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Research Papers

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About AIMT

Compensation and Employee Satisfaction: Case Study of Zeda Pvt Ltd

Dr. Sumeet Singh Jasial^[1]

Mr. Subhashish^[2]

ABSTRACT

This case talks about the company which has faced a situation that the employees have left their jobs because the employees were mistreated and were not receiving the correct conduct from the organization. This situation led the company on the verge of the bankruptcy. The organization does various efforts so that they become stable, earn profits and be at the top of the competition. This case study also teaches that the employees are an integral part of the development of the organization so the organization should take them seriously and should plan the compensation strategies and the infrastructure facilities which is suitable for them to work and can work efficiently in the organization. And it also gives various scope of the study like to give the company a competitive edge over the competitors in retaining them to make them aware about the change which should be needed for better working of the organization. But it gave a lot of experience and I completed the project effectively on time.

Keywords: Conduct, compensation, employee satisfaction, efficiency.

EMPLOYEE SATISFACTION

According to Spector (1997) job satisfaction can be defined as “how people feel about their jobs and different aspects of their jobs”. Factors influencing the complex phenomenon of Job satisfaction with multi facets are like salary, working environment, autonomy, communication, and organizational commitment (Vidal, Valle and Aragón, 2007). Brikend Aziri, (2011) revealed in his study on Job Satisfaction that there are many factors viz. The nature of work, Salary, Advancement opportunities, Management, Work groups and Work conditions, which have influence on Job satisfaction. Employee satisfaction on Job is a huge challenge for all the organizations in this cotemporary world. A mix of positive or negative frame of mind that workers have towards their work is a result of their extent of job satisfaction. Because, when a worker is employed in a business organization, brings with him the desires, experiences and needs which determinates his expectations from the company. Job satisfaction has close/high relation with behavior of the individual at the work place. Different people interpret compensation differently. Compensation, reward, recognition, and wages are terms used in different situations (Zobal, 1998).

INEFFICIENT WORKING OF THE EMPLOYEES

On 26th December 1996 the Zeda pvt ltd faces a dilemma that is the compensation and training strategy of the company is adequate enough for the employees to motivate and attract them to come to the organization and work efficiently. Zeda is a medium scale manufacturing

enterprise which was founded by Mr Sharma in 1992. It has its factory in India. It is an ISO/ITS 16949 company. The company man manufacturer of Helical & Torsion Springs, Circlips, and Wire Forms & Components for Automotive, Air Conditioning & Shock Absorber OEMs. And is also a manufacturer of Springs & Wire Forms for Automobile & Electrical Switch Gear Industries. The vision of the company is to be reliable supplier of our valuable patrons by offering them a technically superior and commercially viable product which would meet and exceed their expectations. Continuous up gradation of the technology helps in implementing effective quality management systems and the overall growth of every employee in consonance with the company's growth.

At present company is associated with M/s Munjal Showa Ltd (Gurgaon, Manasser, & Hardwar), M/s Vectra Advanced Engineering Pvt. Ltd. Greater Noida, M/s TVS Lucas Ltd. Rudrapur, M/s Escorts Ltd. Faridabad & Rudrapur, M/s Zamil Air Conditioners India Pvt. Ltd. Nalagarh (H.P) and others. Also it is on the way to make another plant in India. The organization is known for quality and is determined to complete their task with meeting the quality standards. Zeda has a strong commitment in pursuing a professional approach for high quality components. The company is committed for the tougher challenges in the form of stringent specifications & rigorous quality standards set by Customer requirements these has been confronted by dedication, commitment and excellence.

Although the company has several facilities for their employees viz. giving bonuses, offering personal allowances to the employees, giving the employees the

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pay for the performances, medical allowances, enrolling them for ESIC (Employee State Insurance) act, and also organize family get together, etc., but it is facing the problems such as the employees are not subordinating the higher authorities and the production of the organization is not rising significantly and is affecting the profits and the development of the organization. Firstly the organization tried to curb this problem in the own hands but it all went in vain. But then the company realized that the employees were not getting the help from their supervisors as the supervisors and the top managers dominate the employees and the technicians of the organizations and were not allowing the employees to develop and they were harassing the employees by not giving them the adequate pre-requisites to them. This led to the conflict between the management and the employees.

So the top management firstly fired the unproductive managers and then recruited the fresh managers and then they tried to give them the say in the organization with the wpm (Workers Participation in the Management). By this they can say their point of view on the decision of the management of the organization. So this helped the organization to have the transparency between the employees and employer. This led to the several changes in the organizational functioning in the core which made them satisfied and were began happily working in the organization. And the organization was back on track until 1st august 2014.

On 1st august 1997 the company again faced the dilemma as the company again was affected with the growth and the production of the organization. The employees began on the strike as they were dissatisfied again with the working of the organization. They were working in the tool-down strike as they come to the premises of the organization and did not work in the organization. This led to the decrease in the productivity and led in incurring the losses of the organization. And this affected in the working of the organization as the competitor were giving all the basic facilities and all the safety gears for the employees and the employees were enrolling them under the ESIC act and the fees were given by the employers themselves. And there were several other basic facilities which were given to them such as proper ventilation, proper sanitation, proper lighting, iron dust suction pipes for sucking the iron dusts, the glasses for several functions such as during the gas cutting, etc.

This made the employees attracted to the other organization and then they left the job and then they joined the rival company. This made the organization loosing most of their contracts and the trust of their vendors as the contract was getting transferred to the rival company which affected badly in the earnings of the company which led them on the verge of closing the company as they were not able to complete their orders and were in debt as they took a large amount of loan from the bank and were unable to complete the installments of

the banks. The most drastic situation came when the vendors such as the Escorts had made them black listed which was the biggest vendor of the company and this led to the decrease in the trust of the market and ultimately there was no support in the market which would help the organization in getting them back on the track.

This alarmed the company and this led to the brainstorming related to this problem. While the organization was discussing about the problem the Managing Director of the company came into a decision to bring a consultant and to analyze and make the steps which is effective for the employees. Then the Mr. Suresh the consultant came to the organization and then he started analyzing the organization on various parameters such as the efficiency of the employees, technological friendliness and the welfare of the organization. He started from the scratch by not only asking from all the people of the organization but also the ex- employees of the organization about the problems which they faced while working in the organization. Thereafter he analyzed about the main causes of the distress which led to the employees leaving the organization.

After analyzing the organization Mr. Suresh found that there are issues with various aspects of organization such as the working of the management, board related issues etc. The employees did not have proper training facilities for the new technologies, the compensation strategies are not good enough for the employees, and the salary of the organization is not adequate according to the recent market conditions. At the same time, no proper facilities were provided to the employees that improve their lives as they are working in the dangerous situation, and no proper safety gears were provided to them. So he gave the suggestion to change the management structure and do not make the structure so rigid that the employees cannot say anything to them. He further suggested that there shall be a proper salary structure for the employees so as to boost their morale leading to the better working of the organization. Besides following more suggestions were proposed to the management:

- Give employees a proper environment for them to work i.e. the work area should be well lit, well ventilated, well floored and has proper sanitation facilities in it so that the employees can work.
- The people who work in the hazardous activities they should be given safety gears and safety equipment's such as gas masks, suction pipes, goggles, etc., so that they can work without the fear or threat to their lives.
- The organization should give them the adequate training so as to get acquainted to the technology and it would be better if the organization ties up with the vendor companies to organize the training program.
- Company should have a proper compensation strategy such as leave travel allowances, top performer reward, uniform system, breaks in between

of work, pay for performance, etc. so that the morale of the employees can be boosted up and will attract the new employees to work in the organization efficiently and effectively.

Keeping all the suggestions in the mind Managing Director (MD) of the organization began the essential changes in the company such as he changed the management with the people who were enthusiast and were committed to the development and the growth of the organization and who also believes that the growth can occur by developing the employees of the company. Then he contacted the vendors and the association to conduct the training sessions in the organization premises so that employees can know the new technology and can work efficiently. The vendors such as Escorts, Munjalshowa, Tvs Motors, etc agreed to it and at every six months Vendor Company drive the training session in the organization. The organization is also giving its employees the pre- requisites such as uniforms, leave travel allowances, etc. The salary of the employees is also brought at par to the market value. The ESIC enrolment fee is also given by the employers so that it does not affect the livelihood of the employees. Then there are various cultural events which are done at the time of the Indian festivals such as Holi, Dussehra, Diwali etc. so that the employees and the employer can have a get together and a quality time with each other. Employees are empowered to give their opinions in the organization towards the decision making and they are also provided with safety equipment's such as goggles, safety masks, suction pipes, gloves, etc.

The result of all these changes was that hard working employees adapted with the new changes in the organization, and it led to the employment of the new employees who were more committed than earlier employees. After 2 years the organization recovered all the losses, paid EMI's of the banks and started making profits in the organization. Due to this employees got a sense of satisfaction in the organization and then they continued to work efficiently. After 6 months of recovery the organization got past the rival company, beaten the competition in the market and became largest supplier of the torsion springs, shock assembly and suspension setups in Faridabad. This led to the growth rate of the organization at peak and in result the company was removed from the black list from the vendors.

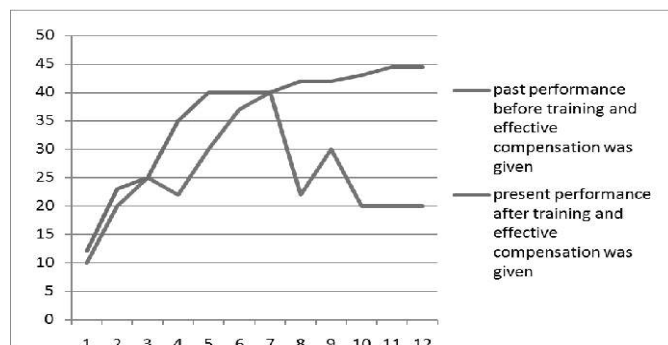


Fig 1: Merged Graphs of Past and Present Performance of 10 employees

The company made study on the 10 employees of the organization and their performance was analyzed on month basis without giving any of the facilities to them. It was found (Fig 2) that the performance of these employees firstly increased but after a certain point of time it started fluctuating. But when all the facilities and trainings when given to them and they were given work in groups. Then their performance gets increased over a period of time.

While analyzing the organization the consultant began using different techniques to find out the main root cause of the problem. He also used a simple technique as he chose 20 employees and he made in the groups of 2. Then they were allowed to work as they worked before. But the 2nd group was given more prerequisites and recognition for their work and the 1st group was given the basic pays which was given to them before.

