of the LED. The LEDs can be used as a sender or source, by modulating the LED light with the data signal. The LED output appears constant to the human eye by virtue of the fast flickering rate of the LED. Communication rate greater than 100 Mbps is possible by using high speed LEDs with the help of various multiplexing techniques. VLC data rate can be increased by parallel data transmission using an array of LEDs where each LED transmits a different data stream. The Li-Fi emitter system consists of 4 primary subassemblies [1]:

a) Bulb

b) RF power amplifier circuit (PA)

c) Printed circuit board (PCB)

d) Enclosure

The PCB controls the electrical inputs and outputs of the lamp and houses the microcontroller used to manage different lamp functions.

A RF (radio-frequency) signal is generated by the solid-state PA and is guided into an electric field about the bulb. The high concentration of energy in the electric field vaporizes the contents of the bulb to a plasma state at the bulb's center; this controlled plasma generates an intense source of light. All of these subassemblies are contained in analuminum enclosure [1]. The bulb sub-assembly is the heart of the Li-Fi emitter. It consists of a sealed bulb which is embedded in a dielectric material. This design is more reliable than conventional light sources that insert degradable electrodes into the bulb [3]. The dielectric material serves two purposes. It acts as a waveguide for the RF energy transmitted by the PA. It also acts as an electric field concentrator that focuses energy in the bulb. The energy from

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the electric field rapidly heats the material in the bulb to a plasma state that emits light of high intensity and full spectrum [1]. Figure (1) shows the bulb sub-assembly.

FIGURE 1
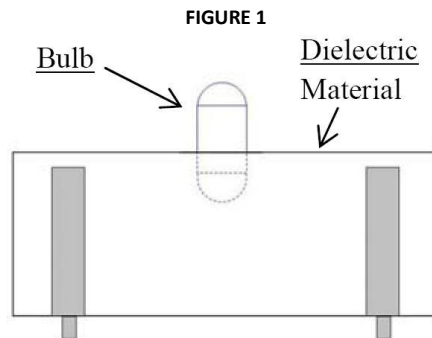
There are various inherent advantages of this approach which includes high brightness, excellent color quality and high luminous efficacy of the emitter – in the range of 150 ens per watt or greater. The structure is mechanically robust without typical degradation and failure mechanisms associated with tungsten electrodes and glass to metal seals, resulting in useful lamp life of 30,000+ hours. In addition, the unique combination of high temperature plasma and digitally controlled solid state electronics results in an economically produced family of lamps scalable in packages from 3,000 to over 100,000 lumens [2].

WORKING OF Li-Fi

A new generation of high brightness light-emitting diodes forms the core part of light fidelity technology. The logic is very simple. If the LED is on, a digital 1 is transmitted. If the LED is off, a digital 0 is transmitted.

These high brightness LEDs can be switched on and off very quickly which gives us a very nice opportunity for transmitting data through light [4]. The working of Li-Fi is very simple. There is a light emitter on one end, for example, an LED, and a photo detector (light sensor) on the other. The photo detector registers a binary one when the LED is on; and a binary zero if the LED is off. To build up a message, flash the LED numerous times or use an array of LEDs of perhaps a few different colors, to obtain data rates in the range of hundreds of megabits per second. The block diagram of Li-Fi system is shown in Fig. (2).

FIGURE 2

The data can be encoded in the light by varying the flickering rate at which the LEDs flicker on and off to generate different strings of 1s and 0s. The LED intensity is modulated so rapidly that human eye cannot notice, so the light of the LED appears constant to humans [5].

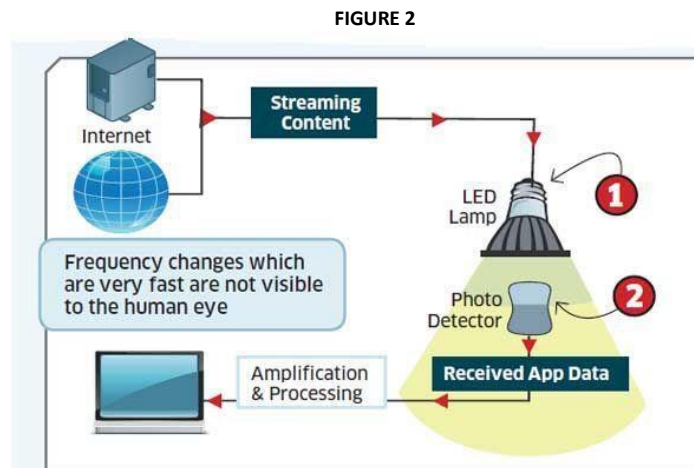Light-emitting diodes (commonly referred to as LEDs and found in traffic and street lights, car brake lights, remote control units and countless other applications) can be switched on and off faster than the human eye can detect, causing the light source to appear to be on continuously, even though it is in fact 'flickering'. The on-off activity of the bulb which seems to be invisible enables data transmission using binary codes: switching on an LED is a logical '1', switching it off is a logical '0'. By varying the rate at which the LEDs flicker on and off, information can be encoded in the light to different combinations of 1s and 0s. This method of using rapid pulses of light to transmit information wirelessly is technically referred to as Visible Light Communication (VLC), though it is popularly called as Li-Fi because it can compete with its radio-based rival Wi-Fi.

RECENT ADVANCEMENTS IN Li-Fi

Using a standard white-light LED, researchers at the Heinrich Hertz Institute in Berlin, Germany, have reached data rates of over 500 megabytes per second [7]. Using a pair of Casio smart phones, the technology was demonstrated at the 2012 Consumer Electronics Show in Las Vegas to exchange data using light of varying intensity given off from their screens, detectable at a distance of up to ten meters [7]. A consortium called Li-Fi Consortium' was formed in October 2011 by a group of companies and industry groups to promote high-speed optical wireless systems and overcome the limited amount of radio based wireless spectrum. According to the Li- Fi Consortium, it is possible to achieve more than 10 Gbps of speed, theoretically which would allow a high-definition film to be downloaded in just 30 seconds [7]. Researchers at the University of Strathclyde in Scotland have begun the task of bringing high-speed, ubiquitous, Li-Fi technology to market [6].

COMPARISON BETWEEN Li-Fi &Wi-Fi

Li-Fi is the name given to describe visible light communication Technology applied to obtain high speed wireless communication. It derived this name by virtue of the similarity to Wi-Fi. Wi-Fi works well for general wireless coverage within buildings, and Li-Fi is ideal for high density wireless data coverage inside a confined area or room and for relieving radio interference issues.

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FIGURE 3

Parameter	Li-Fi	Wi-Fi
Speed	***	***
Range	*	**
Data density	***	*
Security	***	**
Reliability	**	**
Power available	***	*
Transmit/receive power	***	**
Ecological impact	*	**
Device-to-device connectivity	***	***
Obstacle interference	***	*
Bill of materials	***	**
Market maturity	*	***

* low   ** medium   *** high

ADVANTAGES AND APPLICATION OF Li-Fi

A detailed discussion of its various advantages is given Below:

➢ A free band that does not need license.
➢ High installment cost but very low maintenance cost.
➢ Cheaper than Wi-Fi.
➢ Theoretical speed up to 1 GB per second: Less time & energy consumption.
➢ No more monthly broadband bills.
➢ Lower electricity costs.
➢ Longevity of LED bulb: saves money.
➢ Light doesn't penetrate through walls: secured access.

APPLICATION OF Li-Fi

(i) Medical and Healthcare-Due to concerns over radiation, operating rooms do not allow Wi-Fi and even though Wi-Fi is in place in several hospitals, interferences from computers and cell phones can block signals from medical and monitoring equipment. Li-Fi solves these problems. Lights are an essential part of operating rooms and Li-Fi can thus be used for modern medical instruments. Moreover, no electromagnetic interference is emitted by Li-Fi and thus it does not interfere with any medical instruments such as MRI scanners.

(ii) Airlines and Aviation-Wi-Fi is often prohibited in aircrafts. However, since aircrafts already contain multiple lights, thus Li-Fi can be used for data transmission.

FIGURE 4

(iii) Power Plants and Hazardous Environments-Wi-Fi is not suitable for sensitive areas like power plants. However, power plants still require fast and interconnected data systems for monitoring grid intensity, demand, temperature etc. In place of Wi-Fi, Li-Fi can provide safe connectivity throughout the power plant. Li-Fi offers a safe alternative to electromagnetic interference due to radio waves in environments such as petrochemical plants and mines.(8)

FIGURE 5

(iv) Underwater Explorations and Communications-Remotely operated underwater vehicles or ROVs work well except in situations when the tether is not long enough to fully explore an underwater area or when they get stuck. If instead of the wires, light was used then the ROVs would be freer to explore. With Li-Fi, the head lamps head lamps Could also then be used to communicate with each other, data processing and reporting findings back to the surface at regular intervals, while also receiving the next batch of instructions. Radio waves cannot be used in water due to strong signal absorption. Acoustic waves have low bandwidth and disrupt marine life. Li-Fi offers a solution for conducting short-range underwater communications.

(v) Traffic-Li-Fi can be used for communications between the LED lights of cars to reduce and prevent traffic accidents. LED headlights and tail-lights are being implemented for different cars. Traffic signals, signs and street lamps are all also transitioning to LED. With these LED lights in place, Li-Fi can be used for effective vehicle-to-vehicle as well as vehicle-to-signal communications. This would of course lead to increased traffic management and safety.

FIGURE 6
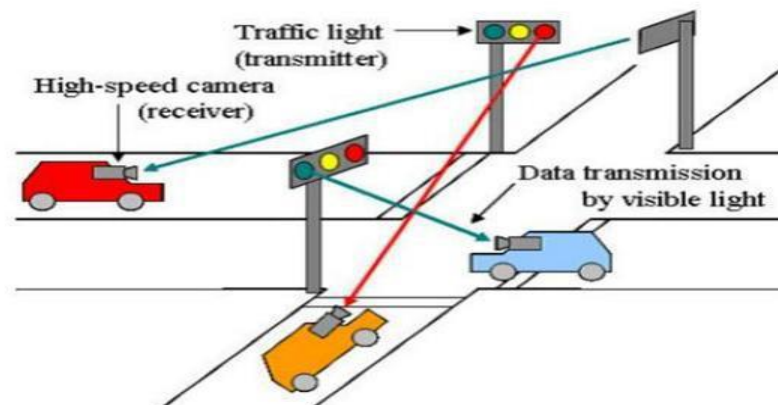
(vi) Giga Speed Technology -The Li-Fi Consortium provides the fastest wireless data transfer technology presently available. Our current solutions offer effective transmission rates of up to 10 Gbps, allowing a 2 hour HDTV film to be transferred in less than 30 seconds. This can be extended to several 100 Gbps in future versions

(vii) Smart Lighting- Street lamps can in the future be used to provide Li-Fi hotspots and can also be used to control and monitor lighting and data.

(viii) Mobile Connectivity-Laptops, tablets, smart phones and various other mobile devices can interconnect with each other using Li-Fi, much like they Inter connect today using Wi-Fi. These short range links provide very high data rates as well as increased security.

(ix) Toys-Several toys consist of LED lights and these can be utilized to implement low-cost communication in order to build interactive toys.

(x) RF Spectrum Relief- Li-Fi networks can be used to relieve the radio spectrum off of excessive capacity demands of cellular networks.

(xi) RF Avoidance- Li-Fi can be used as a solution to any situation in which hypersensitivity to radio frequencies is a problem and radio waves cannot be used for communication or data transfer.

(xii) Indoor Wireless Communication- Li-Fi is very well suited for indoor wireless communication and data transmission. Li-Fi makes use of a free, unlicensed spectrum and is not affected by RF noise. Moreover, most indoor locations would have a sufficient amount of light sources and provide additional security since Li-Fi as previously discussed cannot penetrate through walls.

(xiii) Retail Analytics - Li-Fi can find wide application in retail analytics. Most retail stores consist of a rich lighting environment comprising of abundant sources of light which may be utilized for Li-Fi. Li-Fi could be used to track the behaviour of individual shoppers. Since most customers nowadays possess smartphones, Li-Fi could be used to connect to these smartphones to link up the people, product and purchasing, and thereby greatly simplify the overall shopping process.

(xiv) Casinos- Like retail stores, casinos also have rich lighting environments which could be easily harnessed for Li-Fi, which can find application in the large amount of video monitoring equipment that most casinos employ.

(xv) Hidden Communications - Li-Fi is extremely useful for applications in which communications must be hidden. These involve various military and defense based communications as well as communications in hospitals.

(xvi) Line of Sight Applications - Li-Fi can also be used in situations where line of sight makes a difference, such as in vehicle to vehicle communication as previously discussed as well as in indoor GPS systems.

(xvii) Spatial Reuse - Li-Fi can act as an alternative in regions with high density wireless communication where 500 or more users may be contending for Wi-Fi. This would lead to low access speeds for the users. Li-Fi can be used to share some of the load of Wi-Fi.

(xviii) Smart Class- Li-Fi can find application in the new smart class technology which is quickly becoming imperative for progressive schools and colleges in the world. Using this technology, teachers show the class a 2D/3D animation on a large screen. They can explain different topics, zoom in to show the important details and freeze and annotate for appropriate emphasis. Through engaging animations, colours and sounds, the teachers gain the full attention of every child in the class. Each child gets visual input on what, where, when and how anything happens and the concepts are well understood. In this technology all the computers are connected to the server using wired LAN technology. The physical transmission medium for wired LAN involves cables, either twisted pair or fiber optics.

(xix) Disaster management- Li-Fi can be used as a powerful means of communication in times of disaster such as earthquake or hurricanes. The average people may not know the protocols during such disasters. Subway stations and tunnels, common dead zones for most emergency Communications, pose no obstruction for Li-Fi [1]. Also, for normal Periods, Li-Fi bulbs could provide cheap high-speed Web access to every street corner.

(xx) Replacement for other technologies - Li-Fi doesn't work using radio waves. So, it can be easily used in the places where Bluetooth, infrared, Wi-Fi, etc. are banned.

LIMITATIONS OF Li-Fi

- The main problem is that light cannot pass through objects, so if the receiver is inadvertently blocked in any way, then the signal will immediately be cut out. If the light signal is blocked on Could switch back over to radio waves.
- High installation cost of the systems can be complemented by large-scale implementation of VLC though adopting this technology will reduce further operating costs like electricity Charges, maintenance charges etc.
- Reliability and network coverage are the major issues to be considered by the companies while providing VLC services. Interference from external light sources like sunlight, normal bulbs; and opaque materials in the path of transmission will cause interruption in the communication.

CONCLUSIONS

If LI-FI technology can be put into practical use, every bulb used to transmit a data and will lead toward the cleaner, greener, safer and brighter future. LI-FI may solve issues such as the shortage of radio-frequency bandwidth and is aimed at creating new communication channels with the use of existing equipment. Currently, the LI-FI concept is attracting a great deal of interest, because it provides an authentic and very efficient alternative to wireless device which used radio spectrum.

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A STUDY OF BEHAVIOR ON INFORMATION SYSTEM IN A UNIVERSITY CAMPUS BY ANALYSIS OF PEOPLE MOBILITY

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ABSTRACT
Wireless Local Area Networks (WLAN) are mostly used in various standard universities in the world. A WLAN links two or more devices using some wireless distribution method and usually provides a connection through an Access Point (AP) to the wider internet. This enables the users to move around within the university campus and still be connected to the WLANs. WLANs have become popular due to the ease of installation and the increase of Laptop users. Making use of Wireless Distribution System (WDS) many benefits can be obtained. This is a system that enables wireless interconnection of access points in an IEEE 802.11 network. It allows a wireless network to be expanded using multiple APs. WDS preserves the MAC addresses of client packets across links between various APs. This proposed WDS approach provides the information about where the most number of users are using the same APs that leads to congestion. Furthermore, this WDS also gives best solution for the Congestion.

KEYWORDS
users mobility, WLANs, congestion, wireless network.

INTRODUCTION
Wireless Local Area Networks are widely used in Universities, Governments etc. This wireless networks are usually based on the IEEE 802.11 standards. This is a set of standards carrying out wireless local area network (WLAN) computer communication in the 2.4, 3.6 and 5 GHz frequency bands. They are created and maintained by the IEEE LAN/MAN Standards Committee (IEEE 802).

WLANs have advantages and disadvantages when compared with wired LANs. A WLAN makes it simple to add or move workstations and to install access points to provide connectivity in areas where it is difficult to lay cable. Temporary or semi-permanent buildings that are in range of an access point can be wirelessly connected to a LAN to give these buildings connectivity. Wired network points would be needed for each of the access points.

A WLAN has some specific advantages:
- It is easier to add or move workstations.
- It is easier to provide connectivity in areas where it is difficult to lay cable.
- Installation is fast and easy, and it can eliminate the need to pull cable through walls and ceilings.
- Although the initial investment required for WLAN hardware can be similar to the cost of wired LAN hardware, installation expenses can be significantly lower.
- When a facility is located on more than one site (such as on two sides of a road), a directional antenna can be used to avoid digging trenches under roads to connect the sites.
- In historic buildings where traditional cabling would compromise the façade, a WLAN can avoid the need to drill holes in walls.

WLANs also have some disadvantages:
- As the number of computers using the network increases, the data transfer rate to each computer will decrease accordingly.
- Security is more difficult to guarantee and requires configuration.
- Devices will only operate at a limited distance from an access point.
- A wired LAN is most likely to be required to provide a backbone to the WLAN; a WLAN should be a supplement to a wired LAN and not a complete solution.

Wireless technology is used in the transportation and shipping industry. The automated vehicle location system uses this technology through a combination of satellite and landline systems coupled with the Internet. The other applications of this system is in the applications of wireless VOIP, wireless IPTV etc.

In this paper, we have used the data obtained from WLAN so as to study the mobility of the users. This information can be used to know how many users are likely to be at a place and in a specific period of time. This status about the current situation is sent to the users as a message by using the information system thereby reducing congestion of users at a place.

Further this paper is categorized as follows. We discuss about the Related Work and our proposed system approach. We elaborate the Wireless Distribution System, where our university layout and the usage of APs by the users are discussed. People Mobility Tracking shows the implementation part. We use NodeXL tool which is a template for Excel 2007 and 2010 that lets you enter a network edge list, and see the network graph, in the Excel window. This is followed by our Information System that interprets MAC address to IP addresses and sends information to the end users about the current status of population in an area.

RELATED WORK
Related to our title of people mobility and tracking some of them are of the following. In [2], B. Issac et al. presented a predictive mobility management system which could make mobility on an IEEE 802.11 network more proactive with minimum loss and delay, when compared to existing schemes. Their proposal is focused on WLAN installations within a restricted campus and to predict the mobility path of a mobile node and use that information to lessen the handoff delay.

A wireless indoor tracking system, based purely in software because no additional hardware and costs are required, is described in [10]. It can be used to track and locate both moving and static WLAN-enabled devices inside a building. The system uses complex mathematic algorithms and determines the locations of the mobile devices according to the received signal strength from visible access points. The AP author categorizes the WLAN-based location determination algorithms, into two groups: deterministic and probabilistic algorithms. Finally, he concludes the paper making some reflections about the number of APs and their correct localization in order to obtain reliable results, among other things.

The Authors in [11] have presented a user mobility study based on the roaming of the MACs in WLAN of the "Universidad politenica of Valencia". They have studied the buildings with higher mobility in the campus. SNMP agent is activated in all APs. Everytime a MAC address is registered to an AP, it sends a SNMP trap message to a central server which is stored in a database and then analyzed. The data of total no. of registered users in a day and in a month is collected from the central server. This analysis presents the maximum amount of roaming of users between buildings. This study recommends the relocation of bandwidth scenarios to increase the comfort of the end user. According to the user mobility, the system will be giving more bandwidth in the areas where there are more users.

WIRELESS DISTRIBUTION SYSTEM (WDS)

A Wireless Distribution System (WDS) is a system that enables the wireless interconnection of access points in an IEEE 802.11 network. It allows a wireless network to be expanded using multiple access points without the need for a wired backbone to link them, as is traditionally required. The notable advantage of WDS over other solutions is that it preserves the MAC addresses of client frames across links between access points.

VIT University is distributed on two campuses. One of them is located in Vellore and contains about 75% of the students and staff of the University. There are around 725 faculties, 795 Administrative and Technical staffs and around 13500 students among the two campuses. These campuses are equipped with wireless IEEE802.11 b/g network. It has about 300 access points to have full coverage. Vellore Campus has 245 access points and Chennai campus has 55 access points. The distribution of APs in Vellore campus is: 30 APs are in Main Building (MB), 25 APs are in Sir. M. Visweswaraya block (SMV), 50 APs are in Technology Tower (TT), 75 APs are in Silver Jubilee Tower (SJT), 50 APs are in GD Naidu Block (GDN), 10 APs are in Guest House (GH) and 5 APs are in Food Court. These APs are installed to allow the users to freely roam around the campus. For indoor environments, APs coverage area varies between 30 m at 54 Mbps and 137m at 1 Mbps.

FIGURE 1: THE LAYOUT OF CAMPUS
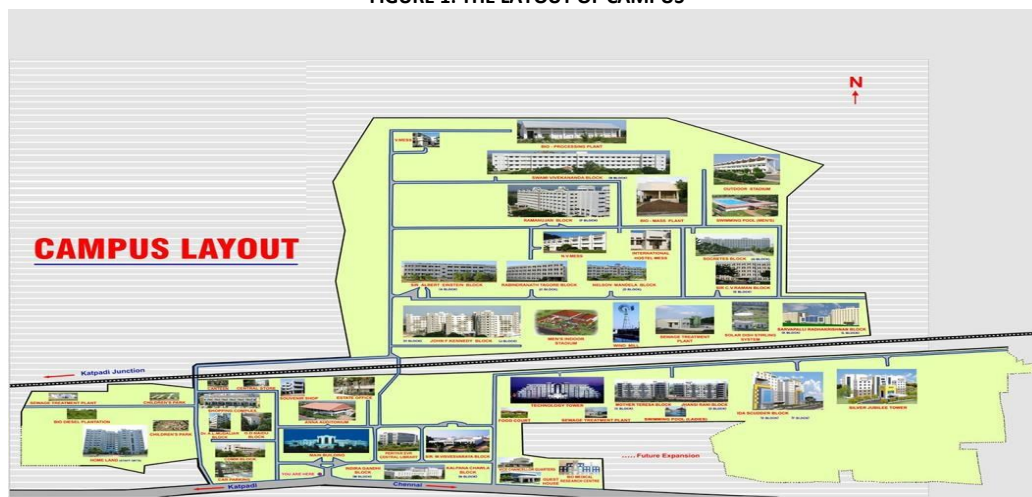
PEOPLE MOBILITY TRACKING

The mobility tracking involves analysis of registered MACs in a building. This study helps in relocating some schools, staff rooms, labs and cafeteria in order to release over traffic of users in an area. This helps in construction of new university with effective mobility ease. In this section we discuss about the measurements and parameters involved in the analysis.

TABLE 1: MAC ADDRESSES WITH ITS RELEVANT IP ADDRESS

S. No.	MAC ADDRESS	IP ADDRESS
1	00-1C-BF-10-E9-67	192.168.145.13
2	00-1C-BF-10-BE-AE	192.168.145.14
3	00-1C-BF-11-38-47	192.168.145.21
4	00-1C-BF-11-2F-31	192.168.145.25
5	00-1C-BF-10-DD-EA	192.168.145.27
6	00-1C-BF-11-52-51	192.168.145.31
7	00-1C-BF-10-B6-8C	192.168.145.36
8	00-1C-BF-11-47-E8	192.168.145.40
9	C0-CB-38-26-C3-94	192.168.145.42
10	00-1C-BF-11-3C-2B	192.168.145.43

TABLE 2: BUILDING PEOPLE REGISTERED IN A DAY

S. No.	Building	No. of systems registered
1	Main Building	3501
2	Sir.M. isweswaraya block	2562
3	Technology Tower	1457
4	SilverJubilee Tower	4214
5	G.D Naidu Block	2562
6	Guest House	15
7	Food Court	525
	Total	14836

ONLINE MOBILITY TRACKING INFORMATION SYSTEM

The online mobility tracking system is based on the no. of systems registered in an AP. AP sends the SNMP trap message to the central server that controls all APs. The MAC addresses registered in an AP is traced out in the server. At an instant, the no. of users registered in all APs in the university is collected and are categorized

based on building names. With this data the total no. of users registered in all buildings are computed and the building with maximum population is found. This message of building with maximum population is conveyed to all users or to a particular user from the central server by using NET SEND command.

To send a message to a particular user who is connected to the network at that instant, we use IPscanner tool. This tool confirms the systems which is live within the coverage area of APs. Message is sent to a particular system by having either the hostname or IP.

FIGURE 2: MESSAGE TO THE USERS
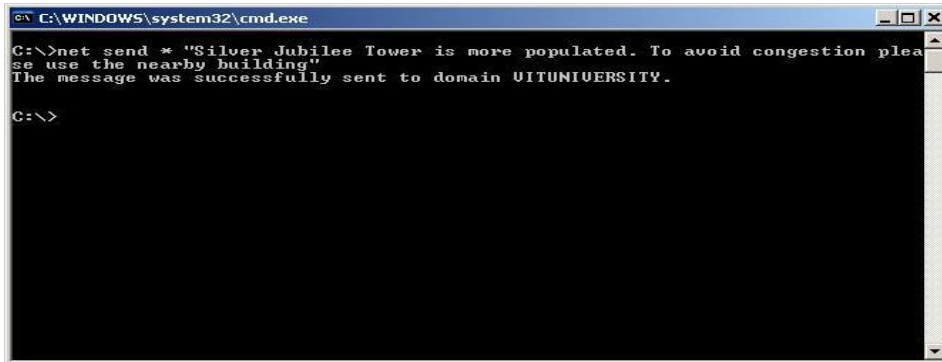
FIGURE 3: IP SCANNER TOOL

In order to analyze the data, we have used a spreadsheet Excel 2007 with NodeXL tool. NodeXL is an extensible tool kit for network overview, discovery and exploration. The core of NodeXL is a special Excel 2007 workbook template that structures data for network analysis and visualization. Five main worksheets currently form the template. There are worksheets for Edges, Vertices, Groups, Group Vertices and Overall Metrics. NodeXL supports analysis and visualization of network data easier by combining common analysis and visualization functions with the familiar spreadsheet paradigm for data handling.

FIGURE 4: NodeXL TOOL
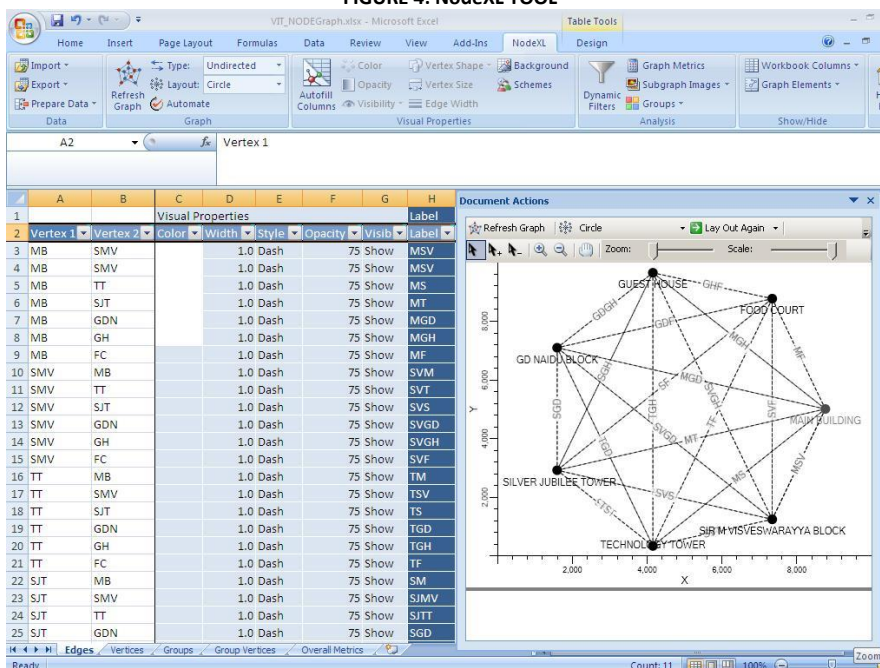
CONCLUSION

The present study has shown that users congestion can be avoided, thereby eliminating the problem of over load in WLAN network usage. We have studied the roaming behavior of people inside the campus between the buildings. Using the obtained data, we have analyzed the behavior of users in the campus. This lets us relocate the bandwidth scenarios to increase the comfort of the faculty staffs and students. According to the proposed system the users can be relocated to the networks where there is less bandwidth usage to enjoy the better performance.

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A STUDY OF INTERNET VOTING FOR THE ELECTIONS OF UNIVERSITIES IN SRI LANKA

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ABSTRACT

Most institutions of higher learning such as universities and colleges world over provide for an electioneering process where students elect their union leaders in a democratic manner. This is of great importance as it inculcates the principle of democracy into the students who are at the peak of their learning stage and would need these skills for better statesmanship. In the past, people go to polling place and take the blank ballots, then punch a hole or append the seal. If the seal is not clear enough, or the vote is damaged by soiling, it may bring some debate on the result. In order to resolve these situations, the technology of electronic voting (E-voting) comes into existence. Proper management therefore is called for to provide fool proof processes which can be termed as free and fair in the standards of universal democracy and employment of Information Technology (IT) is a sure way to realize this. This research carried out at USJP (University of Sri Jayeward-enepura) and the process undertaken to achieve development and deployment of a web based system to promote free and fair democratic electioneering process: computerizing registration, voting and tallying process involved. The system was developed using the incremental prototyping due to the adaptive nature of web based applications and the system proved that a computerized solution is possible with elimination of human related faults that are a commonplace in employment of human clerks to manage the election process. Integration with short message service (SMS) functionalities helped increase safety and reliability of the system. Application of the online voting has resulted in many advantages in the efficiency of the entire electioneering process and reduced costs the university used to incur using the human clerk.

KEYWORDS
ballot, cast E-voting, vote,

I.   INTRODUCTION

I n a true democracy, elections are the basis for the nation functions healthy. Also this is similar to the university council elections. As the elections are hold frequently, the costs of voting are increasing geometrically. In order to save human resource and time, the current trend is using information technology (IT) on elections.

The USJP council members had not used IT for their elections still. But they identify integrated IT to satisfy the characteristic of election such as uniqueness, accuracy, completeness, verifiability and privacy. Not only that with IT, can simplify the traditional electoral procedures and saving the cost of human resource and time. In addition, use the touch screen panel to be the input interface with accessibility, and it can decrease the learning difficulty when the voters are instructed in how to use the new system.

Recent years the issues of combining voting with IT have developed into two directions. The former one is E-voting, which is voting on the particular machine in the fixed position; the latter is internet voting (I-voting), which is voting on the internet without limiting people in the polling station but needs higher level of security. Therefore, identifying deference between these two methods developed this system. Because using this system and can save their valuable time (Time is the very important factor for university students), reduce paper cost, increase accuracy, and improve students' attention and attraction.

II.   LITERATURE REVIEW

David Chaum[7] addressed the concepts of untraceable electronic mail and digital pseudonyms, which can apply for electronic voting for anonymity. In order to reduce the cost of human and material, moreover, to enhance the convenience in the task of polling, E-voting has taken the place of traditional voting in a considerable number of countries over the past few years. In this section, my aim to review literature consider relevant to E-voting.

EVALUATION OF VOTING EQUIPMENT

In the recent years, voting equipments which were widely adopted may be divided into five types[8]:

(1)   Paper-based voting: The voter gets a blank ballot and use a pen or a marker to indicate he want to vote for which candidate. Hand-counted ballots is a time and labor consuming process, but it is easy to manufacture paper ballots and the ballots can be retained for verifying, this type is still the most common way to vote.

(2)   Lever voting machine: Lever machine is peculiar equipment, and each lever is assigned for a corresponding candidate. The voter pulls the lever to poll for his favorite candidate. This kind of voting machine can count up the ballots automatically. Because its interface is not user-friendly enough, giving some training to voters is necessary.

(3)   Direct recording electronic (DRE) voting machine: This type, which is abbreviated to DRE, integrates with keyboard; touch screen, or buttons for the voter press to poll. Some of them lay in voting records and counting the votes is very quickly. But the other DRE without keep voting records are doubted about its accuracy.

(4)   Punch card: The voter uses metallic hole-punch to punch a hole on the blank ballot. It can count votes automatically, but if the voter's perforation is incomplete, the result is probably determined wrongfully.

(5)   Optical voting machine: After each voter fills a circle correspond to their favorite candidate on the blank ballot, this machine selects the darkest mark on each ballot for the vote then computes the total result. This kind of machine counts up ballots rapidly. However, if the voter fills over the circle, it will lead to the error result of optical-scan.

EFFECTIVENESS OF E-VOTING AMONG DIFFERENT COUNTRIES

Recent years, a considerable number of countries has adopted E-voting for their official elections. In this section, some empirical examples are enumerated as following.

(1)   America: Government of the United States hold election collaterally in several ways, in other words, each state can choose the suitable way to hold elections independently. Because there are some debates about E-voting, such as some vote casts were not counted, or election system crashed during the Election Day. Secretary of State Kevin Shelley established an "Ad Hoc Touch Screen Task Force" to research the debates on DRE in February 2003[9]. Shelly advanced that DRE should include voter verifiable paper audit trails (VVPAT) to solve electoral debates.

(2)   India: Elections in India are conducted almost exclusively using electronic voting machines developed over the past two decades by a pair of government-owned companies. One is Electronics Corporation of India (ECIL) and other one is Bharat Electronics Limited (BEL). Their Electronic Voting Machines ("EVM") are being used in Indian General and State Elections to implement electronic voting in part from 1999 elections and in total since 2004 elections. The EVMs reduce the time in both casting a vote and declaring the results compared to the old paper ballot system. However, EVMs have been under a cloud of suspicion over their alleged tamping arability and security problems during elections (especially after the 2009 general elections). After rulings of Delhi High Court, Supreme Court and demands from various political parties, Election Commission decided to introduce EVMs with Voter-verified paper audit trail (VVPAT) system.

(3) Japan: Japan adopted E-voting for local election in 2002, such as mayor and councilor election of Niimi city in Okayama prefecture in June 23, 2002; mayor election of Hiroshima city in February 02, 2003; and mayor election of Kyoto city in February 08, 2004. Take mayor and councilor election of Niimi city for example, electoral center surveyed the voters' reliability when the election finished. There are 83% of voters considered that E-voting system is trusted. 56% of them considered that the results of E-voting and paper-based voting are the same therefore E-voting is sufficient for reliable. The reasons why voters can't trust the E-voting system are voters worried about the abuses in E-voting system, and they cannot make sure their ballot are recorded correctly.

(4) Belgium: Election for the Federal Parliament is held in May 18, 2003. In order to assist voters in being familiar with E-voting system, electoral center held short-term training. Counting efficiency in the election with E-voting system was faster than convention. Belgium's compulsory voting system and E-voting complement each other, voters' satisfaction and attending willingness of join voting are improved obviously.

(5) Brazil: Brazil used E-voting in 1998. When the voter reaches the polling place, he shows his identity card for authenticating; if he is an eligible voter, he can get the ballot for E-voting. Brazil's E-voting system transmits votes to electoral center immediately, so that the count of votes can announce rapidly while the voting finished.

COMPARISON OF E-VOTING SYSTEM

Besides many vendors to develop and sell commercial electronic election machines, there are various open source E-voting systems. I cite some examples as following [6, 1]:

(1) AccuVote-TS: AccuVote-TS's vendor is Diebold Election Systems. This system includes touch screen, card reader, keyboard, headphone, and paper tape printer. The voter selects his favorite candidate on touch screen, and the vote will be printed on the paper tape. Its design balances the policy, electoral procedure and technology. But all the electoral information (including identity authentication, audit, or counting of votes) are stored in Microsoft Access database without setting password so there are high risks of attack.

(2) iVotronic: The vendor of iVotronic is Election Systems and Software (ES&S). iVotronic provides multi-language, and uses flash memory to save voting records. Electoral workers use PEB (Personal Electronic Ballot, a device which is similar to disk) to start polling machine up. When the election is finished, the workers use PEB to access voting records in the polling machine, then delivers PEB to electoral center or transmits data from network. Because the PEB's password is only three characters, the risk of password breaking exists. This system has made mistake in the past elections, such as the number of voters is not corresponding between master server and backup server, the candidate selected on the ballot is not the voter's selection, and so forth.

(3) eSlate 3000: Hart InterCivic invented eSlate 3000. The voter gets a personal identity number (PIN) as four digits from electoral workers, then goes to the booth to input the PIN into polling machine to login. He can rotate selector wheel to select the candidate whom he wants to poll for. Each terminal connects to the server which is named JBC (Judges Booth Controller). Counting of votes will send to JBC from every terminal by network, then save it in MBB (Mobile Ballot Box). This system doesn't encrypt voting data, so there are some risks of data security. Furthermore, the electoral functions are not protected with password, anyone, even the voter, can finish the election.