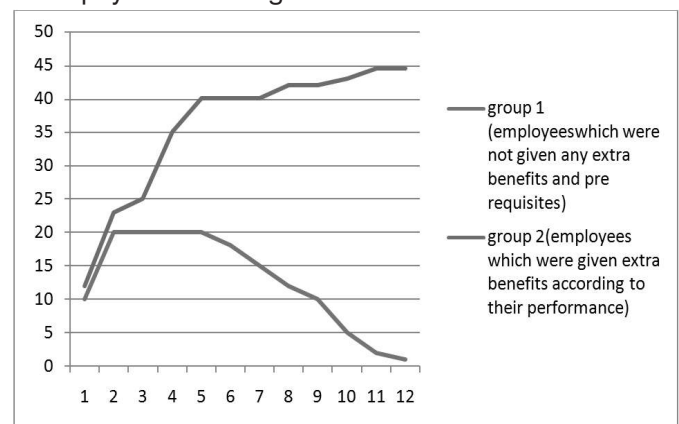


Fig 2: Performance of 2 groups with and without extra benefits.

So the consultant continued this experiment for 1 month to analyze the scenario. In addition he also conducted training program for the second group. When the term concluded he analyzed that the employee's performance of the 1st group was increasing to a certain point then it starts decreasing as the employees were not satisfied by the measures taken by the organization so they left their job. On the other hand the 2nd group was more happy and satisfied by these measures which were also seen in their performance as the graph was climbing up and up.

So these findings gave the solution to the problem that what the organization is facing and how it can be effectively and efficiently be curbed so that the organization can be back on track and start earning profits, not only this but also to gain the confidence of the employees and to gain respect in the market.

Based on the above facts, researcher decided to find out what are the various compensation practices which they prefer the most so that they work efficiently and help in the development of the organization. A questionnaire with 16 statements was designed and administered to 40 employees of the company. The questions were objective type with choices based on nominal and ordinal scale. Most of the respondents were supervisors from various departments of the organization. Following are the results of the based on the responses of the employees.

Table 1: Frequency distribution of the responses

Dimension	Options				
What is the working hours of an employees in the organization?	8 Hours		9-10 Hours		More than 10 Hours
	31		4		5
Do you agree that shift system is convenient than a fixed timing to work?	SD	D	N	A	SA
	0	7	13	20	0
Do you have formal job evaluation plan?	Yes			No	
	40			0	
Do you have a written job description	29			11	
do you have a proper policy manual	27			13	
which type of the compensation pay system do the employees prefer	Fixed Pay System		Variable Pay System	Balanced debt Method	All of Them
	13		13	11	2
what is the organization's compensation policy	Stay Even with the Market		Stay ahead of the Market		Stay with the industry pay practices
	30		3		7
Are the workers in the organization willing to accept the changes in the organization.	SD	D	N	A	SA
	4	3	3	8	22
Do you take the initiative to help the other employees when the need arises	7	7	8	2	16
Do the employees identify future challenges and opportunities	4	6	6	7	17
what types of the incentives do you prefer to your employees	Pay for Performance		Target achievement incentives	Birthday incentives	Others
	18		12	3	7
what are the existing welfare schemes of the organization	Celebration of founders day		Celebration of Indian festivals	Family get together	Others
	18		11	3	8
Do you receive personal allowances from the company?	Yes			No	
	40			0	
Do you receive awards for the length of service	39			1	
do you receive the increment on the basis of the performance appraisal	39			1	
what are the other benefits you receive	Leave Travel Allowances		Group Insurance	Medical	Bonus
	16		4	11	9

Results in the Table 1 reveal that when it comes about the working hours of the employees in the organization, on the average employees work for more than 8 hours. Most of the employees prefer fixed timing system but some disagree to it. So this indicates that some employees still prefer shift system in the organization. All the respondents accepted that they have received the formal job evaluation plan. This indicates that the organization follows all the guidelines for hiring and employing personnel. When it comes to job description, responses indicate that the organization clearly defines the role of the personnel effectively by giving the job description. The organization also clearly gives the guidelines of the policy and rules of the organization efficiently. It was found that employees have dispersed opinion when asked about preference of compensation system, 33% preferred fixed pay system, 33% preferred variable pay system, 27% liked balanced-debt method and remaining said all the three are fine. When respondents were asked that what the organization compensation policy is, most of the employees said that it is based on the stay even with the market to ensure that the pay is reasonable and comparable to the competitors. As most of the respondents strongly agreed that they accept the changes which occur in the organization, this indicates that the organization motivates the people to

accept the changes in the organization. Results indicates that many (46%) of the employees try to take the initiative when need arises. They say that this helps to enhance their skills, knowledge and abilities to perform a given task. More than 50% of the respondents strongly accept that they identify their future challenges and opportunities in the company. This helps them in the development of their career. Majority (approx. 46%) of the employees feel that they receive in the form of the pay for the performance, 30% feels that they get in the form of target achievement incentives. This indicates that they get rewarded whenever they perform in the growth of the organization which also helps in their development. The company looks after the different aspects of the compensation practices of the employees. Most of the employees responded that they are involved in the celebration of the founder's day, Indian festivals etc. This indicated that the organization tries to make their employees comfortable by making them feel as a part of the family. The company do get rewarded its employees for the duration of their service in the organization. According to results in table 1 all the respondents accepted that they receive the increment based on performance appraisal. This indicates that the organization fully believes in the performance evaluation of the personnel and then gives them the increment basis of it. Results further indicates that the organization also gives benefits in various aspects such as travel allowances, medical, group insurance, bonus etc.

SUGGESTIONS AND CONCLUSION

The company should do effective measures to ensure the safety of the employees and should focus more on the effectiveness of the compensation strategies for the more retention and attractiveness of the talented employees in the organization. The company should make the required changes as soon as possible for the benefit of the employees and should make them understand about the importance of the safety measures in the organization and should train more for the development of the employees.

It is concluded that the effective compensation strategies do help in the development of the performance of the employees and the development of the organization and in the retention of the talented employees in the organization. Some of the practices of the organization are commendable but at times the organization doesn't follow them effectively. Incorporation changes on time can benefit the employees which ultimately is a benefit for the organization.

TEACHING NOTES

Case Synopsis:

The case study here mentions about the problem which is faced by the organization that the employees are having a negative attitude towards the organization and are not loyal towards the company. So the organization uses some effective measures to curb this problem effectively.

This case study discusses about the various problems which is faced by the employees in the organization. There are various problems which were faced by the organization. Which were e.g. lack of proper facilities to work, improper pay facilities, not having not a proper training facilities for the new technologies, the compensation strategies are not good enough for the employees and the salary of the organization is not adequate according to the recent market conditions. But the basic salary was not enough for the employees to sustain. And no proper facilities were not provided to the employees which affected their lives of the employees as they are working in the dangerous situation and no proper safety gears were provided to them. So he gave the suggestions that to change the management structure and do not make the structure so rigid so that the employees cannot say anything to them. So when they saw that the rival company was giving them all these benefits to the employees working there o they left the job and joined the rival organization.

And later they were on the brink of the bankruptcy. So to counter this problem the organization tried to firstly do it on their own hands but it all went in vain. Then the M.D. of the company too a courageous decision to appoint a consultant which will give his/her own suggestions to the problem. After the consultant analyzed the problem and gave the possible solution to it the M.D. of the company implemented those basic solutions. Slowly the company was back on track and started to earn profits. The company's strategies also attracted the other employees to work there. Then in few years the company became the biggest distributor of the vehicle suspension setup by beating all the competition in the market.

This case study gives a big idea about both the concept of INDUSTRIAL RELATIONS AND COMPENSATION. As IR is the relationship between the employee and employer in a workplace. It is also a tripartite in nature with the inclusion of the government in various aspects such as in the regulation of the policy and for the protection of the rights of the workers in the organization.

It revolves around the various aspects such as: - Conditions of the work place, Discipline, Maintaining stable workforce, increasing the productivity and providing welfare to the employees. The unions are the integral part of the industrial relations as they represent the workers of the organization. The union has the right in giving the suggestions related to the

policies which will be running in the organization. The trade unions are responsible for the welfare of the organizations in various aspects such as:- Increase in the salary, Decision related to the employees, Safety of the employees

There are various conditions which help in the effectiveness of the industrial relations

- Fairly payment of the salary and wages.
- Making the employees feel a part of the organization.
- Lowering the industrial disputes.
- Having a mutual understanding between the employees and employer.

And the term compensation is the process of giving the money from the organization to their employees for their work in the organization. It is also known as a remuneration which is awarded to the employees in return for the work they have done in the organization. The compensation is given in various aspects such as:-

- Insurance
- Vacations
- Stock options
- Bonuses, etc.

It is a very important part of the Human Resource Management as it is responsible for motivating the employees and improving the effectiveness of the organization's members. It also helps in maintaining the goodwill of the organization in the market. And it also attracts the employees to work there and which helps in increasing the productivity of the organization.

Compensation management helps in various aspects of human resource management such as

- Recruitment and selection
- Job evaluation
- Job design
- Job performance, etc.

This case study shows that the employees were dissatisfied with the internal politics and the business which was faced by the employees and they were not given the basic facilities also they were not given the proper salary to them which made the employees lose the loyalty towards the company and leave the job and to join the other company. So we as a manager should focus more on these two topics so that the employees are more motivated, focused and attracted towards the organization and work with full zeal.

TEACHING OBJECTIVE AND ISSUES (How and When to teach this case to students)

This case study is to be discussed after the students are taught about the industrial relations and compensation. The students should have the basic knowledge of the industrial relations and labour laws and the basic laws related to the compensation i.e. minimum wage act, payment of wage act, ESIC act, etc. The students should also have the knowledge of the basic compensation practices which are done by the several organization basis on the industries, sectors, etc.

Then while discussing the case the teacher should take this case as if the situation has happened in their organization. And what can be done for the efficient working of the organization. And the answers should be given by the students according to their own mindset and understanding related to the case. Finally students should respond to the following issues

- 1 Summarize the case study?
- 2 Think that you are the Managing Director of this company and you are facing this dilemma then give an alternate solution to the problem?
- 3 Analyze the faults in this situation and recommend that how the faults can be handled for the better working of the organization?

CASE ANALYSIS

- 1) This case study gives a perspective about a company named Zedapvt.ltd. which is a medium scale enterprise and is facing a problem as to how to control the industrial relations and to control the internal politics in the organization. First problem which the company faced was the politics of the middle managers so the top management took the situation in their own hands and eliminated the middle managers who were culprit and tried to get the confidence of the employees but the rival company attracted the target employees which made the organization on the brink of the bankruptcy. Then the top management called a consultant to analyze their problem and to give the related solutions. So after analyzing the whole situation the consultant gave the solution to it and after the measures were taken the organization was back on track.

- 2) If I was the MD of the company and if I was facing the same situation, I would firstly take the situation very seriously as we know that the employees are the gateway to the success. So I would firstly take the decision of firing the middle managers and then calling the consultant so as to make the person analyze the situation. And after the person analyzes the situation and give the suggestion to the problem I would immediately take the corrective steps and would try to get the confidence of the employees.
- 3) In this situation there were several faults in the organization:-
 - i) Firstly the top management decisions were taken late as the MD of the company cannot take the decision on his own and had to consult the board members. So in this situation the MD should have the right to take the decisions related to the employees as he does know the situation better.
 - ii) The middle managers were not loyal to the company as they were not looking after the welfare of the employees. In this situation the company should look that the middle managers are not harassing the lower management and are having a sound relations with them.
 - iii) The compensation structure of the employees was not right and the employees were not happy about it. So in this situation the employer should make a compensation structure in such a way that it helps the livelihood of the employees.
 - iv) The basic working conditions were not appropriate to work in there. The organization should create environment for the employees that is healthy and safe for the employees to work. There are some works which are hazardous so the organization should provide the safety gears and instruction so as to feel safe in the organization premises.
 - v) There is no transparency and the employees cannot say their grievances to the employer. In this situation the employer should make a move and try to break the barriers between the employer and employee. And the employees should have their say in the organization in the decisions related to them.

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Growth Trajectory of Shadow Banking in India – Concerns and Prospects

Dr. Navdeep Kumar^[1]

ABSTRACT

A sound financial system is a pre-requisite for inclusive as well as sustainable growth of the economy. The Indian financial system is dominated by the banking sector. Apart from the banking institutions, another integral part of the financial system is Non Banking Financial Companies (NBFCs). The functions of such institutions are supplementary to the banking functions except certain ways. Consequently, NBFCs are being globally recognised as shadow banks. In India, NBFCs are referred to the shadow banks as they possess a significant role and place in the Indian economy since independence like banks. However, the developments both at national and international levels have augmented the impact and growth of the shadow banking all over the world and in India, particularly during the last decade. In this perspective, the present focuses on the growth trends, issues of concerns and prospects of shadow banking in India and concludes with the implications therefrom.

Keywords: Financial System, Sustainable growth, Shadow banking, Non Banking Financial Institutions (NBFCs).

INTRODUCTION

A robust financial system is a prerequisite for sustainable economic growth of every nation. In all advanced economies, financial systems efficiently deliver a broad range of financial services and contribute significantly to the macroeconomic stability and sustained economic growth and prosperity (World Bank, 2003). The Indian financial system consists of varied financial institutions. Banking system is the backbone of the Indian financial economy. Since independence, the financial sector has witnessed enormous changes in respect of structure, governance, regulation, operations and focus. Banking sector transformation is an integral part of financial sector reforms ranging from nationalisation to privatisation, technological adoption, competition, financial inclusion among other significant turnarounds. Apart from banking sector, shadow banking in the form of Non-banking Finance companies (NBFCs) possesses a significant role in the Indian financial system. Non Banking Finance Companies are part of shadow banking system in India as they function in widening access to financial services through diversification of the financial sector by supplementing the function of the organised banking sector through bridging the credit gaps. These companies have registered considerable growth in terms of their operations and scope of functioning owing to innovative products, wider scope and efficient management capabilities. NBFCs have emerged as growth engines for financial inclusion particularly for the small-scale and retail sectors. However, the implications of the regulatory framework for NBFCs also transformed from simplified to widespread policy framework. The Reserve Bank of India is continuously focusing in strengthening the risk management structure of NBFCs. NBFCs have certain advantages as compared to the banks in terms of niche segment, asset classes, and

reach in the rural and unbanked areas. However, they have to depend on costly bank borrowings.

With the increasing growth as well as significant contribution of NBFCs towards economic growth by filling the financing and investing gaps particularly for small scale sector and rural areas combined with the RBI regulatory framework, it becomes imperative to examine the growth patterns along with the issues of concerns relating to NBFCs in India. In this perspective, the present paper intends to study the role, growth drivers and challenges of shadow banking in India. The paper is based on the secondary sources of data taken from RBI publications, Annual Reports of Ministry of Finance, Internet, Journals and Newspapers. The paper has been organised in the following manner. Besides introduction in Section I, the evolution and trends of Shadow banking have been discussed in Section II. The growth and prospects of NBFCs in the Indian financial system has been explained in Section III of the Paper. The key issues of concern relating to shadow banking in India have been discussed in section IV of the paper. The conclusion and suggestions have been incorporated in Section V.

SHADOW BANKING IN INDIA

The origin of shadow banking was indicated by D'Arista and Schlesinger (1993) who termed it as a parallel banking system. However, formally, the economist Paul McCulley used the term shadow banking in 2007 for the first time while addressing at Kansas City Federal Reserve Bank in Jackson Hole, Wyoming. He advocated that non – bank financial institutions that engaged in functions supplementary to the main banking operations. Shadow banking activities occupies a crucial place in the financial system. The major benefits of shadow banks comprise of

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lesser transaction cost, fast decision-making, customer focused and quick services. Shadows do not always mean dark and menacing. Shadow banking activities are integral part of the financial system. The main benefits of shadow banks lie in their ability to lower transaction costs of their operations, their quick decision-making ability, customer orientation and prompt provision of services. In India, Non Banking Finance Companies (NBFCs), are segment of shadow banking system that play a vital role in the enlargement of access to financial services, and enhancing competition and diversification of the financial sector. Non Banking Finance Companies (NBFCs) are key elements of shadow banking system in India (Sinha, 2103).

The shadow banking system is prevailing from many decades but has come into limelight after the global financial crisis of 2008. According to the Financial Stability Board (FSB), shadow banks are credit intermediation outside the regular banking system. Further, Claessens and Ratnovski (2014) defines shadow banking as all financial activities, except traditional banking, which require a private or public backstop to operate.

Non-Banking Financial Companies are registered companies in India that are engaged in the business activities akin to a bank such as granting loans and advances, purchasing marketable securities, leasing of assets, hire-purchase and insurance business. According to the Reserve Bank of India (Amendment Act) 1997, a Non-Banking Finance Company means:

- (i) A Financial Institution which is a company;
- (ii) A non-banking institution which is a company and which has as its principal business the receiving of deposits under any scheme or arrangement or in any other manner or lending in any manner;
- (iii) Such other non-banking institution or class of such institutions as the bank may with the previous approval of the Central Government specify.

Various functions of NBFC's are parallel to those of banks. NBFCs are performing functions similar to that of banks. However there are certain differences like NBFCs cannot accept demand deposits as well as not functionary of payment and settlement system. Non-banking financial intermediaries have played a significant role in providing finance to different sectors. Although the NBFCs in various forms have existed even prior to independence, the term NBFC was first associated in the early 1950s with the establishment of Sundaram Finance, a company financing purchase and sale of cars (Acharya et al. 2013). The non-banking financial companies (NBFCs) grown in India during 1980s owing to the limitations of extremely regulated banking sector. The simplified procedures and low barriers fuelled the growth of NBFCs associated with better services and wider access with an edge over the banking sector. The vast expansion of financial liberalization in new areas such as, hire purchase, housing, equipment leasing and

investment enhanced the scope of NBFCs in India (RBI, 2008). To regulate the NBFCs, the RBI introduced a 50-50 business criteria rule in 1999, according to which, a company is treated as an NBFC and registered with RBI if its financial activities constitute more than 50% of the overall assets and gross income of an entity (RBI, 2011).

In the popular discourse the role of NBFCs are seen from two distinct angles: (a) they have been very useful for sectors / activities that are generally excluded from formal banking activities; and (b) at some regularity some of the deposit raking NBFCs have been source of financial irregularity in some localized pockets and raised the issue of consumer protection. Although NBFCs have existed for a long time in India, these entities experienced sudden spurt in their activities between the late 1980s and the mid-1990s. While, on an average basis, deposits of NBFCs as a proportion of bank deposits were 0.8 percent during 1985–86 to 1989–90, they shot up to as much as 9.5 percent by 1996–97. This sharp jump in NBFC deposits was mostly owing to the high rates of interest offered on such deposits (RBI, 2003).

Further, NBFC regulations, 1998 affected the growth of the NBFCs, and the number of NBFCs declined to 7855 in 1999 from 55995 in 1995 (Nisar and Aziz, 2004). For the deposit taking NBFCs, the number of companies decreased from 1429 in 1998 to 624 in 1999. Though, deposit taking NBFCs increased from 624 in 1999 to 784 in March 2001, it started to decline thereafter and stood at 297 in March 2011. In 2006, the RBI introduced its next important set of NBFC regulations by revising the 1998 regulations to create a new NBFC category, the systemically important non-deposit taking NBFCs. The systemically important non-deposit taking NBFCs were defined as those non-deposit taking NBFCs with asset size of 1 billion rupees or more. As is well known, the concept of systemically important financial institutions became popular after the onset of ongoing global financial crisis in the summer of 2007 and a financial institution is considered systemically important if its failure poses a systemic risk to the financial system (Acharya and Öncü, 2013).

GROWTH AND PROSPECTS

In developed countries, shadow banks are comparatively versatile and play a higher role as compared to the emerging economies, where they are simpler and smaller in size. However, there are now rising concerns about the rise of shadow banking, especially in China and India (Ghosh et al. 2012; UN 2013; Li 2013). In contrast to the existing status of shadow banking in the Western economies, the NBFCs in India give a completeness of credit gamut in the economy as NBFCs acts as a substitute for direct lending to non-urban parts of the economy. In India, the size of shadow banking in the form of NBFCs is relatively small, less complex and well regulated, yet it is growing quickly and raises concerns about its sustainability and impact on the rest of the economy (Sinha 2013 and Acharya et al. 2013).

As a proportion of GDP shadow banks in India, according to FSB estimates, were 16.9% in 2012 and 17.7 % in 2013. This places India among the top 5 emerging economies experiencing high growth rates in shadow banking in 2013. Others are Argentina (50.3%), China (33.5%), Turkey (24.5%) and South Africa (19.8%). Although the growth rate is highest in Argentina, it is the third smallest among the emerging economies in terms of its share in the total.