(4) AVC Edge: AVC Edge is a multi-language polling machine which is manufactured from Sequoia Voting Systems. This machine includes touch screen and flash memory for saving voting recorded, and its electoral procedure is similar to a foregoing E-voting machine, Accu Vote-TS. There were some stumbles when this machine operated in the elections. For example, the E-voting system crashes when the user chose language; the counting of votes is not correct; and the ballot became blank because of the system breakdown.

(5) SAVIOC: SAVIOC is an open source E-voting system and all the source code and software can download from its official website [4, 5]. This system is written in C language, and it can be saved in disk with voting system and all the source code and software can download from its official website [8, 9]. This system is written in C language, and it can be saved in disk with Free DOS. This system operates from disk, so hard disk is not necessary and the discarded computer is enough. This system is not connected to any networks and most of keys on the keyboard are disabled, attackers can't find the way to invade. SAVIOC's advantages are its simple disposition and low cost, but on the other hand, there are short of GUI and ease of use on SAVIOC.

III.   NEED/IMPORTANCE OF THE STUDY

Proposed system is supposed to provide convenient and easily manageable system for the election process of student's council in Sri Jayewardenepura University. This is providing convenience to the voter and possible to reduce waiting time in queues at election centers. Also result can provide instantly at the end of the election.

IV.   STATEMENT OF THE PROBLEM

Manual voting system has been deployed for many years in our university. In Traditional elections process, voter goes to the voting station and casting vote. After completing verification of particular voter, he/she is allowed to vote. The voter is then given a ballot which allows a single vote. Once the ballot is used, it cannot be used again. However, this ballot must also be anonymous. The ballot must identify the voter as being permitted to vote, but not reveal their actual identity, and the voter must also be given assurances of this. In the university has 10000 students enrolled in the diverse fields in various faculties and departments of study. Student Union elections within the university had been faced with many challenges given variations in reporting time and academic year cycles as leading the list of challenges. This made fixing a specific date for elections a challenge as no single semester would suit all the students. Moreover, the all students cannot attend the voting because of several reasons and students are faced with problems during voting. So there is a need of a contemporary online election voting system that contributes to the development of the university's democracy in addition to classical voting system.

V.   OBJECTIVES

The objectives of the study are:

- Investigate the user preference for a web based voting portal
- Provide comfortable and easy way to manage and monitor the entire election process from a computer based interface
- Provide online voting facility, automatically process the result at the end of election, summarized and detailed reports and votes distribution Report among candidates
- Reduce/Avoid number of Invalid cast, election corruption at the vote casting stage and vote counting stage and counting effort and associated cost

VI.   RESEARCH METHODOLOGY

Throughout this research, it is desired to provide high secure, easily accessible and highly accurate online voting system to the student council of the university. This is a web based system. The administrator adds students, remove students, and disqualify students due to election rules violation. In the voter registration process, the system administrator fed student's details in to system including name, registration number, academic year and NIC. Then system will issue a password for log in to system for the casting and voter will receive an email or SMS confirmation. There is another login page and the system generated user name and pass code for that. This is the process for validate the voter and ensure the vote is done by the desired voter. This second username and pass code is generated by the system and email/SMS to each and every voter after the first login. Successfully cast the vote, automatically logging out process required to avoid corruption. If someone try to log using already casted logging details, system should provide warning and should not be able to log for the system. At the end of the casting period, each and every candidate's vote count, vote distribution among candidates, total number of voters, each and every voter's preference should be provide as a report and distribution should be graphically visualized. The result should be sent to the each and every voter and to candidate through an e mail/SMS.

VII.   RESULTS & DISCUSSION

When a ballot is added to an election, the format of the vote for that ballot is derived from the key size chosen for the election and the number of "candidate" choices on the ballot. These two values determine the maximum number of voters allowed. The total size of the vote is limited to the key size k (in bits). The vote is split into c bit fields where c is the number of candidates. The size of the bit fields $v_c=k/c$. However, v_c is limited to 32 bits so that each candidate's field will fit into a 32-bit integer (for ease of extraction only). Therefore, if $k/c > 32$, $v_c=32$ and only the first $32*c$ bits of the vote will be used. To cast a vote, a voter votes the value $2^{\wedge}(i_c*v_c)$ where i_c is the desired candidates ballot index (0, c-1). By using votes of this format, the tally can be computed by multiplying all of the votes together and decrypting the product.

Once an election has been created, saved, and posted to the election web service, voters can create and cast votes. After the user login page user logs in either as an Administrator or a voter. If the user logs in as an Administrator, he will have a link from the menu for the voting page. If the user has logged in with voter credentials, then he will be connected to the voting page automatically. When connected to the voting page, a list box will have all the elections available for the voters. This list is the list of the elections in the elections folder. After highlighting the election and clicking to the button to load the election, election details will be loaded for voters to vote. The ballots from the election will be loaded, with each issue being loaded into the issue text box, and its corresponding choices loaded into the textbox to the right (the choices textbox). The voter can make his/her choice simply by clicking on the desired choice. That issue's choices will then be displayed in the choices textbox. Again, select the desired choice by clicking on it in the choices textbox. Once a choice has been selected, the ballot issue and the selected choice will appear in the "Current Votes" textbox. To the right of the issue question and the selected choice is the hex value of the vote to be cast. Once all choices have been made, the voter can submit his/her vote by selecting "Submit Vote" button at the bottom of the page. This button will call the web services and save the vote into the database. Once the vote is submitted, no changes can be made.

VIII.   FINDINGS

In the past, student council use paper based voting method for their election. In 2012 they had conducted an election to select the president for their council. At that time 7200 students were there as the voters and 6 students were registered as the candidates. Those students came from 30 departments of 4 faculties. But all students didn't use their votes.

TABLE 1

Year	All voters	Casted Votes	Not Casted	Rejected
2012	7200	4400	2800	120
2009	6400	5180	2020	241
2006	5000	3910	1090	310

STRENGTHS AND WEAKNESSES OF THE SYSTEM
Strengths
- Faster vote count and tabulation
- More accurate results as human error is excluded
- Efficient handling of complicated electoral systems formulae that require laborious counting procedures.
- Potentially increased participation and turnout, particularly with the use of Internet voting.
- More attuned to the needs of an increasingly mobile society.
- Increased accessibility, for example by audio ballot papers for blind voters, with Internet voting as well for housebound voters and voters from abroad.

Weaknesses
- Limited openness and understanding of the system for non-experts.
- Lack of agreed standards for e-voting systems.
- System certification required, but no widely agreed standards for certification.
- Potential violation of the secrecy of the vote, especially in systems that perform both

IX.   RECOMMENDATIONS/SUGGESTIONS

According to that data Internet voting is useful than the paper based voting. Because of at the internet voting, we can store every data. Not only that, paper based election takes very huge cost for everything of the elections. With wasting time and want to huge space for the paper based election. But internet voting is very easily used and manages

X.   CONCLUSIONS

In the past, people go to polling place and take the blank ballots, then punch a hole or append the seal. If the seal is not clear enough, or the vote is damaged by soiling, it may bring some debate on the result. In order to resolve these situations, the technology of electronic voting (e-voting) comes into existence. By using information technology, E-voting system can cast and count votes with higher convenience and efficiency, even make the electoral procedures simple and reduce the mistake rate of ballot examination. Due to construct an E-voting system with practical utility, at first, I compared many E-voting systems clarify the existing problem.

Over the years, the scholars are addressed their concept of e-voting, they integrated information technology to satisfy the characteristic of election such as uniqueness, accuracy, completeness, verifiability, privacy, and enforceability. But most of these researches focused on designing encryption algorithm, a usable and applicable implementation is rarely.

In this project, I have described the specification and architecture of an Internet Voting System with Identifying some benefits and faults. In the election period as a voter or as candidate, students have very workload. So they have not enough time to their studies. Another one is their cost is increasing. I think Internet voting system is a very best answer for that. But there are many problems. Because all student has not enough knowledge about develop the voting system and how we use it. In addition, various fault-tolerance and security issues are delegated to the platform itself, therefore relieving the application designer from accommodating these features in the application design itself. This approach allows for the easy development and deployment of applications.

The most pressing question facing the authors is the extent to which electronic elections will face legal scrutiny in the future. We have evaluated the concept of an electronic election to be both constitutional and compatible with federal laws. Therefore, we find that a constitutionality claim is unlikely if the election is properly implemented. I feel that such authentication is inherently flawed, at least for the purpose of ensuring anonymity, and that it is unlikely at the current time to create any authentication system that does not provide a cause of action if such a system depends solely on Internet-based methods.

What, then, is the future of electronic voting? Despite claims of discrimination and security hazards, the future is bright. Clearly, initial attempts at electronic voting will need to be paralleled with traditional methods, both for the sake of allowing voters maximum access, and for providing a backup in case of technical error. However, it is likely that ultimately advances in technology and legal precedent gained over the course of a "trial period" will pave a more explicit legal path for electronic elections to follow.

XI.   LIMITATIONS

1.   This study pertains to one University. (University of Sri Jayewadenepura)
2.   Tested sample was and small and random

XII. SCOPE FOR FURTHER RESEARCH

Also there will be an associated android application for the cast votes.

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APPENDIX/ANNEXURE

TESTED SAMPLE

TABLE 2

1	54946	05/4254	Ms. W.M.U. KUMARIHAMI
2	55094	05/4394	Ms. P.M.A. ROHINI
3	56781	06/4836	Mr. G.P.C.S PATHIRANA
4	56999	06/5047	Ms. D.M.S.M KULASINGHE
5	58598	07/5056	Rev. P. AMARAWANSA
6	58600	07/5058	Mr. K.G. SIRIRUWAN
7	58601	07/5059	Rev. A. GNANARATHANA
8	58602	07/5060	Mr. M.A.N. PRIYADARSHANA
10	58604	07/5062	Rev. A. PAGNGNARAMA
11	58606	07/5064	Ms. V.A.M.R.K. ABESINGHA
12	58608	07/5066	Ms. K.G.N.M. ABEYKOON
13	58609	07/5067	Ms. L.L. ABEYSEKARA
14	58610	07/5068	Mr. A.M.P.P.K. ABEYSUNDARA
15	58611	07/5069	Ms. I.G.N. ABEYWICKRAMA
16	58612	07/5070	Ms. K.V.A.A. ABEYWICKRAMA
17	58613	07/5071	Mr. A.D. ADIHETTY
18	58614	07/5072	Ms. A.M.I. ADHIKARI
19	58615	07/5073	Ms. K.M.N.S. ALAS
20	58616	07/5074	Ms. K.M.V.S. ALAS
21	58618	07/5076	Mr. A.R.M.I. AMARASINGHE
22	58619	07/5077	Ms. A.W.N.E. AMBEPITIYA
23	58620	07/5078	Ms. J.S.N. ANURADHA
24	58621	07/5079	Mr. W.T. ANURANGA
25	58622	07/5080	Ms. S.J.M.S. ANURUDDHIKA
26	58623	07/5081	Ms. U.G.N. ANURUDDHIKA
27	58624	07/5082	Mr. G.M.P.L. APONSU
28	58625	07/5083	Ms. P.A.C.P.P. ARACHCHI
29	58626	07/5084	Ms. K.S. ARIYADASA
30	58627	07/5085	Mr. K.G.I.V. ASANKA
31	58628	07/5086	Mr. T.H.A. ASIRI
32	58629	07/5087	Ms. A.A.N.S. ASURUMUNI
33	58630	07/5088	Mr. A.M.S.K. ATHAPATHTHU
34	58631	07/5089	Mr. B.M.N.J.K. BALASOORIYA
35	58632	07/5090	Ms. B.M.S.I. BALASOORIYA
36	58670	07/5128	Ms. K.W.A.D. DASANAYAKA
37	58671	07/5129	Ms. M.J.A.U. DASAWARDHANA
38	58672	07/5130	Ms. R.P.K.M. DAYARATHNA
39	58673	07/5131	Ms. N.D. DE SERAM
40	58674	07/5132	Ms. A.D.B.G. DE SILVA
41	58702	07/5160	Ms. D.A.C. DILHARI
42	58703	07/5161	Ms. B.G.M. DILRUKSHI
43	58708	07/5166	Ms. K.A. DILSI
44	58712	07/5170	Ms. D.M.G.P. DISSANAYAKA
45	58723	07/5181	Ms. N. EDIRISINGHA
46	58725	07/5183	Ms. E.M.C.K. EKANAYAKE
47	58726	07/5184	Ms. J.M.A. ERANDATHI
48	58727	07/5185	Ms. M.A.I.E. ANURA
49	58729	07/5187	Ms. P.P.S. FERNANDO
50	58731	07/5189	Mr. K.I.U.K. FONSEKA

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MUTUAL FUND INVESTMENT: FUND MANAGERS VIEW

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ABSTRACT

Any Small investor would like to secure medium to moderate returns from his investments without huge amount of risk. In order to provide such returns an investor needs to invest in options which ensure safety of investments. Mutual fund is one such investment avenue which will satisfy the above requirement. Mutual funds are designed to target small investors who are intimidated by the mysteries of stock market but yet look to reap benefits by investing in the stock market. Currently, many companies &institutions are offering variety of mutual fund schemes with varied returns & at different levels of risk which makes it difficult for the investor to decide "Which scheme to invest in?", "How to invest?" If the investor decides to goes by his instincts or by guess work and randomly invest in a scheme he is bound lose his investments. With this back ground, we like to carry out a survey through a structured questionnaire with fund managers & investors in Bangalore to bring views of fund managers on the factors influencing the fund/scheme selection behavior of investors. With this back ground, a survey was conducted among 250 mutual fund investors in Bangalore to study the factors influencing the fund/scheme selection behavior of investors. We hope that through this survey we can uncover certain import factors to be consider before investing into mutual funds.

KEYWORDS

mutual funds, fund manager, investment in mutual funds, mutual fund performance, cost.

INTRODUCTION

Mutual Fund is professionally managed type of collective investment scheme that pools money from many investors and invest in stocks, bonds, short term money market instruments and/or other securities.

Mutual fund is an investment programme funded by shareholders that trades in diversified holdings and is professionally managed. Mutual Funds have become a hot favorite of millions of people all over the world. The driving force of mutual fund is the "safety of principle" guaranteed, plus the added advantage of capital appreciation together with the income earned in the form of interest and dividends. People prefer mutual funds to bank deposits, life insurance and even bond because with a little money, they can get into the investment game.

Mutual Funds are considered as one of the best available investments compared to others they are very cost efficient and easy to invest in, thus by pooling money together in a mutual fund, investors can purchase stocks or bonds with much lower trading costs than if they tried to do it on their own.

PROBLEM STATEMENT

In the present situation interest rates are falling and fluctuating and have put the investors in confusion. One finds it difficult to take decision on investment because investments are risky in nature and have to consider various factors before investing in investment avenues. The article revolves around how a fund manager and investor should choose a Mutual Fund scheme among many schemes. Hence the research statement **"Mutual Fund Investment: Fund Managers view"**

LITERATURE REVIEW

A large number of studies on the growth and financial performance stock selection have been carried out during the past, in the developed and developing countries. Brief reviews of the following research works reveal the wealth of contributions towards the performance evaluation of mutual fund, market timing and stock selection abilities of fund managers.

Ippolito (1992) said that investor is ready to invest in those fund or schemes which have resulted good rewards and most investors' is attracted by those funds or schemes that are performing better over the worst. Goetzman (1997) opined that investor's psychology affects mutual fund selection for investment in and to withdraw from fund. Gupta (1994) surveyed household investor for the objective to find investors' references to invest in mutual funds and other available financial assets. The findings of the study were more relevant, at that time, to the policy makers and mutual funds to design the financial products for the future.

Kulshreshta (1994) in his study suggested some guidelines to the investors' that can help them to select needed mutual fund schemes.

Shanmugham (2000) worked a survey of individual investors with the object to study on what information source does investor depends. The results explained that they are an economical, sociological and psychological factor which controls investment decisions. Madhusudhan V Jambodekar (1996) conducted his study to size-up the direction of mutual funds in investors and to identify factors influence mutual fund investment decision. The study tells that open-ended scheme is most favoured among other things that income schemes and open-ended schemes and income schemes are preferred over closed- ended and growth schemes. Newspapers are used as information source, safety of principal amount and investor services are priority points for investing in mutual funds.

Sujit Sikidar and Amrit Pal Singh (1996) conducted a survey to peep in to the behavioural aspects of the investors of the North-Eastern region in direction of equity and mutual fund investment. The survey resulted that because of tax benefits mutual funds are preferred by the salaried and self-employed individuals. UTI and SBI schemes were catch on in that region of the country over any other fund and the other fund had been proved archaic during the time of survey.

Syama Sunder (1998) conducted a survey with an objective to get an in-depth view into the operations of private sector mutual fund with special reference to Kothari Pioneer. The survey tells that knowledge about mutual fund concept was unsatisfactory during that time in small cities like Visakapatanam. It also suggested that agents can help to catalyse mutual fund culture, open-ended options are much popular than any other schemes, asset management company's brand is chief consideration to invest in mutual fund. Anjan Chakarabarti and Harsh Rungta (2000) emphasised to the importance of brand in ascertaining competence of asset management companies.

Shankar (1996) suggested that for penetrating mutual fund culture deep in to society asset management companies must have to work and steer the consumer product distribution model.

Raja Rajan (1997) underlined segmentation of investors and mutual fund products to increase popularity of mutual funds. With this back drop we decided to find fund manager point of on how to decide on investments in mutual funds.

OBJECTIVES OF THE STUDY

The basic objective of this study is to evaluate the fund managers, investors and bankers view on Investment in mutual funds in India. The outcomes of this study are examined from the investors' point of view and some of the objectives are as follows-
1.   To know about what investors expect with regards to the choice of mutual funds
2.   To study the profile, attitude, preferences, investment objectives, etc of the mutual fund investors.
3.   To get an insight of Mutual Funds

4. To know the key decision making criteria to invest in mutual funds.
5. To examine the impact of regulations on the performance of mutual funds in India.
6. To know the best portfolio revision strategy from fund managers point of view.
7. To know the best statistical tool for predicting future price changes

RESEARCH METHODOLOGY
RESEARCH DESIGN
The research is based on descriptive research design.
COLLECTION OF DATA
Primary data- Structured Questionnaire.
Secondary data- Data was collected through various websites, journals etc.
SAMPLING TECHNIQUE
The article is based on convenience sampling method were a structured questionnaire was distributed to 250 fund managers, investors and bankers etc. out of which 135 responded and 100 where found eligible for data analysis.
RESEARCH TOOLS
Online portal and questionnaire is the tool to collect the data. Tables and Graphs will be used to represent the data.
LIMITATIONS
1. The data provided by the prospects may not have response error to some extent.
2. The study is limited to the selected mutual fund schemes.
3. Due to the shortage of time the number of respondents whom we could reach was less.

SIGNIFICANCE OF THE STUDY
Mutual fund is one of the financial instruments play in capital market, after 2002 high growth of mutual fund industry in India. Mutual fund provides more benefit to small investors, who cannot easily play in capital market. Mutual fund pool the money for saving to investment.
Investments into Mutual Fund need to be made with caution as there is an element risk involved if a wrong scheme is selected therefore this article tries to bring key decision making criteria from point of view of fund managers which will help investor in selecting right kind of mutual fund which match his investment objectives.

DATA ANALYSIS AND INTERPRETATION

TABLE 1: WHAT SHOULD YOU CONSIDER WHEN DECIDING WHICH MUTUAL FUND TO BUY?

Reason for selection	No. of Respondents	Percentage
Performance	62	62.5%
Cost	16	15.63%
Convenience	22	21.88%

FIG. 1

Buying Behavior of Investors

Performance 62.50% | Cost 15.63% | Convenience 21.88%
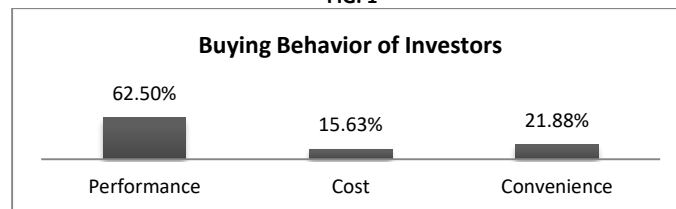
Interpretation
Mutual Fund Investors look for performance (62.5%)because based on performance one can know its position and value to decide which scheme buy. Second most important decision criteria is convenience (21.88%). Investors choose schemes based on their income and investment objective which is convenient. Last criteria is cost (15.63%); here investors think to buy mutual funds which are cost effective. When convenience is compared with cost it ranks higher as investors prefer returns on their investments when compared to cost.

TABLE 2: IN YOUR VIEW, RATE THE CURRENT STATE OF INDIAN ECONOMY?

Performance	No. of Respondents	Percentage
Excellent	28	28%
Good	40	40%
Neutral	16	16%
Poor	12	12%
Very poor	4	4%

FIG. 2

Current State Of Indian Economy
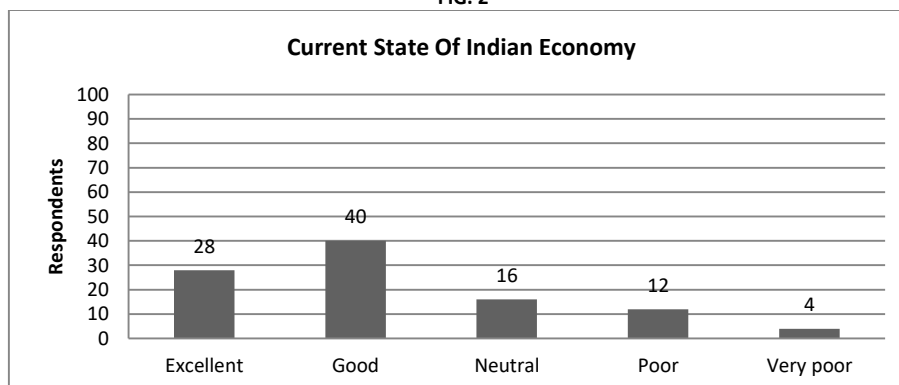
Interpretation
From the above response, most of the fund managers and investors (28% & 40%)have rated excellent &good and are happy with the performance of Indian economy. Fund managers also fell that economy is much better when compared to previous years. Most of the fund managers feel that economy will be moving ahead towards development. Although there are some investors who rate the economy as poor (12%) but they believe & hope that the performance of the economy will get better in future.

TABLE 3: ACCORDING TO YOU INDIAN ECONOMY IS EXPECTED TO GROW AT A _____% IN 2015-16?

Growth Rates	No. of respondents	Percentage
4.2 to 4.9%	12	12%
5 to 5.9%	36	36%
6 to 6.9%	40	40%
7 to 8%	12	12%

FIG. 3
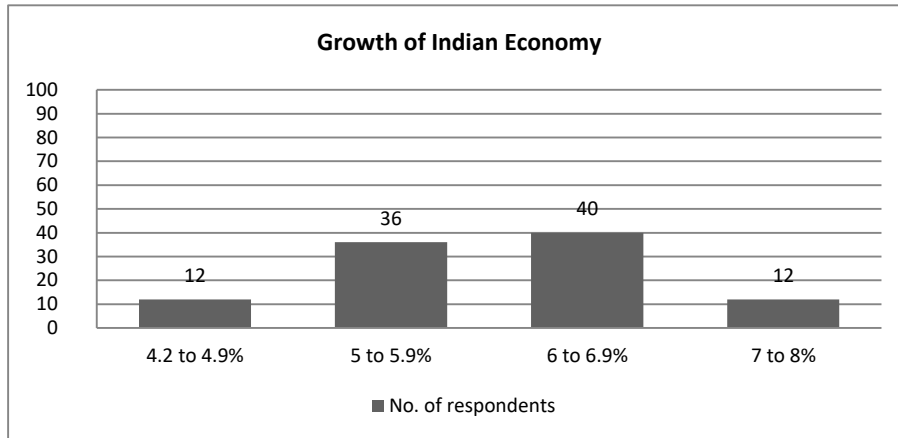
Interpretation
From the sample study most of the fund managers and investors are expecting growth at 6% to 6.9% for the current year and they do have a positive outlook in terms of investments & returns. Some investors suggest there would be a stable growth at 5% to 5.9% in the economy and don't want invest in large as they do not wish to face any high fluctuation. Most of the respondents do not want the growth rate of economy to reduce as it would adversely affect their investments in stock markets

TABLE 4: WHICH ARE THE MOST PROMISING SECTORS FOR INVESTORS IN FUTURE?

Sectors	No. of respondents	Percentage
Automobile	20	20%
IT	22	22%
Textile	3	3%
Pharmaceuticals	9	9%
Biotech	10	10%
Banking	34	34%
Others	2	2%

FIG. 4
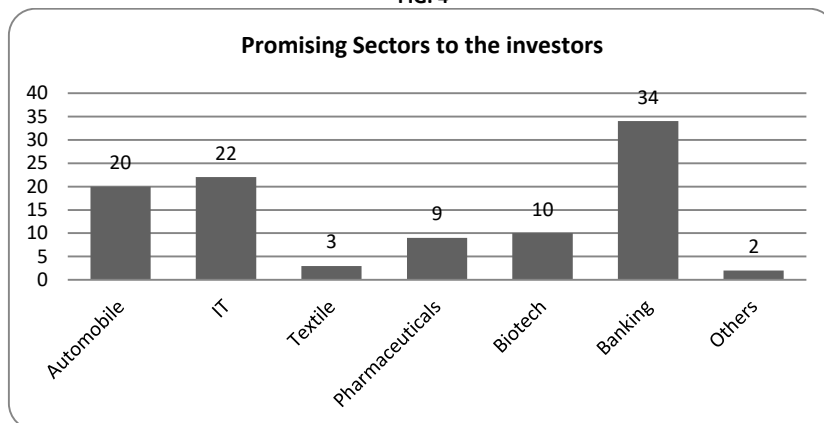
Interpretation
From above chart it is clear that fund managers and investors feel that Banking, IT and Automobiles will yield good returns at present and as well as in future. Pharmaceutical, textile and Biotech have been rated less and may not have much hopes from these sectors. However, fund managers felt that there might be improvements in these sectors in future.

TABLE 5: EXPRESS YOUR RATINGS ON THE LATEST FDI NORMS INTRODUCED BY THE CENTRAL GOVERNMENT

Performance	No. of Respondents	Percentage
Excellent	24	24%
Good	40	40%
Neutral	16	16%
Poor	20	20%
Very poor	0	0%

FIG. 5

FDI norms by the Central Government
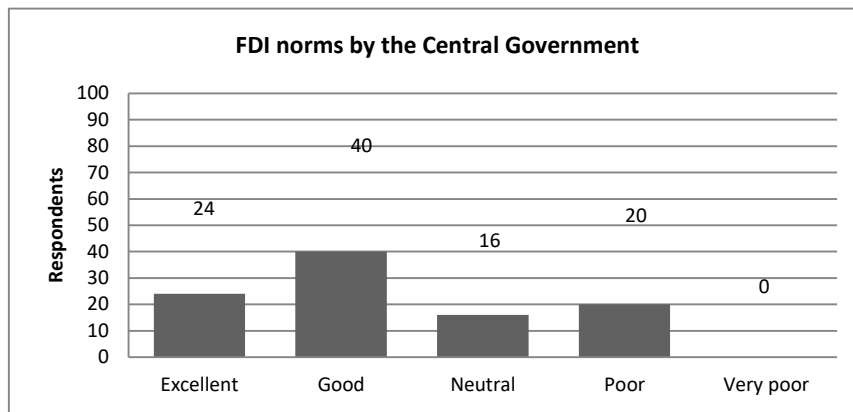
Interpretation

From the chart we can make out that most of the fund managers feel the latest FDI norms are good and excellent (40% & 24%) for economic development but there few respondents have rated poor (20%) as they feel that some of the Indian companies and their businesses may get affected because of the FDI norms. Under the new norms, Indian companies have been allowed to issue equity against import of capital goods and provided greater flexibility to Indian firms to raise overseas capital and scrapped norms that required a foreign company to obtain its domestic JV partner's approval for making investments in same field outside the joint venture.

TABLE 6: WITH INCREASED MARKET CAPITALIZATION WHICH OF THE FOLLOWING YOU FEEL WOULD HAPPEN TO THE NAV's OF THE MUTUAL FUND. IF MORE INVESTMENTS ARE MADE INTO DEBT INSTRUMENT HOW DO YOU FEEL THE NAV WOULD CHANGE?

Variations	Market capitalization	Percentage	Debt instrument	Percentage
Sharp increase	16	16%	8	8%
Marginal increase	60	60%	48	48%
No change	16	16%	32	32%
Marginal decrease	8	8%	8	8%
Appreciable decrease	0	0%	1	4%

FIG. 6

Change in the NAV's from the market capitalisation and Debt investment
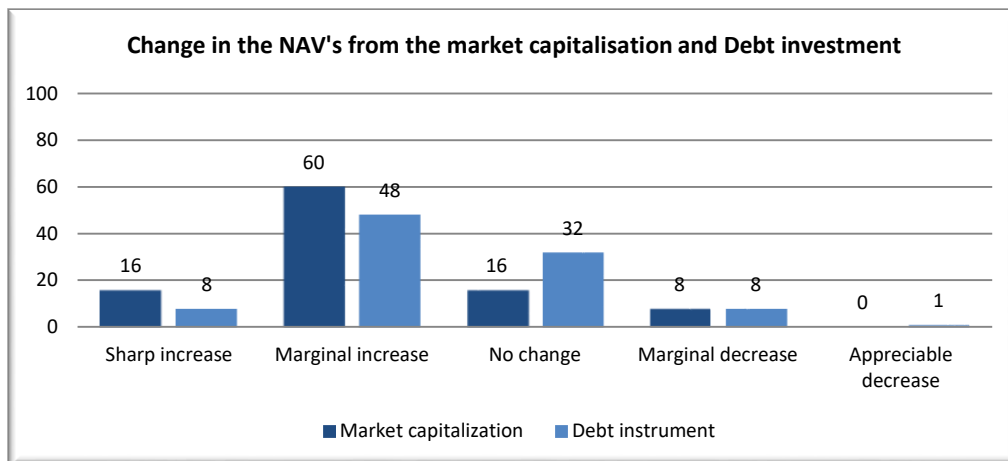
Interpretation

From the above, fund managers and investors feel that when there is an increase in market capitalization the NAV's of the mutual fund will have marginal increase. 60% of the investors feel that it will have a marginal increase. When more investments made into Debt instrument 48% of investors feel that NAV will marginally increase.

With the increased market capitalization 16% investors feel that NAV will have sharp increase and 16% feel have no change. More investment is made into Debt instrument 32% investors feel that NAV will have no change.

TABLE 7: WHICH OF THESE FOLLOWING MECHANISMS DO YOU CONSIDER AS THE BEST FOR PREDICTING FUTURE PRICE CHANGES?

Mechanisms	No. of respondents	Percentage
Stocks	13	13.33%
Time series analysis	7	6.67%
Moving average method	23	23.33%
Regression analysis	0	0%
Trend analysis	17	16.67%
Simple average method	10	10%
All of the above	30	30%

FIG. 7

Techniques For Predicting Prices
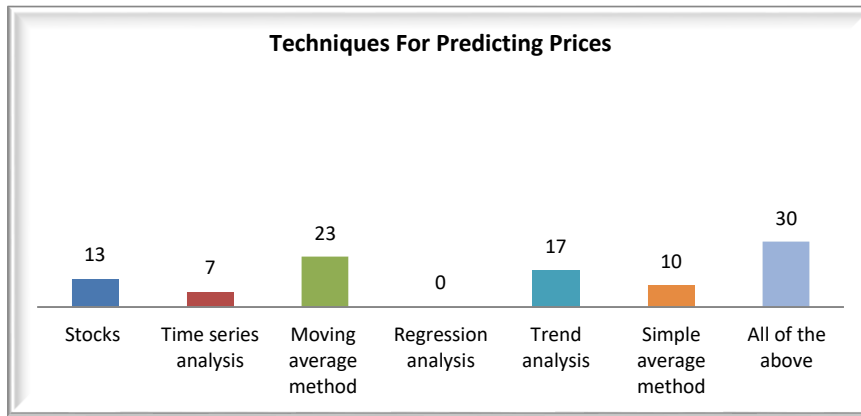
Interpretation

From the above it is clear that fund managers use all the above techniques to predict price changes. If one technique needs to be chosen then fund managers feel moving average is the best method (23%).

TABLE 8: HAVE YOU OBSERVED CONSISTENT BULLISH AND BEARISH TRENDS FOR THE SAME PERIOD IN SUCCESSIVE YEARS? IF YES WHICH OF THE FOLLOWING

Periods	No. of respondents	Percentage
Every year	24	24%
Once in two years	28	28%
Once in five years	28	28%
Once in decade	20	20%

FIG. 8

Bullish and Bearish trends for the same period
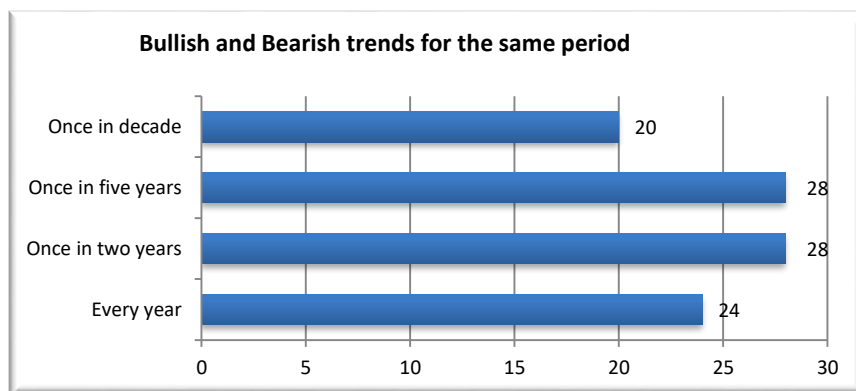
Interpretation

From the chart we can understand that investors have observed the Bullish and Bearish market consistently all the time. Majority respondents said bullish and bearish trends can be seen once in five or 2 years (28%).

TABLE 9: IN TERMS OF REDUCING FLUCTUATIONS WHICH OF THE FOLLOWING PORTFOLIO REVISIONS WOULD YOU RECOMMEND?

Portfolio revisions	No. of respondents	Percentage
Balanced funds to growth fund	28	28%
Balanced fund to debt fund	24	24%
Balanced fund to contra fund	4	4%
Any fund to growth fund	20	20%
Growth fund to any other fund	24	24%

FIG. 9

Portfolio Revisions for reducing fluctuations
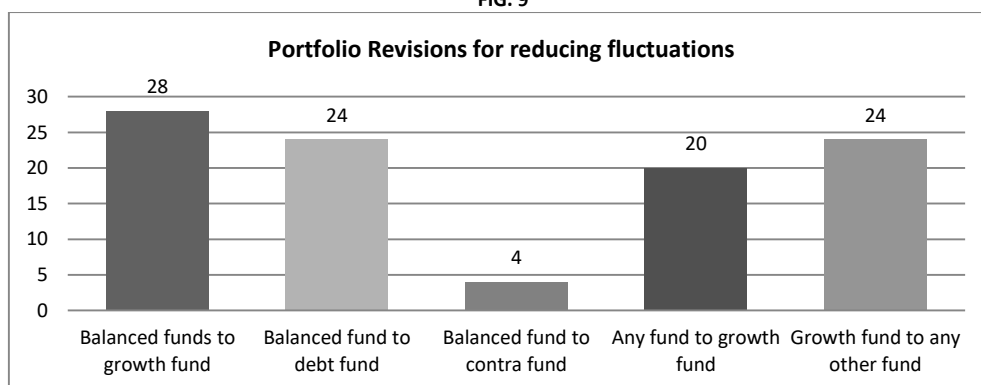
Interpretation

Most of the fund manager & investors recommend balanced funds to growth fund as the best revision technique (28%). Growth fund to any other fund and balanced fund to debt fund (24%). Some investors have chosen any fund to growth fund and only few investors have recommended balanced fund to contra fund to reduce fluctuations.

TABLE NO. 10: IN TERMS OF INCREASING RETURNS WHICH OF THE FOLLOWING PORTFOLIO REVISIONS WOULD YOU RECOMMEND?