The ASSOCHAM report (2016) found that the fruition of the regulatory structure for NBFCs in India has gone through a cyclical phase-from simplified regulations to stringent and extensive regulations and finally towards rationalisation as part of the recently revised NBFC regulatory framework. Regulation was necessary for ensuring efficacy of credit, monetary policy, safeguarding depositors' interest and ensuring healthy growth of NBFCs (Sinha 2013).

Several committees also were appointed by the government from time to time to examine the regulatory standards of NBFCs. Stringent regulation of the sector came in 1996, and subsequently in 1998 as a result of the failure of a large NBFC, they were not allowed to raise deposits from the public. Various expert committees of the Reserve Bank of India expert committees identified the need of non banking financial companies in the following areas:

- Development of sectors like transport and infrastructure
- Substantial employment generation
- Help and increase wealth creation
- Broad base economic development
- Irreplaceable supplement to bank credit in rural segments
- Major thrust on semi-urban, rural Areas and first time buyers/users
- To finance economically weaker sections.
- Huge contribution to the state exchequer.

The NBFCs is far from being a homogenous entity and include many diverse types of financial institutions from a housing finance company to an equipment leasing company. The diversity among the entities of the NBFC sector is also reflected in attributes like sizes and the extent of regulatory oversight. As of March 2016, there were 11,682 NBFCs registered with the RBI, of which 202 were deposit-accepting and 11,480 were non-deposit accepting NBFCs, of which 220 were declared as systemically important. Table 1 depicts the number of Non-Banking Financial Companies registered with the Reserve Bank from 1999 to 2016.

Table-1: Number of Non-Banking Financial Companies Registered with the Reserve Bank

Year	Number of Registered NBFCs	Annual Growth Rate	NBFCs Accepting Public Deposits	Annual Growth Rate
2009	7885	-	623	-
2000	8451	7.59	679	8.99
2001	13815	63.47	776	14.29
2002	14077	1.9	784	1.03
2003	13849	-1.62	710	-9.44
2004	13764	-0.61	604	-14.93
2005	13261	-3.65	507	-16.06
2006	13014	-1.86	428	-15.58
2007	12968	-0.35	401	-6.31
2008	12809	-1.23	364	-9.23
2009	12740	-0.54	336	-7.69
2010	12630	-0.86	308	-8.33
2011	12409	-0.02	297	-0.04
2012	12385	-0.001	271	-0.09
2013	12225	-0.01	254	-0.06
2014	12029	-0.01	241	-0.05
2015	11842	-0.03	220	-0.08
2016	11480	-0.01	202	-0.08

Source: Report on Trend and Progress of Banking in India, RBI, Various issues.

NBFCs have scripted a huge triumph story. Their contribution to the economy has grown substantially from 8.4% in 2006 to more than 14% in March 2015. In terms of financial assets, NBFCs have registered a robust growth, i.e. a compound annual growth rate (CAGR) of 19% over the past few years, consisting of 13% of the total credit and estimated to reach nearly 18% by 2018-19. The success of NBFCs can be clearly attributed to their superior product lines, lower cost, broader and effective reach, robust risk management capabilities to check and control bad debts, and proper comprehension of their customer segments. Moreover, improving macroeconomic conditions, higher credit penetration, enhanced consumption and disruptive digital trends will allow NBFCs credit to rise at a robust rate of 7-10% in the coming years.

NBFCs have steadily grown in number and market share, indicating the success of their business models and the opportunities/potential in their target markets. The share of NBFCs has steadily grown from 10.7% of banking assets in 2009 to 14.3% of banking assets in 2014 as presented in Table 2 below.

Table -2: Proportion of NBFCs Assets to Bank Assets

Year	Proportion of NBFCs Assets to Bank Assets (%)
2009	10.7
2010	11.3
2011	11.6
2012	12.7
2013	13.3
2014	14.3

Source: ASSOCHAM (2015).

There is also remarkable increase in the amount of public deposits of NBFCs deposit companies as shown in Table 3 from the period 2000-01 to 2015-16. There was decline from 2003-04 to 2008-09 but after 2009-10 it registered continuous increase in the amount of aggregate deposits.

Table -3: Aggregate Public Deposits of NBFCs- D

Year	Amount of Public Deposits (INR Billion)
2000-01	65.59
2001-02	59.33
2002-03	50.35
2003-04	43.17
2004-05	39.26
2005-06	24.48
2006-07	20.77
2007-08	20.42
2008-09	19.71
2009-10	28.31
2010-11	40.98
2011-12	57.35
2012-13	70.85
2013-14	108.08
2014-15	289.41
2015-16 (P)	379.00

Source: Report on Trends and Progress of Banking in India, 2015-16, RBI.

Non-banking financial companies improved their performance in the year 2015. According to the financial stability report (2016), NBFC loans expanded 16.6% in the year, twice as fast as the 8.8% credit growth across the banking sector. Table 4 exhibits the composition of NBFCs advances in diverse areas.

Table - 4: Composition of NBFCs Advances

Areas	Share (%)
Infrastructure	47
Commercial Vehicles	12
Corporate Loans	9
Gold Loans	7
Mortgage/Housing	7
Cars	6
Construction Equipments	4
Capital Market	3
Unsecured Retail	3
Others	2

Source: ASSOCHAM (2015).

According to a report by BCG, India's credit-GDP ratio stood at 97 percent as of FY15 versus 165 percent in China, 149 percent in Germany, 244 percent in the US and 447 percent in the UK. This means huge scope for credit market in India as a whole. Interestingly, for the same year, the NBFC-credit-to-GDP ratio in India was merely 13 percent, versus 33 percent in China, 29 percent in Germany, 130 percent in the US and 264 percent in the UK. If one observes this fact that largest segment in the banking sector is witnessing some challenges, then the opportunities to grow is expected to be higher (Sinha, 2013).

In August 2016, the union cabinet has given nod for foreign direct investment (FDI) under the automatic route in regulated NBFCs. Another report by PwC India (2016)

stated that by 2020, credit lending by Indian NBFCs is estimated around 18.2% and 20.9% of the total credit off-take in the country.

ISSUES OF CONCERNS

The shadow banking lacks transparency in terms of business model, leverage position and ownership that makes it less acquiescent to regulatory framework. Since shadow bank entities have no access to central bank funding, they remain susceptible to shocks posing systemic risk. Nevertheless, the advantages of the shadow banking system of providing quick, cost effective, its ability to impulsive systemic crisis, which was recognised during the global financial crisis, cannot be wished away. The subsistence of shadow banking system was stated to have augmented the scale of the crisis owing to the following factors. Firstly, the interconnection between the regular banking and shadow banking systems had increased as the banks were lenders to these entities. Products issued by the latter enhanced the leveraged position of the banks and put them to a higher risk position. Secondly, due to the near absence of regulation, the shadow banking system was able to operate without internalising the true cost of its risk and more entities preferred to take the route of shadow banking that circumvented banking regulations. This type of regulatory arbitrage led to a system-wide build-up of huge leverage and risks. Thirdly, since shadow banks relied more on short-term deposit-like funding, which had no deposit insurance, loss of confidence resulted in runs on these unregulated institutions. In India, NBFCs, which perform bank-like credit intermediation activities, while remaining outside the banking regulatory framework, essentially exemplify the shadow banking system. India is a bank-dominated financial system wherein banks account for about 60 per cent of the financial sector's assets. Thus, as compared to other advanced economies, the size and activities of shadow banking in India are relatively smaller. Furthermore, unlike many advanced countries, in India, there is a well-defined regulatory framework for NBFCs and overtime, progressive and prudent regulatory measures have brought consolidation in the sector (Sinha, 2013). A Green Paper on Shadow Banking by European Commission (2012) outlines the following four types of risks associated with the shadow banks as follows:-

Liquidity risk – This is one of the most common risks faced by shadow banks, as these entities undertake maturity transformation i.e., funding long term assets with short term liabilities. In India, during global crisis in 2008, some NBFCs ran into severe liquidity problems as they were using short term liabilities such as commercial paper and Non-Convertible Debentures to fund their long term lending or investment.

Leverage risk – As shadow banks do not generally have prudential limits on borrowings, they can become extremely leveraged. High leverage aggravates the stress in the financial system.

Regulatory arbitrage – Regulations applied to banks in this regard can be routed by transferring components of the credit intermediation function to shadow banks which are subject to less severe regulation. Transfer of risks outside the purview of banking supervision played a significant role in the build-up to the global financial crisis.

Contagion risk – Shadow banking entities have close intertwinement with the banking sector and also with other segments of the financial system, which can go ahead to contagion risk in times of loss of confidence and uncertainty.

On November 10, 2014, RBI revised regulatory framework focused on the following objectives:

- Harmonising and simplifying regulations to make compliance easier;
- Focussing on activity based regulation without impeding those segments within the sector which do not pose any significant risks to the wider financial system;
- Addressing risks and regulatory gaps wherever they exist; and
- Strengthening the governance and disclosure standards.

Under the revised regulatory framework, it is obligatory to comply with the revised prudential norms in a phased manner (ASSOCHAM, 2015).

CONCLUSION

NBFCs have been playing a very significant role as a core catalyst in the Indian financial system in the form of shadow banks. The role of NBFCs as shadow banks is tremendously vital to an economy, where a large portion of the population lives in rural and semi-urban areas with modest access to financial services and benefits. The recognition of NBFCs as an integral part of the financial system is amply clear in terms of growth and policy framework. NBFCs are well positioned to construct profitable businesses in the priority sector. Considering the funding constraints, conversion to universal or small banks will provide viable option for NBFCs looking to scale up their operations and expand their reach in terms of market access and customer base. A steady regulatory environment will provide opportunities to NBFCs to grow in the financial sector to promote inclusive growth as well. A roadmap for growth of NBFCs should be framed by the government and RBI to realign the regulatory regime realistically with long term interest of NBFCs.

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Usage of Cloud Computing in Education

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ABSTRACT

Cloud computing is expanding in rapid pace and is being used in all business activities. Cloud adoption has always been beneficial irrespective of the business sector in which it is used. This is due to the subscription based payment and demand based provisioning. Optimal advantages of cloud adoption can be leveraged when the software requirement usage is not perennial. Education is one sector which has also benefitted due to cloud adoption. Education is a field in which the use of software is the combination of both regular and periodic usage. The periodic usage will be session or semester based. The specialized software will be used for a period of three to four months in a year. In this scenario, rather than purchasing perpetual licensed software, colleges can opt for cloud based usage software or platform. Even though cloud inclusion is beneficial, it also has few demerits due to the inherent Internet based working. This paper discusses about the prospects of cloud usage in education along with its barriers and possible solutions.

Keywords: ICT, Cloud in education, benefits of cloud, challenges of cloud adoption

INTRODUCTION

Information and Communication Technology (ICT) has an inevitable part in educational institute to establish effective and efficient implementation of its day-to-day, monitoring and controlling activities. Technology inclusion in educational institutes is essential for enhancing interaction quality between students and faculty, providing centralized view of academic records, improving transparency and standards (Naik et. al., 2013). Digital Interactive White Boards (IWBs) also known as Smart Boards, which is an enhancement of ICT utilization in education are slowly gaining foothold in primary and secondary schools. The concepts of just-in-time, community and found learning are picking up which have the intrinsic features of collaboration, peer exchange learning and social participation that needs to be achieved through effective IT infrastructure. The perception of considering infrastructure as an asset is changing to consume them as service overcoming hosting and maintenance worries (Plummer et. al., 2008). The new approach of personalized or individualized learning is gaining popularity, where flexibility prevails in learning and teaching process with the help of internet. New collaborative teaching paradigm removes the physical classroom constraint and learning hour restrictions. Digitization of education also assists institutes to gather information regarding progress of students, attendance, performance etc. Predictive analysis when applied on this information will help to reveal the dropout risks and the prospective areas of improvement in each student thus initiating proactive measures to avoid failures (IBM, 2012).

Cloud computing is the extension of grid and utility computing along with the IT technology features extracted from Service Oriented Architecture (SOA), virtualization and Web2.0 (Jeong, et. al. 2013).

Virtual Desktop Infrastructure (VDI) implementation and other traditional server based IT implementation are migrating towards rental based cloud implementation for higher availability, scalability, cost reduction and resilience (Koch et. al., 2010). VDI provides desktop based learning and resource sharing with reduced IT overhead and enhanced security (Dell, 2011). Average availability of 99.5% aimed by the institutions for the delivery of its learning modules is escalated to 99.9% on adoption of cloud Google application suite for education (Sclater, 2010). Well established educational institutes have to opt for "brownfield development" while adopting cloud as the cloud implementation need to interoperate with existing IT systems (Hopkins & Jenkins, 2008). IT requirements of educational institutes have fewer fluctuations unlike organizations as the requirements can be predicted for a year or at least for a term of three months. Deferring or circumventing cloud adoption will deprive the institutes from achieving flexibility, mobility and the opportunity to utilize the availability of abundant resources across the globe (IBM, 2012).

Pay-per-use or subscription based usage of cloud resources, dynamic self-provisioning to meet the requirement demands are some of the beneficial features of cloud, but at the same time lack of proper planning before cloud adoption and monitoring after cloud implementation might result in dwindling effect on cost reduction benefits. Extensive analysis of IT requirements of the institutes and marking the processes to be migrated to cloud is essential as not all processes are beneficial when implemented through cloud. This must be followed by detailed cost benefit analysis and budgeting of cloud adoption.

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ICT IN EDUCATION

Information and Communication Technology (ICT) includes computers, the Internet, and electronic delivery systems such as televisions and projectors and is widely used in today's education field. In the new pedagogical paradigms, the learner is a central figure who actively participates in the learning process. ICT enable the implementation of such contemporary forms by interacting and collaborating with all participants. Implementing ICT in education leads to training consistent with the needs and characteristics of the new generation of learners.

An appropriate use of ICT can raise educational quality and connect learning to real-life situations (Lowther, et al. 2008; Weert and Tatnall 2005). As Weert and Tatnall (2005) have pointed out, learning is an ongoing lifelong activity where learners change their expectations by seeking knowledge, which departs from traditional approaches. ICT tends to expand access to education by ensuring learning to occur anytime and anywhere. Online course materials, for example, can be accessible 24X7 facilitating learner driven approach. Teleconferencing classrooms allow both learner and teacher to interact simultaneously with ease and convenience. Based on ICT, learning and teaching no longer depend exclusively on printed materials.

Multiple resources are abundant on the Internet, and knowledge can be acquired through video clips, audio sounds, visual presentation and so on. ICT assists in transforming a teaching environment into a learner-centered one (Castro Sánchez and Alemán 2011). Since learners are actively involved in the learning processes in ICT classrooms, they are empowered by the teacher to make decisions, plans, and so forth (Lu, Hou and Huang 2010). ICT therefore provides both learners and instructors with more educational affordances and possibilities.

CHALLENGES IN TRADITIONAL ICT IMPLEMENTATION

The implementation of traditional ICT has many problems in the area of hardware, software and Students (Nayar and Kumar, 2018). As far as the hardware problems are concerned, the hardware may be very expensive for an Educational institute. Maintenance and updation of hardware may be time consuming keeping in mind the decreasing life span of the hardware. There are a number of systems in one particular lab of universities and institutes which require licensed software for every system that attracts the challenges pertaining to purchase of costly licensed software, purchase of newer versions and purchase of antivirus.

The problems faced by the students comprise of a limited time period and non-availability of the resources, portability, geographical space, compatibility, computing power and delay in procurement process of software and

hardware. So traditional forms of e-learning require significant investments – building appropriate IT infrastructure, expenses for its maintenance, need for highly qualified IT staff to operate and manage it. The increased costs and reduced financial resources urge educational institutions to seek solutions to overcome existing constraints and to provide conditions for effective learning process, consistent with the new educational trends and paradigms.

CLOUD SCENARIO IN EDUCATION

Innovation is essential to keep pace with ever changing requirements in all sectors. Cloud adoption is one such innovative measure which helps users to leverage the advantage of latest technology at reduced cost and efforts. It is a distributed computing technique that offers pool of shared resources on demand in pay-per-use or subscription model (IBM, 2012). The minimum requirement for cloud adoption is a thin client with Internet connection (Mathew, 2012). Cloud computing model emphasizes primarily on availability with five essential characteristics such as broad network access, on-demand self-service, resource pooling, measured services, rapid elasticity along with three models Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS) (Mell & Grance, 2009). IaaS is lowest level service model where storage, network and compute resources are utilized from cloud provider to run in-house operating system or applications. Example, Amazon Elastic Compute Cloud provides servers for the institutes which can be scaled up or down on demand. PaaS service model allows the users to rent the software platform for the development of in-house applications. Example, Google apps and Microsoft Azure used to develop and install applications. SaaS is the top level service model which is often utilized by educational institutes. Example, Microsoft Live@Edu for communication and cloud based ERP Suites (Johnson et. al. 2009). Private cloud, public cloud, hybrid cloud and community cloud are the four deployment models, which is chosen based on requirements and criticality of data security (Naik et. al., 2013).

Educational institutes strive to inculcate optimal management of IT infrastructure for maintaining satisfaction of students, quality of service and delivery of up-to-date education materials (Sultan, 2010). Escalating demand for IT infrastructure and software for a short time span with restricted IT budget is often faced by academic institutes (Pardeshi, 2014). Innovation speed of IT, mobility and versatility requirement in teaching and learning space, consumerization of IT, learning at the user pace, collaborative learning through forums and urge of the younger generation to view everything through various digital tools such as smart phones, internet, chats, blogs, social network etc., are also the instigating reason for the revamp in IT utilization across educational institutes (IBM, 2012). Cloud adoption for the delivery of educational services is an easy and cost effective solution

for the educational institutes to keep pace with the technology changes and the all-time access requirements of students and academicians. Google Drive, Dropbox, SkyDrive are some of the free cloud storage services that can be leveraged by student for easy sharing and any-time access of

Dynamic provisioning of resources and applications on demand through remote accessing at reasonable cost, reduced investment, greater flexibility, guaranteed Service Level Agreement (SLA) and cost transparency are the attractive essential features of cloud adoption that are required to support academic and research activities in educational institutes (Educase, 2011; Truong et. al., 2012). As per UNESCO report 2010, economies of scale and various other features of cloud computing are expected to provide a radical shift from institutional server based hosting techniques (Sclater, 2010). The pay-as-you-go model of cloud services charge the educational institutes for the compute and storage resources, specialized software and software development platform utilization. The overhead of hardware costs and software provisioning lies with cloud service provider (Buyya et. al., 2009; Ambrust et. al. 2010). Cloud adoption in education eliminates the cumbersome and complex process of infrastructure investment and upgrade planning which enable the institutes to concentrate on education and research activities (TechDecisions, 2014). Email, online collaboration, conferences, online learning, file sharing and web hosting are the top priority functions of the educational institutes for which cloud based services are utilized (Klug, 2015). Institutional Learning Management System (LMS), which are often implemented using Moodle or Blackboard application, are also hosted from cloud that shifts the cost and maintenance overhead from the institute to providers (Sclater, 2010). Smart education system delivered through cloud assistance leverage convenience of easy sharing and delivery of e-learning educational contents such as text, images, videos, 3D objects modeling with Virtual Reality (VR) and Augmented Reality (AR) (Jeong et. al., 2013). Different stakeholders of academic institutes such as students, staffs, faculty, research scholars, developers and management are to be benefitted by cloud adoption in various ways. Cloud based service deployments promote extensive dynamic exchange and participation among academicians. The demand of the stakeholders to access IT infrastructure and applications of the institute through various devices such as smart phones, tablets, kindle, e-readers etc. are met by cloud adoption which allows access from any device at any time (IBM, 2012).

Shortage of skilled staffs, over-crowded classrooms, less number of teachers and restricted budgets are some of the major issues faced by K-12 education segments across the globe (Dell 2011). The Cloud computing adoption will enable IT staff of this segment with an innovative way to balance minimum budgets and maximum utilization of the existing IT infrastructure. Cloud computing is being adopted at lower pace in the K-12 arena, where schools and classrooms are slowly

migrating to digitalization. The availability of enormous study material and resources, pedagogical and technological trend changes are driving institutes to opt for Bring Your Own Device (BYOD) implementation allowing mobile devices and tablets in the classrooms (TechDecision, 2014). SaaS solutions are used in larger numbers in K-12 institutes.

Cloud plays a major role in dissemination of continuing educations which is an educational enhancement of employees that bridges the skill gaps and is also essential for career development (Vmware 2016). Adult learners are the major users of continuing education which mainly focuses on digital and computer skills. It has the characteristics of after-hours learning along with full time employment, varied study requirements based on expertise levels and personalized curriculum. Remote access to study material is considered as the best option in cases where the living place or the work place of the learner is far from the educational institute (Lennon, 2012).