Portfolio revisions	No. of respondents	Percentage
Balanced funds to growth fund	26	26%
Balanced fund to debt fund	19	19%
Balanced fund to contra fund	11	11%
Any fund to growth fund	26	26%
Growth fund to any other fund	18	18%

FIG. 10
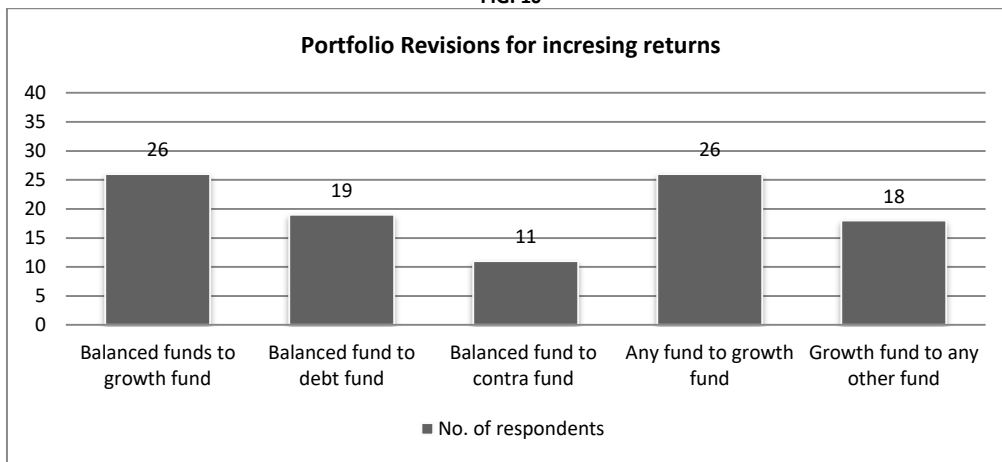
Interpretation

From the graph we can understand that most of the investors recommend balanced funds to growth fund and any fund to growth fund and are the best strategy (26%). Second best strategy is balanced fund to debt fund (19%). Third rank goes to growth fund to any other fund and at last comes the balanced fund to contra fund.

Q 11. Give two important suggestions which need to be followed by AMC's in terms of assuring a specific rate of return to investors of mutual funds. (Open ended question)

Suggestions:

Provide better risk management & build better portfolio.

Promote more balanced fund.

Increase SIP base.

Reduce the risk in the portfolio etc.

At the end we asked investor about their perception on mutual fund as an industry and do they still consider a Mutual Fund as a good investment opportunity and if no, what they want extra. Overall we found mutual funds are positive and the attitude towards this industry was impressive.

FINDINGS

Mutual Fund Investors look for performance & returns before buy into a scheme. Convenience in terms of amount of investment, entry and exit terms and conditions are second most important decision criteria. Most of the fund managers and investors have rated Indian Economy as good and are happy with the performance. Fund managers also fell that economy is much better when compared to previous years. Some have rated as poor as they feel that the new government at the center has not done much toward reviving the economy these people have not lost hopes and the feel that it's going to better in future. Most of the fund managers and investors are expecting growth rate to be 5% to 7% for the current year and they do have a positive outlook in terms of investments & returns. On latest FDI norms fund manager & investors said its good and excellent for economic development but there few respondents who have rated poor as they feel that some of the Indian companies and their businesses may get affected because of the FDI norms. On a question relating to attractiveness of industries for investment fund managers and investors feel that Banking, IT and Automobiles will yield good returns at present and as well as in future. Pharmaceutical, textile and Biotech have been rated less as not have much hopes from these sectors. However, they feel that there might be improvements in these sectors in future.

On the questions use of investment decision tools and regarding impact of changes in market capitalization on NAV Fund managers and investors feel that when there is an increase in market capitalization the NAV's of the mutual fund will have marginal increase. 60% of the investors feel that it will have a marginal increase. When more investments made into Debt instrument 48% of investors feel that NAV will marginally increase. With the increased market capitalization 16% investors feel that NAV will have sharp increase and 16% feel have no change. More investment is made into Debt instrument 32% investors feel that NAV will have no change. 30% of the investors predict price changes by using all types of mechanism. But the most preferred tool is through moving average method (23%) and 17% of fund managers prefer trend analysis as effective tool for predicting price changes. Some of the investors predict by using two or three techniques. Technique used for predicting depends on individual investors or fund manager perception

Fund manager & investors recommended to the balanced funds to growth fund as the best revision technique when compared to growth fund to any other fund and balanced fund to debt fund. Some investors have chosen any fund to growth fund and only few investors have recommended to balanced fund to contra fund to reduce fluctuations. Most of the investors recommend balanced funds to growth fund and any fund to growth fund and are the best strategy. Second rank goes to balanced fund to debt fund. Third rank goes to growth fund to any other fund and at last comes the balanced fund to contra fund.

CONCLUSION

From the study investors have suggested that AMC's have to follow with the investors need and most of the investors are satisfied so they expect better risk management, better portfolio, promoting more balanced fund, increase SIP base, reduce the risk in the portfolio, etc.

Investors have suggested that the mutual fund has to be selected based on performance as first preference which help them to get good returns as the funds are performing well.

In terms of industry attractiveness fund manager see Banking & IT as the most promising sector to get good returns.

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Fund manager also feel that investor should consider investment decision tools such as moving averages, regression, trend analysis etc., before taking investment decision.

Fund manager & investors recommend the balanced funds to growth fund as the best revision technique when compared to growth fund to any other fund and balanced fund to debt fund. Some investors have chosen any fund to growth fund and only few investors have recommended to balanced fund to contra fund to reduce fluctuations.

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INVESTORS PERCEPTION TOWARDS OPTION AND FUTURE TRADING WITH SPECIAL REFERENCE OF MALAPPURAM DISTRICT

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ABSTRACT

this paper presents the Investors perception towards Option and Future trading with special reference of Malappuram District. The main focus of the paper was on to understand the Investors perception towards option and future trading, risk involved in this trading and aware about the investors desired time and sector of investment in option and future in Malappuram District. The data for this study collected 100 respondents in Malapuram district. Simple percentage analysis is used for the analysis purpose and it is find that the Awareness about the various uses of Future & options can help investors to reduce risk and increase profits. The study concludes that; future & option trading is an unavoidable weapon for the investors to hedging.

KEYWORDS
desired time, future, investors perception, option, sector of investment.

INTRODUCTION
The Indian capital market has witness impressive growth and qualitative changes, especially over the last two decades. The process of liberalization of the Indian economy since the early nineties has contributed to changes in the capital market scenario. The entry of foreign investors in the market has resulted in a substantial change in the scale of operations. Now, we are on the threshold of introduction of trading in derivatives including futures and options, which is expected to bring a qualitative change in the capital market.

Future and option trading have a vital role to play in enhancing shareholder value by ensuring access to the cheapest source of funds. Furthermore, active use of derivative instrument allows the overall business risk profile to be modified, thereby providing the potential to improve earnings quality by offsetting undesired risk. In this study investigator will discuss about the investors perception towards Option and future trading in Indian capital market.

REVIEW OF LITERATURE
A research by Abdulla Yameen delivered massage, investors will need to be alert to any new development in capital market and take advantage of the Investor Education and Awareness Campaign program which to be undertaken by the Capital Market Section to acquaint of the risks and rewards of investing on the Capital market.

P. M. Deleep Kumar and G. Raju showed that the capital market is becoming more and more risky and complex in nature so that ordinary investors are unable to keep track of its movement and direction. The study revealed that the Indian market is probably more volatile than developed country markets, which is probably why a much higher proportion of savings in developed countries go into equities.

NEED AND IMPORTANCE OF THE STUDY
Growth in the Indian capital market is unbelievable. In the present scenario peoples are more conscious about their investments or stock trading than ever before. The Option and Future trading plays a vital role in the investment field. In this context, the scope of study has been aroused in order to see the preference, awareness and the investors' perception regarding the Option and Future trading.

OBJECTIVES OF THE STUDY
1. To find out the risk involved in option and future trading.
2. To know the role of option and future trading in hedging.
3. To aware about the investors desired time and sector of investment in option and future.

RESEARCH METHODOLOGY
This present study is descriptive as well as exploratory in context of option and future trading. The primary data for this was collected from different background people in Malapuram district. The people were approached with a structured questionnaire and requested them to participate in the study. The secondary data was collected from reliable database of SEBI, NSE etc. As the population covered was large, sample size of 100 individuals belonging to different fields, classes, age group were taken.

RESULT AND DISCUSSION
The investigator used simple percentage analysis for analysing the whole primary data collected

TABLE 1: MONTHLY INCOME LEVEL OF RESPONDENTS

No. of Respondents		Percentage of Response
Below 10000	26	26%
10000-25000	32	32%
25000-50000	24	24%
Above 50000	18	18%
Total	100	100%

The above table indicates that the middle income peoples are more interested to investing in future and option trading

TABLE 2: MOST PREFERRED INVESTMENT PATTERN

No. of respondents		Percentage of Respondents
Cash	72	72%
Futures	16	16%
Option	12	12%
Total	100	100%

Table indicates that major part of investors is interested to invest in cash trading practices.

TABLE 3: MOTIVE BEHIND THE INVESTMENT IN FUTURE & OPTION

No. of Respondents		Percentage of Response
Hedging	38	38%
Speculation	30	30%
Availability of free fund	14	14%
Due to loss in cash investment	12	12%
Others	6	6%
Total	100	100%

The above table indicate that major part of investors used option and future trading for hedging because hedging reduces their risk. To conclude, major investors are risk averse.

TABLE 4: OPTION TRADING HELP TO HEDGE RISK

No. of Respondents		Percentage of Response
Yes	84	84%
No	16	16%
Total	100	100%

The above table indicate that major part of investors think that option and future is helpful for hedging, around 84% of investors agree that. And balance 16% investors don't agree that option and future is helpful for hedging.

TABLE 5: LEVEL OF RISK IN DERIVATIVES

No. of Respondents		Percentage of Response
Very High Risk	34	34%
High Risk	28	28%
Average Risk	38	38%
Low Risk	0	0%
Total	100	100%

Most investors feel future and option trading a risky matter.

TABLE 6: THE RISKY INVESTMENT ALTERNATIVE

No. of Respondents		Percentage of Response
Option	26	26%
Future	74	74%
Total	100	100%

Option is the preferred investment for most investors.

TABLE 7: RISK AND RETURN IN DERIVATIVES

No. of Respondents		Percentage of Response
Yes	36	36%
No	64	64%
Total	100	100%

The above table indicate that major part of investors didn't get a fair return as they desired. In fact, derivatives are not a fully believable type of investment. It has its own risk.

TABLE 8: NATURE OF RETURN

No. of Respondents		Percentage of Response
Negative returns	40	40%
No returns	12	12%
The return below bank interest	6	12%
The return above bank interest	36	36%
Total	100	100%

Major part of investors gets negative results. Negative results mean actual loss

TABLE 9: BROKERAGE CHARGE IN FUTURE & OPTION

No. of Respondents		Percentage of Response
Too high	10	10%
High	32	32%
Average	38	38%
Low	20	20%
Too low	0	0%
Total	100	100%

The table indicates that our brokering institutes charging only fair charges from investors.

TABLE 10: MOST DESIRABLE SECTOR FOR FUTURE & OPTION TRADING

No. of Respondents		Percentage of Response
Reality & Infrastructure	34	34%
Banking	28	28%
Automobile	12	12%
Steel	6	6%
IT	6	6%
Telecommunication	4	4%
Oil & Gas	4	4%
Others	6	6%
Total	100	100%

On the investors point view most desirable sector for future and option trading is reality and infrastructure

TABLE 11: MOST PREFERRED TIME FOR DOING OPTION & FUTURE TRADING

No. of Respondents		Percentage of Respondents
Quarterly Results	18	18%
Budgeting	16	16%
Monetary policy	28	28%
Election Results	16	16%
Economic Reforms	22	22%
Total	100	100%

Investors choose their time for doing option and future trading is at the time of budgeting election results.

SUGGESTION

It is desirable to investors to study fundamental analysis and technical analysis of companies before they investing and the investors must analyse the risk return factors before investing. It is beneficial to new investors to get experience in stock investment before doing Future and Option trading. It is desirable for brokerage firms to fix brokerage charges in a competitive level.

CONCLUSION

Integration in the world's commodity and financial market because of globalization and liberalization of the countries across the world, various types of risks for market players have increased. The future and option trading is such like that. The growth of the future and option trading in India has been an unprecedented one. In the current scenario, investing in stock markets is a major challenge ever for professionals. Future & options acts as a major tool for reducing the risk involved in investing in stock markets for getting the best results out of it. The investors should be aware of the various hedging and speculation strategies, which can be used for reducing their risk. Awareness about the various uses of Future & options can help investors to reduce risk and increase profits. The study concludes that; future & option trading is an unavoidable weapon for the investors to hedging.

LIMITATION

The research conducted on the basis of samples, so it would have sampling error and the respondents may not give their actual financial or personal data. Bias cannot be ignored on the part of the respondent.

SCOPE FOR FURTHER RESEARCH

Only a few studies were conducted in this area in Kerala and thus there is a scope for further study. This research is only in the investors perception towards option and future trading with special reference of Malappuram district. The further researches can be conducted on the financial aspects of the derivatives and its impact on the growth of the Kerala economy.

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WORKFORCE DIVERSITY: CHALLENGES AND ISSUES

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ABSTRACT

In present scenario the workforce in an organization is heterogeneous and therefore workforce diversity is a primary concern for most of the businesses. Workforce diversity means similarities and differences among employees in terms of age, cultural background, physical abilities and disabilities, race, religion, gender, and sexual orientation. Diversity is critically linked to the organization's strategic direction. Where diversity flourishes the potential benefits from better creativity and decision making and greater innovation can be accrued to help increase organizations competitiveness. This paper tries to highlight the issues and challenges faced by organization due to work force diversity and also its effect on productivity.

KEYWORDS
human resource management, heterogeneous, work force diversity, productivity.

INTRODUCTION
In an organization human recourse is the most important resource and managing the resource is a big task. In this globalised world managing the work force is a big task because of work force diversity. Every organization emphasizes on convergence of collective goals, objectives, issues, problems and results. Therefore, organization requires people to come together irrespective of their religion, caste, race, gender etc. to unite and pursue common goals. Managing such diversity requires strict conformance to the principles of uniformity. A truly diverse organization is capable to achieve efficiency and competitiveness, polling the collective efforts of diverse workforce. Due to world coming closer the labour markets have now changed employment landscape in world's labour market. Such change in the labour market extend the definition of diversity beyond gender issues, and consider it from a broad perspective of workplace diversity. Work place diversity encompasses personality and work style, race, age, ethnicity, gender, religion, caste, socio-economic stratification, education, organizational hierarchies, proximity or distance from headquarters and host many other issues which differentiate people either individually or in a group from another Workforce diversity management has become an important issue for public as well as Private organizations. Its importance has mainly been brought about by the free movement of labour due to globalization and the fight for human rights by certain minority groups who feel excluded from the employment sector.

OBJECTIVES
1. To understand the various factors leads to workforce diversity.
2. To analyse the issues and challenges faced due to the workforce diversity.
3. To provide suggestions if any, to overcome these issues and challenges.

TO UNDERSTAND THE VARIOUS FACTORS LEADS TO WORKFORCE DIVERSITY
Diversity is widespread. We all are aware of it since decades. Due to globalisation world becoming closer and in developing countries there is a shift from rural to urban population which leads to obvious work force diversity. No two persons are similar. The world has been and is a stage of huge mix of people with different backgrounds, religion, castes, race, culture, behaviour, age, marital status, nationality, educational qualification, political affiliation, and levels of ability, personality, gender and many more which vary across the globe. Work place diversity therefore, intends to also consist of social, economic and political visible and non-visible differences which might not have a direct creational origin from the work place, but certainly have direct impact on work attitude and performance at the work place. Diversity itself relates to the fact that we are all unique individuals. Organizations are becoming increasingly cosmopolitan. Though they work together, they maintain their distinct identities, diverse culture and separate lifestyles. Managers of today must learn to live with these diverse behaviours. Diversity, if properly managed, can increase creativity and innovation in organizations as well as improve decision making by providing different perspectives on problems. Diversity mainly came into the picture when globalization came in 1990-91. As the wave of globalization sweeps across the organizations, there is a convergence of workforce from diverse countries, cultures, values, styles etc., Such convergence of distinctly different people presents tremendous opportunities as well as challenges.

The followings are the factors which lead to workforce diversity:

Language-A common example of cultural diversity in the workplace is a multilingual workforce. Language diversity can introduce communication complications, but can also provide benefits for the business. Potential customers may leave the business because the staff can't understand their orders.

Age- Age is often overlooked when considering workplace diversity but can be a point of major divergence in experience and knowledge. Consider the common stereotype that younger people are more tech savvy, whereas older people are opposed to contemporary trends.

Religion - Employees can bring varied belief systems and degrees of religious observation with them into the workplace. These differences can sometimes manifest in overt needs, such as getting certain holidays off, dietary restrictions, clothing and prayer requirements. The differences may be more subtle, simply informing employee personalities and the character of their interactions with others. Religious diversity in the workplace creates a need for effective communication, respect, and empathy among workers.

Cultural Differences- If a minority employee who has a track record of giving stellar presentations is suddenly dismissed from client meetings, he could feel it's because of his religious or cultural beliefs. Ultimately, this decreases his confidence, makes him feel like an outcast and hampers his contributions.

Gender- One the oldest and most common diversity issues in the workplace is the "men vs. women" topic. Over the years, a new element in the disputes over equal pay and opportunity is the transgender employee. Some corporations have trouble dealing with the fact that a man in women's clothing or a woman in the stages of "becoming a man" may perform equally as well on the job done as those in traditional gender roles.

Harassment- Harassment can sometimes be an issue in a diversified work environment, but should absolutely never be tolerated. Recognizing harassment is key in preventing and eliminating discrimination from the workplace.

Communication- Even when no prejudice exits among employees, a diversified workplace can bring about certain communication issues. Hiring immigrants who speak little or no English can reduce productivity by creating a communication barrier among team members.

Generation Gaps- In larger diversified corporations, staffs are often made up of workers who range in age from teenagers to senior citizens. Inevitably, generation gaps can become an issue and the age differences can trigger "cliques" and separation of the company as a unit. Bridging the gap between multiple generations of workers can sometimes become an issue for employers attempting to establish teamwork.

Disabilities- Unfortunately, workers who are mentally or physically handicapped sometimes encounter discriminatory behaviour from insensitive co-workers. In some cases, employers innocently overlook handicapped worker's needs, such as ramps or special needs equipment and they are not able to match their counterpart in work.

Socio-economic stratification- In an organisation people of same age, gender and qualification come from different socio-economic background. Though the qualification for work is same their approach, habit differ due to the social background they came from.

Organisational hierarchy- Every organisation has a hierarchy which discriminates employees as top level management, office level, supervisory level and finally shop floor level. Due to which authority is to be delegated which leads to workforce diversity.

TO ANALYSE THE ISSUES AND CHALLENGES FACED DUE TO THE WORKFORCE DIVERSITY

Workforce Diversity, if properly managed, can increase creativity and innovation in organizations as well as improve decision making by providing different perspectives on problems. Diversity mainly came into the picture when globalization came in 1990-91. As the wave of globalization sweeps across the organizations, there is a convergence of workforce from diverse countries, cultures, values, styles etc., Such convergence of distinctly different people presents tremendous opportunities as well as challenges.

SWOC ANALYSIS
STRENGTHS
1. Increased Adaptability- Employees from diverse backgrounds bring individual talents and experiences in suggesting ideas that are flexible in adapting to fluctuating markets and customer demands.
2. Broader service range – A diverse collection of skills and experiences (e.g. languages, cultural understanding) allows a company to provide service to customers on a global basis.
3. Variety of viewpoints- A diverse workforce that feels comfortable communicating varying points of view provides a larger pool of ideas and experiences.
4. More effective execution- Companies that encourage diversity in the workplace inspire all of their employees to perform to their highest ability

WEAKNESS
1. Delayed decisions as many men more minds
2. Gender bias- generally an all organisations women are not treated at par with men and face discrimination.
3. Communication- by having immigrant's language becomes a big issue and they do not feel at home nor they are able to cope up with local language.
4. Stereotypes- though we say unity in diversity it actually does not happened.

OPPORTUNITIES
1. Innovation and Creative thinking
2. Expansion of market share
3. Increased Productivity and quality products and services

CHALLENGES
1. To create atmosphere of unity in diversity
2. Getting work done from diversified age group, culture and gender.
3. Difficulty in formulating and implementing diversity policy.

CHALLENGES IN MANAGING EMPLOYEE DIVERSITY

Taking full advantage of the benefits of diversity in the workplace is not without its challenges. Some of those challenges are:

Communication - Perceptual, cultural and language barriers need to be overcome for diversity programs to succeed. Ineffective communication of key objectives results in confusion, lack of teamwork, and low morale.

Successful Management of Diversity in the Workplace - Diversity training alone is not sufficient for your organization's diversity management plan. A strategy must be created and implemented to create a culture of diversity that permeates every department and function of the organization.

Individual versus Group Fairness: This issue is closely related to the "difference in divisive versus better" i.e. how far management should go in adapting HR programs to diverse employee groups.

Resistance to Change: Long established corporate culture is very resistant to change and this resistance is a major roadblock for women and minorities seeking to survive and prosper in corporate setting.

Resentment: Equal Employment Opportunities (EEO) was imposed by government rather than self-initiated. The response to this forced change was in many cases of government reservations.

Group Cohesiveness and Interpersonal Conflict: Although employee diversity can lead to greater creativity and better problem solving; it can also lead to open conflict and chaos if there is mistrust and lack of respect among groups. This means that as organizations become more diverse, they face greater risks that employees will not work together effectively. Interpersonal friction rather than cooperation may become the norm.

Segmented Communication Networks: It has been seen that most communication in the organization occurs between people with some similarities either by way of gender or by way of same place.

Backlash: Some group in the organization feels that they have to defend themselves against encroachments by those using their gender or ethnicity to lay claim to organizational resources. Thus, while women and minorities may view a firm's cultural diversity policy as a commitment to improving their chances of advancement.

Retention: The job satisfaction levels of women and minorities are often lower than those of majorities. Therefore, it becomes difficult to retain such people in an organization.

Gender mainstreaming- By gender mainstreaming in workplace, organisations eliminate discrimination between men women. For both men and women to work together, the workplaces need to have rules which favour both.

TO PROVIDE SUGGESTIONS IF ANY, TO OVERCOME THESE ISSUES AND CHALLENGES

- **Embrace Diversity:** Successfully valuing diversity starts with accepting the principle of multiculturalism. Accept the value of diversity for its own sake not simply because you have to. The acceptance must be reflected in actions and words.
- **Recruit Broadly:** When you have job openings, work to get a diverse applicant pool. Avoid relying on referrals from current employees, since this tends to produce candidates similar to existing work force. An exception is that if the present workforce is fairly diversified then there is no harm in accepting referrals from current employees.
- **Select Fairly:** Make sure your selection process does not discriminate. Particularly ensure that selection tests are job related.
- **Provide Orientation and Training:** Making the transition from outsider to insider can be particularly difficult for non-traditional employees.
- **Sensitize all Employees:** Encourage all employees to embrace diversity. Provide diversity training to help all employees see the value in diversity.
- **Strive to be Flexible:** Part of valuing diversity is recognizing that different groups have different needs and values. Be flexible in accommodating employee requests.
- **Seek to Motivate Individually:** A manager or the superior must be aware of the back ground, cultures, and values of employees. The motivation factors for a full time working mother to support her two young children are different from the needs of a young, single, part-time employee or an older employee who is working to supplement his or her retirement income.
- **Reinforce Employee Differences:** Encourage employees to embrace and value diverse views. Create traditions and ceremonies that promote diversity. Celebrate diversity by accentuating its positive aspects. But also be prepared to deal with the challenges of diversity such as mistrust, miscommunication, and lack of cohesiveness, attitudinal differences and stress.

- **Involve all when Designing the Program:** Involve as many employees from every level in the organization as you can when designing a diversity initiative. This gets people talking about the program and promotes ownership and buy-in.
- **Avoid stereotypes:** Stereotypes are pre conceived notions which a person holds for particular person. They are beliefs that all members of specific groups share similar traits and are likely to behave in the same way. Stereotypes create categories and then fit individuals into them. Holding Stereotypes are harmful for several reasons.

CONCLUSION

A diverse workforce is a reflection of a changing world and marketplaces. Diverse work teams bring the value to organisations. Respecting individual differences will benefit the workplace by creating a competitive edge and an increasing productivity.

Workforce diversity is an advantage cum disadvantage of all the organisations. It is a not a problem if we look at it with a positive sense and accept it, it will actually increase productivity and lead to innovation, but if you angle to look at it is negative then it will spread hatred among employee by taking up small issues and finally the organisation will suffer. Changes are investable and we should better accept them with smile. Diversity, if positively managed, can increase creativity and innovations in organisation as well as improve decision making by providing different prospective on problems. When diversity is not managed properly, there is potential for higher turnover, more difficult communication and more interpersonal conflicts. So in the world of globalisation, we cannot stop workforce diversity so let's accept it and try to live with it.

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STRESS MANAGEMENT IN BPO SECTOR

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ABSTRACT

The BPO industry is India is one of the major job providers. It offers jobs not just to first time job seekers, but also too retired professionals and persons working from home. Indian BPO industry faces high work pressure. Due to globalization and competition, work pressures are higher than ever. Due to these challenges workforce are working longer than they were doing earlier to meet up with their career demands. Working in night shifts, excessive workload, unreachable targets are few factors which have been causes of severe stress among BPO employees. This paper attempts to understand the factors causing stress and how these employees manage their stress.

KEYWORDS

stress management, BPO, employees, work pressure.

INTRODUCTION

BPO stands for business process outsourcing. It involves outsourcing of operations and responsibilities of any business to a third party. It can be also said that the company has replaced in-house services and hired an outside firm for hiring its services. The back office functions, like accounting, finance, writing and human resources are some of the services done through the business process outsourcing by the firms.

Increase in global technology spending and opportunities created through adoption of disruptive technologies are expected to propel growth in FY2014. NASSCOM expects the industry to clock export revenues of USD 84-87 bn maintaining a growth rate of 12-14 per cent. Domestic revenues will also grow at a rate of 13-15 per cent and are expected to reach INR 1180-1200 bn.

Changing business models, emergence of new technologies, buyer segments and solutions for emerging markets will help India retain its position as the global sourcing leader and an emerging trustworthy innovation hub.

FY 2013 – REVIEW

Despite challenges in the global market, Indian IT-BPM industry sustained its growth trajectory and is expected to clock export revenues of USD 75.8 bn with a Y-o-Y growth rate of 10.2 per cent. Domestic market also witnessed Y-o-Y growth rate of 14.1 per cent taking the domestic revenues to INR 1,047 bn. The Indian IT-BPM sector continues to be one of the largest employers in the country directly employing nearly 3 million professionals, adding over 180,000 employees. FY2013 can be characterized as the year of rapid transition and transformation leading the industry into expanding into newer verticals and geographies, attracting new customer segments, and transforming from technology partners to strategic business partners.

STRESS MANAGEMENT

THE CONCEPT OF STRESS

Hans Selye was one of the founding fathers of stress research. His view in 1956 was that "stress is not necessarily something bad – it all depends on how you take it. The stress of exhilarating, creative successful work is beneficial, while that of failure, humiliation or infection is detrimental." Selye believed that the biochemical effects of stress would be experienced irrespective of whether the situation was positive or negative.

Since then, a great deal of further research has been conducted, and ideas have moved on. Stress is now viewed as a "bad thing", with a range of harmful bio-chemical and long-term effects. These effects have rarely been observed in positive situations.

The most commonly accepted definition of stress (mainly attributed to Richard S Lazarus) is that stress is a condition or feeling experienced when a person perceives that "demands exceed the personal and social resources the individual is able to mobilize." In short, it's what we feel when we think we've lost control of events.

Employees in the Business Process Outsourcing (BPO) industry, who account for 25 per cent of the information technology (IT) and IT-enabled services personnel in the city, may suffer from low self-esteem.

According to a study published in the Human Resources Management journal of the Indian Institute of Planning and Management (IIPM), BPO work, which is just a relief from unemployment, is viewed poorly in society as it is easily available and because it involves night shifts.

(Hindu Online edition July 28th 2005)

Few factors that have caused stress among BPO employees

Long working hours in BPO is a combination of workload, call volume and travel time. Any average agent puts in 11-12 hours of work per day and at times it reaches 14 hours in case of companies that encourage overtime. Operational heads regularly work 17-18 hours per day besides staying back for customer conference calls.

Stress due to Work Timing: The geographical time difference with the US and the UK gives Indian industry one of the biggest advantages to remain a dominant player in the BPO. Hence the employees have to work in nights for long. This creates stress and causes a drastic change in the activities of body.

Stress due to Repetitive Nature of Work: Monotony is another important reason for stress. Possible solutions can be hiring retired personnel or housewives, since these groups with more experience tend to get frustrated the least. Since other innovative measures can be periodic job rotation.

Stress due to Workload: It is argued that even IT services employees have tremendous workload, so why it is that only the BPO employees complain. Though IT services employees work for long and odd hours, the long working hours are interspersed with smoke breaks, coffee breaks or chat with colleagues. Unfortunately, this is not the case in call centers, a fresher gets a little respite, since the first few months on the job involves a lot of training time.

Stress due to Insufficient Holidays: Most of the employees have to work on Indian holidays. While some companies do celebrate Indian holidays there are a number of small and big call centers, which do not observe Indian holidays.

Stress due to Pressure to Perform on Metrics: Every single action in a call center needs to conform to a performance metric. This is because most call centers are keen on different standard certifications. It is more of business necessity for most companies to follow these quantifiable business metrics to attract customers. With experience, the stress level goes down, and more importantly, working on such quantifiable performance parameters helps the employees in their future careers.

Stress due to Travel Time: Most call centers are located on the outskirts of cities, and therefore most employees spend a long time traveling to and from their offices. Again, this is a unique problem of the Indian industry. Most call centers require large manpower in order to scale up and grow, and to support such huge workforces; they need lot of space. And exorbitant land prices in cities necessitate their movement to the outskirts.

Stress due to Call Volumes: While the overall workload is quite high, call volume itself is proving to be a major cause of stress. In most call centers, there is hardly any respite between two calls.

Stress Caused due to Overtime: Though most companies encourage overtime with incentives, this can be a major reason for stress. Initially, fresher's who are willing overtime for making more money feel stressed once they are into it and performing. Overtime, along with long working hours and travel time, is turning out to be a potent combination, causing call center related stresses.

Cultural Shifts: Though on one side we learn to become as professional as western world executives some other disturbing issues are arising. One such serious issue is the personal habits that have undergone a considerable change. The personal habits, discipline are changed due to western culture.

Detachment from the Family: Since the daytime is spent in sleep and recreational activities with friends. The employees are hardly able to give time for their families. Problems become more pronounced when they get married. Additional responsibilities of running a family demands more time and hence eventually people quit the industry. Most of the employees work on Indian holidays too, which causes frustration. Some employees even feel the need for inclusion in the family and the society. Hence it is important for family members to render support for their young sons and daughters and to help them with the stress that they are undergoing.

OBJECTIVES
1.   To find out the reasons causing stress among the BPO employees
2.   To understand the stress factors and their management by BPO employees
3.   To suggest measures to cope up with the work stress

REVIEW OF LITERATURE
Dr. K. Tamizharasi et al (2014) revealed that the competitive environment, technological advancements, HR Practices, economic development, social developments changes are causing the stress factors for BPO employees. Consequently, every employee is expected to work for long hours, perform multiple jobs, available for 24 hours in seven days. These reasons give a mentally as well as physical problems to the employees. When these problems increase, then it gives a pressure, strain, anxiety, tension, trauma to the employees and ultimately the productivity of the employee's decreases.

Mrs. Shilpa R et al (2013) research paper threw light that it is the responsibility of BPO companies, to to take proper initiative to reduce the stress level among the employees by adapting some of the technique like Muscle Relaxation, Bio feed Back, Meditation, Cognitive Restructuring, Time Management, Employee Assistance Programme, and Wellness Programme.

Dr. S. M. Murali Krishna et al (2013) The key stressors which affect maximum number of BPO professionals are Poor Peer Relations, Intrinsic Impoverishment and Under-participation. This is because BPO employees are becoming more and more career conscious, they want to accept challenges, improve performance and want to become socially and economically independent

Geeta Kumari and K. M. Pandey et al (2011) emphasized that Stress in the work place has become the black plague of the present century. Much of the stress at work is caused not only by work overload and time pressure but also by lack of rewards and praise, and more importantly, by not providing individuals with the autonomy to do their work as they would like

SCOPE OF THE STUDY
The study was conducted to examine the factors causing work life stress and stress management techniques of BPO employees. The scope of the study is limited to Bangalore only

METHODOLOGY
The primary data have been collected through the method of interview schedule and structured questionnaire from the employees at BPO sector in Bangalore. Out of 50 respondents, 30 responded to questionnaire.

FINDINGS OF THE STUDY

FIG. 1
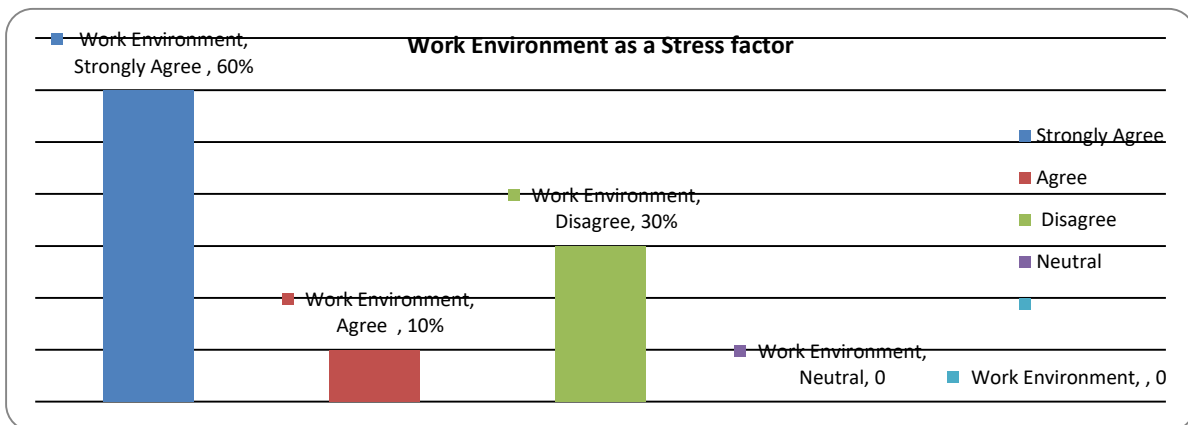
Out of the respondents 60% believed that work environment was a stress Factor.

FIG. 2
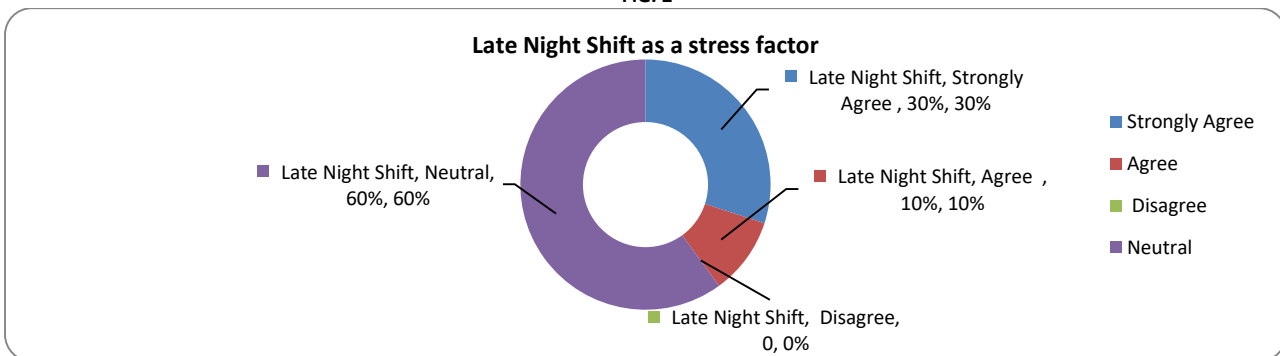
Out of respondents, 30% of them strongly agreed late night shift was a stress factor for them while 60% of respondents were neutral in their response.

FIG. 3

Target as stress factor
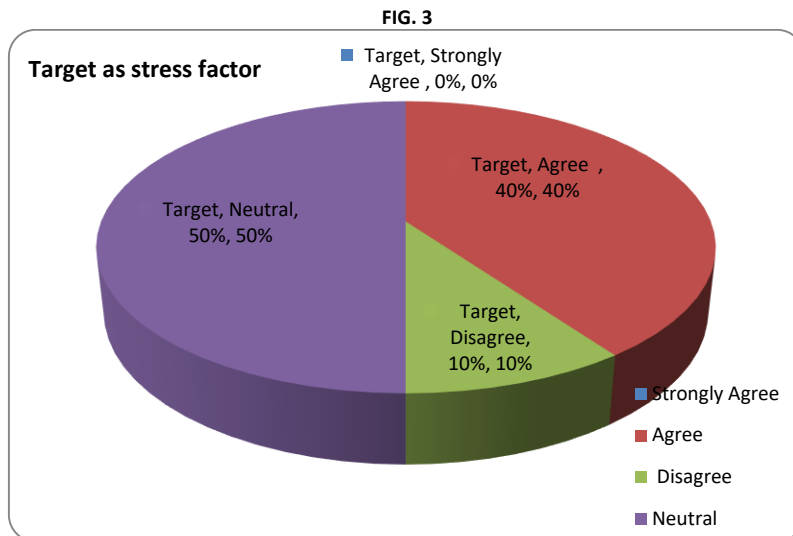
Out of respondents, 40% agreed target were their stress factor while 10% disagreed it was not so.