Larger institutes often benefit from cloud adoption as even the cloud service providers concentrate on requirements of large institutes whilst the smaller institutes are provided with simple cloud adoption like emails or conferencing tools (Klug, 2015). Cloud adoption is increasing

i. Benefits of cloud adoption in education

The inherent benefits of using virtualization and cloud adoption include cost reduction, scalability, availability, self-provisioning, reduced IT investments, remote access etc. Cloud adoption also reduces the energy consumption of the institutes which inevitably reduces carbon footprint contribution of the institute and its environmental impact (Kumar & Vidhyalakshmi, 2013). Cloud adoption facilitates IT standardization and transparency among costs, funding and IT demands foster (Katz et. al., 2010). Educational resources such as study material or contents hosted on cloud platform as virtual lecture theaters enable academicians to create collaboration forums that can be used to interact with teaching fraternity of all disciplines (IBM, 2012). A shift in the role of cloud as major influential factor in education is expected in the next five years. Cloud computing which is considered as a moderate factor in education is expected to be have a shift as a major factor as depicted in figure 1 (vmware, 2016).

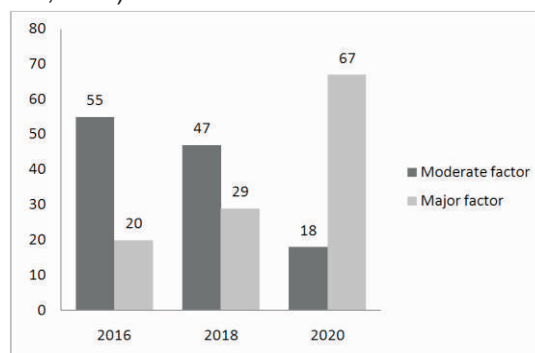


Figure 1: Cloud adoption as influence factor in education

Benefits of cloud adoption with respect to education are: (Sclater, 2010; Educase, 2011; IBM, 2012; Cross 2013; Bhatia 2014; vmware, 2016)

i. Updated learning material

Non-availability or affordability of extensive and expensive study material is a perennial issue in K-12 segment (Bhatia, 2014). Cloud adoption solves this issue as a single copy of the material is maintained in the cloud servers and is accessed by everyone using subscription model. The more the subscriptions count the lesser will be the price and hence this increases the chances for the students of less affluent rural based educational institutes to leverage study material in tune with their urban counterparts. Centralized maintenance and systematic consistent modification using cloud setup enable institutes to access documents, assignments, projects, syllabuses and study material without complexity and this also ensure updated material availability to all users (IBM, 2012).

ii. Enhanced research collaboration

Cloud adoption enables institutes to concentrate on core activities like providing education and performing research (Sclater, 2010). It also enhances collaborative learning through its remote and anytime access facility. This also eliminates the geographical and time barriers in education progression. Researchers from one part of the globe can get advice and consultation from experts of their field from any part of the globe through chats, blogs, forums, social and professional community sites (IBM, 2012). The research papers, study materials, data analytics processes and other valuable research materials that are maintained in the cloud data centers can be shared and updated by the members of the research group. Data duplication processes undertaken as a routine of backup process ensures the integrity of the research resources even at the times of disaster.

iii. Reduction in IT investment

The cost reduction is attained through sharing of IT infrastructure and implementation of virtualization. Cloud adoption drastically reduces the number and complexity of the machines, application software installations and maintenance thus reducing costs (IBM 2012). The elimination of the under provisioned or over provisioned IT resources also adds on to cost reduction. Students utilizing cloud solutions can also leverage the free storage offerings by major providers like Google (Bhatia 2014). Expensive licensed software can be replaced by Microsoft Office 365 for education, freely available Google Docs or monthly subscription based SaaS applications.

iv. Access to state-of-art technology

Innovation in technology takes place at a rapid pace and institutes often struggle to keep pace with the ever changing technologies mainly due to budget and skill restrictions. Software products become shelfware due

to end of the product life cycle or technology developments. Adoption of cloud will enable institutes to leverage state-of-art technologies at the same cost as the providers always maintain latest technology to gain competitive advantage (Bhatia, 2014). Elasticity and dynamic provisioning enable institutes to start with small set of services and expand their cloud usage based on the demand of the curriculum, peak admission periods and examination periods (Sclater, 2010). Futuristic planning and investment which is the barrier for progression in adopting new technology is removed with the help of virtualization in cloud adoption (IBM, 2012).

v. Multiple device access

E-learning which was introduced as desktop based has evolved to be used by multiple devices as these devices are integral part of our lives and switching between them is a commonly followed practice (Lahri, 2015). Cloud adoption is inevitable in e-learning as it supports multiple device access at the time of need. This also gave forth to responsive design of sites and its contents. Responsive LMS modules are easy to develop and maintain when compared to maintenance of different versions of the same applications to ensure multiple device compatibility.

vi. End-user satisfaction

Enhanced availability feature of cloud adoption allows students, research scholars and faculty to access study materials, research papers and assignments during and even after hours of college or university. Anti-obsolescence is guaranteed due to periodic automatic updates and enables institutes to provide the latest technology sessions to the students which will also help to bridge the industry-academic gaps (IBM, 2012). Elimination of physical classroom restriction in the student teacher interaction due to cloud adoption enables students to carry out assignments and projects at their convenient schedules.

vii. Augmented learning process

Cloud computing and Augmented Reality (AR) are the key innovations in the e-learning market. AR which works on the principle of layering interactive image on the physical reality image when implemented in education will help educators to provide 4D learning experience (Murray, 2016). Integration of augmented reality in lectures increases the understanding levels of the students as it allows them to participate and helps to capture the attention of the students using 3D models, prototypes and detailed illustrations (Lindsay, 2015). A single scan of the image using Augment App will enable students to link to the corresponding sites for detailed information at the touch of the screen which helps in long term knowledge retention.

viii. Reduction in technically skilled labor

Replacement of heavy servers with thin clients removes the need for highly skilled database and

system administrators, thus reducing human resource cost (IBM, 2012). Thin clients have lower maintenance cost as most of the movable parts of the PCs are not present and the software do not need regular patches or updates as they are maintained centrally and handled by providers at the data centers (Dell, 2011). IT staffs must be trained for the cloud setup and its usage. Training must be provided for requirement based scaling and monitoring processes which are essential to leverage the cost benefits of cloud adoption.

ix. Faster solution deployment

New cloud services, software for the newly introduced course or additional resource capacity required by the institute are provisioned by the cloud provider on demand. This eliminates the planning time and investment of new servers and software installation (Educase, 2011). The requirements of the resources and applications are normally short termed, procurements of these resources results in piling up of idle resources in the institutes. Cloud adoption provides resources on demand and adoption of multi-tenancy by the providers enhances the optimal utilization of the resources.

x. Protection against natural disasters

Efficient Disaster Recovery (DR) management in educational institutes is crucial as any loss or damage to its repository consisting of examination results, fee details, various circulars and documents will have serious repercussions. Fast recovery is very important after disaster to ensure continuity of operations in the educational institutes (Nayyar & Kumar, 2015). Huge investment on data servers in traditional DR method is eliminated on cloud adoption which has in-built DR facility. Additional DR requirements are also provided as service (DRaaS) from cloud with flexibility and monitoring of the metrics of DR management such as Recovery Time Objective (RTO) and Recovery Point Objective (RPO). Various backup sites such as hot, warm and cold can be chosen depending on the criticality of the document being migrated to cloud storage.

Cloud adoption in education will eliminate the binding of learning process with physical classrooms and facilitate the learners to choose their comfortable timing for learning. Student oriented curriculum configuration is add on benefit of cloud adoption in education which enable shift of traditional institute oriented education models to student needs based educational models (vmware, 2016). The rate of cloud adoption by educational institutes and universities is increasing in the US and UK for the enhancement of efficiency and convenience of educational services along with cost reduction benefits (Sultan, 2010).

ii. Barriers for cloud adoption in education

Non affordability of Internet connection by 60% of the global population is a major hurdle in expanding cloud

adoption (vmware, 2016). Loss of control on data and applications that are hosted from cloud is an initial barrier for cloud adoption in institutes, which might get diminished by increasing transparency of the provider operations (Klug, 2015). Security is a major road block for cloud adoption as hosting application and data outside the institute instill security fears and hence cautious analysis of critical and non-critical data along with hybrid cloud adoption will reduce the security issues. The providers are more equipped with latest security measures than the institute's security in the current scenario of growing IT complexity and its related security threats (Educase, 2011). Vendor lock-in and service unavailability due to downtime are other barriers for cloud adoption. Utilization of cloud services offered by a single cloud service provider includes vendor lock-in as wide usage of applications involves migration costs in spite of the interoperability claims by the providers (Sclater, 2010). A simple solution for vendor lock-in is to adopt services from multiple providers. A survey on the future of cloud computing across different industries conducted by vmware has revealed that cloud adoption in education is slow in comparison with the cloud adoption rates of banking, manufacturing and retail sector. Non-competitiveness of the sector is cited as the reason for this slow cloud penetration into the sector (vmware, 2016).

i. Absence of strategic IT vision

ii. Security

iii. Loss of data control

iv. Vendor lock-in

CLOUD IN EDUCATION - CASE STUDY

Major cloud players like Google, Amazon, Microsoft, IBM, Cisco, HP and Salesforce.com have taken numerous initiatives by offering various tools, application and IT infrastructure for utilization by students and educational institutes. Google and Microsoft have announced unlimited storage facility for educational institutes (TechDecision, 2014). Various learning management systems such as Moodle, Blackboard etc. delivers cloud implemented educational services (Jeong et. al. 2013). Most of the educational institutes in the US have opted either Gmail or Microsoft's Live@Edu for e-mail application and have found increase in performance, reliability and decrease in cost overheads. Cloud based e-mail also includes other tools such as instant messaging, calendar application, contact management and the ease of access advantage where mails can be accessed from any smartphones, PCs, tablets or laptops (Sclater, 2010; Educase, 2011).

Cloud infrastructure to pool IT resources such as server, storage system and software of several sites in the form of Virtual Computing Lab (VCL) has been implemented in North Carolina State University. Resources are availed from the pool by placing the requirement request at the start of a session which is then released back to the

resource pool at the end of the session. 75% saving of software license cost, 150% increase in the ratio of the number of students per software license, optimal utilization of server, reduced investment due to the use of thin clients are the benefits leveraged due to cloud adoption by the university. The VCL enabled primary, secondary schools and different university campuses to access centrally developed, up-to-date technical and learning material thus achieving education equality (IBM, 2012).

Baadal designed by IIT Delhi is a cloud service tailored for academic and research requirements that provides solution to match the institute requirements with the private cloud setup.

CLOUD ADOPTION STRATEGIES

Optimal high speed network connection with some process and IT infrastructure changes are essential for successful cloud adoption in any institute (IBM, 2012). A single cloud model does not fit all educational institutes. It is up to the institute to identify the correct mix of cloud resources and in-house resources to be utilized depending on the usage requirement. The baseline is that occasionally used resources are opted from cloud and incessantly used or time critical processes are maintained as in-house processes (Educase, 2011). IaaS service model is also opted next to SaaS adoption for storing and uploading audio and video lectures which have low data security concerns (Sclater, 2010). Different resource allocation methods based on usage for reducing IT cost and enhancing Quality of Service were explained by Koch et. al. (2010). Three techniques discussed are 1) resource pre-allocation method mentioned as proactive method, where the resource demands are predicted with the help of usage history; 2) dynamic resource allocation method which is identified as reactive method, allocate resources on demand with delay in allocation and releasing of resources; 3) workload aware resource allocation method which is both reactive and proactive method, includes time interval and nature of resource requirement of the institute and allocates resources prior to the usage depending on their demand inference from timetable (Koch et. al., 2010). Complexity, technical readiness and institutional sizes with respect to employee and student enrollment count are the major factors that are to be considered before planning cloud migration (Klug, 2015). Cloud adoption of the institutes is unavoidable if issues prevail in the level of sophistication of the available resources and its expertise to manage deals with technical readiness (Low et. al., 2011).

Steps for cloud adoption in education (Sclater, 2010; Educase 2011; Klug, 2015)

1. Size of the institute.
2. Analyze and prepare the list of functionality for cloud adoption.
3. Determine the complexity in cloud adoption.

4. Identify the suitable cloud deployment model (private / public / hybrid).
5. Calculate the costs and risk involved.
6. Assess the readiness of the institute in terms of technology and staff skills
7. Detailed study and understanding of the SLA terms
8. Determine the post cloud monitoring processes.
9. Peer-review or auditing the quality of contents disseminated to cloud storage.

Monitoring and controlling the cloud services is an essential and inevitable activity which enable the institutes to leverage the cost benefits. For example, the cost breakdown of IaaS usage will delve down to the usage cost of the components such as Virtual Machine (VM), data transfer and storage out of which switching off the VM when not in use will reduce the cost to a greater extent (Khajeh-Hosseini et. al. 2011).

Cloud computing setup between among institutes enables sharing of infrastructure, teaching content, skills and software, which provide educational equality and solution for digital divide. It also eliminates idle time and duplication of resources which enhances quality of education with reduced IT usage costs (IBM, 2012).

The decision making process of educational institutes for cloud migration must adhere to the inclusion of all service models as the institutes might require IaaS for storage and computation requirements when the hybrid approach is used where cloud is used to complement the existing IT infrastructure, PaaS for practical implementation during lab sessions and SaaS for the implementation of e-learning modules, ERP suites, accounting application etc.

Few challenges also exists in cloud inclusion. Actual resource cost utilized depends on the load, the difference in cost of data transfer within and between cloud data centers, change in provider's price at short notice (Khajeh-Hosseini et. al. 2011). Based on the historic data, the elasticity patterns need to be generated to identify the need for additional resources. Intellectual rights of the contents stored in the cloud data center must be with users who have uploaded the material and these insist for ownership to be maintained with the customer.

CONCLUSION

Implementing ICT in education has many benefits and difficulties. Each educational institute has its own barriers depending on its contextual factors. Not only the educational institutions relieved from the burden of handling the complex IT infrastructure management as well as maintenance activities though application of cloud computing, but also leads to huge cost savings. Along with many industry sectors, education sector is largely benefited by adopting cloud services which promises to deliver affordable, reliable and flexible computing solutions to the education sector and enable it to compete more effectively with bigger organisations.

Cloud Computing transforms the role of ICT in training, supports and accelerates the processes of creating and providing an interactive learning environment where all participants have continuous access to diverse, high-quality educational resources and activities and work collaboratively.

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Spatial Vs Non-Spatial Determinants of Shopping Mall Sales: A Review Analysis

Dr. Sanjeev Tandon^[1]

ABSTRACT

This research reviews the existing literature on retail. Retailing is undergoing unprecedented change in developing economies. It is an integral part of the value chain in an organization, undergoing sea change in developing economies. Many organized retail formats such as convenience stores, departmental stores, specialty stores, super market, super stores, hyper markets and shopping malls are on a consistent rise. Shopping malls as a business entity have started penetrating down the line up to smaller towns. It is evident that the development of a shopping mall entails several strategic decisions from conception, localization, construction and finally to the operation stagesⁱ. Location has long been known to play a major role in the retailing process. The concept of shopping malls has evolved around various theories of urban spatial structures. The research done in last two decades on spatial & non-spatial determinants of retail sales reveal inter dependence on these factors. Certain empirical studies highlight spatial dependencies among both consumers and retailersⁱⁱ. Extensive review of literature provides insights of recent studies which impress upon the argument that non-spatial factors are as important to shopping mall patronage as spatial factors. The reasons describing the effect of non-spatial factors are to increase retailer differentiation factor in competitive retail markets. Secondly, these factors promote brand identity as retailers develop alternative non-store retail formats. They also eventually represent a source of shopping center intangible value. Thus, the strategies relating to mall space configuration and retail store location within the mall has gained prominence. Proper strategic planning relates to a higher consumer traffic levels that has become a prerequisite for the success of a retail store in a shopping mall.

Keywords: Spatial Factors, Non-Spatial Factors, Retail Mix, Anchor-Stores, Non-Anchor Stores, Market, Footfalls, Site, Location.

INTRODUCTION

Shopping malls have become an integral part of the economic and social fabric of India especially in metro's and big cities. A mall offers a more spatially convenient shopping environment. It segregates overall retail and non-retail functions. It stimulates conspicuous consumption similar to multi-story stores. This has been experienced by the customers of all types of classes. A mall include anchor department stores and anchor hypermarkets, along with non- anchor specialty retailersⁱⁱⁱ. Thus shopping mall has been rapidly increasing with various international brands. The leisure patterns being exhibited to fulfill the higher standard shopping space needs of the emerging classes.

Shopping mall operates under centralized ownership and management. Defining market area and trade area are an integral part of site selection process for a shopping mall^{iv}. The retail manager most of the time has been using the spatial distribution of customers and competitors to promote sales. Normally before selecting a retail location (& site selection), managers use retail gravitation notions to examine empirically the spatial distribution of retail sales. Mall planners in this fierceful competitive world consider layout of a mall as its central nervous system. Strategic placement of anchor and non-anchor retailers has to meet the consumers' multipurpose shopping needs. The planning of a

shopping mall include at least one full-line anchor retailer. Most of the time a mall has more than 300,000 square feet of non- anchor retail leasable area. Normally shopping malls are anchored by large department stores and include different non-anchor retailers arranged along covered pedestrian space^v.

In the modern era of innovations customers are highly influenced by global values. To meet & beat competition a retailer requires accurate spatial distribution information of customers and competitors. As large astrological bodies have great gravitational force, in the similar manner the retail gravity models draw an analogy with Newton's gravitational law to account for human behaviors related to shopping activities. The literature available on the effect of spatial factors on retail sales in a shopping mall has extensively analyzed various spatial and non-spatial factors^{vi}. It has also described the effect of non-spatial or intangible factors on retail patronage. Varieties of researches in the context of shopping malls have explained the existence of spatial inter-store externalities. The exhaustive studies are highlighting the anchor and non-anchor stores spatial factors. The location or size of anchor stores affect non-anchor store sales by creating a shopping spillover effect. The non-spatial inter-stores externalities such as retail image and mix, significantly affect non-anchor retail patronage.

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It's important to recognize the effect of non-spatial factors on retail sales^{vii}. Now a day's shopping malls try to differentiate from the competitors taking contingency of spatial and non-spatial factors. As the number and variety of shopping malls are increasing, locations are more comparable. Thus, it's imperative that shopping malls with unique brand characteristics are more likely to succeed. Secondly, non-spatial factors are gaining importance across the globe as retailers are more adopting non-store retail formats. E-retailing of established retail firms are more providing non-store based brand exposure^{viii}. This has helped to increase their retail performance. Lastly, these non-store factors attract attention as shopping mall owners seek sources of intangible value to reduce property taxes. This research article provides references on the determinants of retail sales through review of literature.

Retail sales are affected by spatial and non-spatial factors. Spatial factors are related to shopping mall's market, building and site while non-spatial factors describe the shopping mall's character and are usually described in terms of retail image and mix.

This research analysis through extensive review of literature try to understand the role of retail crowding with special reference to retail sales and consumers' behavior context. For this study, development of the proposed conceptual framework is based on literatures, such as density study by Stokols (1972)^{ix}. The store layout research by Hasty & Reardon (1996)^x and Levy & Weitz (2001)^{xi} has contributed to this study. Retail crowding models investigated by Eroglu & Harrell (1986)^{xii}, Harrell et al. (1980)^{xiii}, and Gilbert & Hutt (1976)^{xiv} have given enough insights about spatial and non-spatial parameters. The emotional responses typology by Mehrabian & Russell (1974)^{xv} has added to the review. The store layout patterns and promotional fixtures eg, aisle tables' display were integral part of the physical retail environment factors in the study.

The review has overall enhanced the extended version of shopping behavior. The review of literature also touched upon the nature of intra-centre spatial convenience and its attributes^{xvi}.

The research develops an accurate outcome clarifying material conditions (like walls, doorways and fixtures) magnifying the configuration of the subject space. A focus on graphic representation of the floor plan is required^{xvii}. The floor plan in the case of shopping mall requires focused approach regarding interior public areas from the mall entrances upto the entrances of the stores. The interior and exterior plans of buildings, site and neighborhoods along with the shape recognition process has to be applied in a shopping mall that decomposes the spatial configurations^{xviii}. These steps are broken down into various activities which enable setting elementary shapes. Thus it defines function as units of analysis. The approach shares justification to interpreting syntactic measures which help relating appropriate non- spatial parameters like pedestrian

movement. Defining the subject space within which people move describes the floor plan provided by mall management. The outcomes are usually field checked and redrawn to develop an accurate floor plan that represents actual material conditions. These elements change the spatial arrangement and consequent traffic movements in subtle but significant ways. To elaborate further the shape syntax typically uses three elementary units of analysis bounded spaces. Bounded spaces to start with clarify typical enclosable rooms with doors which usually correspond to functional use designations and inventory levels. Convex spaces provide details of deformed circles representing the largest unobstructed space^{xix}. The study describes axial lines with unbroken straight visual / walking lines to identify the extent of spatial continuity from the entrance^{xx}. The axial line relates to a person walking down in a shopping mall.