FIG. 4 & 5
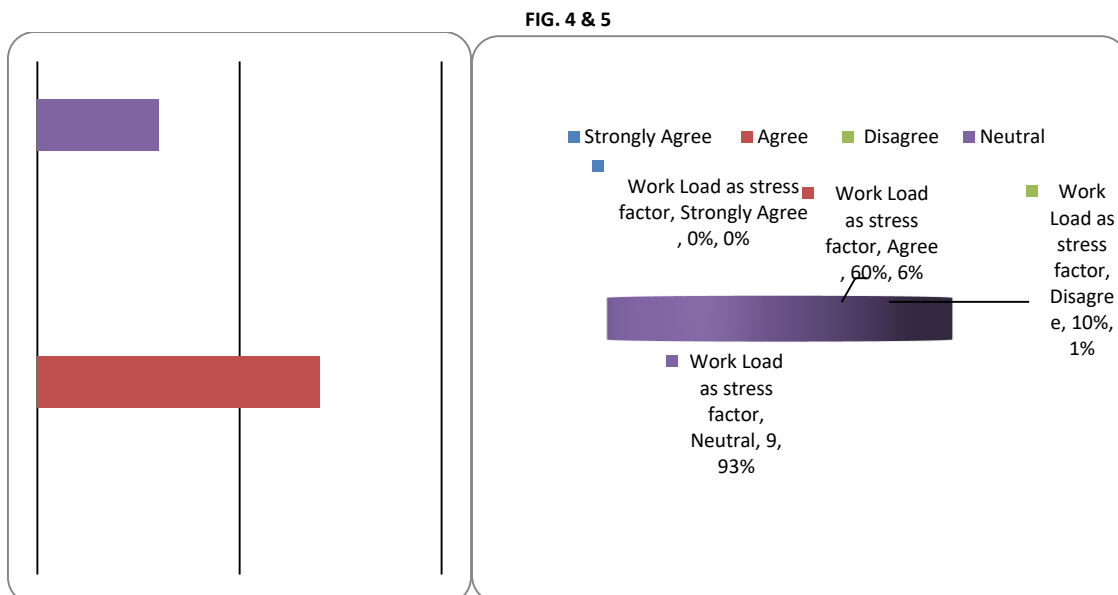
70% of respondents agreed that insufficient holidays were the reason for their stress in the work place and 93% of respondents were neutral in response to agree workload as a stress factor.

FIG. 6 & 7
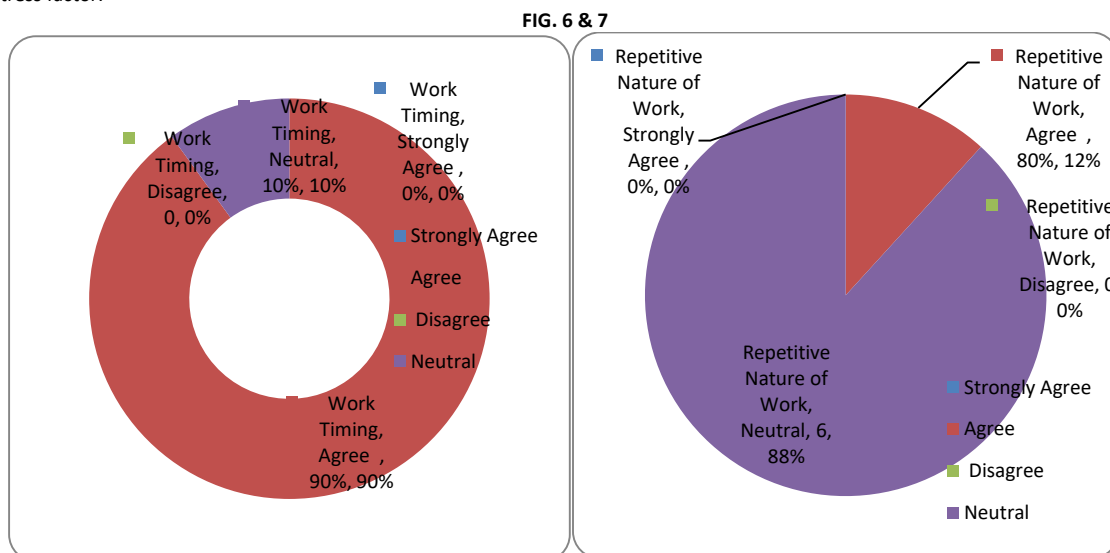
Work timing was a factor of stress for 90% of the respondents and 80% of respondents believed that repetitive nature of work as their stress factor.

FIG. 8 & 9
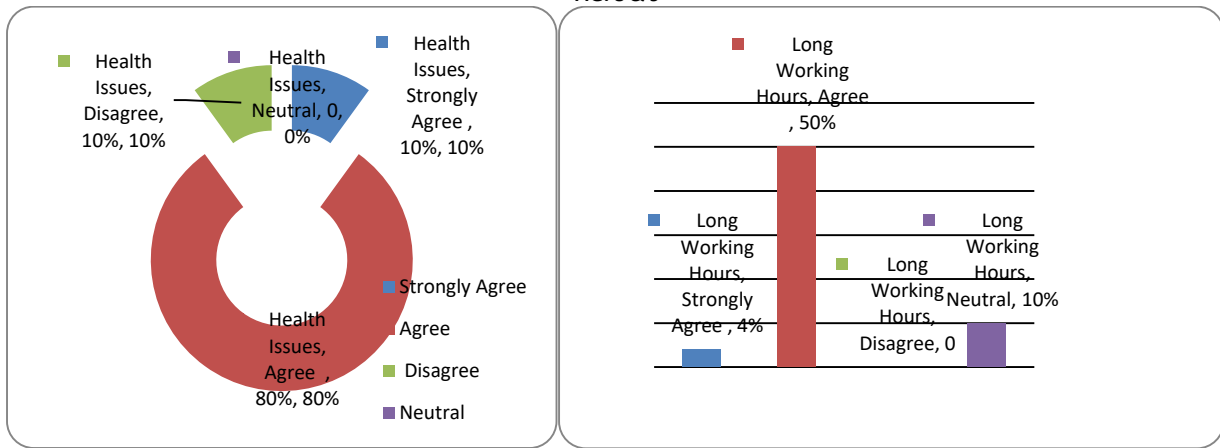
Health issue was a concern of majority of 80% of the respondents and 50% of them respondents agreed that long working hours were causing stress in their work place.

FIG. 10 & 11
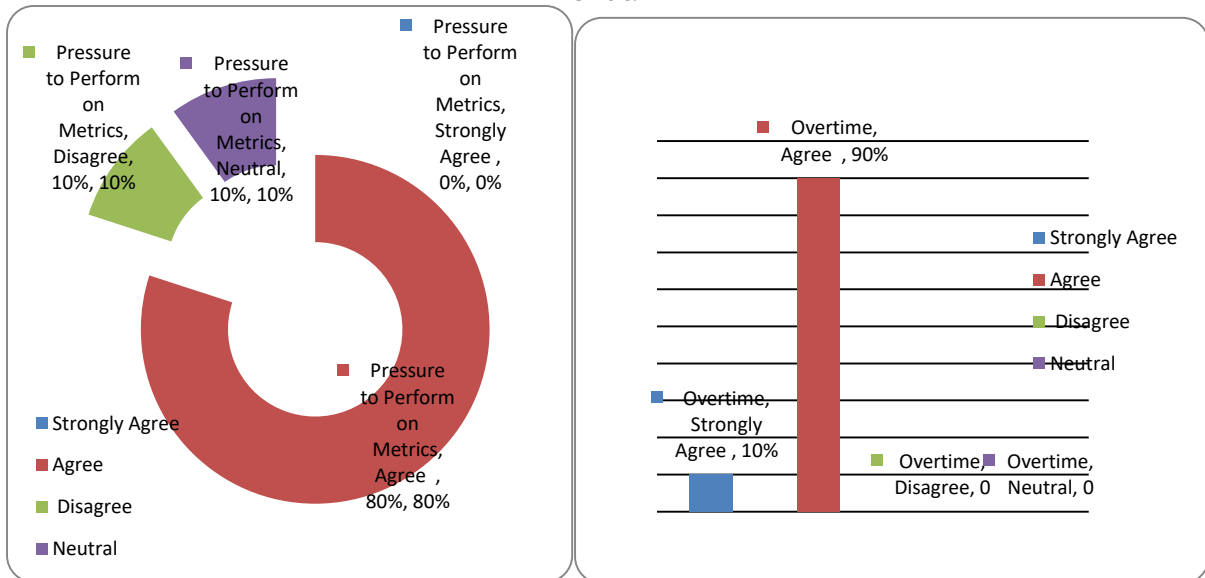
80% of the respondents believed that pressure to perform on metrics was a major stress factor and 90% of the respondents agreed that over time was their stress factor.

FIG. 12 & 13
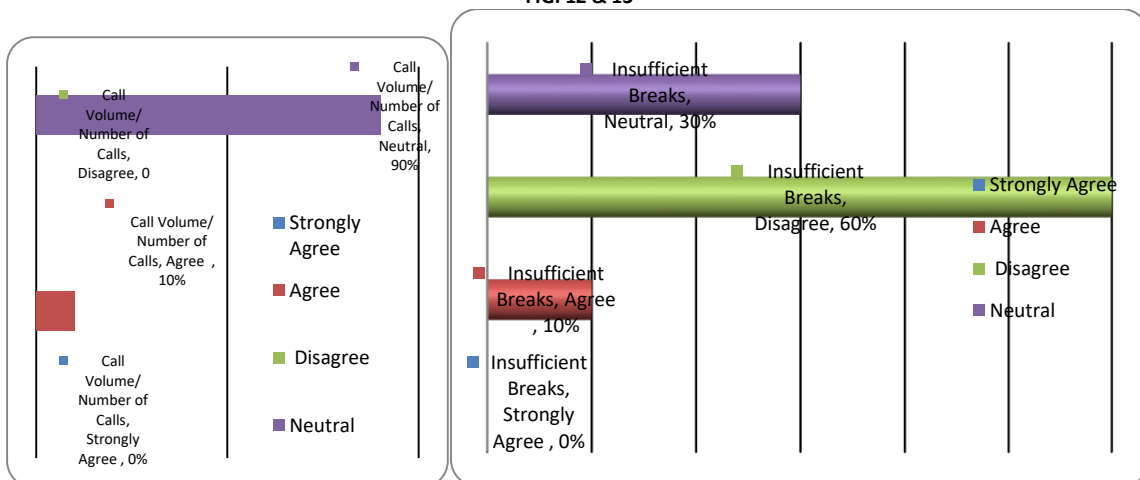
Only 10% agreed that number of calls was a stress factor in their work place.

FIG. 14 & 15
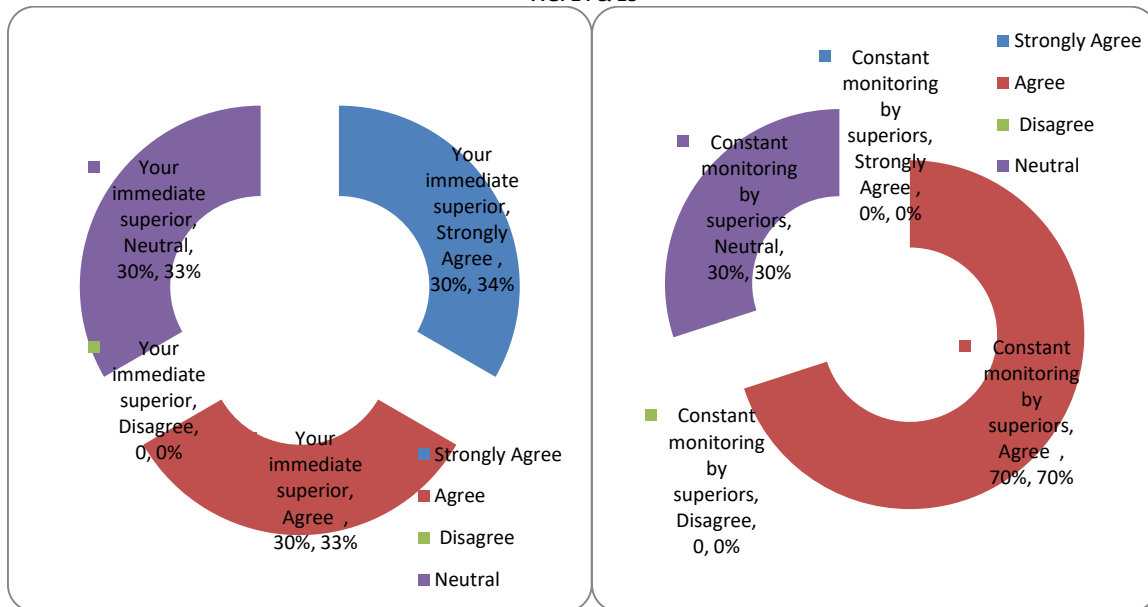
70% of respondents agreed that constant monitoring by superiors was a stress factor.

MANAGEMENT OF STRESS BY THE EMPLOYEES

FIG. 16
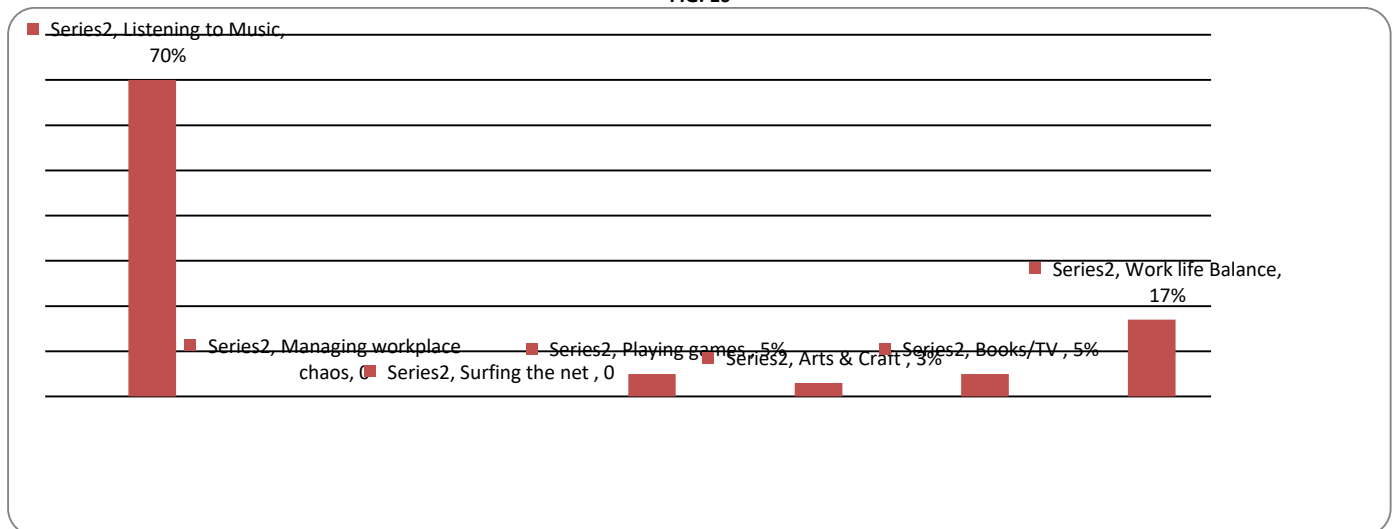
Majority of them agreed that listening to music helped them to manage stress while 17% believed that work life balance helped to relieve stress.

CONCLUSION

In modern competition oriented corporate scenario organizations try to squeeze out more output with fewer resources by contributing less which is the main cause of employee stress. The productivity of the work force is the most crucial factor as far as the success of an organization is concerned. The productivity in turn is dependent on the psychosocial wellbeing of the employees.

Overtime, repetitive work and health issues are the major factors causing stress for BPO employees. Proper stress management techniques could be adopted. Listening to music was the major stress buster for the employees. Even stress could be handled with activites like get-togethers, team building fun activities, vibrant ambience of workplace, attractive designations, impressive salary structure etc, the main objective of all this is to bring right balance between work and fun to enable employees for coping with the pressures and emotional pains of job.

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WEBSITE
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ANNEXURE

QUESTIONNAIRE

Dear Respondent:

Please fill in the questionnaire. This information is purely confidential and used for only research.

Name of the Respondent (optional)   :

Age   : Below 30 / 31-40/ 41-50 / 51-58

Gender   : Male / Female

Years of Service in B.P.O.   : Less than 5 Years / 5-10 / 10-20 /20-30 / More than 30 Years

Name of the Company (Optional)   :

Your Designation   :

Please choose any one answer for each of the following statements. The five options given.

SL NO	Causes of Stress	Strongly Agree	Agree	Disagree	Neutral
1	Work Environment				
2	Late Night Shift				
3	Target				
4	Travel Time				
5	Insufficient Holidays				
6	Work Load				
7	Work Timing				
8	Repetitive Nature of Work				
9	Health Issues				
10	Long Working Hours				
11	Pressure to Perform on Metrics				
12	Overtime				
13	Insufficient Breaks				
14	Call Volume/ Number of Calls				
15	Physical Strain				
16	Your immediate superior				
17	Constant monitoring by superiors				

How do you manage stress?

SL NO	Causes OF Stress	Strongly Agree	Agree	Disagree	Neutral
1	Listening to Music				
2	Managing workplace chaos				
3	Surfing the net				
4	Playing games				
5	Arts & Craft				
6	Books/TV				
7	Work life Balance				

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DATA HIDING BY USING WATERMARKING TECHNIQUE ON HIGH DYNAMIC RANGE IMAGES

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ABSTRACT

High dynamic range (HDR) imaging techniques address the need to capture the full range of color and light that the human eyes can perceive in the real world. HDR technology is becoming more and more pervasive. In fact, most of the cameras and smartphones available on the market are capable of capturing HDR images. Among the challenges posed by the spread of this new technology there is the increasing need to design proper techniques to protect the intellectual property of HDR digital media. In this paper, we speculate about the use of watermarking techniques to cope with the peculiarities of HDR media to prevent the misappropriation of HDR images.

KEYWORDS
high dynamic range, data hiding, watermarking, low dynamic range.

I.   INTRODUCTION
High dynamic range (HDR) imaging technologies provide a step forward in representing real scenes as they are perceived by the human eye. With respect to traditional imaging techniques capable of acquiring low dynamic range (LDR) images or video, HDR methodologies [1, 2] are capable of generating and rendering images and videos with a ratio between the luminance of the lightest and darkest areas far greater than the one provided by standard imaging technologies. It is evident that HDR media are richer in terms of content than their LDR counterparts and therefore much more valuable. It is therefore crucial to provide, since the early stages of the development of such technology, proper tools for protecting the intellectual property of digital HDR media. Data hiding, and more specifically digital watermarking [3, 4, 5], has emerged in the last decade as an enabling technology for copyright protection among other possible applications. Roughly speaking, data hiding is the general process by which a discrete information stream, the mark, is merged within media content by imposing imperceptible changes on the original host signal, while allowing the message to be detected or extracted even in the presence of either malevolent or non-intentional attacks. Other requirements, other than the transparency one, can be needed according to the specific application that is taken into account. Although LDR image or video digital watermarking is a very mature area of research, watermarking in an HDR scenario is still in its infancy and needs to be significantly developed. In this paper, we crystallize the state of the art on HDR image watermarking techniques and the watermarking embedding method proposed by the authors in [6] is more extensively tested using a wider set of images as well as up to date metrics for performance assessment.

II.   MULTIMEDIA DIGITAL WATERMARKING
In the past decades, there has been an explosion in the use and distribution of digital multimedia data, essentially driven by the diffusion of the Internet. In this scenario, data hiding and more specifically digital watermarking techniques [3, 4] have been proposed to address the ever-growing need to protect the intellectual property of multimedia content (digital still images, 2D and 3D video sequences, text, or audio) in the World Wide Web. Although copyright protection was the very first application of watermarking, different uses have been proposed in the literature. Fingerprinting, copy control, broadcast monitoring, data authentication, multimedia indexing, content-based retrieval applications, medical imaging applications, error concealment, quality assessment, and improved data compression are only a few of the applications where watermarking can be usefully employed. When these techniques are used to preserve the copyright ownership with the purpose of avoiding unauthorized data duplications, the embedded watermark should be detectable. This is required even if malicious attacks or non-malevolent signal processing (i.e., filtering and compression) are applied on the multimedia data. This requirement is known as watermark security. On the other hand, when the watermark is required to be resistant only to non-malicious manipulations, the watermarking techniques are referred to as robust. For some applications, when the robustness requirement is severely required, each attempt of removing the mark should result in irreversible data quality degradation. In some applications, the watermarked host data are intended to undergo a limited number of signal processing operations. Therefore, in the aforementioned scenario, the watermark needs to be robust only to a limited number of set of manipulations, in which case the technique is known as semi-fragile watermarking. On the contrary, when unwanted modifications of the watermarked data affect even the extracted watermark, the embedding scheme is known as fragile. Fragile watermarking can be used to obtain information about the tampering process. In fact, it indicates whether or not the data has been altered and supplies localization information as to where the data was altered. Capacity is another watermarking requirement, referring to the number of bits of information that can be embedded in the original data, which needs to be fulfilled, depending on the specific application. Robustness, imperceptibility, and capacity are requirements hindering each other; therefore, a trade-off driven by the application needs to be considered.

III.   HDR IMAGE WATERMARKING: STATE OF THE ART
Despite digital watermarking of low dynamic range images having been deeply studied for more than two decades, watermarking of HDR media, both images and video, has not been extensively explored. In fact, a direct transposition of the techniques developed for LDR media is not straightforward since HDR media possess some peculiarities with respect to LDR ones which do not allow a direct transposition of the plethora of watermarking approaches already developed for LDR

images and videos to the HDR case. In fact, the specific characteristics of the human visual system (HVS) related to the fruition of HDR media need to be exploited when designing HDR-tailored embedding techniques. Moreover, HDR-specific watermarking methods need to be robust against intentional attacks or signal processing manipulations like the use of tone-mapping operators (TMOs). The use of TMOs is necessary when HDR media need to be experienced using conventional displays in order to generate LDR data retaining as much information as possible from the original objects, while reducing the overall contrast. Therefore, it is highly desirable to design HDR watermarking schemes also robust against TMOs, thus allowing to either recover or detect the embedded mark not only from the marked HDR image but also from its tone-mapped version. In the following, an overview on the state of the art for HDR image watermarking is given. Specifically, in Section 3.1, the 1-bit embedding approaches are detailed, whereas the multi-bit approaches are summarized in Section 3.2.

3.1 HDR image watermarking: 1-bit embedding

Watermarking techniques aimed at embedding 1 bit of information imply the detection of the embedded watermark at the receiving side. In [7], two different watermarking methods, both of them splitting the cover HDR image into a host image where to embed the mark and a residual part, are investigated. The first approach employs the μ-law to characterize a generic TMO and applies it to the original HDR image to derive an LDR representation where the watermark can be embedded. The residual part is given by the ratio between the HDR and the LDR images. However, since the range of HDR images may be orders of magnitude greater than the one of LDR images, their ratio will be high in areas with high luminance, where the watermark will be therefore very strong. The second approach decomposes the HDR image into a detail and a coarse component by applying bilateral filtering. The watermark embedding is then performed in the detail component that preserves the images' edges. In fact, it is assumed that a generic TMO does not affect the image details and the color appearance, while addressing the problem of strong contrast reduction. Both methods proposed in [7] project the luminance of the detail component in the discrete wavelet domain. Then, the embedding is performed using spread-spectrum (SS) techniques. The experimental tests, conducted using five HDR images and four local TMOs, show that the visual quality of images marked with the μ-law-based approach, evaluated by means of the peak signal-to-noise ratio (PSNR) computed over tone-mapped images, is better than the one associated with the method relying on bilateral filtering. Specifically, the PSNR of the images marked with the first approach is within the 50–70-dB range, while the second one results in a PSNR of about 30–60 dB. However, bilateral filtering guarantees better performance in terms of robustness to the application of TMOs.

In [8], a general tone-mapping, represented by the logarithm function, is considered and applied to the luminance of the given HDR image, thus obtaining the LogLuv domain. The watermark embedding is performed by applying a quantization-index-modulation (QIM) approach [9] to the approximation subband of the discrete wavelet transform of the LogLuv component. Specifically, the image is divided into different blocks of random shapes, and the coefficients of each block are modified in order to make the block kurtosis equal to a non-uniformly quantized value determined by the bit to be embedded into the block. Mark imperceptibility is obtained by applying a local perceptual mask based on luminance, texture, and contrast that provides the maximum amount of distortion that each coefficient in the embedding domain can withstand without resulting in visible artifacts. Experimental tests conducted on 15 HDR images include an objective analysis on mark imperceptibility evaluated through the HDR-Visual Difference Predictor (HDR-VDP) metric [10] and on the robustness of watermark detection against seven different TMOs as well as to the addition of Gaussian noise in the HDR domain.

In [11], a non-linear hybrid embedding approach operating in the detail subbands of a one-level wavelet decomposition is used to watermark an HDR image. Specifically, the approach combines both additive and multiplicative watermark embedding and is based on a square-root embedding equation operating in the wavelet domain. The embedding approach is applied to 12 images, and its robustness is tested against the application of seven TMOs. The quality assessment is carried out using both the HDR-VDP metric and a pool of three observers on a native HDR display.

In [12], a bracketing approach mimicking the HDR image generation process, consisting of merging several single-exposure LDR images, is exploited for HDR image watermarking. In details, an HDR image is split into multiple LDR images, which are watermarked before being fused again into a single HDR image representation. The mark embedded in the HDR image thus generated results to be detectable in its LDR counterparts obtained by either applying a tone-mapping process or extracting and displaying only a specific range of interest of intensities. The HDR-VDP-2 metric [13] is employed to assess the performance. An equal error rate (EER) lower than 10^{-8} % is achieved when detecting a watermark from LDR images obtained with five different TMOS. EERs lower than 10^{-2} % are estimated when analyzing LDR images obtained by isolating, from the HDR data, a dynamic range different from the one considered during embedding.

TABLE 1: SHOWING THE SUMMARY OF VARIOUS AUTHORS WITH RESPECT TO VARIOUS PARAMETERS

Paper	Embedding domain	Embedding method	# of images database	Imperceptibility	Robusteness
					4 TMOs
Xue et al. [7]	μ-law and wavelet	Multiplicative	5[a]	PSNR on LDR $\sim$ 55 dB	Score > threshold at
					$P_{fa}=10^{-8\%}$
	Bilateral and wavelet	Multiplicative		PSNR on LDR $\sim$ 45 dB	Score > threshold at
					$P_{fa}=10^{-8\%}$
					7 TMOs
Guerrini et al. [8]	LogLuv and wavelet	QIM	15[a, b]	HDR-VDP $_{75} \sim 0.46$ %	$P_{miss}=10^{-2}$ % at
					$P_{fa}=10^{-6\%}$
				HDR-VDP $_{95} \sim 0.21$ %	Add. noise
					$P_{miss}=10^{-12}$ % at
					$P_{fa}=10^{-6\%}$
Autrusseau et al. [11]	Wavelet	Hybrid	5, 7[a, b]	HDR-VDP	8 TMOs
				Subjective (3 subjects)	qualitative analysis
Solachidis et al. [12]	Wavelet	Additive	6[a]	HDR-VDP-2 $_{95} \sim 5.00$ %	6 TMOs

3.2 HDR image watermarking: multi-bit embedding

In [14], binary information is inserted into an HDR image encoded in RGBe format by substituting the least significant bits (LSBs) of each pixel with bits taken from the secret message. In more detail, the HDR image is divided into flat and boundary areas by comparing the exponents associated to neighboring pixels. The number of bits which can be embedded into each color channel is then adaptively determined on the basis of local contrast and depending on the considered area, embedding more bits in high contrast and dark regions than in smooth and bright ones. The method capacity, tested on seven HDR images, is around 10 bits per pixel (bpp). Its imperceptibility is evaluated by converting the HDR images into their LDR counterparts by means of a TMO and measuring the peak signal-to-noise ratio (PSNR) between the tone-mapped cover image and the tone-mapped watermarked image, obtaining values around 30 dB.

Images in uncompressed LogLuv TIFF format are considered in [15]. The LSB of each channel's mantissa is modified to insert a binary message, while the exponent is selected in order to minimize the difference between the final value and the original one. The visual quality of the resulting images is evaluated over seven HDR images by applying tone-mapping and computing the PSNR and the HDR-VDP metrics.

The RGBe format is considered in [16], where its property of expressing a given color according to different possible choices is employed to hide a message into an HDR image: the final color representation is selected among the equivalent ones on the basis of the bits of the secret message. Such an approach produces distortion-free watermarked images, being different with the original cover image due only to the conversion employed to determine the floating point value of the pixels. A capacity of about 0.12 bpp is estimated over five HDR images.

The blue component of a detail layer obtained exploiting bilateral filtering as in [7] is employed in [17] to embed into an HDR image binary messages with as many bits as the image's pixels. The mark is inserted additively yet proportionally to the pixels' luminance. The mark imperceptibility is measured only through the PSNR, evaluated over five HDR images, achieving values around 60 dB. No objective measurements of mark extraction capability are provided, and the robustness against TMO is not evaluated. It is worth noting that no intentional or unintentional attack is taken into account in any of the aforementioned approaches performing multi-bit message embedding.

IV.   CONCLUSIONS

HDR images represent valuable content, whose intellectual property needs to be protected by means of proper digital techniques. To this aim, a blind multi-bit watermarking method for HDR images has been presented in this paper. The proposed approach hides information in areas closely associated to image contours, thanks to the properties of the considered RDCT transform. The selected embedding domain guarantees proper imperceptibility of the inserted marks, while providing the means for blindly extracting the embedded information without the need of the original image. An extensive set of experimental tests, conducted on 15 different HDR images, has been conducted to estimate the performance of the proposed method. The HDR-VDP-2 metric is employed to evaluate the perceptibility of the performed modifications, while six different TMOs have been employed to evaluate the possibility of retrieving the embedded data from LDR images generated from the marked HDR ones. The effects of signal processing attacks such as Gaussian additive noise and filtering have been also evaluated. The obtained results testify the effectiveness of the proposed approach, also showing the trade-off relationships between imperceptibility, robustness, and capacity when varying the parameters determining the employed system configurations.

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CUSTOMER RELATIONSHIP MANAGEMENT FOLLOWED BY COMPANIES SELLING ORGANIC PRODUCTS WITH REFERENCE TO PATANJALI AND ARJUNA NATURAL EXTRACTS

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ABSTRACT

Customer relationship management (CRM) is a process designed to collect data related to customers, to grasp features of customers, and to apply those qualities in specific marketing activities. In the analytical CRM, these data are stored and analyzed through a range of analytical tools in order to generate customer profiles, identify behavior patterns, determine satisfaction level, and support customer segmentation; thus, customers are more effectively segmented and offered products and services are fitted to customer buying profiles. Nevertheless, even though a wide range of CRM systems are being developed and implemented in practice, application of analytical CRM has been low, due to lack of focus on gaining customer knowledge for strategic decision making from CRM systems, and lack of analytical CRM solutions. Organizations can strategically use analytical CRM to support customer knowledge acquisition.

KEYWORDS
customer relationship management, organic products.

1. INTRODUCTION
owadays, organic products have become part of green consumerism movement that "focus on renewable resources and protecting soil and water to improve the quality of life for generations to come". During the 1960's and 1970's the concept of organic food became a separate entity to the 'normal' food we were then buying. Consumers had been effectively duped into believing that what they were buying, was food as nature intended, it not appreciating that the chemicals which were added during growth of the 'normal stuff' were what actually made the food abnormal in the first place. Despite of consumers' growing support to preserve the environment, the consumption and market share of organic food still constitutes a low percentage compare to total food

2. COMPANY PROFILE OF PATANJALI AND ARJUNA EXTRACTS
PATANJALI AYURVEDA
Patanjali Ayurved Ltd. is a company that links the rising destiny of millions of rural masses on the one hand and many more suffering the onslaught of the unhealthy urban life style on the other. It is all about economically processing farm produce into daily use consumables ranging from Organic health supplements to Foods and cosmetics and then supplying them largely to the urban world. The produce will be picked up right from the farms, thereby increasing the effective income of the farmers. The health based products will then be made available to a large population in the urban areas that is reeling under the scourge of polluted food items and artificial drinks that make them vulnerable to a variety of cronic diseases. And all this at a cost that is unmatched in the market. PATANJALI AYURVED Ltd is a company that functions like all other companies under the regulations of the company law affairs, yet is constantly striving for nation building more than the profit accumulation.

ARJUNA NATURAL EXTRACTS
Arjuna is driven by philosophy of manufacturing products of exceptional quality using innovative concepts. Its products range consists of more than 50 products are being used in over 43 countries. The production facilities are spread in 6 locations in south India including a world class research and development facility approved by Ministry of science and Technology. Arjuna Natural Extracts Ltd is a front runner in the industry adhering in to the highest ethical values and continuously striving to promote intellectually protected scientific approach in the field of extracts supported with clinical, toxicological and stability studies. Arjuna Natural Extracts Ltd is a global manufacturer and exporter of standardized herbal and spice extracts, specialized essential oils and omega 3 fatty acids from marine and vegetable source, in oil and powder forms. With 16 years of excellence in the industry. The company is driven by the philosophy that centres on producing exceptional product quality and ensuring ultimate customer satisfaction. Arjuna Ntural Extracts Ltd's manufacturing facility makes use of the most technologically advanced equipments to assure consistent product quality and efficient streamlined service. It follows strict GMPs to guarantee standardized extract quality, purity and potency.

3. OBJECTIVES OF THE STUDY
1.   To identify the customer relationship programs being run by both companies.
2.   To compare CRM practices followed by Arjuna and Patanjali

3.   To identify the effectiveness of a CRM practices of both the companies.
4.   To find out if there is any difference in CRM practices followed by companies selling organic products and other products.

4. RESEARCH METHODOLOGY

Primary data is used in this study. Questionnaires were given to both the customers of Arjuna and Patanjali and other questionnaires to both the companies.
Sample size: 60 respondents (30 each in both the companies)

5. LITERATURE REVIEW

1.   Chen and Popovich (2003): "CRM is not a concept that is really new but rather due to current development and advances in information and enterprise software technology"
      CRM is relationship marketing, which has the objective of improving the long term profitability of customers by moving away from product centric marketing.
2.   Greenberg (2004): "CRM generally is an enterprise focused endeavour encompassing all departments in a business."
      He explains that in addition to customer service, CRM would also include manufacturing, product testing, assembling as well as purchasing and billing and human resource, marketing, sales and engineering.
3.   Gummesson and Zineldin (2000): "Modern customer relationship management concept"
      This concept was shaped and influenced by the theories of total quality management and by new technological paradigms.
4.   Peppers and Rogers (1999): "Other organization's view CRM as a tool"
      It has been particularly designed for one to one customer communications, which is the function of sales, all centres or the marketing departments.
5.   Frow and Payne (2004): "CRM stresses two-way communication from the customer to the supplier to build the customer over time"
      The two-way communication has been enhanced greatly by advances in technology particularly the internet.
6.   Gulati & Garino (2000): For customers, CRM offers customization, simplicity and convenience for completing transactions irrespective of the kind of channel of interaction used.
7.   Peppard (2000): "Effective management of information has a very important role to play in CRM".
      It can be used to for product tailoring, service innovation, consolidate views of customers and for calculating life time value.
8   Swift (2001): Companies can gain many benefits from CRM implementation. He states that the benefits are found in these areas:
•   Lower cost of recruiting customers
•   Higher customer profitability
9   Goldenberg (2000): CRM is not merely technology applications for marketing sales and services but rather when it is successfully implemented, it enables firms to have cross functional, customer driven, technology integrated business process management strategy that maximises relationships.

6. ANALYSIS OF DATA
CRM PRACTICES OF BOTH COMPANIES. (CUSTOMERS POINT OF VIEW)

TABLE NO. 1: SHOWING THE NUMBER OF MALE & FEMALE RESPONDENTS OF ARJUNA & PATANJALI

Gender	No of respondents (ARJUNA)	No of respondents (PATANJALI)
Male	15	15
Female	15	15
Total	**30**	**30**

FIGURE NO. 1: SHOWING THE NUMBER OF MALE & FEMALE RESPONDENTS OF ARJUNA & PATANJALI
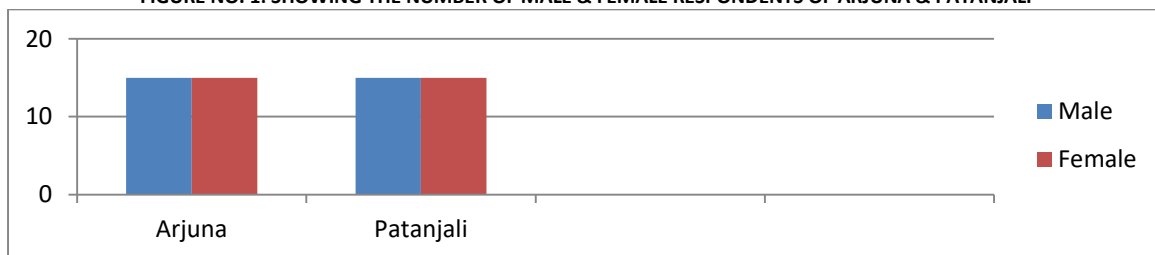
According to the Bar diagram, the study was conducted with a sample size of 60. Out of which, 15 are male and 15 are female in each company

TABLE NO. 2: SHOWING THE AGE CATEGORIZATION OF RESPONDENTS IN ARJUNA & PATANJALI

Age	No of respondents(Patanjali)	No of respondents(Arjuna)
Below 25 years	6	9
26 – 30 years	5	7
31 – 35 years	7	6
35 years and above	12	8
Total	**30**	**30**

FIGURE NO. 2: SHOWING THE AGE CATEGORIZATION OF RESPONDENTS IN ARJUNA & PATANJALI
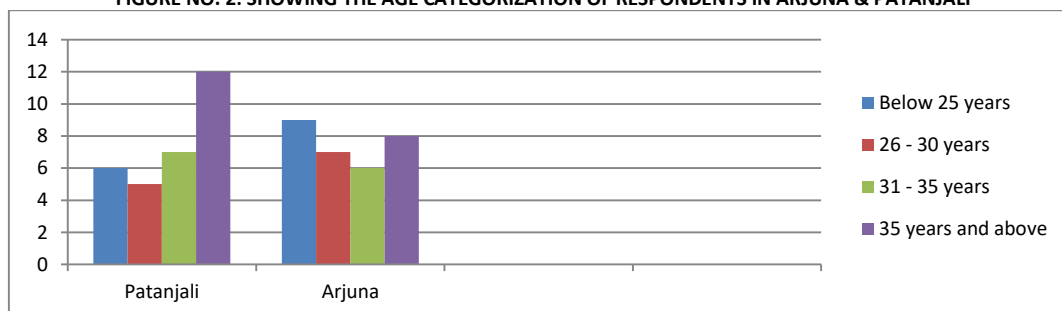
According to the Bar diagram, out of 60 respondents, 15 people are below the age of 25, 12 people are between 26 to 30 years, 13 are between 31 to 35 years and 20 people above the age of 35 years.

TABLE NO. 3: SHOWING THE QUESTIONS TO THE CUSTOMERS OF PATANJALI

QST NO.	Questions	Excellent	Good	Average	Poor	Total
1	Purchase experience	9	16	3	2	30
2	Experience with customer care executives	8	7	10	5	30
3	Rate the company's CRM	10	12	5	3	30
4	Importance in improving customer relations to a company's core strategy	20	7	2	1	30

FIGURE NO. 3: SHOWING THE QUESTIONS TO THE CUSTOMERS OF PATANJALI
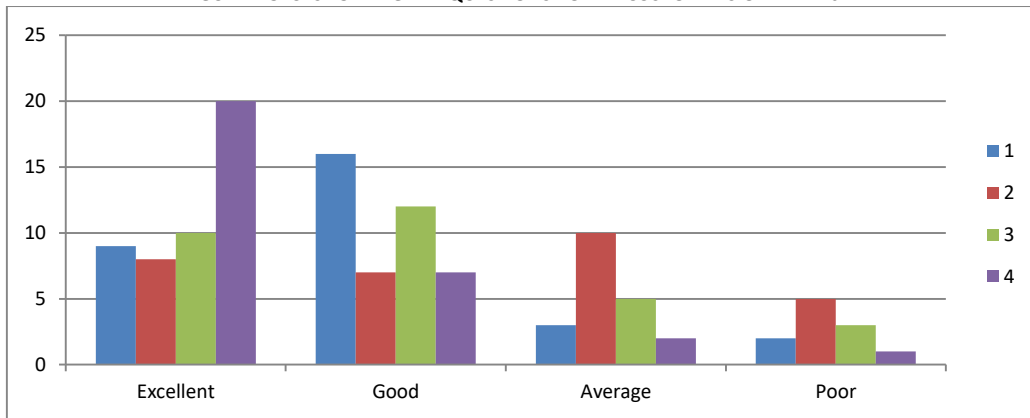
According to the Bar diagram, out of 30 respondents 9 people rated that they have an excellent purchase experience with patanjali. 16 people said that their experience was good. 3 people rated it was average and 2 as poor.8 people rated that they had excellent experience with customer care executives. 7 people rated as good, 10 as average and 8 as poor.10 people rated that patanjali's CRM system as excellent, 12 as good, 5 as average and 3 as poor.

TABLE NO. 4: SHOWING THE QUESTIONS TO THE CUSTOMERS OF ARJUNA

QST NO	Questions	Excellent	Good	Average	Poor	Total
1	Purchase experience	7	12	8	3	30
2	Experience with customer care executives	6	10	8	6	30
3	Rate the company's CRM	8	12	8	2	30
4	Importance in improving customer relations to a company's core strategy	15	5	8	2	30

FIGURE NO. 4: SHOWING THE QUESTIONS TO THE CUSTOMERS OF ARJUNA
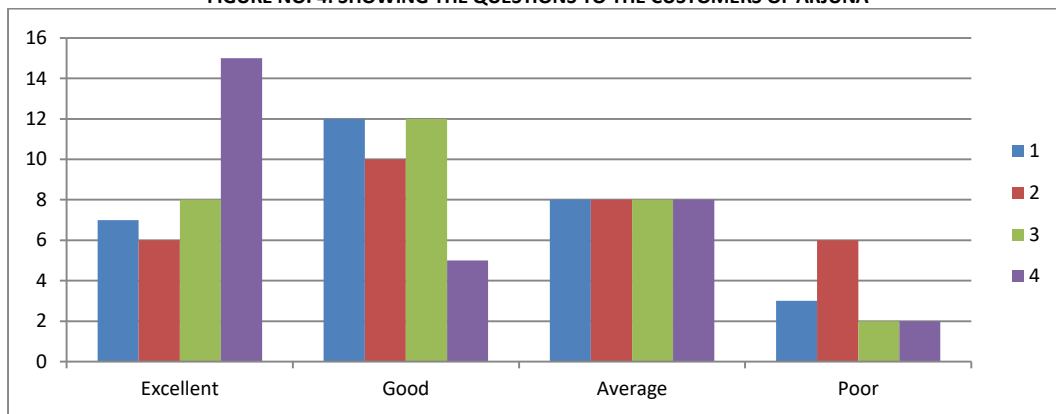
According to Bar diagram, out of 30 respondents 7 people rated that they have an excellent purchase experience with Arjuna. 12 people said that their experience was good. 8 people rated it was average and 3 as poor.6 people rated that they had excellent experience with customer care executives. 10 people rated as good, 8 as average and 6 as poor.8 people rated that patanjali's CRM system as excellent, 12 as good, 8 as average and 2 as poor.

CRM PRACTICES FOLLOWED BY BOTH COMPANIES

TABLE NO. 5: SHOWING THE QUESTIONS TO PATANJALI

QST NO	Questions	Strongly agree	Agree	disagree	Strongly disagree
1	Relationship with customers is given great value in the company	✓			
2	Company treat key customers with great value				✓
3	Company makes an effort to find out what our key customer needs	✓			
4	Does CRM system used to design new products?		✓		
5	Would you say that CRM system solved your business problems?		✓		

According to the above table, Patanjali Ayurveda Strongly agree that they are maintaining a good relationship with customers and also customer's has great value in the company. Patanjali strongly disagrees that, they do not treat key customers with great value. Patanjali strongly agrees that they make effort to find out what their key customer need. Patanjali agrees that they use CRM systems to design new products. Patanjali agrees that the CRM system is useful in solving the Business problems.

TABLE NO. 6: SHOWING THE QUESTIONS TO ARJUNA

QST NO	Questions	Strongly agree	Agree	disagree	Strongly disagree
1	Relationship with customers is given great value in the company	✓			
2	Company treat key customers with great value		✓		
3	Company makes an effort to find out what our key customer needs	✓			
4	Does CRM system used to design new products?		✓		
5	Would you say that CRM system solved your business problems?			✓	

According to the above table, Arjuna naturals Strongly agree that they are maintaining a good relationship with customers and also customer's has great value in the company. Arjuna strongly agrees that, they do not treat key customers with great value. Arjuna strongly agrees that they make effort to find out what their key customer need. Arjuna agrees that they use CRM systems to design new products. Arjuna strongly disagrees that the CRM system is useful in solving the Business problems.

7. FINDINGS

- The researchers found that 30% respondents rated that they have an excellent purchase experience with Patanjali. 53% people said that their experience was good. 10% people rated it was average and 7% as poor. However, 23% people rated that they have an excellent purchase experience with Arjuna. 40% people said that their experience was good. 27 people rated it was averge and 10% as poor.
- In Patanjali, 33% people rated that they had excellent experience with customer care executives. 40% people rated as good, 17% as average and 10% as poor. But in Arjuna, 27% people rated that they had excellent experience with customer care executives. 40% people rated as good, 27% as average and 6% as poor.
- In both the companies, customers are highly valued.
- The researchers found that Patanjali do not treat their key customers with great value. In the other hand, Arjuna treat their customers with great value because they are making changes to their products based on the need of their customers.
- Both the companies agree that they are taking effort to find out their key customer's need.
- Both the companies agree that they use CRM systems to design new products.
- Patanjali agrees that the CRM system is useful in solving the Business problems. Arjuna strongly disagrees that the CRM system is useful in solving the Business problems.

7. SUGGESTIONS

- Relation with the customer care executives of both the companies should be properly maintained.
- In Patanjali, company should treat key customers with great value by the proper way of customer services given by them.
- In Arjuna, CRM system is not solving business problems. This can be solved by good revenue potential, accurate communication and accurate customer profile information.
- Customers should talk with company at any point of time, if there have any issues.
- Customers should be encouraged the companies with a problem, so that the company may know customer preferences and deliver the product and services which will satisfy the customer need.
- The researchers have conducted the study only within the Kerala state. So the researchers would recommend other similar researchers who are interested in conducting a research in the topics to expand the study to national level.

8. CONCLUSION

Patanjali is treating all consumers as equal. They are not giving priority to its key customers. On the other hand, Arjuna is taking into account the feedback given by their customers and implementing the changes accordingly. The marketing system of Patanjali is very effective on the other hand Arjuna does not have a strong marketing back bone. Arjuna believes that CRM is not so important in solving the business problem. They believe CRM is not an effective tool of marketing.
The researchers believe that Arjuna should improve their CRM to serve the customers better. There is a slight difference in CRM practices followed by both the companies Arjuna and Patanjali. While Arjuna is blindly implementing the CRM practices. Patanjali is making use of feedback given by the customers to implement the CRM practices in a better way to be more useful to the customers.

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ASSESSING THE ROLE OF MICRO AND SMALL LOANS CENTRE (MASLOC) IN ENHANCING THE GROWTH OF MICRO AND SMALL-SCALE ENTERPRISES (MSEs) AS A STRATEGY TO ALLEVIATE POVERTY IN THE CENTRAL REGION OF GHANA

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ABSTRACT

The developmental challenges of most African countries, with Ghana as no exception, are overwhelming. These challenges variously range from widespread poverty, unemployment, lack of good health, illiteracy, and corruption. Generally, the Central region of Ghana is constantly plagued with unprecedented poverty levels that have stifled economic activities, leading to poverty and declining standards of living. The role of Microfinance and Small Loans Centre (MASLOC) to boost economic ventures in the Ghana through micro and small-scale enterprises (MSEs) loans and support cannot be over emphasized. This paper focuses on the fundamental role MASLOC plays in financing MSEs, to improve the economic wellbeing of the people of Central Region in promoting self-employment as a poverty alleviation strategy (Millennium Development Goal (MDG 1). Structured questionnaires were administered to 325 MSE operators in six (6) Metropolitan, Municipal and District Assemblies (MMDAs) of Central Region to gather data for the study, of which 303 questionnaires were retrieved. Data available revealed that only 61 MSE operators (respondents) representing 20.13% have ever secured financial support from MASLOC to expand their micro and small businesses. It was however, revealed that a total of 41 MSEs (representing 67.21%) who had ever received support from MASLOC considered limited fund support and excessive politicization, as the major challenges in their dealings with MASLOC. The study recommended among other things; the need for the Government to expand the financial base of MASLOC in order to increase their client base especially in the rural areas and also to set up the right institutions and control mechanisms to reduce financial impropriety and the extent of politicize in order to ensure for efficiency, equity and transparency in achieving its strategic purpose of eliminating poverty in Ghana.

1.0 INTRODUCTION

African countries, south of the Sahara are entrapped with unprecedented levels of poverty and underdevelopment. Poverty refers to a condition where basic needs such as food, clothing and shelter are not adequately met. The United Nation's standard measure of poverty includes population living on less than one dollar per day. Poverty, according to Bhatt and Tang (2001) goes beyond just lack of funds to cater for the basic needs, it also relates to vulnerability, defenselessness and dependency which go a long way to negatively affect the standard of living of the populace. Kan and Noreen (2012) also hinted that poverty has the perspective of lacking the necessary capabilities and entitlements to satisfy one's basic needs and requirement. Hence, poverty is a menace that prevents individuals from having easy access to their basic necessities that makes life meaningful.

As indicated by the Ministry of Finance, 2014 report, the main objective of Ghana's Growth and Poverty Reduction Strategy (GPRS II) is geared towards "sustainable equitable growth, accelerated poverty reduction and the protection of the vulnerable and excluded within a decentralized, democratic environment". This presupposes that at the crust of GPRS II is the conscious effort to eliminate widespread poverty among the productive poor who constitute greater majority of the citizenry.

As indicated by Lashley (2004), microfinance since the early 1970s, has become a global phenomenon in both developed and developing countries as means of alleviating poverty and developing microenterprises. The emergence of Microfinance institutions (MFIs) is not a new phenomenon in Ghana. the concept of credit union whereby individuals and groups contribute small amounts of money, over a period of time as a form of savings to accumulate funds for purpose of receiving financial from the union, has been around over a long period now as indicated by Asiama and Osei (2007) that available evidence shows that the first credit union in Africa was established in Northern Ghana in 1955 by Canadian Catholic missionaries but susu scheme as a microfinance activity is believed to have originated from Nigeria.

Microfinance according to Koshy (2014) is defines as a financial tool which consists of small loans, savings accounts and insurance as well as loans and other payment services to low-income households for their micro and small-scale enterprises. Nasir (2013), refers to microfinance as organization or association of individuals that provide financial services to the poor in the society. Chauhan and Rajdev (2014) also describe microfinance as those financial services that include small loans, insurance and pension facilities to poor and needy people.

Microfinance institutions thus, refer to specialized non-formal financial institutions that are established to address the financial needs of micro and small-scale businesses which hitherto, found it very difficult to access financial assistance from formal banks. Microfinance institutions according to Lakshmi and Vasantha (2013) are established as an effective way to empower the lowest levels of entrepreneurs by providing them continuous financial support that were hardly served by formal banks and other financial intermediaries.

1.1 STATEMENT OF THE PROBLEM

Poverty levels in the Central Region of Ghana have now reached alarming levels mainly due to rising unemployment, low income levels and high cost of living resulting in declining standards of living. The income levels of most communities are so meager that commercial activities are adversely affected. Hence, most micro enterprises and businesses find it very difficult if not impossible, to create wealth for capital injection purpose. Most micro enterprises in Central region of Ghana, where poverty is strive, are crippled by the problem of inadequate capital to finance business expansion and growth. Micro enterprises are constantly being faced with the challenge of raising adequate capital to support business growth and expansion. As hinted by Maliti (2015), financing small and medium-scale enterprises (SMEs) is crucial to their success and that every business irrespective of its size requires reliable financial assistance to support the level of trading.

It is worth noting that business capital can best be provided by formal banking sector where cost of capital is traditionally low and also have the large depository requirement to finance any volume of trade. Surprisingly, the conventional (formal) banks in most cases fail to provide any form of credit available MSEs due to reasons such as lack of collateral security, high credit risk involved and lack of proper financial report projecting the series of cash flows that would support the repayment schedule, among other things.

There is therefore, the necessity to create the right opportunity to ensure that MSEs have access to uninterrupted supply of funds (loans) and other forms of credit to finance the liquidity challenges in order to facilitate all-year-round trading activities. Microfinance and Small Scale Loan Centre (MASLOC) was strategically established by the Government of Ghana in 2006 to address better, the financing needs of MSEs and rural entrepreneurs.

However, the activities and programmes of MASLOC have recently come under severe criticism due to several reasons such as inadequate funds to support ever increasing entrepreneurs, excessive politicization, corruption and lack of transparency. These challenges are hampering the objectives of setting up MASLOC. Hence, the need to critically ascertain the role MASLOC plays in financing the growth strategies of MSEs and also to fashion out measures to boost rural enterprises aimed at supporting and strengthening MSEs operating in the Central region of Ghana, in her quest to alleviate poverty as part of the Millennium Development Goal **(MDG 1)**.

1.2 OBJECTIVES OF THE STUDY

The objectives of the study include the following:

1.   To ascertain the key functions of MASLOC and to evaluate the role they play in financing the growth potentials of MSEs;
2.   To examine the key products and services that MACLOC offer to support the growth potential of MSEs;
3.   To measure the extent to which MSEs have benefited from MASLOC especially in terms of profitability and growth;
4.   To measure the potency of MASLOC loan monitoring procedures of MSEs;
5.   To ascertain whether the cumulative capital requirement (depository base) of MASLOC that can adequately meet all the financial needs of MSEs especially in project financing (capital budgeting); and
6.   To identify the major challenges MASLOC faces in its quest to finance the growth potentials of MSEs and the way forward.

1.3 ASSUMPTIONS AND HYPOTHESIS

The study sought to test the following assumptions:

1.   Micro and small-scale enterprises (MSEs) mainly rely on MASLOC to achieve significant growth; and
2.   Micro and small-scale enterprises (MSEs) that do not rely on MASLOC facilities mostly face liquidity and growth challenges.

2. THEORETICAL AND CONCEPTUAL FRAMEWORK

2.1 DEFINITION OF MICRO AND SMALL-SCALE LOAN CENTRE (MASLOC) AND MICRO AND SMALL-SCALE ENTERPRISES (MSEs)

Microfinance institutions (MFIs) in its broad definition refer to the provision of informal financial services to low-income clients, such as micro and small businesses and self-employed. The MFIs provide financial support in the form of loans to low income business operators such as MSEs to finance their working capital needs and also to relieve them of their liquidity challenges. Theoretically, MFIs encompasses any form of provision and management of financial services that are in line with the informal financial intermediaries to support low income earners and microfinance institutions. Practically, MFIs include the activities of private loan providers in the informal economy such as village money lenders and petty savings collectors (Susu operators).

MASLOC refers to Microfinance and Small loan Centre refers to microfinance apex that hold in trust of the Government of Ghana (GoG) and or Development Partners Fund for the purpose of administering micro and small-scale credit programmes. They also provide manage regulate approved funds for microfinance and small-scale credit, small loan scheme business growth programmes.

According to Lashley (2004), microfinance institutions in the Caribbean are geared towards achieving three major goals:

o   To concentrate drive towards self-sufficiency in medium to short-term;
o   Micro-enterprise development and growth aimed at poverty prevention; and
o   Poverty alleviation.

Micro and Small-scale Enterprises refer to businesses that operate on a small scale basis and are mostly found in the developing countries. They are usually enterprises that are operated by micro entrepreneurs and employ five or less employees. They are found in the informal sector in areas of street vending, machine shop operators, artisans and other cottage industry operators. The definition of MSEs varies in worldwide perspective due to different definitions given by different countries. In Australia, MSEs refer to single-owner operator, having up to twenty employees. Whereas, in the European Union (EU) micro enterprises refer to enterprises with fewer that ten (10) employees or a balance sheet total of below 2 million Euros. In the United States of America, micro enterprises refer to businesses that employ five or fewer employees.

2.2 HISTORICAL BACKGROUND OF MASLOC

Microfinance Institutions operate as private sector institutions mainly under private ownership with profit motive and maximization of owners' wealth as the most essential objective. Most of these MFIs (privately owned small-scale financial intermediaries) thereby exploit unsuspecting micro and small-scale business operators who come into contact with them for any form of financial support.

Notwithstanding the immaculate role micro enterprises play as an engine of growth in both developed and developing economies, the Government of Ghana established Microfinance and Small-scale Loan Centre (MASLOC) in September, 2006 bearing in mind the important role played by MFIs, as a microfinance apex body to reduce the poverty levels in Ghana by providing start-up capital and working capital injection to micro and small-scale businesses, that persistently face liquidity crisis in their quest to remain in business. As indicated by Bhoopathy and Mathivanan (2014), in the Indian District of Namakkal, the central Government introduced the concept of microfinance to minimize unemployment problems in the rural areas and to generate income to the families in the rural parts. This according to them enabled the rural public to generate income through self-help groups (SHGs)

As indicated in the findings of ECLOF (1999), indications are that in Bolivia, Uganda and Columbia microenterprises' financing is one crucial and strategic means to fight against poverty in developing countries, with Ghana as no exception. Consequently, MASLOC mainly provides financial assistance in the form of micro credit and small loans and other credit support which hitherto, could not be secured from formal banks. Hence, MASLCO has a crucial role to play in the growth and development of MSEs with the objective of alleviating poverty in Ghana.

2.3 OBJECTIVES OF MASLOC

As indicated by the MASLOC Operational Guidelines 2011, MASLOC was set up to achieve the following objectives:

1.   To provide, manage and regulate on fiduciary basis, approved funds for micro finance and small-scale credit schemes and programmes;
2.   To engage directly or indirectly in microcredit and small loans enterprises;
3.   To promote and enhance the development of decentralized microfinance sub sector;
4.   To support the development of micro and small-scale businesses and entrepreneurial skills;
5.   To co-operate, collaborate and complement with the other microfinance institutions;
6.   Enhance savings and deposit mobilization by micro and small-scale business operators;
7.   To identify, promote and co-ordinate operations of associate community-based programmes; and
8.   Data and information analysis and dissemination.

STRATEGIC GOALS OF MASLOC

Microfinance primarily refers to the provision of financial services mostly in the form of petty loans to low-income earners to undertake meaningful business ventures in the informal sector. It refers to a form of financial intermediation that facilitates the possibility of low-income households to have access to continuous financial assistance to finance income-generating activities to boost their standard of living.

o   MASLOC is noted for its passion in providing business start-up capital to micro business owners who by virtue of their low income earning capacity coupled with high levels of business and credit risks that usually overwhelm them. The following strategic goals are achieved by MASLOC.
o   Traditionally, MASLOC is chiefly associated with making available small loans to micro businesses mainly in the informal sector usually with little or no collateral.
o   Due to changing modern trends in the financial services delivery, it is the strategic goal of MASLOC to develop itself into a viable, self-sustaining body for the effective and efficient disbursement, management and recovery of microfinance and small loans to the productive poor and the vulnerable in the society.
o   To reduce poverty, creating employment and wealth for MSE entrepreneurs in Ghana.

THE CLIENT BASE OF MASLOC

Characteristically, the client base of MASLOC is made up of mainly, micro and small-scale enterprise operators who are noted for their low capital and income base, and are mostly self-employed. These clients are largely found in the informal sector of the economy. Due to their low income capacity, they find it practically difficult; if not impossible to save towards the establishment of their own enterprises to improve their standard of living. They usually engage in small-scale retail stores (table-top provisions and agro chemical stores); small-scale subsistence crop, poultry and livestock farmers; and fishermen and fishmongers.

Currently client-base of MASLOC has expanded to include those who create handicraft and sell and those who engage in artisanship, taxi drivers and tricycle users.

FUNCTIONS OF MASLOC

Microfinance institutions are noted for their instrumental role in reaching out to Micro enterprises that mostly find it fundamentally impossible to solicit financial support and services from the formal banking sector. It must be noted that access to capital and other business supports are best provided by MFIs to promote business growth.

MASLOC seeks to hold in trust Government of Ghana and or/ Development Partners' (international donors) funds for the purpose of administering micro and small-scale credit programs and also, to provide, manage and regulate approved funds for microfinance and small-scale credits, loan schemes and business development programmes to achieve the following strategic functions:

o   To reach out to many clients in the informal sector who are cut out from the mainstream banking and are unable to access loans and other credit facilities from the traditional banks;

o   To target clients that are productive but poor and the vulnerable in the society who are engage in viable micro and small-scale enterprises to lift them out of poverty;

o   To develop MASLOC into a viable, self-sustaining scheme for effective and efficient disbursement, management and recovery of microfinance and small loans to the poor and the vulnerable in the society; and

o   To reduce poverty, create employment and wealth.

TYPES OF LOANS OFFERED BY MASLOC

The major types of loans (financial support) offered by MASLOC are well noted to enhance MSEs in their growth and development strategies aimed at improving their financial base. The kind of loans (financial products) offered is usually based on the nature of the MSEs in relation to the type of business activities (enterprise) engaged in and their funding requirements.

MASLOC is noted to offer the following types of loan:

o   Micro-credit or Group loans;

o   Small Loans;

o   Wholesale lending to Microfinance Institutions, Ministries, Departments and Agencies (MDAs) and rural banks for on-lending to the productive poor; and

o   Vehicle/ Tricycle hire purchase.

3. METHODOLOGY

The study was carried out among 325 Micro and Small-scale enterprises (MSEs) operating in six major towns where micro and small business activities are vivacious to attract the financial support from MASLOC. The MSEs were chosen from, one (1) Metropolis; two (2) Municipals and three (3) District assemblies in the Central Region of Ghana.

The study is based on descriptive research survey design. In order to properly ascertain reliable results that would help to achieve the objectives of the study, a purposive sampling technique was adopted to choose the sample size. Structured questionnaires were administered to gather data from the respondents with the support of two Research Assistants.

The choice of the study area (Central Region) was influenced by the fact that Central Region is noted as one of the poorest regions in Ghana, with very low economic activities mainly, due to the low income status and high unemployment among the active population.

A total of 303 answered questionnaires were collected from the respondents, representing 93.23% response rate as indicated by table 1.

TABLE 1: SUMMARY OF QUESTIONNAIRES DISTRIBUTION AND COLLECTION

Name of Metropolis, Municipal or District	Towns	Questionnaires Distributed	Questionnaires Collected
Cape Coast Metropolis	*Cape Coast*	96	90
Agona West Municipality	*Agona Swedru*	65	63
Abura Asebu Kwamankese District	*Abura Dunkwa*	42	36
Asikuma-Odobeng-Brakwa District	*Breman Asikuma*	38	37
Mfantsiman West Municipal	*Mankessim*	45	41
Twifo-Heman Lower Denkyira District	*Twifu-Praso*	39	36
Total		**325**	**303**

Source: Field work, December, 2015

4.0 RESULTS AND DISCUSSION

4.1. BACKGROUND INFORMATION ON THE MICRO AND SMALL-SCALE ENTERPRISES (MSEs) USED FOR THE STUDY

The age distribution of MSEs owners/operators is very essential to ascertain whether they are in their active years or not. The study revealed that 192 respondents representing 63.36% constitutes the youth. This is a very good indication since the youth constitutes the active working class operating vibrant micro and small-scale enterprises that serve as their source of livelihood aimed at alleviating poverty.

The educational background of the MSE owners/operators is vital to the success of their businesses. At least some form of formal education would mainly enable the MSE owner/operators to understand and apply simple business and financial management practices that positively impact on the growth and survival of their business. The study revealed that only 43 respondents representing 14.19% have had no formal education, with over 55% of the respondents having at least formal secondary education.

Micro and small-scale enterprises like any entity are expect to perpetuate existence into the foreseeable future, the ability of these micro enterprises to withstand competition and grow depends largely on their ability to have access to guaranteed financial support coupled with sound business management practices. It is essential to point out that the early years in business are very crucial to entrepreneurs who mostly operate these micro and small-scale enterprises due to threats to their survival from existing competitors. The study revealed that only 12.87% of MSEs had operated for less than three (3) years with over 60% of the MSEs having operated for between 3years to 10years. It is worth noting that 27% of MSEs had operated for more than ten (10) years.

Also, 201 of the respondents (micro and small-scale enterprises) representing 66.34% of the sample size chosen for study are categorized into sole proprietorship with only 19 and 24 respondents, representing 7.92% and 7.92% categorized into artisans & craftsmen and manufacturers respectively.

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TABLE 2: BACKGROUND DETAILS ON MICRO ENTERPRISES

A.	Age Distribution of Respondents	Frequency	Percentage
	Under 20 years	34	11.22
	20 years – 30 years	53	17.49
	30years – 40 years	105	34.65
	40 years – 50 years	82	27.06
	Above 50 years	29	9.57
	Total	**303**	**100**
A.	Highest Educational Background of MSE Operator/ Owners		
	No formal education	43	14.19
	Basic Education	92	30.36
	Secondary Education	123	40.59
	Tertiary Education	38	12.54
	Others	7	2.31
	Total	**303**	**100**
C.	Number of Years of MSE in Business		
	Under 3 years	39	12.87
	3 years – 10 years	182	60.07
	10 years – 15 years	59	19.47
	Over 15 years	23	7.59
	Total	**303**	**100**
D.	Type of Business Ownership		
	Sole Proprietorship	265	87.75
	Partnership	23	7.62
	Private Companies	12	3.97
	Other form of ownership	2	0.66
	Total	**302**	**100**
E.	Category of Industry MSEs Operate in		
	Retailing	201	66.34
	Wholesaling &Distribution	32	10.56
	Manufacturing	24	7.92
	Artisans &Craftsmen	19	6.27
	Service	27	8.91
	Total	**303**	**100**

Source: Field work, December, 2015

4.2 KNOWLEDGE OF THE EXISTENCE OF MASLOC

Even though MASLOC was mainly established to finance micro and small-scale businesses with the view to alleviate poverty, it is essential to ascertain whether these enterprises do know the existence of MASLOC in their locality and the extent to which they could secure financial leverage from them. Micro and small-scale business enterprises are expected to be conscious of the activities and functions of MASLOC in order to create the needed awareness about their supportive role in Micro enterprises growth and survival.

A question was posed with respect to whether the Micro enterprises were aware of the existence of MASLOC in their locality in order to fall on them for the needed financial support. The study revealed that 215 respondents representing almost 80% have no knowledge about the existence of MASLOC in their locality. This development is very disturbing since the very entities that are expected to benefit from MASLOC do not know of existence it. Only 49 respondents (MSEs) out of total of 303 retailers contacted have knowledge of the existence of MASLOC.

TABLE 3: KNOWLEDGE ABOUT THE EXISTENCE OF MASLOC

Type of Business unit	Knowledge of Existence of MASLOC		No Knowledge of MASLOC		Row Totals	
	No.	%	No.	%	No.	%
Retailers	49	55.68	152	70.70	201	66.33
Wholesalers & Distributors	12	13.64	20	9.30	32	10.56
Manufacturing	7	7.95	17	7.91	24	7.92
Artisans &Craftsmen	5	5.68	14	6.51	19	6.27
Service	15	17.05	12	5.58	27	8.91
Sample Size	**88**	**29.04**	**215**	**70.96**	**303**	**(100)**

Source: Field work, December, 2015

4.3. BENEFITING FROM MASLOC FINANCING

The role of MFIs to the growth of MSEs in Ghana is worth noting. MFIs are mostly relied on by MSEs due to the ease with which they secure financial support from them, mostly in the form of loans, to boost their liquidity position and also to finance their capital budgeting decisions. However, loans and credits provided by MFIs are more costly in terms of cost of capital. As it has already been established MASLOC plays a pivotal role in meeting the financing needs MSEs at relatively lower cost of capital, currently pegged at 2% per month as compared to that of other private MFIs which range between 5% - 10% per month. Hence, MASLOC provides cheaper sources of funding with relaxed repayment schedules to MSEs toward the realization of their growth and expansion. Surprisingly, from available data, only 61 MSEs representing about 20% had ever received financial support from MASLOC, implying that almost 80% of MSEs had never secured any financial assistance from MASLOC in their quest to expand or grow their businesses as a means to alleviate poverty. . It could also be deduced from table 4.5 below that paper noted that 61 MSEs representing 69.32% of MSEs that are aware of the existence of MASLOC had ever received financial support from MASLOC. This is indicative that awareness creation is vital to the work of MASLOC.

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TABLE 4: BENEFITING FROM MASLOC FINANCING

Type of Business unit	Ever received Financial Support from MASLOC		No financial Support from MASLOC		Row Totals	
	No.	%	No.	%	No.	%
Retailers	43	70.49	158	65.29	201	66.33
Wholesalers & Distributors	4	6.56	28	11.57	32	10.56
Manufacturing	3	4.92	21	8.68	24	7.92
Artisans &Craftsmen	3	4.92	16	6.61	19	6.27
Service	8	13.10	19	7.85	27	8.91
Sample Size	61	20.13	242	79.87	303	(100)

Source: Field work, December, 2015

The MSEs therefore have no option to finance their working capital requirement and capital budgeting decision except to rely on private MFIs that charge exorbitant cost for their loans and other credit facilities.

4.4. RELIANCE ON MASLOC LOANS AND ITS EFFECT ON GROWTH AND EXPANSION OF MSEs

It is essential to note that as businesses expand, there is the need to enhance its capital base through capital injection. The size of business transactions of MSEs vary from one period to another based on the volume of their operations. During seasons of brisk business (glut), additional capital injection is required to meet such increase and that business activities are not interrupted as a result of liquidity challenges. As indicated by Dodge (1994) that working capital needs to increase in proportion to increase in the level of trade. Having a proper and accurate balance of capital injection is not only imperative in the growth of MSEs but a must for their sustainable development aimed at poverty alleviation. A question was posed to ascertain whether reliance on MASLOC loans had a positive correlation on their growth and expansion. Data gathered did indicate that 55 MSEs (representing 90.16%) who had ever received MASLOC loans had experienced significant improvement in their business growth and expansion prospects. This is directly in sync with the objective of establishing MASLOC.

TABLE 5: EFFECTS OF MASLOC ON THE GROWTH AND SURVIVAL OF MSEs

Type of Business unit	Improvement in Growth and expansion		No improvement in Growth & expansion		Row Totals	
	No.	%	No.	%	No	%
Retailers	41	74.54	2	33.33	43	79.49
Wholesalers & Distributors	4	7.27	0	0	4	6.56
Manufacturing	2	3.64	1	16.67	3	4.92
Artisans &Craftsmen	2	3.64	1	16.67	3	4.92
Service	6	10.90	2	33.33	8	13.10
Sample Size	55	90.16	6	9.84	61	100

Source: Field work, December, 2015

It was also revealed that only 4% of MSEs had not growth improvement. This may be indicative about the fact that they might be facing other business challenges other than financial.

4.5. KEY PRODUCTS OFFERED BY MASLOC

The existence of MFIs is driven by their desire to partner MSEs to achieve both financial and strategic goals. MASLOC is noted for its specialty financial products that are aimed at relieving MSEs of their financial pressures. These products are tailored to meet specific and diverse needs of MSEs in their business processes, ranging from short-term to long-term financial goals. The liquidity position of MSEs is crucial in ensuring that the enterprises have sufficient cash balances evenly throughout the entire business cycle in which they operate. The study sought to outline the key financial products that are offered by MASLOC in order to adequately address the specific financial needs that are unique to the MSEs operating in the Central Region.

TABLE 6: KEY PRODUCTS OFFERED BY MASLOC

Type of Product Offered by MASLOC	Number of MSEs Benefiting (Freq.)	Percentage (%)
Micro Credit or Group Loans	43	70.49
Small Loans	12	19.67
Wholesale loan	1	1.64
Vehicle/Tricycle Hire-Purchase.	5	8.20
Sample Size	61	100

Source: Field work, December, 2015

Data available did indicate that 43 MSEs representing almost 70.49% had received support from MASLOC in the form of Microcredit Group scheme. This was closely followed by small loans applicants who need bigger amount for their individual businesses rather than the group, and they represent 19.67% of MSE who had ever received financial support from MASLOC.

4.6 PERCENTAGE OF LOANS APPROVED BY MASLOC FOR YOUR BUSINESS

Credit worthiness directly affects the approval ratings of loans to MSEs operating in Ghana. Loans approved by MASLOC are subjected to high degree of scrutiny in other to reduce loan default risk. Credit terms must be met in order to have the loan approved. Henderson, Trennepohl and Wert (1994) define credit terms as payment procedures to be followed by firms granted credit. It is worth mentioning that MSEs that are operating in less risky ventures have higher percentage of loan approval than those in high risk areas due to the possibility of non-payment.

TABLE 7: PERCENTAGE OF LOAN APPROVED BY MASLOC (Loan Approval Rate)

Type of Business unit	Received Total Initial loan Loan (100%) Applied for		Received Less than the the Loan applied for		Row Totals	
	No.	%	No.	%	No	%
Retailers	15	68.18	28	71.79	43	79.49
Wholesalers & Distributors	1	4.55	3	7.69	4	6.56
Manufacturing	1	4.55	2	5.12	3	4.92
Artisans &Craftsmen	2	9.09	1	2.56	3	4.92
Service/Transport	3	13.64	5	12.82	8	13.10
Sample Size	22	36.07	39	63.97	61	100

Source: Field work, December, 2015

A question was posed to ascertain whether all the MSEs that requested for financial assistance from MASLOC received the total sum required. It was revealed that majority, (almost 64%) of MSEs did not received the total loan they applied for. This really negatively affected the ability of MSEs to achieve the purpose of the loan, and this was a recipe for misapplication of funds.

It was revealed that only a total of 22 MSEs representing just 36% received the total loan amount applied for.

4.7. PROCESSING/APPROVAL PERIOD FOR MASLOC LOANS

The cumbersome and bureaucratic procedures that characterize conventional banks are essential to the establishment of MFIs. Traditionally, MFIs are noted for their easiness and convenience. They provide less paper work and in most cases, avoid the provision of collateral security as a surety to qualify for their loans. Processing and approval periods usually affect the desire of MSEs to either resort MFIs or other financial houses for financial support. Usually, MSEs prefer shorter processing and approval periods in order to secure loans faster and with minimum effort in order to take advantage of an impending opportunity. Where loan application is unduly delayed, the purpose of the loan is usually defeated and that it becomes unnecessary to take the said loan. Data available revealed that MASLOC loans are mostly characterized by undue bureaucratic delays coupled with the training periods required to train applicants on basic business management skills, before loans are advanced to them.

TABLE 8: MASLOC's LOAN PROCESSING/ APPROVAL PERIOD

	Very Quick (Within 1 week)		Quick (within 2 weeks)		Delayed (within 1 month)		Excessively Delayed (over 1 month)		Row Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Retailers	0	0.00	0	0.00	15	78.95	28	66.67	43	79.49
Wholesalers &Distributors	0	0.00	0	0.00	1	5.26	3	7.14	4	6.56
Manufacturing	0	0.00	0	0.00	0	0.00	3	7.14	3	4.92
Artisans and Craftsmen	0	0.00	0	0.00	2	10.53	1	2.38	3	4.92
Service/ Transport	0	0.00	0	0.00	1	5.26	7	16.67	8	13.10
Sample Size	**0**	**0.00**	**0**	**0.00**	**19**	**31.15**	**42**	**68.85**	**61**	**100**

Source: Field work, December, 2015

From table 4.5 above it was revealed that 42 MSEs, (representing 68.85%) who had secured loans from MASLOC, indicated that the processing and approval periods were excessive prolonged leading to undue delays. It was also revealed that none of the MASLOC loan beneficiaries had received loans within less than 2 weeks of application. Only 19 MSEs representing 16% indicated that they received their loan approval within one (1) month. This from all indications is one of the limiting factors characterizing MASLOC loan support scheme. Hence, MSEs are forced to rely on the private MFIs or the traditional banks for their working capital requirements, because of their shorter loan approval period, some loans, even approved within 24 to 48 hours upon receipt of loan application form.

4.8 EXISTENCE OF LOAN MONITORING AND CONTROL PROCEDURES

Loan monitoring and control procedures ensure for proper application and usage of loans and other credits granted to MSEs to finance their growth potential aimed at creating wealth and alleviating poverty. Regular loan monitoring exercises coupled with effective control procedures usually enhance good performance of loans. Data gathered shows that loan monitoring and control procedures are almost non-existing (especially, after receiving the loans) and that even some of the MSEs divert funds secured as loans from MASLOC to other non-profitable ventures such as household consumption.

TABLE 9: FREQUENCY OF LOAN MONITORING BY MASLOC

Type of Business unit	Regular Loan Monitoring Visitation		No Regular loan Monitoring Visitation		Row Total	
	No.	%	No.	%	No.	%
Retailers	17	70.49	26	68.42	43	79.49
Wholesalers & Distributors	2	6.56	2	5.26	4	6.56
Manufacturing	1	4.92	2	5.26	3	4.92
Artisans &Craftsmen	0	4.92	3	7.89	3	4.92
Service	3	13.10	5	13.16	8	13.10
Sample Size	**23**	**37.70**	**38**	**62.30**	**61**	**(100)**

Source: Field work, December, 2015

The study sought to find out from respondents the rate (frequency) at which MASLOC officials visit their place of business especially, after they had secured loan from them.

Data gathered indicated that MASLOC officials hardly pay regular visits to their MSE client especially, after granting them loans, to ascertain the performance of MSEs to ensure for strict application of loans to improve their growth. Data available revealed that only 23 MSEs, representing 37.7% had regular visits paid to them by the MASLOC officials. This a situation is alarming given that regular visits are effective means of ensuring strict compliance to the loan purpose.

4.9. CHALLENGES ENCOUNTERED IN DEALING WITH MASLOC

Several challenges are faced by MASLOC in their quest to provide the needed financial support to MSEs. These challenges profoundly militate against the strategic objectives of MASLOC as it thrives to provide the much expected assistance to MSEs. These challenges vary in scope and can be classified into internal and external challenges. The internal challenges are caused by internal by controllable factors such as; administrative procedures, culture, and core competences.

4.10 CHALLENGES ENCOUNTERED IN DEALING WITH MASLOC

TABLE 10

MSE Operator	Shortage of (staff) officers		Non-Co-operation From officers		Poor access to Information		Bureaucratic Tendency		Row Total	
	No.	%	No.	%	No.	%	No	%	No	%
Retailers	11	78.57	8	88.89	8	61.54	16	64.00	43	79.47
Wholesalers &Distributors	2	14.29	0	0.00	0	0.00	2	8.00	4	6.56
Manufacturing	1	7.14	1	11.11	0	0.00	1	4.00	3	4.92
Artisans/ Craftsmen	0	0.00	0	0.00	1	7.69	2	8.00	3	4.92
Service	2	14.29	0	0.00	2	15.38	4	16.00	8	13.10
Sample Size	**14**	**22.95**	**9**	**14.75**	**13**	**21.31**	**25**	**40.98**	**61**	**100**

Source: Field work, December, 2015

MSEs are faced with different levels of challenges as they interact with MASLOC. These challenges mostly discourage them from dealing with them but rather choose to look elsewhere for their financial solutions, even though at a higher cost of capital. The study revealed that most of the MSEs (41%) encounter high degree of bureaucratic procedures in securing loans from MASLOC. This is one major disincentive to MSEs in their quest to secure financial support from MASLOC.

5.0 SUMMARY OF KEY FINDINGS

The following is a summary of the key findings from the data gathered:

o   Most micro and small-scale enterprise owners (63.36 percent) constitute the economic active year group, with 55 percent of them having a minimum quali-fication of at least, secondary education. It was also revealed that only about 13 percent of the MSEs used for the study had been in business for less than three (3) years.

o   Only 29 percent of these micro and small-scale enterprises have knowledge about the existence of MASLOC. From the available data, almost 70 percent of those MSEs who know the existence of MASLOC benefiting from it.

o   Almost 80 percent of the respondents had never received any form of financial support from MASLOC for their business expansion and growth objectives.

o   Over 90 percent of respondents who had ever secured financial support from MASLOC, experiencing improvement in growth and expansion.

o   Majority (80 percent) of the loans provided by MASLOC goes into Micro credit and Group loans.

6.0 CONCLUSIONS AND RECOMMENDATIONS

From the above summary of findings, a very alarming state of affairs with respect to financial challenges of MSEs operating in the Central Region and the extent to which MASLOC has been in position to address them. It is obvious that the crucial role of MASLOC to promote the growth of MSEs in Central Region as a measure to promote business activities, especially in the rural areas, needs much to be desired. It is therefore, imperative that if poverty is to be alleviated in Central Region and other parts of Ghana, then there is an urgent need to rebrand, rethink through and effectively monitor the activities and dealings of MASLOC to make more viable and sustainable in providing financial assistance to strapped MSEs that are on the verge of collapsing due to prolonged liquidity crisis. The following recom-mendations are worth noting:

1.   MASLOC should be given adequate publicity in order to win the confidence of micro and small-scale business operators, through its readiness to provide the much needed financial support which hitherto, could not be sought from the mainline financial intermediaries. Systematic and pragmatic steps should be taken by the MASLOC Secretariat to publicize, educate and support Micro and Small-scale business operators in enhancing business growth aimed at poverty alleviation;

2.   The capital base of MASLOC should be expanded by the Government through increased subvention to adequately resource MASLOC financially to provide the needed financial assistance to MSEs. The study revealed that most of the MSEs did not receive the required loan applied to achieve tremendous business growth. In most cases the amount of loan requested was either slashed or never received due to limited financial base of MASLOC;

3.   There should be pragmatic approach to depoliticize the activities of MASLOC in order to ensure that MSE operators are supported financially without their political affiliation. This will go a long way to promote efficiency, fairness and equitable treatment to MSE operators. MASLOC should be decoupled from the Office of the President and made to function under the Local Government Ministry as a decentralized unit at the various Districts, Municipal and Metropolitan Assemblies;

4.   There should be a close collaboration between MASLOC and National Board for Small Scale Industries (NBSSI) to provide business development services such as capacity building, workshops and training on contemporary business strategies that will promote MSEs business growth and expansion to enhance the income levels of the operator, leading to employment creation and poverty alleviation;

5.   MASLOC should adopt the 'Business Club' concept in order to put together all the MSE clients of MASLOC under one umbrella, to facilitate networking among members with the view to promote business linkages that seeks to internalize financial and non-financial resource transfers to enhance the collective growth of these MSE businesses;

6.   Effective Loan Monitoring and Compliance Teams should be established and adequately provided with logistics by MASLOC to systematically follow-up on the loans granted to MSE clients to ascertain the performance of the loan over its duration. This will ensure that MSE operators apply the loan for the purpose for which it was sought (compliance). This will go a long way to address the problem of high loan delinquency rate that usually occur amongst MSEs due to misapplication of funds (loans) provided by MASLOC; and

7.   There should be at least a well-resourced office established at each District, Municipal or Metropolitan Assembly where MASLOC is operational, and staffed with committed self-motivated employees to provide the much needed financial and non-financial services to MSEs aimed at promoting micro and small-scale business growth and expansion leading to poverty alleviation among hitherto, low income earners.

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A STUDY ON CUSTOMER SATISFACTORY LEVEL ABOUT E-BANKING IN MYSURU CITY: COMPARATIVE STUDY BETWEEN PRIVATE AND PUBLIC SECTOR BANKS

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ABSTRACT

This paper explains the Electronic banking or e-banking is automated delivery of traditional and new banking services and products directly to the customer through electronic communication like computer, ATMs, and internet websites. The customer satisfaction level based on the analysis of data relating to 200 people respondents indicates that there is significant correlation between age and E-banking facility with other factors. In the analysis it was observed that particular age group has used these services; the satisfaction of the customer majorly influenced the convenience, awareness, and responsiveness. There are many reasons where in increase in number of commercialization of banks. The growth of such banks is not possible till they witness some success in the context of customer satisfaction or may be the net assets held by those banks efficiency of their management or the networks of each bank both private as well as the public sector banks. In the present technology society, most of the banking customer prefer and switch to e-banking facilities. So the banker may improve their services, loyalty to customers and their retention by increasing awareness of other age groups and concentrating on the factors contributing customer satisfaction. This paper is outcome of an empirical study conducted with the objective of investigating banker views regarding e-banking. The collected of data that is the survey is conducted by using questionnaire in mysuru, by administering to many bankers. The bankers are convened that e-banking helps in improving the relationship between the banker and the customer.

KEYWORDS

ATM, e-banking, customer satisfaction.

INTRODUCTION

Electronic banking or E-banking is defined as the automated delivery of new and traditional banking products and services directly to customer through electronic, interactive communication channels like computers, ATM, internet websites etc. Electronic banking or E-Banking is the term that describes all transactions that take place among companies, organization and individuals and their banking institutions. E-banking supports services are web-linking, accounts aggregation, electronic authentication, websites hosting, payments and e-commerce, bill payments and presentations, wireless e-banking etc. Tourism is the major industry in Mysuru. The city attracted about 3.45 million tourists in 2014. For the industrial development of the city, the Karnataka industrial area development board (KIADB) has established four industrial areas in and around mysuru, in the Belogola, Belawadi, and Hebbal and Hootagalli areas. The growth of the information technology industry in the first decade if the 21st century has resulted in the city emerging as the second largest software exporter Karnataka, next to Bangalore. The city contributed rs.1363 crores. Including the branches of all the Banks in the Mysuru city, there are 243 banks. Where 24 banks are private and 22 are public banks, are providing services for the people. These banks offer various types of facilities like ATM, Credit Cards, Debit Cards, Internet Banking and also Mobile Banking.

SCOPE OF THE STUDY

Nowadays the banking activities become fully automated. Through internet, customer can do their banking activities, from their home itself, giving better customer satisfaction. The project will analyze the customer satisfaction in the privacy of information, easiness to use, Efficiency, responsiveness, reliability, and convenience. By this the banker can identify in which dimension they lack and need to improve services to their customer in order to improve satisfaction.

LITERATURE REVIEW

Several related studies have been conducted by other researchers previously as this is one of the popular research topics in recent years.

"A study on Comparative analysis between Private Sector and Public Sector Banks in Mobile Banking in different cities" authorized by **Renu Bagoria (2014)** he said" banking is the provision of banking service through electronic channels and the customer can access the data without any time and geographical limitation". This paper identified the how much mobile banking adoption in different Banks in Different cities like Jaipur, Jodhpur in Rajasthan and metro cities like Delhi. Also comparative study of banks in different region to analyze ATM, Net banking, Mobile banking services used by user in that banks. The Paper is basically concerned with the customer aspect of mobile banking searching for customer satisfaction level and adoptions of banks. This is a comparative study of Public sector banks and Private Sector Indian banks and find out the majority of which kind of transaction in banks in different cities.

"The impact of Service Quality on Customer Satisfaction in Internet Banking" authorized by **S. FATEMEH SAKHAEL (Journal of Mathematics and Computer Science 9 (2014), 33-40,)**. This paper presents a study to investigate service quality indexes in Internet Banking. This is an applied research study of descriptive-surveying kind. The purpose of this research is to understand the impact of service quality factors of Internet Banking on customer satisfaction in Iran.To study the relation between service quality and customer satisfaction, first a hybrid model based on the previous works has been proposed. Six service quality dimensions namely reliability, efficiency, responsiveness, fulfillment, security / privacy and website design have been established based on the literature review

"The impact on performance Comparison of Private Sector Banks with the Public Sector Banks in India." authorized by **GARIMA CHAUDHRY (International journal of emerging research in management & technology (ISSN: 2278-9359, Volume-3, Issue-2),** This study states that, recently the Indian economy has witnessed the emergence of many banks in the private sector. There are several reasons behind the increasing number of commercialization of banks. The growth of such banks

is not possible unless they witness some success in the context of customer satisfaction or may it be the net assets held by these banks, efficiency of their management or the networks of each bank both in private as well as the public sector bank. The following paper covers the performance comparison of private sector banks and the public sector banks and to give the reasons and suggestions for the same.

Marc Buelen Et.Al (2007) an Analysis of Differences in Work Motivation among two kinds of Sector. This study contributes to our understanding of the differences in work motivation between the public and private sectors. Data from a survey of 3,314 private sector and 409 public sector employees in Belgium strongly confirm previous research showing that public sector employees are less extrinsically motivated. Differences in hierarchical level are more important determinants of work motivation than sectoral differences. In addition, most observed differences can be wholly or partially explained by differences in job content, not by the sector itself. Evidence is presented to show that motivational differences can be explained by a positive choice of work-life balance.

OBJECTIVES
The study has the following objectives are**:**
1. To examine the effect of E-Banking on customer satisfaction.
2. Identify the problems that are faced customer in using E-Banking.
3. To determine the benefits that are availed by customer in E-Banking.
4. To correlate the satisfactory level/ perception level customer between selected samples of private and public sector banks in E-Banking.

RESEARCH METHODOLOGY
NULL HYPOTHESIS
- There is no significance relationship between the consumer satisfactory level about E-Banking and Gender.
- There is no significance relationship between the consumer satisfactory level about E-Banking and Educational Qualification.
- There is no significance relationship between the consumer satisfactory level about Age and the Sample Respondents.
- There is no significance relationship between the consumer satisfactory level about E-Banking and Nature of Employment.

COLLECTION OF DATA
Data has been collected from both primary and secondary source. Primary data is collected by the questionnaires and personal observation. Secondary data is collected by referring to several journals, books, and internet etc.

SAMPLE SIZE
The Chosen sample size is of 200.

LIMITATIONS OF E-BANKING
- **Problem of security:-** security and privacy aspects are major issue in case of e-banking transaction. Various sites are not properly locked at to ensure weather customer's money is safe in cyber world or not.
- **High cost:-** The infrastructural cost of providing e-banking facility is very high. The banks not only have to automate front-end services but also back office services, which involve high cost.
- **Lack of awareness:-** Another great hindrance is lack of awareness because effective and wide media efforts in publishing internet banking need to be emphasized.
- **Lack of computerization:-** Lack of computerization and low density of telephone lines is also a bottleneck for online banking. In India, out of 65000 bank branches, only 5000 branches are computerized.
- **Wrong assumption by people:-** Many people are away from net banking on the assumption that it is more expensive than the traditional method of dealing with bank transactions. They still prefer going to bank to perform transactions.

VISION AND MISSION STATEMENT
SBM
VISION STATEMENT
To be a leading provider of premier integration financial services in the region through a dedicated and component professional team.
MISSION STATEMENT
A premier commercial bank in Karnataka, with all India presence, committed to provide consistency superior and personalized customer service backed by employee pride and will to excel, earn progressively high returns for its shareholders and be a responsible corporate citizen contributing to the well being of the society.
SYNDICATE
VISION STATEMENT
"To be as bank of choice of every Indian and preferred banking partner globally".
MISSION STATEMENT
"To achieve consistence growth in business".
HDFC
VISION STATEMENT
"Our vision is to unchallenged market leader in providing housing related finances, to realize the dream of shelter for all in Sri Lanka".
MISSION STATMENT
"Our mission is to reduce returns, and to provide a service by expecting their needs and creatively satisfying them beyond their expectations."
ICICI
VISION STATEMENT
Vision is to be the preferred bank for total financial and banking solutions for both corporate and individuals.
MISSION STATEMENT
Mission is perfection in power.
COLLECTION OF DATA
Data has been collected from both primary and secondary source. Primary data is collected by the questionnaires and personal observation. Secondary data is collected by referring to several journals, books, and internet etc.

DATA ANALYSIS AND INTERPRETATION

TABLE 1: NO. OF DEPENDENTS IN THE FAMILY

No of dependents	No of respondents	Percentage (%)
1	16	8
2	37	18.5
3	71	35.5
4	37	18.5
5	34	17
6	5	2.5
Total	200	100

Interpretation: It is observed from the data in the Table above, that more than one third of the respondents had 3 dependents (35.5% of respondents) followed by 2 and 4 dependents each having the same percentage of 18.5%. This is closely followed by 5 dependents (17%). It may be inferred that while Indian families are generally 'nuclear' in nature, yet the conventional family set up of having slightly bigger families is still in vogue.

TABLE 2: NATURE OF EMPLOYMENT

Nature of employment	No of respondents	Percentage (%)
Private	63	31.5
Public	66	33
Business	32	16
Others	39	19.5
Total	200	100

Interpretation: It is close match between public and private employment. Both seem to be tied, but public employment seems to have a slightly upper hand. Thus, despite all the talk of privatization of the economy etc., yet public domain is a major employer as per this survey results.

TABLE 3: MONTHLY INCOME

Monthly Income	No of respondents	Percentage (%)
<rs.10000	49	24.5
Rs.10000-rs.20000	43	21.5
Rs.20000-rs.35000	51	25.5
Rs.35000 Above	57	28.5
Total	200	100

Interpretation: Somewhat surprisingly, the monthly income distribution is generally equal in nature. This is against the much assumed inequality in income earnings among different segments of the economy. This may partly be due to the narrow range that is taken for purposes of analysis. However, the analysis suggests that nearly 30% of the respondents indicated that their incomes are more than ₹35,000 per month, followed by ₹20,000-₹35,000, and ₹<10,000

TABLE 4: MONTHLY SAVING

Monthly Saving	No of respondents	Percentage (%)
<Rs.1000	36	18
Rs.1001-rs.5000	59	29.5
Rs.5001-rs.10000	58	29
Rs.10000 Above	47	23.5
Total	200	100

Interpretation: 82% of the respondents fall within the savings bracket of ₹1,001 and above. Within this, nearly 60% have savings ranging between ₹1,001 and ₹10,000. Considering the income profile analysed in Table 3, the savings are indeed encouraging.

TABLE 5: BANK ACCOUNTS STATUS

Have any a/c	No of respondents	Percentage (%)
Yes	190	95
No	10	5
Total	200	100

Interpretation: An encouraging result is that 95% of the respondents are bank account holders. This in a way is supportive of the Financial Inclusion objective of the Government. Having a bank account is an important indicator of financial inclusion.

TABLE 6: NATURE OF BANK ACCOUNTS

Name of the Bank	No of respondents	Percentage (%)
Saving	148	74
Current	52	26
Total	200	100

Interpretation: Conforming to the nature of employment explored earlier in Table 2 above, bulk of the account holders (74%) are having Savings Bank accounts. This suggests that the banking transaction is not very substantial and it is done more as a matter of convenience than as a part of business transaction.

TABLE 7: COMFORT LEVEL RESPONSE WITH REGARD TO E-BANKING FACILITY

comfortable with E-Banking	No of respondents	Percentage (%)
Yes	169	84.5
No	31	15.5
Total	200	100

Interpretation: This is another way to look at the digitization and use of ICT in our banking set up. It is clear from the responses that nearly 85% of the respondents are quite comfortable doing their banking transactions through e-banking techniques. Thus keeping this outcome as an indicator, banking system in the country could indeed go paperless.

TABLE 8: LEVEL OF USAGE OF VARIOUS TYPES OF E-BANKING SERVICES

E-Banking Services	No of respondents	Percentage (%)
Online fund transaction	77	38.5
E-Booking of Tickets	27	13.5
Online fees deduction	40	20
Remittances of your payment	31	15.5
E-statement	25	12.5
Total	200	100

Interpretation: The nature of e-banking usage does not seem to have any dominant pattern, though online fund transaction is at the top of the Table (38.5%). This is distantly followed by online fee payment (20%), payment remittances (15.5%) and e-booking of tickets (13.5%), and finally with E-statement at 12.5%. This means there is scope for strengthening all modes of e-banking transactions in the days to come.

STATISTICAL ANALYSIS

CORRELATION BETWEEN AGE AND E-BANKING FACILITY

X	Y	X²	Y²	X*Y
72	43	5184	1849	3096
55	40	3025	1600	2200
26	40	676	1600	1040
47	46	2209	2116	2162
200	169	11094	7165	8496

Dependent Variable	Independent Variable	R=Correlation	Result
Age	E-Banking	0.9529	

Hence there is a high degree is positive correlation (Skp: r=0.9529), the hypothesis is duly accepted. By plotting the graph for the age and e-banking facility, we can say that the age has the majority strength compared to the banking facility.

CORRELATION BETWEEN MONTHLY INCOME AND MONTHLY SAVINGS

X	Y	X²	Y²	X*Y
49	36	2401	1296	1764
43	59	1849	3481	2537
51	58	2601	3364	2958
57	47	3249	2209	2679
200	200	10100	10350	9938

Dependent Variable	Independent Variable	R=Correlation	Result
Monthly Income	Monthly Savings	0.9720	

Hence there is a high degree is positive correlation (Skp: r=0.9720), the hypothesis is duly accepted. By ploting the graph for the monthly income and monthly savings, we can conclude that almost income is equal to the savings with 2%-3% less than the savings.

REGRESSION OF HDFC

Variables Entered/Removedᵃ

Model	Variables Entered	Variables Removed	Method
1	perfectᵇ	.	Enter

a. Dependent Variable: indvconctrn
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.344ᵃ	.118	-.323	4.341

a. Predictors: (Constant), perfecta

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.058	1	5.058	.268	.656ᵇ
	Residual	37.692	2	18.846		
	Total	42.750	3			

a. Dependent Variable: indvconctrn
b. Predictors: (Constant), perfect

Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.966	4.915		1.621	.246
	perfect	.163	.315	.344	.518	.656

a. Dependent Variable: indvconctrn

Interpretation: The above table shows the regression that the inconvience and perfect. we can identify that there is positive regression. hence it can be concluded that there is proper convience of e-banking for customers.

REGRESSION OF ICICI

Variables Entered/Removedᵃ

Model	Variables Entered	Variables Removed	Method
1	perfectᵇ	.	Enter

a. Dependent Variable: indvconctrn
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.333ᵃ	.111	-.334	8.029

a. Predictors: (Constant), perfect

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.071	1	16.071	.249	.667ᵇ
	Residual	128.929	2	64.464		
	Total	145.000	3			

a. Dependent Variable: indvconctrn
b. Predictors: (Constant), perfect

Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.429	8.833		1.747	.223
	perfect	-.357	.715	-.333	-.499	.667

a. Dependent Variable: indvconctrn

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Interpretation: The above table shows the regression that the inconvience and perfect. we can identify that there is negitive regression. hence it can be concluded that there no is proper convience of e-banking for customers.

REGRESSION FOR SBM

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	perfect[b]	.	Enter

a. Dependent Variable: indvconctrn
b. All requested variables entered.

MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.674[a]	.454	.181	5.695

a. Predictors: (Constant), perfect

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	53.878	1	53.878	1.661	.326[b]
	Residual	64.872	2	32.436		
	Total	118.750	3			

a. Dependent Variable: indvconctrn
b. Predictors: (Constant), perfect

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.872	6.564		2.875	.103
	perfect	-1.051	.816	-.674	-1.289	.326

a. Dependent Variable: indvconctrn

Interpretation: The above table shows the regression that the inconvience and perfect. we can identify that there is negitive regression. hence it can be concluded that there is no proper convience of e-banking for customers.

REGRESSION OF SYNICATE

Variables Entered/REMOVED[A]

Model	Variables Entered	Variables Removed	Method
1	perfect[b]	.	Enter

a. Dependent Variable: indvconctrn
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.254[a]	.065	-.403	4.471

a. Predictors: (Constant), perfect

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.765	1	2.765	.138	.746[b]
	Residual	39.985	2	19.992		
	Total	42.750	3			

a. Dependent Variable: indvconctrn
b. Predictors: (Constant), perfect

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.915	5.417		2.384	.140
	perfect	.103	.278	.254	.372	.746

a. Dependent Variable: indvconctrn

Interpretation: The above table shows the regression that the inconvience and perfect. we can identify that there is positive regression. hence it can be concluded that there is proper convience of e-banking for customers.

FINDINGS

The above analysis brings out the following salient outcomes

- More than one third of the respondents had 3 dependents (35.5% of respondents).
- Where it is close match between public and private employment. Both seem to be tied, but public employment seems to have a slightly upper hand.
- The monthly income distribution is generally equal in nature. This is against the much assumed inequality in income earnings among different segments of the economy. This may partly be due to the narrow range that is taken for purposes of analysis. However, the analysis suggests that nearly 30% of the respondents indicated that their incomes are more than ₹35,000 per month
- 82% of the respondents fall within the savings bracket of ₹1,001 and above.
- That 95% of the respondents are bank account holders. This in a way is supportive of the Financial Inclusion objective of the Government. Having a bank account is an important indicator of financial inclusion.
- Bulk of the account holders (74%) is having Savings Bank accounts. This suggests that the banking transaction is not very substantial and it is done more as a matter of convenience than as a part of business transaction.
- It is clear from the responses that nearly 85% of the respondents are quite comfortable doing their banking transactions through e-banking techniques. Thus keeping this outcome as an indicator, banking system in the country could indeed go paperless!
- The nature of e-banking usage does not seem to have any dominant pattern, though online fund transaction is at the top of the Table (38.5%).

SUGGESTIONS

- Training and awareness among employees
- Exchange of information on threats and vulnerabilities at appropriate forums

- Build an optimal operating mode by understanding which activities to retain collaboration and outsource
- Bank should anticipate and get prepared for regulatory changes
- Increasing usage of mobile phones is going to revolutionize the banking culture in near future
- More stress should be given on security concern on internet
- Fund transfer
- Availability of GPRS where ever we go
- Proper services should be provided
- Privacy should be there to everyone
- Individual concentration should be shown by Banker to every customers

CONCLUSION

It can be concluded that from the present research and from previous literature most of the private sector banks have shown better performance than their public sector counterparts. Based on the comparison of banks, we get to know that E-Banking services are yet to be satisfied in a better way.

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REAL ESTATE BUSINESS IN KOCHI (KERALA): AN ANALYSIS OF ITS GROWTH AND THE FACTORS AFFECTING INVESTORS' SENTIMENT

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ABSTRACT

It has been documented time and again that infrastructure development is at the heart of all developmental activities in India. A major segment of this is the real estate activity, especially those connected with commercial structures. Thus, it is observed in the contemporary Indian business scene, that real estate business is one of the core growing businesses in major cities contributing significantly to the economic development of the country. Real estate represents a major portion of most people's wealth. The core feature of a successful real estate business is the ability to identify the pains, needs and wants of the ideal client, and then offering solutions in the most efficient way possible. Kochi, a major urban hub in Central Kerala, has topped the list of major real estate destinations among 19 Tier-2 cities in India. What factors have influenced this growing interest in investing in real estate in Kochi is an important question, a proper answer to which may open new avenues for investment in other parts of the country. Basically, the study aims at analyzing (i) The current real estate scenario in Kochi; (ii) Trends the development of this business activity in Kochi; (b) Factors contributing to its growth and (c) Future contours, problems and challenges facing this activity. As part of this analysis, primary data collected through a self-administered Questionnaire on a sample of 150 customers drawn from selected destinations at Kochi city to elicit their opinions on the issues raised above will be analysed.

KEYWORDS
Kochi, real estate, tier-2 cities, hub for IT.

1. INTRODUCTION

The purpose of this study is to examine the contours of this phenomenon from a micro point of view, namely, to analyse the Kochi experience of the State of Kerala with specific reference to real estate business. The real estate market is investor driven, mostly driven by NRIs working in the Middle East and Western countries. The number of villas in Kochi and the amount of land provide for sale in Cochin indicate a positive market sentiment. This reassures property investors of a boom in the real estate business to happen very soon. Investment in real estate is common for the investors. They invest in the property market for different reasons. A few of them are invested in the property for commercial purpose, some for resale, and others for investment purpose and several other reasons.

But when they are trying to invest in the property market, they do not know that some factors affect their investment decision. Many people make investment emotionally, feeling fantasy, and sentiments have been observed to affect investment decision. These are certain psychological factors that have an effect in investment decision. Investors are affected by how investment problems are presented to them. There are two different approaches for understanding the human behaviour in their investment decisions-Traditional and Behaviour finance. Traditional finance estimate that investors are rational and markets are efficient and consider entire available information in the decision-making process, that they will favour investment that maximizes their wealth. Behaviour finance which is depending on psychological factors contends with market efficiency and investors rationality. "Behavioural Finance," is a relatively unique area of research, is the study of how human psychology, feelings, our thoughts, feelings and attitudes influence investment decisions. Real estate is an asset form with limited liquidity similar to other investments; it is also a capital intensive and is highly cash flow dependent. If these factors are not understood and managed by the investor, real estate becomes a risky investment.

NEED /SCOPE OF THE STUDY

This study has focused on factors that influence on property investment decisions and connected to behaviour of the investors. However, it is clear that a range of factors may influence property investors or causes price variations. This study has been limited to real estate agents registered and investors in the Kochi city. The findings of the study give a broader understanding of the investors and to those who are involved in real estate business activities which in turn help the investors to attain desired goal from the investment in the real estate. The present study explores the wide scope for diversification of the portfolio allocation decisions for the investors. Real estate market remains consistently under or overpriced for long periods. The span of time involved may be related to the period it holds buyers and sellers to move in and out of the market. In the property market the period is usually high. General tendency may, therefore, emerge and if they can be forecasted, they may try to be helpful in developing future investment strategies.

OBJECTIVES OF THE STUDY

1. To present a brief analysis of real estate scenario in India and the reasons for its exponential growth in recent decades.
2. The current real estate scenario in Kochi.
3. To analyse the behavioural factors that affects the investment decision in Property Market through appropriate empirical study.

4. Future contours, problems and challenges facing this business activity.
5. To suggest strategies for targeting investors/customers based on the findings of this study.

DEFINITION OF REAL ESTATE AND ITS TYPES
DEFINITION
Property comprised of land and the buildings on it as well as the natural resources of the land including uncultivated flora and fauna, farmed crops and livestock, water and minerals; immovable property of this nature; an interest vested in this (also) an item of real property;(more generally) buildings or housing in general. Also: the business of real estate: the profession of buying or renting land, buildings or housing. (reference: em.m.wikipedia.org)
TYPES OF REAL ESTATE
- **Commercial real estate investments** consist mostly of office buildings. If you were to use some of your savings and construct a building with individual offices, you could lease them out to companies and small business owners, who would pay you rent to use the property.
- **Industrial real estate investments** consist of storage units, car washes and other special purpose real estate that generates sales from customers who temporarily use the facility. Industrial real estate investments often have significant "fee" and "service" revenue streams, such as adding coin-operated vacuum cleaners at a car wash, to increase the return on investment for the owner.
- **Retail real estate investments** consist of shopping malls, strip malls, and other retail storefronts. In some cases, the landlord also receives a percentage of sales generated by the tenant store in addition to a base rent to incentivize them to keep the property in top-notch condition.

KOCHI REAL ESTATE – A BUYER'S MARKET FOR NOW
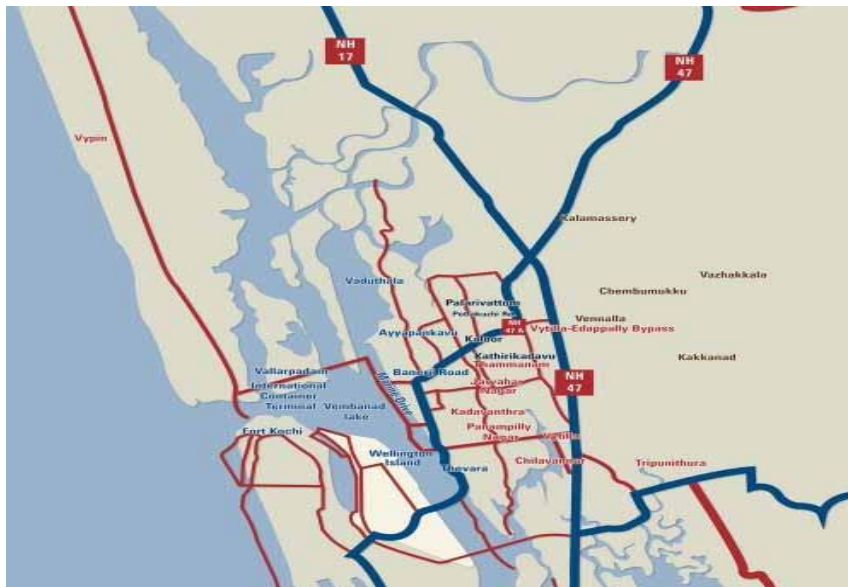
KOCHI METRO
The 25-km long distance between Aluva and Petta would link important junctions like Companypady, Ambattukavu, Kalamassery, Edapally, Palarivatom, Ernakulam South, Elamkulam etc. This is a best corridor for the development of real estate in Kochi.
While timely transport is the agenda, real estate is banking upon locations along the distance. Property prices have already in the rising stage. An optimistic Briji Abraham, a city-based realtor at Ever last Properties says, "Kochi is the business and commercial capital of Kerala. Despite, Trivandrum might boast of real estate growth, the real transactions are happening in Kochi and infrastructural progress is always welcome since they invite investors."
SMART CITY
Kerala is making an ambitious effort in the formation of the Kochi Smart City, a business township, set to be worked by 2015. It aims to reform the job market in Kerala, expecting 90,000 openings by the year 2020. This situation would be favourable for anyone operating and investing here. Not only would more jobs but also more housing demand, it would also help to create a good rental market as well. The realty progress is expected from the non-locals who would move to Kochi for job opportunities. The living cost as well as operational expenses is less in Kochi when compared to the other metros.
BOOMING OF MICRO-MARKETS
Suburban areas such as Edapally, Vytilla, Panampilly Nagar, Kadavanthara, Palarivattom, are brimming with upcoming projects on a smaller range. The region along the Edapally Bypass is gradually convert into a retail hub and fresh supply of mall spaces can be see, Buyers here are much younger and come from different backgrounds. To satisfy their needs, Kochi is coming up with a variety of channel for recreation, investment and business opportunities.
PROPERTY PRICES OUTLOOK
The rental market is not very well-established, but Demand is more for fully-furnished accommodation. For a 1000 sq ft flat that is close to the IT park, the rent might be as high as Rs 50,000 per month, which youngsters take up on a sharing basis." Otherwise, flats are available in a broad range of Rs 8,000 per month in Kakkanad or Kadavanthara to Rs 45,000 monthly in Marine Drive. Hence, if you are a prospective investor in Kochi, do not hold back. Because the upcoming development in the city assures good returns for any investor with a long term vision.

MAJOR FACTORS AFFECTING INVESTMENT DECISION
Compared with other types of investments, real estate investing involves a relatively favourable risk/reward profile, but relatively low liquidity.
Location of the Property
Why is it important? Location is the vital aspect of real estate investing. Most of the other factors can be modified. It's not smart to invest in depreciating areas. The age old punch line "Location, Location, Location" still rules and remains the major factor for profitability in real estate business. Before investing in real estate familiarize with neighborhood, Proximity to amenities, scenic views, peaceful areas, etc. are major factors for residential property valuations; while proximity to markets, warehouses, transport hubs, tax-exempt areas, etc. play a major role for commercial property valuations. The level of growth in the locality affects the level of demand of the property in that location.
What to look for? A mid-to-long term view, about how the location is expected to evolve over the investment period. Today's peaceful open land at the back of a residential building may be developed into a noisy manufacturing facility in future, making the residential valuations less profitable. It is important to conduct thorough check about ownership, type and usage of neighboring areas, establishments and free land in the locality.

Property Valuation

Why is it important? Real estate financing during purchase, listing price during purchase & sale, investment analysis, taxation and insurance premium - all depend on property valuation.

What to look for? When looking at good properties for investing in, try to choose something that has the potential to rise in value. Things like properties by water or in business districts could become more important later on. Consider the long term price and determine how much it's expected to increase, thereby improving the outlook on investment.

Commonly used Valuation Methods

- Cost method : All cost summation minus depreciation – mainly for new construction
- Sales comparison method: Recent comparable sales of properties with similar characteristics –most common and suitable for both new & old properties
- Income method: Depend on expected cash inflows - suitable for rentals

Investment Purpose & Investment boundary

Why is it important? The high value investment in real estate and low liquidity, lacking clarity on purpose may lead to unexpected results including financial distress, especially if the investment is mortgaged.

What to look for? Choose the appropriate category suits your purpose and prepare yourself accordingly:

- **Buy & Self-use:** benefit of self-utilization, value appreciation and Savings on rentals
- **Buy & Lease:** Regular Income generation and long term price appreciation. Requires building a temperament of being a landlord - for handling probable disputes & legal problems, repair work, managing tenants, etc.
- **Buy & Sell (Short Term):** Easy, small to mediocre profit - usually buying under construction plots and selling slightly high once accessible
- **Buy & Sell (Long Term):** Large intrinsic price value appreciation over long duration; solution for long term aims like retirement planning, marriage, child's education, etc.

Cash Flows & Return Opportunities

Why is it important? The investment purpose & usage affect cash flows and hence profit opportunities.

What to look for? Establish draft projections for the following methods of profit & expenses:

- Expected cash flow from rental income
- Expected increase in intrinsic value due to long term value appreciation
- Gain of depreciation
- Cost benefit analysis of renovation before sale to get improved price
- Cost volume analysis of mortgaged loans vs value appreciation

Profitability has a close relationship with investment risk

The Pitfalls

Why is it important? Loans are easy but may come at a high cost - you commit your future earning, to get benefit today for a cost of interest spread over many years. Real estate financing needs high amount and hence have higher exposures. Understanding of this will allows you to gain from it to the maximum, while avoiding the risks can lead to major pitfalls.

What to look for? Based on your current & expected future earnings and paying capability, consider the following:

- Decide the type of mortgage loans (Fixed Rate, Floating Rate, Zero Down Payment), whichever suits you
- Aware about the terms & conditions and other charges levied by financiers
- Hunt around and bargain for a superior deal - lower interest rates, lower insurance premiums, as possible

Investment Knowledge

Why is it important? The investors' investment knowledge and experience have positive and negative impacts on their trend to invest capital in the real estate business. If investors perceive higher risk in the real estate market, they are reluctant to invest capital and vice versa. Investor knowledge of 'neutral information' plays an important role in investment decision making process.

What to look for? You need to become educated in real estate prior to investing. It's important to learn as much as possible before you entering into the real estate world. Because we are looking for a profitable avenue.

Neutral Information

Why is it important? The analysis of financial statements alone is not a better enough for taking the investment decision. There are some other sources of information also influence the investors to make better feel to invest.

What to look for? Neutral information is operated as the extent to which investors understand i) recent price movement in the real estate sector ii) the current economic indicators (e.g., business cycle, GDP, etc.)

Motivation from Advisors

Why is it important? Investment advisors play a major role in investment decisions of investors. The investment propensity of investors is positively affected by their own perceived consultation with an advisor. Similarly, real estate brokers, family members, and friends can act as investment advisors in the real estate market

What to look for? As an intermediary, the real estate agent promptly makes use of a seller's property data for sale; provide multiple listing services to gain the competitive advantages in the real estate market. All services are used with effective marketing tools like advertising, which is help to increase the rate of arrival of potential buyers, who are better informed and thus better matches for the seller's real estate property.

Investment Risk

Why is it important? In every kind investment is associated with certain level of risk, so before making any investment, we have to analyse the degree of risk. Return expectations were positively related with investment allocation.

What to look for? Provision of past performance information appears to create an expectation for future returns around the same level as past returns. Management and evaluation of risk is a major part of any successful real estate investment strategy. Risk occurs in many different ways at every stage of the investment process.

Overconfidence

Why is it important? The investors are mostly over confident about their abilities to complete the tough tasks successfully. Sometimes they believe that their knowledge will be more accurate and even decision is also definite. Overconfidence is a "The ego traps" and note that it is common. Overconfident investors believe fully in their activities and not bothered about the belief and experience of others.

What to look for? Over confidence motivate investors to trade or invest too much and to too much risk. As a consequence, investors have to pay too much in the form of commission, &taxes, and are susceptible to heavy loss. In short, increased level of information or over confidence does not lead to greater knowledge because many investors not have experience, proper training, or skills to understand the information regarding the real estate market which may make a negative effect on real estate investment of the investors.

Key Challenges & Problems

- For new land acquisition facing procedural difficulties- Requirement of in depth scrutiny of documents
- Unreasonable demand from land owners
- No insurance available on land acquisition

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- High dependency on agents
- Multiple approvals & multiple agencies
- lack of clear land titles
- absence of industry status
- lack of adequate sources of finance
- shortage of labour
- rising manpower and material costs

INDIAN REAL ESTATE SCENARIO

The real estate business in India has assumed a flourishing importance with the liberalization of the economy. In Indian real estate market cycle, the boom/burst period lasted for a period of six years. The last decade witnessed a frantic boom in the residential plot prices. Rising income level due to IT, IT enabled Services (ITeS), lowering rate of interest charges, increased FDI inflow in real estate business after 2005, has caused increase in price of real estate backed by strong demand. The tremendous growth in business opportunities and migration of people has increased the interest for commercial and housing properties. This interest in turn is primarily being driven by emerging favourable environment for real estate investment. India has its own unique and integral complexities. Real estate is an integral part in the establishment and growth of all businesses and steadily maturing into a top business itself. As such the development of real estate sector depends largely on the performance of the economy and the businesses in specific.

The recently approved Real Estate Regulatory Bill is an important move by the government to address the concerns of real estate business. The sector is moving ahead slowly and steadily, certain inactivity is resulting in to stagnation from this heavy and multifaceted much to be attained success. At a juncture like this, there is a need for a focused drive in the right direction for the real estate sector to remain buoyant going forward. Therefore, it is essential for all stakeholders to prepare themselves with a broader understanding of not only the real estate region but also the businesses they provide. The key drive for businesses to do well will be their ability to analyse this complexity and embrace it with a logical approach, and the same applies to real estate sector. Therefore, investors face this pertinent question of where to invest?

India, as it stands today, is on the trajectory of becoming the 3rd largest economy by 2020. Real estate continues to form a key drive for the success of India's rising economy. In such a scenario, occupier growth has remained restricted in Tier 3 cities. However, some cities such as Jaipur and Chandigarh, Ahmadabad, Kochi and Coimbatore have seen occupiers setting up base. Global occupiers here include Genpact, Deutsche Bank, Nagarro Software, Affiliated Computer Services, Cognizant and Convensys among others. The real estate sector in India has been tumultuous in many different ways in the year 2014. Slow moving markets bother most parts of the country during Q1 and Q2 of 2014. However, towards the closing of the year, the market got back on the road to revival. India Property recently conducted a pan India survey study the realty market in the year 2014 and the expected market behavior in 2015. The results focused an interesting analysis of information and user behaviour across the nation. The study projected that only 32% of respondents purchased a plot in 2014 and nearly 68% seemed to have postponed it to the coming year. The reason for a delay in plot purchase could be an outcome of various factors, although the macro level appraisal shows that unaffordability, political instability and high interest rates are responsible for the downward trend in the market. An interesting conclusion in the survey showed that nearly 60% of the investors are looking to invest in real estate in the year 2015.

REAL ESTATE MARKET IN KERALA

The Kerala Real Estate sector remains buoyant despite many a setback sand slowdown it has faced in the last two years. Some cities have witnessed a significant real estate business especially Trivandrum, due to the influence of IT industry and software developers. They bring with themselves higher desire in terms of quality of life and higher disposable incomes which stimulate real estate growth. Cities like Kochi on the other hand are in the recovery stage after quite a large drop in prices over the last year. We expect prices to start accelerating in Kerala as a whole towards 2014, Every village and town in Kerala is a real estate hotspot to all malayalees who live in abroad, not just a single overseas but also the ones who live in other region of the country, wish to invest in land back home country. The rush to make an investment in real estate in Kerala has also attracted many people operated in this line of business. So that the government has introduce an ordinance to control the real estate in the state, making god's own country is the second state after Maharashtra to enact such ordinance. Kochi is the preferred location for most NRIs because of the development of the city. The recent growth in the real estate sector can be attributed mostly to the increase in population in Kerala, and also the availability of finance. The Kerala real estate segment includes the best mix of thoughtfully planning projects, well organised hi tech office space and also sophisticated IT parks. Kerala is truly god's own country blessed with the best of what nature has to offer and this make a direct role in the upward mobility of real estate market.

LITERATURE REVIEW

Bharat Mittal, 2007 [3] Indian real estate investment area has shown tremendous progress over the last few years with the global and local factors. With the growth and expansion of the real estate market, other areas got experienced the growth which created the growth of economy. Gill, A, S.P Sharma, H.S Mand, N. Mathur, 2012[4].The globalization and the emergent of Multinational Corporation in India results to the growth of real estate market and economic growth. Moreover, growth of population, rising in income level, rapid urbanization factors influenced to the growth of Indian real estate market. Since the Indian real estate market is emerging market in under developed economy, the role of real estate investors' play and vital role of Indian economy. Gill and Biger (2008) (2012) [6] also indicate that investors' tendency to invest capital is positively affected by their own perceived knowledge of neutral information. Thus, investors do not rely on a single integrated approach, but rather on many categories of factors such as price movement in the real estate market and current economic indicators e.g., business cycle, GDP, etc.K. Byrne (2005) [7] explains that investors take better investment decision through the improved the investment knowledge and experience. The investors can accurately perceive the risk and the return accruing from the investment

RESEARCH DESIGN AND DATA ANALYSIS

In order to make a micro empirical analysis, the author has prepared a questionnaire which was administered on select individuals and organisations involved in real estate business in Kerala, and more particularly in Kochi City. To recapitulate, the topic of study is on "*Real Estate Business in Kochi (Kerala): An analysis of its growth and the factors affecting investors' sentiment".* Responses received from the respondents have been compiled and tabulated; and suitable inferences have been drawn.

DATA ANALYSIS & INTERPRETATION

TABLE 1.1: AGE OF THE RESPONDENTS

Age of the Respondents (Years)	Number of Respondents	Percent (%)
Below 25	21	14
25-45	72	48
45-60	42	28
60 and Above	15	10
Total	150	100

The first characteristic of the respondents that is taken into account is the age of the respondent. It can be seem from the chart that almost half (48%) respondents belong to the age group of 25 to 45 years, whereas the next age group in terms of the number was 46 to 60 years to which (28%) of the respondents belonged.

10% of the respondents were above 60 years of age of which 14 % were below 25. Thus, 76% of the respondents belonged to the middle age group, i.e. 25 to 60 years. This confirms the national characteristic of middle aged persons going in for houses and housing plots.

TABLE 1.2: GENDER CLASSIFICATION

Gender	Number of Respondents	Percent (%)
Male	123	82
Female	27	18
Total	150	100

Out of the 150 respondents surveyed, 82% were males and the remaining 18% were females. Thus, the sample was male dominated.

TABLE 1.3: EDUCATIONAL QUALIFICATIONS OF THE RESPONDENTS

Educational Level	Number of Respondents	Percent (%)
Below S.S.L.C	25	16.67
S.S.L.C/H.S.E	35	23.33
Graduate	55	36.67
Post Graduate/Diploma	20	13.33
Others	15	10
Total	150	100

Education is one of the most important characteristics of the investor because the perception, awareness and behaviour of the customers depend largely on his/her educational qualifications. Among the selected respondents, more than one third (36%) were Graduate, while 23 had studied up to S.S.L.C/H.S.E level and 16 were below S.S.L.C. and 13 were post graduate levels.

TABLE 1.4: NATURE OF OWNERSHIP

Ownership	Number of Respondents	Percent (%)
Sole proprietorship	45	30
Partnership	18	12
ltd company	87	58
Total	100	100

The Ownership Nature of respondents which may also be an important factor affecting the decision making of customers. It was found that more than half of the respondents (58%), were from the company, 42% were doing partnership & sole proprietorship. Thus it may be inferred that real estate business even in Kochi is getting corporatized.

TABLE 1.5: TYPES OF REAL ESTATE

Types	Number of Respondents	Percent (%)
Residential	65	43.33
Industrial	33	22
Retail	35	23.33
Commercial	17	11.33
Total	100	100

The above figure reveals that most of the respondent's viz. 43% start out investing in residential real estate because the migration rate is high and also they're more accustomed to buying homes. 23% of them are in retail. This indicates that most of the respondents making heavy investment in retail real estate because of the city development, remaining 22% in industrial. Only 11% of respondents are focusing on commercial properties.

TABLE 1.6: MOST PREFERRED LOCATIONS

Location	Number of Respondents	Percent (%)
South-West Kochi	23	15.33
South-East Kochi	20	13.33
East Kochi	61	40.66
North Kochi	28	18.66
North-East Kochi	18	12
Total	150	100

Location that is adjacent to all important emergency services, road rail transport accessibility. The above figure reveals that a large percentage of the respondents (40%) prefer the East Kochi because of the development of the micro markets & IT/ITES hub, only 12% of people are interesting North-East Kochi because of the limited availability of land.

TABLE 1.7: IDEAL MARKET PRICES PER SQ/FT

price	Number of Respondents	Percent (%)
6,000-6,500	17	11.33
4,000-4,500	37	24.66
2,800-3,300	58	38.66
2,500-3,000	38	25.33
Total	150	100

It is observed that variation in rates has influencing the investment decision.

Market price seems to be more important parameter for assessing the growth trend. This is exhibited by the response rate where 38% of the respondents indicate that the idle market price lies in between 2800-3300, but 11% of them are in high growth rate.

TABLE 1.8: EXPECTING VALUE APPRECIATIONS

Value appreciation	Number of Respondents	Percent (%)
Good	45	30
Average	90	60
No appreciation	15	10
Total	150	100

As far as value appreciation is concerned 90 of respondents (60% of respondents) are expecting average value appreciation, 30% of them are expecting high appreciation because of the new projects. Only 10% of investors not expecting any appreciation because of the delay in project implementation.

TABLE 1.9: FACTORS INFLUENCING INVESTMENT DECISIONS

Factors	Number of Respondents	Percent (%)
Price appreciation	65	43.33
Start and promote family business	30	20
As a source of additional income	40	26.66
No other option	15	10
Total	150	100

There are various factors responsible for investment in real estate. 44% of respondents indicate that the price appreciation has a high effect on property decision making. 26 % of the respondents are engaging in this business to make additional income, 20% of them are for promoting family business, and remaining 10% of respondents have no other option so they are investing in real estate.

TABLE 2.0: TYPES OF RISK

Types of risk	Number of Respondents	Percent (%)
Interest Rate Risk	15	10
Business Risk	25	16.66
Liquidity Risk	45	30
Market Risk	65	43.33
Total	150	100

In every field of the business face different kinds of risk. The above figure shows the risk associated with the real estate, the findings indicate that most (44%) of the respondents are facing market risk because of fluctuation in price. and 30% of them are facing liquidity risk because of the limited opportunities. and 16% of the are the opinion that business risk is the important one because of lack of finance.

TABLE 2.1: CURRENT REAL ESTATE MARKET

Stage	Number of Respondents	Percent (%)
Booming	46	30.6
No growth	76	50.6
Declining	28	18.6
Total	150	100

The above figure shows that half of the respondent said that there is no growth because of the financial crunch in the market in all sectors &delay in many projects, only 30% of them are said that it is in booming stage because of the new projects (metro), rest of them are in the opinion that it is in declining stage.

TABLE 2.2: WILLING TO CONTINUE INVESTING IN THIS MARKET

Investing	Number of Respondents	Percent (%)
Yes	75	50
No	75	50
Total	150	100

The investment decision is dependent upon the growth of the property market and half of the investors are willing to invest in the market because of the booming micro markets, and half of them are not interested to continue in this market because of the market risk.

TABLE 2.3: OBTAINING INFORMATION

Search of Information	Strongly Disagree	Disagree	Agree	Strongly Agree	mean
Agent	5	10	55	80	3.4
newspaper	32	38	58	22	2.4
Previous experience	20	30	65	35	2.7
Reference groups	50	40	35	25	2.2

The study findings indicate that 90% of the property investors always /frequently use real estate agent, previous experience as a source of property information, this implies that property investors use various ways to source of information for effective investment decision. Real estate agent was ranked first with a mean of 3.4. Indeed they are the most relied on to identify where there are properties for sale. Other notable source of property information is previous experience with a mean of 2.7. and lastly newspaper (2.4) & reference groups (2.2).

TABLE 2.4: FACTORS MAKING AGENTS SUCCESSFUL

Factors	Number of Respondents	Percent (%)
Experience & knowledge	55	36.67
Education	56	37.33
Good contact base &communication skills	25	16.67
All the options	14	9.3
Total	150	100

There are many factors make agent successful, from the above chart 37% of respondents are of the opinion that education is the most important factor for making agents successful, but 36% of the respondents said that experience & knowledge are the important factors, only 9% investors are of the opinion that all above factors are significant for the success of the agent

TABLE 2.5: FACTORS TO CONSIDER BEFORE SELECTING A REAL ESTATE PROPERTY

Factors	Number of Respondents	Percent (%)
Location	40	26.67
History	12	8
Ownership	18	12
Risk factor	30	20
Price	40	26.67
Comfort	10	6.67
Total	150	100

Before making an investment decision, investors consider several factors. The findings indicate that most of the respondents said that price & location of the property are very important and has accounted for by over (50%) of the respondents. This implies that these factors largely influence the property decision, 32% of investors giving importance to risk & ownership, 15% of them for history & comfort of property investment decision.

TABLE 2.6: MOTIVATION BEHIND INVESTING IN REAL ESTATE

Motivating factor	Number of Respondents	Percent (%)
Cash flow	56	37.33
capital appreciation	28	18.67
tax benefit	47	31.33
Leverage of OPM	19	12.67
Total	150	100

There are many motivating factors leads to the investment decision, As far as the investment strategies by big investors are concerned, returns & tax benefits are topped the list (70%), followed by 30% of the investors are motivated by capital appreciation and leverage of OPM.

TABLE 2.7: HOW MANY TIMES INVESTED IN REAL ESTATE

Times	Number of Respondents	Percent (%)
Once	28	18.67
1-5 times	75	50
5-10 times	37	24.67
More than 10 times	10	6.67
Total	150	100

The study indicates that 50% of the respondents had experience in real estate for a time range between 1-5, 25% had an experience of 5-10 times while 19% had an experience of once, only 7% had an experience of more than 10 times it implies they can explain the guiding behaviour in real estate investment.

TABLE 2.8 PROBLEMS FACED BY THE INVESTOR

Problems	Number of Respondents	Percent (%)
procedural difficulties	62	41.33
No insurance available	27	18
dependency on agents	46	30.67
Lack of finance	15	10
Total	150	100

There are some problems faced by the investors to invest in the property market, 42% of the investors are facing the main issue as the procedural difficulties because of the corruptions, 31% of them are facing dependency on agents, for making any investment deal they have to consult with agent to take decision, 18% of respondents are facing no insurance coverage, only 10% of them are facing lack of fund for investment.

TABLE 2.9: FACTORS INFLUENCING THE INVESTORS BEHAVIOUR TO INVEST IN THE REAL ESTATE PROPERTY

Factors	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Mean
Neutral Information						
Recent price movement in the real estate market	28	25	41	25	31	3.04
Current Economic Indicators.	20	55	40	25	10	2.66
Information from the internet	60	20	40	10	20	2.4
Coverage in the press	30	60	30	18	12	2.48
Motivation from the Advisors						
Motivation from the real estate developers and brokers.	10	15	45	55	25	3.46
Motivation from self-experience.	35	52	28	23	12	2.5
Motivation from the Family members	41	52	35	10	12	2.33
Motivation from the friends.	35	70	30	6	9	2.22
Investment Risk						
Portfolio selection to achieve the desired object.	31	42	17	25	35	2.94
Long period return on investment interrupted by the inflation.	46	40	29	25	10	2.42
Loss of initial investment Made for the purchase property within the period of agreement	38	68	15	17	12	2.33
Failure to fulfil the agreement between the parties involved in real estate market	64	45	18	8	15	2.1
Happening of uncertain events	70	43	25	6	6	1.9
Self-Image and the Agents Image						
Real estate broker's efficiency to shape the investor for suitable and profitable investment	28	20	28	46	28	3.17
Involvement of realty developers to solve the investors' problems.	50	8	21	32	39	3.01
Organized Real Estate Market	24	50	56	12	8	2.53
Wish to get rich quickly.	45	23	60	9	13	2.48
Reputation of the firm	32	41	58	12	7	2.47
Efficiency of realty developers and its members.	55	46	34	9	6	2.1
Feelings regarding firms' service.	42	53	31	12	12	2.32

HYPOTHESIS 1

1. H0: factors are not influencing the Investor behaviour to invest in the real estate
2. H1: factors are highly influencing the Investor behaviour to invest in the real estate
Since the probability value is less than 0.05, the hypothesis 1. H0 is rejected and 2.H1 is accepted as it is significant.
Testing Hypothesis-No. 1

TABLE 2.10

Factors	Number of Respondents	Percent (%)
Motivation from the Advisors	65	43.33
Investment Risk	15	10
Neutral Information	20	13.33
investor's expectation	10	6.667
investment knowledge,	40	26.667
Total	150	100

TABLE 2.11

Factors	Frequency	Percent (%)
Motivation from the Advisors	21.667	43.33
Investment Risk	5	10
Neutral Information	6.667	13.33
investor's expectation	3.33	6.667
investment knowledge,	13.333	26.667
Total	50	100

Chi-square value: 22.77 (p-value <0.05)

TABLE 2.12

O	E	O – E	(O - E)²	(O - E)² / E
21.667	10	11.667	136.1188	13.61188
5	10	-5	25	2.5
6.667	10	-3.33	11.088	1.1088
3.33	10	-6.67	44.488	4.4488
13.333	10	3.33	11.088	1.1088
50	50			22.7785

Hypothesis: 2
2.1 H0: Education makes no difference in investment in real estate
2.2 H1: Education makes a difference in investment in real estate
Since the probability value is less than 0.05, the hypothesis H0 (2.1) is rejected and H1 (2.2) is accepted as it is significant.
Testing hypothesis-No.2

TABLE 2.13

Educational Level	Number of Respondents	Percent (%)
Below S.S.L.C	25	16.667
S.S.L.C/H.S.E	35	23.33
Graduate	55	36.667
Post Graduate/Diploma	20	13.33
Others	15	10
Total	150	100

TABLE 2.14

Educational Level	Frequency	Percent (%)
Below S.S.L.C	8.33	16.667
S.S.L.C/H.S.E	11.667	23.33
Graduate	18.333	36.667
Post Graduate/Diploma	6.67	13.33
Others	5	10
Total	50	100

Chi-square value: 11.10 (p-value <0.05)

TABLE 2.15

O	E	O - E	(O - E)²	(O - E)² / E
8.33	10	-1.67	2.788	0.2788
11.667	10	1.66	2.755	0.2755
18.333	10	8.33	69.38	6.938
6.67	10	-3.33	11.088	1.108
5	10	-5	25	2.5
50	50			11.1003

RESULTS OF THE STUDY

- The study investigate the behavioural factors that influence the investors sentiments to invest in the Kochi real estate market, the study revealed that expert advice of the real estate agents and developers (M. Value- 3.46) & price changes in the real estate market (M. Value-3.04) are most influencing factor to motivate the behaviour of investors to invest in the real estate.
- The growth rate of the Kochi real estate is coming down because of the investors are facing many problems like increasing the fair value, procedural difficulties and dependency on agents etc. contributing factor for the no growth.
- Most of the investors (50%) are willing to invest on real estate for a short period of time, this shows that majority of investors Prefer short year's investment to long.
- Majority of the investors (64%) are male, Education makes the difference in taking appropriate investment decision in the property market.
- It was found that the risks and portfolio performance vary with changes in the real estate market prices.
- The investment on real estate mainly got flourished at the place where micro markets are booming
- In this study, it was revealed that most of the respondents had gathered information about the real estate through Agents (M. Value- 3.4). There were few respondents obtaining this information from formal sources of information like newspapers.

SUGGESTIONS

- Since the real estate developers and brokers are motivating agents to the real estate investors, the developer's advice based on the past experience and awareness of latest market trends would be helped the investors to take a better investment decision.
- So, it may be suggested that the real estate should make more efforts towards providing necessary information about the market trends through the formal channels which have much larger coverage as compared to the informal channels.
- The comprehensive attempt to provide the behavioural and awareness to realty investors and developers. It will help them to take property decision.
- Ensure appropriate asset allocation strategies for successful portfolio management of their clients which may be based on their life stage, emotional risk tolerance and their financial capability.
- Provide improved services to help investors to make ideal selection from the portfolio and diversify the funds to ensure return from investment.
- The real estate developers must have complied the business ethics and moral values to strengthen the real estate activities.
- The real estate developers and agents are to be frequently communicated with investors; it will help them to take correct decision.
- It was found that investors are facing procedural difficulty it may be suggested that Government should take necessary steps to expedite the procedure, so that customers get the property within reasonable time.

LIMITATIONS OF THE STUDY

- The study is limited to 150 respondents only, the study covers only with particular potential places in the district of Ernakulum, Kerala.
- The role of real estate developers and agents cannot be considered as crucial for the investors in the investment decision making. Sometimes, the investors choose the best portfolio without the advice of agents and real estate developers.

CONCLUSION

In this article I would like to show the current real estate position in Kochi and factors affecting the investors' sentiments towards the property investment decision, this study would help the real estate developers and brokers to understand the factors that influencing the investors to invest in real estate market. I hope this article will may helpful to the investors to creates better investment knowledge to select ideal investment decision

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CORPORATE SOCIAL RESPONSIBILITY AND FINANCIAL PERFORMANCE IN IRON AND STEEL INDUSTRY OF INDIA

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ABSTRACT

The Iron and steel sector of India is a combination of public and private sector which alone contributes over three per cent to the national GDP. To study the relationship between the corporate social responsibility and corporate financial responsibility for the sector, top 10 companies accounting for 87% of the industry net worth & total revenue and 99% of the total profits were selected. In the 17-year period from 1998 to 2014, the 10 selected companies spent huge amount on the four variables of corporate social performance—tax, donation, wages, and R&D. For analysis, a t-test was done which has shown significant association between the corporate social performance and corporate financial performance of all the companies - Bhushan, Jindal Saw, Jindal Stainless, Jindal Steel & Power, JSW Steel, Lloyds, SAIL, Tata Steel, Uttam Glava and Welspun. The correlation and regression has shown significant association in the all the companies from the period of 1998 to 2014.

KEYWORDS

corporate social responsibility (CSP), corporate financial performance (CFP), corporate social performance (CSP).

INTRODUCTION

Over the past 20 years, the managerial philosophy of businesses and firms has changed significantly. Earlier, the foremost objective was profit maximization. Now the objective has shifted to corporate social responsibility. In the second half of the last century, the profit maximization principle gave way to Balance Interest managerial philosophy. This means the firm has to keep a balance amongst the shareholders, suppliers, employees and customers. The concept of Corporate Social Responsibility originated in the 1950's (Bowen 1953). It refers to the obligations of businessmen to pursue those policies, make those decisions, or follow those lines of relations which are desirable in terms of the objectives and values of our society. But to achieve these social objectives, funds are required. William E Halal (1977) recognised the fact that no corporate social posture will be value-free, and this makes corporate social responsibility a tremendously difficult task.

In the current paradigm, the goals of the firms have become more aligned to the welfare of the society in the form of ecology and environmental pollution. A firm has to take into consideration various dimensions which have been outlined in the form of employee's empowerment, employee's motivation, customer relationship management, selling & promotion scheme, supply chain management, credit facility, etc.

In India, individual companies have been alive to social responsibility since the beginning of industrial revolution. Tata group founder Mr. Jamshed Tata used to grant scholarships for studies abroad in 1892. He also supported Gandhi Ji's campaign for racial equality in South Africa. The group, which started its presence on the industrial scene with the steel industry, gave India its first science centre and atomic research centre. In July 2004, Tata Steel announced that it would not deal with companies that do not conform to the company's Corporate Social Responsibility (CSR) standards (Srivastava, Negi, Mishra, & Pandey, 2012).

The new Companies Bill, 2012 enjoins on every company having net worth of ₹500 crore or more, or turnover of ₹1,000 crore or more or a net profit of ₹5 crore or more during any financial year to constitute a Corporate Social Responsibility committee and spend at least two per cent of the average net profits of the company made during the three immediately preceding financial years in pursuance of its corporate social responsibility policy (Government of India, 2012).

The objective of the present study was to find the relationship between the corporate social responsibility and corporate financial performance of the steel industry. The steel industry was chosen because it is a compact group contributing three per cent to the national Gross Domestic Product (GDP). The steel sector for any country is the engine of economic growth.

ESSENCE OF CORPORATE SOCIAL RESPONSIBILITY

The concept of Corporate Social Responsibility emerged in the 1950's. According to Bowen (1953), CSR refers to the obligations of businessmen to pursue those policies, make those decisions, or follow those lines of relations which are desirable in terms of the objectives and values of our society. Frederick (1960) stated that social responsibility means businessmen should oversee the operation of an economic system that fulfils the expectations of the people. Davis (1960) said that social responsibility is a nebulous idea but should be seen in a managerial context. He asserted that some socially responsible business decisions can be justified by a long, complicated process of reasoning as having a good chance of bringing long-run economic gain to the firm, thus paying it back for its socially responsible outlook. Eells and Walton (1969) argue when people talk about corporate social responsibilities they are thinking in terms of the problems that arise when corporate enterprises casts its shadow on the social scene, and of the ethical principles that ought to govern the relationship between the corporation and society. According to Joseph McGuire (1963) "the idea of social responsibilities supposes that the corporation has not only economic and legal obligations, but also certain responsibilities to society which extend beyond these obligations. But in his famous article titled '*The social responsibility of business is to increase its profits'* Milton Friedman (1970) stated that managers' only responsibility was to increase shareholders' wealth. He thus focused on a very distinct aspect of corporate and managerial responsibility. Managers and even executives are employees of the stockholders. Therefore, their only responsibility is ''to conduct the business in accordance with their [the owners] desires to make as much money as possible conforming to the basic rules of society". Another definition of CSR was given by Carrol (1979): "The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time.'' Wood (1991) distinguished three principles of CSR which each operate on a different level: 1) The principle of legitimacy. This principle operates on an institutional level. 2) The principle of public responsibility. It operates on an organizational level. 3) The principle of managerial discretion. This principle operates on an individual level.

Freeman (Freeman, 1994) proposed that social performance is needed to attain business legitimacy. "Managers have a fiduciary responsibility to all stakeholders and not just to shareholders." He suggested a positive correlation between social responsibility and financial performance in the long run. The central idea in stakeholder theory is that the success of an organization depends on the extent to which the organization is capable of managing its relationships with key groups, such as financers and shareholders, but also customers, employees, and even communities or societies. A particular definition, which puts the concept in a broad yet understandable perspective, was presented at the World Business Council for Sustainable Development: ''Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development, while improving the quality of life of the workforce and their families as of the local community at large''(Holme & Watts, 1999).

Goyder (2003) argues that the industry in the 20th century can no longer be regarded as a private arrangement for enriching shareholders. It has become a joint enterprise in which workers, management, consumers, the locality, govt. and trade union officials all play a part. If the system which we know by the name private enterprise is to continue, some way must be found to embrace many interests whom we go to make up industry in a common purpose. CSR implies some sort of

commitment, through corporate policies and action. The acting in a socially responsible way is a consequence of a deliberate managerial choice that results from internal decision processes, which are of a complex nature (Irene Goll and Abdul A. Rasheed, 2004).

CSR has been described as the obligation of organizations to be accountable for their environment and for their stakeholders in a manner that goes beyond mere financial aspects (Gössling & Vocht, 2007).

Boyd et al. (1996) suggest that a strong reputation makes it easier for a firm to signal consumers about product quality, and enhances the ability to charge premium prices. Based on these considerations, they predict and find a relationship between reputation strength and return on sales. Preston and O'Bannon (1997) describe different possible interactions between profit and CSR. There are mainly two approaches which stand out and justify a positive connection between financial return and social performance. The first one considers that an increase in profits will stem from an overall increase in factor productivity; the second one that the benefits in terms of image will induce an increase in profits. Roberts and Dowling (1997) provide further support for a link between reputation and operational performance, showing that firms with stronger reputations are more likely to attain and sustain higher than average return. Various studies reveal an ambiguous relationship between corporate social responsibility and financial performance variables. In which some showed the positive, negative or non-significant relation-ship. A meta-analysis conducted by the Pieter and Tobas (2008) shows clear empirical evidence for a positive correlation between corporate social and financial performance and states that in the present Western society, ''Good Ethics is Good Business.'' In his study, 21 cases showed a positive relationship, 9 showed a non-significant relationship and 2 showed negative relationship between CSP and CFP. Another study by Masud and Chand (2006) states that once the industry type is established as a boundary condition, the relationship between CSP and CFP is clear and positive.

In contrast, another study using the slack resource theory, showed non-significant relationship of 383 firms but found that company size had a significant positive moderating effect on the relationship between CSP and CFP (Hasan Fauzi, Lois S. Mahoney, & Azhar Abdul Rahman, 2007). However, a study that was also done under the slack resource theory and under good management theory in 2009 showed a positive relationship between the CSP and CFP (Hassan Fauzi and Kamil M. Idris, 2009). A latest study (Mohammad Tazul Islam, 2012) finds that CSR initiatives represented by CSR expenditure of banks are positively connected with the size of business, ROE and AstQt, and negatively with CAR. The policy implication of the study recommends that better regulatory requirements will foster more CSR initiatives. Most studies found that there was a positive correlation between CSR and CFP in most of the cases.

METHODOLOGY

The sample for the study was selected from the BS 1000 Report (Standard, 2013) which was published in February, 2013. The report had selected 10 Iron & Steel companies out of the total of 69, based on their performance as these companies accounted for 87% of the Iron & steel industry net worth & total revenue or 99% of the total profit earned by the Iron & steel industry.

The data was collected through secondary sources including Company Annual Reports and CMIE PROWESS Software. For Corporate Social Performance, five variables were selected—total taxes paid, donation, research & development, wages and power expressed as percentage of total assets. And for Corporate Financial performance, three variables were selected—profit as percentage of capital employed, profit as a percentage of total assets and P/E for a period of seventeen years. Further, composite index was calculated for the corporate social and financial performance. Regression and t-test were applied on the two variables thus obtained. Both parameters were further converted into a standardized value by applying the formula:

Standardized value = $\{(x - \bar{x}) \div \sigma * 10\} + 50$

Here x is the each value of the data, $\bar{x}$ is the mean of the, and σ is the standard deviation of the x

With the help of standardized value, composite index was calculated by adding all variables under each head. For e.g., CSP includes tax, donation, R&D, wages and power & fuel and after that divided by the number of variables shown in Table 1. Regression analysis, correlation and t-test were applied to find out the relationship between the corporate social performance (CSP) and corporate financial performance. T-test used to test the significance mean difference between the composite index of the corporate social performance and corporate financial performance. And regression and correlation was used to ascertain of the relationship between the corporate social performance and corporate financial performance.

TABLE 1: COMPOSITE INDEX OF THE CORPORATE SOCIAL PERFORMANCE (CSP) AND CORPORATE FINANCIAL PERFORMANCE FOR A PERIOD OF 1998-14

Year			Mar-98	Mar-99	Mar-00	Mar-01	Mar-02	Mar-03	Mar-04	Mar-05	Mar-06	Mar-07	Mar-08	Mar-09	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14
	CSP	Composite index	44.47	36.69	33.60	31.70	29.67	26.84	29.85	29.49	27.37	27.39	26.48	25.93	26.12	25.60	25.38	33.45	17.17
Bhushan	CFP	Composite index	44.81	44.78	44.80	43.39	41.30	35.27	52.30	62.64	53.83	65.14	59.40	47.72	58.73	55.42	50.28	35.24	27.11
Jindal SAW	CSP	Composite index	38.67	43.19	37.74	42.07	47.86	46.88	38.92	35.39	34.00	38.70	38.70	34.87	40.33	34.39	32.54	41.23	23.49
	CFP	Composite index	47.91	49.69	47.29	50.04	51.84	56.43	50.57	50.66	51.48	68.54	68.54	52.40	58.78	52.76	48.46	47.96	45.37
Jindal Stainless	CSP	Composite index	44.32	44.32	44.32	44.32	44.32	54.96	54.28	50.74	51.52	48.67	46.04	40.19	48.63	46.69	43.85	61.23	35.05
	CFP	Composite index	35.82	35.82	35.82	35.82	35.82	48.19	52.47	54.63	56.49	53.65	53.10	28.55	48.83	48.60	35.03	29.68	35.82
Jindal Steel & Power	CSP	Composite index	41.67	48.78	59.91	60.25	50.25	49.04	47.56	45.89	43.52	43.38	48.32	47.22	44.39	43.40	42.82	55.09	39.79
	CFP	Composite index	29.94	49.70	44.47	48.46	44.55	45.29	55.57	60.57	53.08	50.41	60.40	54.90	55.79	52.89	47.76	37.54	35.17
JSW steel	CSP	Composite index	36.88	38.91	39.48	47.81	44.61	48.00	54.01	52.77	51.61	51.09	55.93	50.17	51.04	50.70	50.36	58.34	43.53
	CFP	Composite index	33.73	34.27	31.80	34.09	28.51	33.12	51.15	55.93	53.24	56.79	60.09	49.75	59.16	55.70	53.08	40.03	38.08
Lloyds	CSP	Composite index	51.69	47.56	44.64	37.34	44.95	45.64	52.39	55.91	51.37	51.57	51.77	50.60	51.52	51.28	51.48	67.94	40.17
	CFP	Composite index	57.42	46.58	41.38	34.14	44.70	43.29	59.96	49.04	54.11	53.50	54.93	40.78	49.81	39.01	49.81	60.18	60.04
SAIL	CSP	Composite index	48.43	48.33	47.69	47.45	41.75	48.39	48.54	48.79	52.08	52.59	51.48	50.09	50.03	49.28	49.03	72.73	38.94
	CFP	Composite index	54.10	37.92	37.21	38.86	36.25	39.73	50.13	60.37	53.68	57.16	57.99	51.60	54.01	50.79	48.13	42.33	40.57
Tata steel	CSP	Composite index	42.91	42.85	42.92	48.25	42.74	43.13	43.46	48.14	43.67	49.17	45.83	45.20	46.20	44.06	44.34	67.09	33.42
	CFP	Composite index	50.81	47.27	49.50	44.08	45.53	45.68	54.04	63.11	60.90	55.10	52.14	43.30	49.12	48.13	45.20	38.07	33.24
Uttam Glava	CSP	Composite index	57.28	44.45	36.04	35.92	40.94	49.32	50.44	55.24	50.59	50.43	53.03	48.23	47.59	47.51	47.82	60.42	34.97
	CFP	Composite index	48.46	49.74	35.22	33.61	37.90	46.83	49.16	62.14	54.66	54.92	53.32	50.45	52.94	55.36	54.45	45.50	43.33
	CSP	Composite index	22.09	50.83	47.28	46.76	46.69	46.98	56.16	49.78	47.34	47.30	47.89	48.19	51.99	46.74	46.48	53.72	33.90
Welspun	CFP	Composite index	39.59	42.61	41.87	42.04	42.72	52.38	63.94	49.76	50.04	52.17	58.31	49.29	56.60	51.18	51.39	42.66	41.75

ANALYSIS AND FINDINGS

T-test has been used to test the significant mean differences between the composite index of corporate social performance and composite index of corporate financial performance for the year 1998 to 2014. In the present study, paired-sample t-test used which is based on groups of individuals who experience both

conditions of the variables of interest. In this, comparison was done to measure the significant differences from each other. The paired-sample t-test (presented in table 2) value for the different companies were -6.6 for Bhushan at 0 % significance level, -7.9 in Jindal Saw at 0 % significance level, 2.08 in Jindal Stainless at 5 % significance level, -3.5 in Jindal Steel & Power at 5 % significance level. This means that companies for a period 1998 to 2014 have significant association between the composite index of corporate social performance and composite index of corporate financial performance.

TABLE 2: PAIRED SAMPLE T-TEST BETWEEN THE CORPORATE SOCIAL PERFORMANCE (CSP) AND CORPORATE FINANCIAL PERFORMANCE (CFP) FOR THE PERIOD 1998 TO 2014.

Years	Mean		Std Deviation		Mean difference	Std. Dev. difference	t-test	Significance
	CSP	CFP	CSP	CFP				
Bhushan	29.24	48.36	5.83	10.37	-1.911	11.94	-6.60	0.00*
Jindal Saw	38.17	52.86	5.71	6.73	-1.46	7.655	-7.9	0.00*
Jindal Stainless	47.26	42.60	6.09	9.58	4.66	9.24	2.08	0.05
Jindal Steel & Power	47.72	48.64	5.93	8.51	-.89	10.44	-.35	.729
JSW Steel	48.54	45.21	6.03	11.22	3.33	8.30	1.65	.117
Lloyds	49.87	49.33	6.68	7.99	.537	7.45	.297	.77
SAIL	49.74	47.69	6.81	8.14	2.04	9.71	.868	.398
Tata Steel	45.49	48.54	6.54	7.41	-3.05	9.93	-1.26	.224
Uttam Glava	47.66	48.70	7.32	7.68	-1.04	6.25	-.69	.50
Welspun	46.47	48.72	7.77	6.89	-2.24	7.22	-1.28	.218

After the t-test, correlation value was used to finds out the relationship between the different companies that may be positive or negative. The correlation value (presented in Table 3) for the different years were 8% in Bhusahn, 25% in Jindal Saw, 37% in Jindal Stainless, 14% in Jindal Steel & Power, 69% JSW Steel, 49% in Lloyds, 16.7% in SAIL, .9% in Tata Steel, 65% in Uttam Glava, 52% in Welspun. From the above values, it is clear that the in the period between 1998 to 2014 all companies were showing a positive correlation between the corporate social responsibility and the corporate financial performance. And companies like JSW Steel, Lloyds, Uttam Glava, were showing a correlation more than 50%.

TABLE 3: CORRELATION BETWEEN THE CFP AND CSP AND THEIR SIGNIFICANCE LEVELS

Years	Bhushan	Jindal Saw	Jindal Stainless	Jindal Steel & Power	JSW Steel	Lloyds	SAIL	Tata Steel	Uttam Glava	Welspun
Correlation	.008	.25	.373	.014	.69	.49.	.167	.009	.65	.52
t-test	-0.32	1.01	1.55	-.0.56	3.68	2.2	.656	-.036	3.34	2.36
Beta	-.008	.252	.373	-.014	.68	.49	.167	-.009	.653	.52
Sig (2-tailed)	.975	.328	.14	.956	.002	.043	.522	.972	.004	.032

FIGURE 1: CORRELATION BETWEEN THE CFP AND CSP
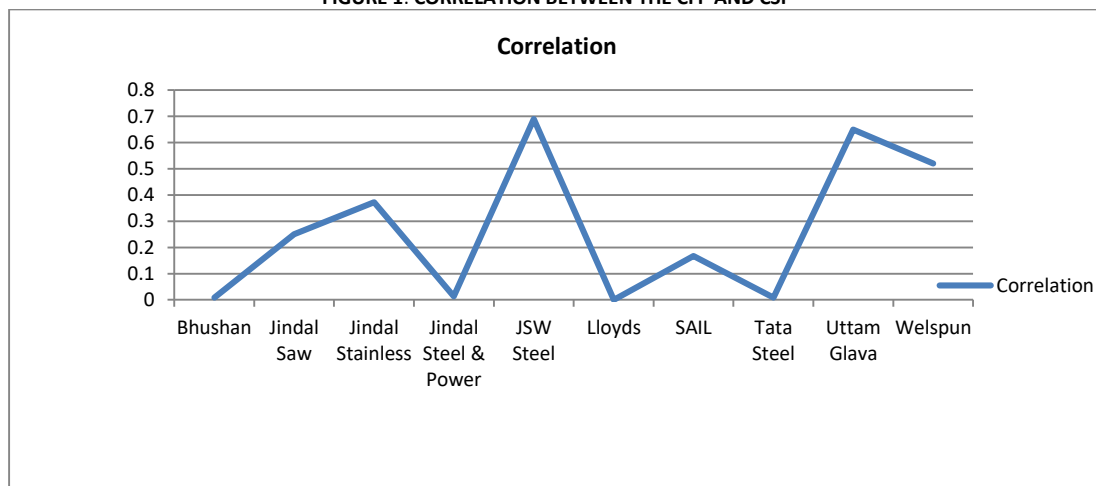
Above graph exhibits the trend between the corporate social performance and corporate financial performance. It is clear from the graph that relation started growing after the year 2002 and in the 2004 & 2005 it showed the effective bonding between the CSP and CFP. But after 2005, the trend declined slowly. The present values show huge decline from the 2004 and 2005 values.

Regression analysis depicted a significant association between the CSP and CFP among all the companies form a period 1998 to 2014 (presented in table 3). Both correlation and regression analysis exhibited a significant association between the CSP and CFP in the year's 1998 to 2014. All companies are showing a significant association i.e. Bhushan shows the Beta coefficient.8% (t values -0.32) and Jindal Saw (25% Beta coefficient & T values 1.01), Jindal Stainless (37 % Beta coefficient & T values 1.55), Jindal Steel & Power (14 % Beta coefficient & T values -0.56), JSW Steel (68 % Beta coefficient & T values 3.68), Lloyds (49% Beta coefficient & T values 2.2), SAIL (17 % Beta coefficient & T values.656), Tata Steel (.9 % Beta coefficient & T values -0.36), Uttam Glava (65 % Beta coefficient & T values 3.34), Welspun (52 % Beta coefficient & T values 2.36).

RESULTS AND DISCUSSION

The results show significant association between the corporate social performance and corporate financial performance in all the companies - Bhusahn, Jindal Saw, Jindal Stainless, Jindal Steel & Power, JSW Steel, Lloyds, SAIL, Tata Steel, Uttam Glava and Welspun. The results of correlation and regression show significant association in all the companies from a period of 1998 to 2014. It's clear from the results that there is a significant association between CSR and CFP which basically means that companies that are socially more responsible are also performing well on the financial front and vic versa. The companies like JSW, Lllloyds, Uttam Galva, SAIL show positive values for all the factors of correlation between corporate social performance with the corporate financial performance after the year 2004. Tata steel, Jindal SAW and Jindal stainless started investing in R&D after 2005 and gave donations after 2004. All these changes impact the values of data, which is ultimately responsible for the positive relationship between the two variables.

CONCLUSION

The steel sector in India is a mix of public and private sector and it alone contributes over three per cent to the national GDP. The sector has also been upfront in taking social responsibility. During the 17-year period covered under this study, the 10 selected companies spent ₹ 346,533 crore on four variables of corporate

social performance—tax, donation, wages, and R&D. However, the relationship between corporate financial performance and corporate social performance shows significant correlation in all the companies. But some companies have shown a correlation more than 50% which are the JSW Steel, Lloyds**,** Uttam Glava which indicates that these companies have not only linked and inculcated in their policies the concept of CSR but are also practicing it in a manner that also increases their financial output. The results of this study are in line with several international studies conducted on other companies and at different geographical locations which is an indication of a trend that may spread across regions and bring about a positive change with regard to corporate responsibilities.

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SME's MARKETING PROBLEMS: CHALLENGES AND SOLUTION

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ABSTRACT

The paper sets a platform discussing the barriers hindering the marketing activities and plans of the Small Medium Enterprise. The small firms possess certain characteristics, which serve to differentiate them from the large organization. The study discussed the characteristic of Small Medium Enterprise and differentiates them from the larger organization. Many observed problems stemmed from businesses failing to practice marketing or produce marketing strategy and plans. The classical management concepts are unsuitable for application in a Small Medium Enterprise context, with research suggesting non-implementation of theoretically based marketing practice is the rule rather than the exception in the small firm. This paper reviews issues pertaining to marketing practice of strategy and planning in the small firm, acknowledges inherent weaknesses with regard to marketing in small firms, reviews marketing practice in the context of small firm characteristics, and considers the roles of owner/managers in improving small firm's marketing practice. The researcher used the desk study reviewing previous studies in the related field. The finding of this paper is that the marketing function in Small Medium Enterprises is hindered by constraints such as poor cash flow, lack of marketing expertise, a lack of strategic expertise, business size, and tactical customer related problems. The recommendation done through the analysis is that Small business marketing can be done through the use of Small Medium Enterprises marketing toolkit that guide and help to develop and to implement their marketing efforts. Small Medium Enterprises must focus on being closer to the customers in every sense since thus were where most of their strength and possibilities exists and a well-planned and well implemented marketing strategy helps Small Medium Enterprises to present strong value proposition that build customers loyalty.

KEYWORDS
SMEs, marketing, SME marketing, marketing barriers, role of marketing.

INTRODUCTION
cholars debate that mainstream marketing theories is focusing on planning, marketing research, advertising and the implementation of marketing mix (4Ps and 7Ps). These theories are more designed for large organization where financial resources and marketing expertise are readily available (Kotler, et al., 2008; Jobber, 2009). However, in the existing literature the large organizational models applied to the small firms setting has been criticised (Gilmore, et al., 2001). Whereas, writers such as Kotler define marketing as "a social and managerial process by which individuals and groups obtain what they need and want through creating and exchanging products and values with others" which may not necessarily apply to the small firm context (Kotler et al., 2008:7).

The Small Medium Enterprises (SMEs) have their own unique characteristics, with their marketing activities which is often restricted by limited resources and marketing expertise (Walsh and Lipinski, 2009). The marketing within SMEs is an important business activity, which could contribute to their growth, therefore there is a need for further research to identify what marketing means and how it is practised within the small business sectors (Blackson and Stokes, 2002).

Hence this paper aims to examine the marketing barriers in SMEs and suggest the possible solutions to the barriers, by understanding how SME owners perceive and practise marketing within their different business contexts and outline the role of marketing in SMEs.

REVIEW OF LITERATURE
CHARACTERISTIC OF SMEs
Small Medium Enterprise (SMEs) do not behave in the same way as large organizations especially in responding to the dynamic business environment, experiencing resource constraints how the organisation is structured, and management style adopted (O'Dwyer, et al., 2009). The fundamental difference is that the presences of SME owners / managers are in the business because they are responsible for both the ownership and managerial functions (Reijonen, 2008). On the other hand, the decision making of SME owners / managers' responsibility and the visions of SME owners / managers are often embedded into the organisational characteristics and business operations (Walsh and Lipinski, 2009).

However, the management culture of SMEs is more creative, because the small firms setting are relatively simple and less unbending, innovative, and entrepreneurial than large organisations (Carson, 2003). The business environment of an SME is also more flexible, adaptive and change oriented, focused on problem-solving and action oriented compare to large organisations (Thorpe et al., 2006). According to O'Dwyer, et al., (2009) the characteristic of SMEs are driven by the owners / managers' management style; their personality and traits. SMEs owners are risk takers and characterize of being opportunistic, visionary and proactive (Deakins and Freel, 2009). Hence, it is common to find SME owners/managers using "self-marketing" to promote their organisations. Self-marketing is "varied activities undertaken by individuals to make themselves known in the marketplace" (Shepherd, 2005, p.590), which is also closely linked to the concept of personal branding and the importance of branding is crucial to any businesses. According to Peters, (2007) the CEOs of their own companies in today business, the most important job are to be the head marketer for the brand called "You". Writers further emphasises that SME owners/managers represent their organisation and their brands, they focus upon the firms' wellbeing; they tend to be highly motivated in setting individual goals and achieving business growth (Reijonen, 2008). However, SME owners/managers like to have internal locus of control, which provides them with self-confidence and ensures that they have direct control of their own destiny (Delmar, 2009).

OBJECTIVES OF THE PAPER
The major objective of the study is: to examine the barriers of marketing in SME and set up a conceivable suggestion in breaking up the marketing barriers among the SME and also explore the role of marketing in SMEs by understanding how SME owners perceive and practise marketing within their different business contexts.

METHODOLOGY
The paper relies heavily on secondary data. The author review previous studies on marketing of Small Medium and Enterprises, marketing theories and trying to get the thoughts from different school of thought and researchers. The paper set up a platform to debate on the different understanding SME marketing problems and possible solution to problems. The paper discusses on the marketing theory, SME marketing and marketing barriers of SME.

SMALL AND MEDIUM-SIZED ENTERPRISES (SMEs)
SMEs are non-subsidiary, independent firms which employ less than a given number of employees and the number varies across countries. The European Union define SMEs as:

TABLE 1: SME DEFINITIONS USED BY EUROPEAN UNION

Company category	Employees	Turnover	or	Balance sheet Total
Medium-sized	< 250	≤ € 50 million		≤ € 43 million
Small	< 50	≤ € 10 million		≤ € 10 million
Micro	< 10 or 5	≤ € 2 million		≤ € 2 million

Source: OECD 2005

However, some countries set the limit at 200 employees, while the United States considers SME to include firms with fewer than 500 employees (OECD, 2005). Moreover, a discussion of SMEs among officials of the multilateral development institutions, each thinking within the context of the official definition of his or her own institution, the maximum size criteria for SMEs are presented as (Gibson T. & Van der Vaart H. J. 2008):

TABLE 2: SME DEFINITIONS USED BY MULTILATERAL INSTITUTIONS

Institution	Maximum # of Employees	Max. Revenues or Turnover ($)	Maximum Assets ($)
World Bank	300	15,000,000	15,000,000
Multilateral Investment Fund (MIF) – Inter-American Development Bank (IADB)	100	3,000,000	(None)
African Development Bank	50	(None)	
Asian Development Bank	No official definition. Uses only definitions of individual national governments.		
UNDP	200	(None)	(None)

Source: Brookings global economy and development, Gibson & V/D Vaart, September 2008

The characteristics of disparities among these definitions are the substantial difference and whatever explains this disproportionality between the definitions, it is unlikely to be a scientific distinction. However, none of these institutions set a minimum definition for SMEs, which gravely compromises any conclusion that can be made. Indeed, the experience with SME entrepreneurs that whether their firm is classified as a "small" or "medium" in size, most entrepreneurs have in mind a future in which they have sales equivalent to hundreds of thousands or even millions of U.S. dollars, and in which their businesses are not "micro" by anyone's imagination. Therefore, the ambition with respect to the magnitude of their businesses is within neither the imagination nor the foreseeable capacity of any but the rarest of micro entrepreneurs, and certainly such an insufficient number of them as to preclude the expectation of any natural continuum from micro to SME (Gibson, T. & Van der Vaart, H. J. 2008).

MARKETING THEORY

The authors define marketing as "a social and managerial process by which individuals and groups obtain what they need and want through creating and exchanging products and values with others" and this apply to the small firm context due to their unique characteristics (Kotler et al., 2008). The Existing literature has emphasised a need to develop and refine existing marketing models, which can be used to profile the marketing practices in small firms (Moriarty, et al., 2008). However, marketing theories and concepts in our days it has been dominated by large organization and it could be argued that the conventional textbooks marketing definitions theories and models, which are developed based on studies of large organization, may not apply to the context of small firms (Stokes and Wilson, 2010). As a result, the unique characteristics and constraints of SMEs, including the inherent characteristics of SME owners/managers, the dynamic business environment and the lack of resources within SMEs it is inappropriate to assume that SMEs can adopt the same or similar marketing approaches as large organisations (O'Dwyer, et al., 2009a).

According to Gilmore and Carson, (1999) SMEs simply do not adapt to the marketing carried out in larger organisations. However, the marketing theories drawn from conventional textbooks continue to focus primarily on marketing planning, marketing research and the implementation of marketing mix such the 4Ps (price, place, product, promotion) which are more appropriate for large organisations (Jobber, 2009; Kotler, et al., 2008). Moreover, it is believed that marketing is practised by small firms, although the degree of activities varies according to the nature of the industry (Simpson, et al., 2006).

In addition, the research contacted by Blankson, et al., (2006) they point out that small firms do not practise textbook marketing because of their distinct marketing style. Likewise, Gilmore, et al., (2001) and Hill and McGowan, (1999) also state that the marketing characteristics of SMEs are different from the conventional ones of marketing textbooks and that the need to conduct research, which is adapted to the unique characteristics of small firms is apparent.

However, in the earlier decades marketing concept was introduce in the literature in the 1950s that it offered an alternative to sales, production and product concepts. The starting point of marketing concept is customers' needs and wants (Lusch & Laczniak, 1987; Svensson, 2001). Whereas, according to various writer's sales concept, a firm aggressively looks for exchange partners for established offerings while the production concept focuses on low production costs and, thus low prices through standardisation and mass production and according to the product concept, it focuses on quality and product development (Duus, 1997).

The marketing concept has been seen as a business philosophy, an ideal or a policy statement and it is said to articulate an ideology that offers a framework for business success (Kohli & Jaworski, 1990). On the other hand, marketing concept is a prescription of how a firm achieves its goals. Houston (1986, pp 85) states "an entity achieves its own exchange determined goals most efficiently through a thorough understanding of potential exchange partners and their needs and wants, through a thorough understanding of the costs associated with satisfying those needs and wants, and then designing, producing, and offering products in light of this understanding".

The marketing concept could be seen from a traditional perspective or through a new interpretation. Furthermore, the traditional marketing concept assumes that offerings should be created after the information about the market needs have been gathered in order to meet the demand, whereas the new interpretation suggests that the focus should be on developing new resources and capabilities through which offerings satisfying future needs could be created (Duus, 1997).

Slater's and Narver's, (1998) define the marketing concept that it concurs with that of Houston, (1986) but with an additional competitive dimension. While also assumed the marketing concept as an organisation's purpose to find out needs and wants in its target markets and then to satisfy those needs more effectively and efficiently than its competitors.

Researchers have identified three repeated themes in the various definitions of marketing concept which relate to customer focus, coordinated marketing efforts and profitability, that the customer is the fulcrum of business operations and, thus, the focus should be on obtaining information about customers' needs and wants and taking actions based on this information in order to satisfy such needs and wants (Turner, et al., 1997). However, to be able to satisfy these needs entails an organisation-wide integrated effort and, consequently, the implementation of the marketing concept is not the responsibility of a marketing department but the whole organisation. Moreover, the marketing concept can be regarded as a means to achieve long-term objectives and its often suggested consequence is profitability (Turner, et al., 1997). Therefore, the application of the marketing concept is seen to lead to the enhancement of sales figures, new product success, product quality, market share, esprit de corps and overall business performance (Nakata & Sivakumar, 2001).

Nakata and Sivakumar, (2001) examined how organisations root themselves in the marketing concept. These writers, state that this takes place through three steps. During the *first step*, interpretation, a firm determines what the marketing concept is by formulating some notion of it and attaching meanings, values and beliefs to it. The *second step*, adoption, entails determining if and when the firm should commit to institutionalising the marketing concept. The *last step* is implementation were a firm determines how it should execute the concept via specific activities.

MARKETING BARRIERS OF SMEs

Since the 1960s to date, small and medium-sized enterprises (SMEs) have been given due recognitions especially in the developed nations for playing very important roles towards fostering accelerated economic growth, development and stability within several economies. They make-up the largest proportion of businesses all over the world and play tremendous roles in employment generation, provision of goods and services, creating a better standard of living, as well as immensely contributing to the gross domestic products (GDPs) of many countries (Stojanovski M. and Marjanova T. J).

However, beside the positive contribution to the above in many countries, the special characteristics of small firm marketing are considered to result from various limitations (O´Dwyer et al., 2009). According to the literature, marketing functions in SMEs are seen to be hindered by: the lack of resources, limited finances (or poor cash flow), a lack of strategic expertise, lack of marketing expertise, business size and strategic customer-related problems, and the fact that the power and decision-making is concentrated solely in the owner-manager (Hausman, 2005). Further disadvantages include a limited customer base, limited access to competitive markets, a lack of formal and strategic planning, and decisions made without a logical analysis of opportunities and the environment, but instead determined by the personal preference of the owner-manager or owner-manager's decision-making and inherent skills and abilities (O'Dwyer, et al., 2009). On the other hand, it is argued that marketing in small firms is related to the owner-manager's attitudes to, experience of and expertise in marketing because these are essentially those of the firm itself (McCartan-Quinn & Carson, 2003). However, marketing is often misunderstood and underutilised by owner-managers and they do not always appear receptive to marketing if there is no need e.g. for growth or expansion (Hogarth-Scott, et al., 1996).

Hill, (2001) as sited by O'Dwyer, (2009) in his research he mentions that it is expected that SME marketing differs from marketing in larger organisations. Furthermore, O'Dwyer, (2009) in his research he indicates that the understanding of marketing concepts and theory by SME owner/managers is limited to sales or a basic level of marketing orientation; yet, these companies successfully use marketing to generate sales. Additionally, he argues that alternative marketing concepts are moving from the traditional marketing paradigm, which emphasises the management of the 'four P's' (Product, Price, Place, and Promotion), and has been deemed inappropriate for a dynamic business environment (O'Dwyer, 2009). On the other hand, Stokes (2000b) stated that owner-managers spend considerable time and resources on marketing, but they may call it by another name. The need for marketing is recognised, but often an ad hoc, reactive approach is adopted and, for example, the traditional way of looking at marketing with the 4P's is not given much attention (McPherson, 2007). O'Dwyer, et al., (2009) stated that there are specific variables and influences according to which marketing is formulated in a way that maximises benefit for a SME. They argued that marketing activities in SMEs are shaped through a process where competitors, customers, the business environment and the limited resources are taken into account. According to Siu and Kirby, (1998), there are four approaches that try to explain the role of marketing in small firms: the stages/growth model; the management style model, the management function model and the contingency model (as per the Table below). On the contrary each of these approaches is criticised although something it's contributes to the research of marketing, the writers still fail to give a comprehensive picture of marketing in small firms (Siu and Kirby, 1998).

TABLE 3

Marketing approach	Description	Critique
Stages/growth model	• describes the development of a firm through several stages	• low predictive power • limited value as a framework for detailed analysis and planning
Management style approach	• marketing behaviour is related to the motivation, belief, attitude and objectives of owner-managers	• ignores e.g. organizational structure, owner-manager's marketing decision process and behaviour
Management function approach	• acknowledges marketing as an important function and essential concept for small firm growth, survival and strategic development	• too much or too little emphasis is put on the limitations and constraints of small firms when applying disciplinary foundation of marketing
Contingency approach	• tries to find balance between the limitations of small firms and marketing as a discipline	• variables are not clearly defined, are arbitrarily selected or cannot be measured effectively • is an outcome model, not a process model

Source: Table: Four approaches to marketing in small firms according to Siu and Kirby (1998).

The study by Sashittal and Jassawalla, (2001) found out that the implementation of marketing in small firms consist of day to day improvisations and adaptations in marketing strategy and activities. However, the nature and extent of marketing improvisations and adaptations determine the level of market orientation, growth and strategic effectiveness. Sashittal and Jassawalla also argued that marketing planning and implementation interact strongly and this shapes the market behaviours of SMEs and affects the strategic outcomes.

On the other hand, the research by Carson, (1993) as sited in the same research by O'Dwyer confirm that the relationship between SMEs and marketing is either growth-or survival-oriented, as with larger companies, SMEs must generate sales to survive, but need to market their products to generate sales SME growth stems from engaging in some form of marketing activity, which will focus on attaining and retaining competitive advantage by engaging in marketing practice, that addresses market share, market development, product promotion, product pricing, product differentiation and distribution. The most successful companies recognise the importance of comprehensive situation analysis and simple marketing structures, which enable them to target their market effectively thus increasing company success (O'Dwyer, 2009).

The review of literature as sited by O'Dwyer, Carter and Tzokas, (1999) found that academics and practitioners accept the intrinsic value of marketing to business, although there are SMEs for whom marketing is perceived to be peripheral. Those companies that do not recognise the value of marketing, there is sufficient evidence that small business failure can result from either a lack of marketing, or poor marketing practice and that they may be more vulnerable to competitive threat.

MARKETING IN SMEs

Marketing is relevant to both Large and small organizations and the basic marketing principles apply to both of them (Reynolds 2002). While at the same time it's also recognised the small firm marketing has unique characteristics that differentiate it from that of large organisations. Fillis, (2002) state that small firm marketing has been characterised by attributes such as haphazard, informal, loose, unstructured and spontaneous, that compared to "textbook marketing seem to have somewhat negative connotations. In addition, small firms appear to have specific weaknesses with regard to pricing, planning, training and forecasting (McCartan-Quinn & Carson, 2003). On the other hand, it is argued that a great part of marketing in SMEs is driven by innovation. Moreover, small firms are seen to operate close to their customers, to be flexible and to respond quickly to the changing needs of customers (O'Dwyer et al., 2009). Some SMEs place strong emphasis on customer care, concern for employees' welfare and reliance on intuition and awareness of the environment in their marketing (Blankson et al., 2006).

In addition, marketing in SME context has no one single definition but emerged as a focus on the customer through engagement, positive word of mouth and networking. Marketing is "satisfying out customer needs profitably" and "marketing was finding out what your customer wants and needs are"; "the majority of business comes from client referral- therefore, word of mouth, is the best form of marketing". Furthermore, marketing is defined as personification of the owner and his/her role in the business interface with the customer suggesting that. Therefore, the marketing of each SME is depending on industry where he/she is involved with and will always defer from each other eg. a restaurant owner described his/her marketing as "selling yourself" and beauty salon owner described marketing as "the plan that he/she put together on how he/she want to increase different elements of the business" according to various authors the idea of self-marketing by the owner presents problems when the SME experience growth. (http://marketing.conference-servces.net).

SMEs are recognised for their unique and particular characteristics affecting the way in which they approach marketing (Hill, 2001). Indeed, the marketing styles of SMEs have been referred to as simplistic, informal, reactive, and haphazard (Fuller, 1994).

A study by Hogarth-Scott, et al., (1996) found that small business owners were often generalists as opposed to specialists and thus complex marketing models may not be appropriate for SMEs. Yet, SMEs are also considered to be significant sources of innovation, arguably due to their smaller and flatter structures, and the absence of bureaucracy which improves communication, knowledge sharing, and collaboration (Laforet and Tann, 2006). Furthermore, it includes flexibility and rapid ability to respond to environmental needs, their ability to satisfy rapidly changing customer needs, and their potential for close relationships with customers (Simpson et al., 2006). SMEs develop their own innovative product/services market, untapped niche market which provides them with the opportunity to create competitive advantages, because they often find it difficult to make an impact in large, competitive markets with established players (Walsh and Lipinski, 2009). Additionally, In terms of survival, one of the most vital marketing activities for SMEs is selling (Stokes, 2000), which consequently involves developing relationships with customers (Reijonen, 2010).

However, Small and medium sized Enterprises marketing simply means marketing strategies that benefit small businesses. In this time of global recession, small companies should be exceptionally proactive in keeping sales up. While the underlying principles of marketing are equally applicable to large and small firms alike, a lack of sophisticated marketing is perceived to be problematic for smaller firms. Moreover, the internet is currently considered to be one of the marketing tools that can be used to enable small firms to effectively compete with larger organisations "on the same ground". It is a mechanism through which small firms within specific niche markets will be able to access the "critical mass of customers necessary for success" (Cromie, S., 1991, p.3).

Additionally, Some marketing characteristics of small firms include: the fact that small firms are faced with different market and competitive circumstances; are believed not to (in general) engage in marketing or innovative practices, although their organic organisational structure should facilitate innovation more readily than the more bureaucratic structure of many larger firms (Cannon, T., 1991); have inherent production and pricing flexibility, but generally lack strong brand names and market power; have less goal conflict, various sorts of flexibility, an imbalance between production and marketing, and are ineffectual in the use of marketing techniques (Brannen, W. H., 1983). Small firms typically are flexible and can respond more quickly than large organisations to changing market requirements, this flexibility forming a vital competitive strength (Heathfield, P., 1997, pp.233–235).

Furthermore, given the constrained resources of the small firm, marketing tools suitable for utilisation by smaller firms must be welcomed if they can be effectively used to enhance marketing practice of these smaller organisations. Small firms typically have different requirements with respect to marketing, with their inherent characteristics impacting upon the willingness/ability of the owner/manager to use conventional and/or contemporary marketing tools. The problems of a definition of firms' failure and consequential inaccuracy in determining failure rates persists, but there is no doubt that small firms are considerably more vulnerable than larger businesses, largely through undercapitalisation and inadequacies in marketing (Job D. D., 1983, pp. 69–83). This paper recommends that improving marketing practice in the small firm can be achieved through education of small firm owner/managers, given their omnipresence within the organisation. Marketing education in particular for small firm owner/managers is inherently problematic. These problems should be acknowledged and addressed by marketing educators endeavouring to use marketing education as a means of improving small firm marketing practice.

THE ROLE OF MARKETING IN THE PROMOTION OF SMEs

Conventional wisdom suggests that marketing's role is to manage the relationship between customers and a firm, because customers are the important contributor to a firm's financial performance. Therefore, the department responsible for management of customer relationships should be viewed as an important force; thus, the marketing department that assumes this management function should be deemed important and influential (Walsh, M.F. and Lipinski, J., 2009).

The study contacted by Homburg et al., (1999) showed that the marketing function is to be a significant influence in large firms, and the marketing share influence the general management and sales on most marketing issues. Thus suggest that the marketing as a function and influence in business is not as well developed for smaller firms compared with their larger brethren. On the other hand, the sales function has a slightly greater influence over marketing on all issues outside of advertising (customer satisfaction measurement, customer satisfaction improvement, expansion into new geographic markets, strategic direction of the firm, choice of strategic partners, new product development, design of customer service and support, and pricing and major capital expenditures). Therefore, decisions regarding advertising are the only issue where marketing enjoys significant and sole influence found in larger firms.

RECOMMENDATION/CONCLUSION

The review of this paper established that the marketing function in SMEs is hindered by constraints such as poor cash flow, lack of marketing expertise, a lack of strategic expertise, business size, and tactical customer related problems. However, further advantage is limited customer base, limited access to competitive markets, a lack of formal and strategic planning, and decisions made without a logical analysis of opportunities and the environment.

SME needs marketing that is in compatible with the Small medium enterprises characteristics and which is acceptable to the small firm owner/manager. The existing marketing theories offer little practical use in day to day marketing activities, because many firms are unnecessarily defenceless through inadequacies in their marketing practice. Therefore, educators need to establish the need for small firm owner/manager from marketing in general, and from marketing education in particular, and how this can best be delivered.

SME marketing is innovative, risky, and proactive, focuses on opportunities and can be performed without resources currently controlled and it can be implemented irrespective of firm size, after a standard set of measures is defined. The measure would have to include the best practices as well as appropriate theory which can be distributed to small companies' managers/employees through courses, workshops, etc.

Furthermore, small business marketing practice can also be done through the use of SME marketing toolkit, which will offer comprehensive easy use guides to help SME to develop, implement and manage their marketing efforts such as: Market Assessment, Marketing Plan, Branding, Public Relations, Advertising, Marketing Collaterals, Digital Marketing, Promotions, Leads and Sales.

Marketing is essential part of the existence phase of a firms' life cycle, which is especially important for small firms, thus they have a vast mortality rate which can be avoided merely with companies' growth and further development. It is acknowledged that SMEs (small to medium-sized enterprises) cannot do conventional marketing because of the limitations of resources which are inherent to all SMEs and also because SME owner/managers behave and think differently from conventional marketing decision-making practices in large companies.

However, Good marketing supports sales and expansion, contributes significantly to the growth of market share in competitive markets. To determine the competitive advantages and the type of position to take in the market the knowledge of customer and its behaviour needs to be considered in relation with the product. Therefore, SME should focus on being closer to the customer in every sense since this is where most of their strength and possibilities exists. According to Cooper, (1994, pp. 60-76) an in-depth understanding of customer needs and wants, the nature of the market and the competitive environment are vital for success, still they are often missing.

A market driven approach is more important for micro enterprises than for larger companies since they are more dependent on the market situation due to often limitations in size and resources (Cooper, 1994). A well-planned and well-implemented marketing strategy helps SMEs to present strong value propositions that build customer loyalty. Most SMEs understand the importance of marketing and how it can add more value, but some of the above issues have stopped SMEs looking into marketing over sales. Many authors have asserted that a market - oriented approach to business will result in better corporate performance and many studies have found a positive association between market orientation and performance.

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