LITERATURE REVIEW

The literature review in this study provides details of density models. The physical environment, consumers' characteristics, retail crowding, emotional responses, and consumer shopping behaviors are simultaneously studied. The literature could highlight details sharing difference on the importance of distance among retailer and consumers (Mejia and Benjamin, 2002)^{xxi}. In certain researches Gautchi (1981)^{xxii} as well as Eppli and Shilling (1996)^{xxiii} suggested that the distance parameter may be significantly overstated in previous retail gravity research. The academic literature on shopping malls has evolved around various theories of urban spatial structure (Hotelling, 1929; Christaller, 1933; Losh, 1940; and Alonso, 1964)^{xxiv}. The strategies relating to space configuration and store location within shopping mall are studied (Vandell and Lane, 1987)^{xxv}; Pearson, 1991; Brueckner 1993; Roulac, 1990 and brown, 1999). Eroglu & Harell (1986)^{xxvi}, Harell et al. (1980)^{xxvii}, and Gilbert & Hutt (1976)^{xxviii} focused on the store layout patterns and promotional fixtures eg, aisle tables' display. It was included as physical retail environment factors in their study. The breadth of shopping behavior has been extended. The contribution of retail store crowding to shoppers' emotion has been examined. The conceptual framework in various studies included the variables of retail density, consumer factors, and perception of crowding, emotional responses, and behavioral outcomes. They are important elements in store interior design (Hasty & Reardon, 1996)^{xxix}. This may affect consumers' perception of crowding and emotions while shopping in the store. Spatial density in the study refers to the number of fixtures and configurations in retail settings. Levy and Weitz (2001) and Pegler (1998) suggested that grid layout, free flow layout, aisle tables, and cash registers as important physical environment factors that are related to consumers' shopping attitude. Each may affect shoppers' perception of crowding in different ways. Ceiling height and lighting are additional physical factors. For retail crowding, two dimensions of

crowding like, spatial crowding and human crowding were identified by Machleit et al. (1994)^{xxx}. Spatial crowding may be defined as the shopper's perception of restrictiveness of physical body movement within limited customer space while shopping at a store. These perceptions may, in turn, influence the shoppers' perception of overall feelings of crowding. The research elaborates perceptions of human crowding. It appears to rise from high density with number of shoppers simultaneously participating in browsing, transaction, and interaction activities on the selling floor (Machleit et al., 1994)^{xxxi}. The research review shares the conceptual framework which focuses on a shopper's characteristics like, shopping motives, time pressure, expectations of crowding, prior experiences of crowding, tolerance for crowding, gender and age. These may influence one's perception of retail crowding. Human density, the other dimension of retail crowding, refers to the number of shoppers in a store at a particular time. In a retail store, high human density can affect shoppers' perceived crowding and their satisfaction (Machleit et al., 2000). The image of a shopping mall may also impact upon sales level (Brown, 1992; Kirkup and Rafiq, 1994; and Anikeeff, 1996)^{xxxii}. It stems from consumers' perception of major occupants (Nevin and Houston, 1980^{xxxiii}), shopping mall size and configuration. IT also signifies the quality of goods and services offered. In this respect, image of a retail store is increasingly dependent on fashion (James, Durand and Dreves, 1976; Jain and Etgar, 1976; Mazursky and Jacoby, 1986; and Grewal, Krishnan, Baker and Borin, 1998^{xxxiv}). Similarly, the research review provides insights on the affects tenants in their negotiation for an optimal location (Mejia, Eppli and Benjamin, 2001^{xxxv}). Finally, the spatial auto correction issue was addressed by Carter and Haloupek (2000)^{xxxvi} on the grounds of previous work performed mainly on the residential market (Griffith, 1987^{xxxvii}; Pace and Guilley, 1998^{xxxviii}; Dubin, Pace and Thibodeau, 1999^{xxxix}). Mejia and Benjamin (2002)^{xl} throw light on non-spatial factors for example, retail image and mix. These are considered the most relevant determinants of shopping mall sales and rents. While a similar conclusion has been extracted from Hardin, Wolverton and Carr's (2002)^{xli} study on community centers. The researcher insisted on the need to include spatial information in rental market models.

A shopping mall can offer spatial convenience in two ways (Thompson, 1967)^{xlii}. The first is via its proximity to consumers. It further highlighted the fact that shorter the distance between the two, the more spatially convenient it is. Hence, in the research review, spatial convenience refers to the time and effort involved in travelling to a shopping mall. The second means for offering spatial convenience is by minimizing the time and effort involved in travelling within a shopping mall. The spatial convenience in the researches has been referred to as intra-centre spatial convenience. The research review explains four attributes of a mall that determine its intra-centre spatial convenience; its retail concentration,

its size, its layout and its store compatibility (Reimers and Clulow, 2009)^{xliii}.

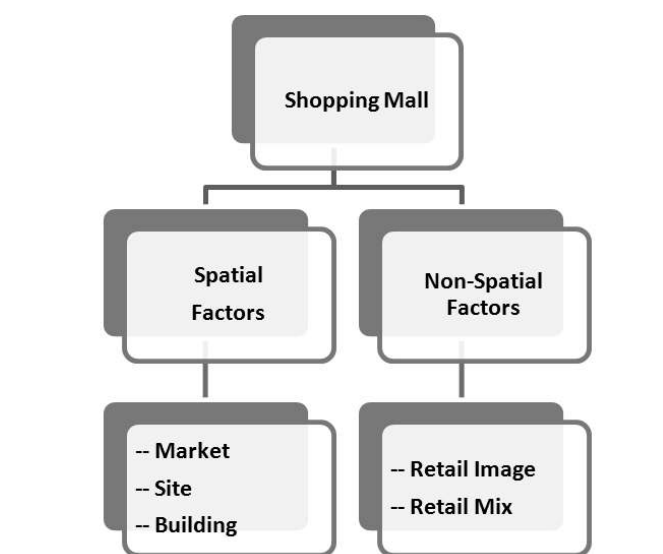
The review of the central place models proposed by Christaller (1935, 1966)^{xliv} and Losch (1954) provides an insight to the basic framework for normative theories of the spatial organization of retailing. It explains simple postulates regarding consumer buying behavior. These models attempt to logically deduce the expected spatial organization of retail firms. Both Christaller and Losch^{xlv} presented a number of conclusions regarding the location and spacing of different types of retail firms. The validity of many of the normative predictions of central place theory have been confirmed by a number of empirical studies. These research works further provides insights on retail organization in metropolitan as well as rural areas (Berry 1967; Berry and Barnum 1962)^{xlvi}.

Another research paradigm on spatial & Non-spatial determinant is space syntax methods. It's being used to understand shape recognition to generate a topological or theoretic formal model of spatial configuration. The plan of a shopping mall explains spatial configuration which signifies the space where people can walk. The concept of space syntax is used increasingly in anthropology and archeology (Ferguson, 1996)^{xlvii}. It has been used rigorously to analyze shopping malls (Brown, 1994; and Teklenburg, Aloys, Borgers and Timmermans, 1994)^{xlviii}.

Another significant research contribution is referring to "spatial distribution of shopping malls and analysis of their trade Areas in Istanbul" by Zhan Entekin, Vedia Dokmeci, Tuba Unlukar & Evren Ozus (2003)^{xlix}. The study investigates the spatial distribution of shopping malls with respect to population. The factors which effect the shopping mall location were explored by the researchers. It focused more on establishing relationship between the shopping mall space, income population and distance to the central business district (CBD) of the locations by using the regression analysis. It revealed that income was the only factor affecting the location of shopping malls. The results of the study fell within the concept of central place theory. Tripathi, P. Aditya, studied the "emerging trends in modern retail formats and customer shopping behavior in Indian scenario: a meta analysis and review". They studied the emerging trends in shopper's behavior by studying 30 shopkeepers from 6 malls operating in Delhi/ NCR. Tabak, Ozgen and Aykol (2005)^l worked on the research area with the topic, "high school girls shopping mall experiences, perceptions and expectations: A qualitative study". In this study the researchers had focused on the expectations, experiences and perceptions of high school girls to understand what attracts them to the malls. The researchers identified six themes as "duration timing companion, frequency, spending money the reasons for visiting the favorite shopping mall. The researchers also analyzed the participant's positive and negative perceptions and their expectations. Kuruvilla, Jose. Shelja. and Ganguli, J. (2008)^{li}, "mall development and

operations: an Indian perspective". The researchers studied the Indian perspective of shopping malls. Liu and Yuping (2007) found out the long term impact of loyalty programs on consumer purchase behaviour and loyalty. Hendrik, Meyer- Ohle (2006)^{li}, "Two Asian Malls: Urban Shopping Centre Development in Singapore and Japan". This study explored the factors underlying the development of urban shopping malls in Singapore and Tokyo. Brubaker (2004)^{lii} in his thesis, site selection criteria in community shopping centers: Implications for real estate developers defined market area as a "conglomeration of retail stores" and have explained various factors influencing the market, such as visibility, access, traffic, and parking. Shim, Soyeon and Eastick, Ann. Mary (2003)^{liiv}, studied the hierarchical influence of personal values on mall shopping attitude and behavior". Ford, Ken (2002)^{lv}, "shopping as it should be: welcome to the mall", the researcher had studied various facets of shoppers buying behavior with respect to retail formats. As the decisions on a shopping trip are recursive processes of shopping experiences, perception of crowding can influence shopper's satisfaction and future shopping choices. Huff (1966)^{lvi} review can provide insights about store loyalty as well. However, it has been observed that a very few retail centers as they currently stand are regarded as being well placed to serve the needs of an aging population (Myers and Lumbers, 2008)^{lvii}. There is also a dearth of research into how malls and strips compare in the actual provision of intra-centre spatial convenience which is henceforth referred to as a supply-side analysis. Yet in spite of its potential benefits, the need to incorporate a combined demand-side / supply-side analysis has been ignored in academic research.

EXHIBIT: 1 FACTORS THAT AFFECT SHOPPING MALL SALES PERFORMANCE



Ref exhibit: 1: Buyers and sellers available within a given geographic area forms a retail market. Retail sales are to define further are the resultant of the dispersion of these buyers and sellers. The researchers Betancourt and

Gautschi's (1988)^{lviii} with their theoretical analysis suggests, buyers first assess consumption benefits and costs and then make demand, making supply decisions that maximise utility. Income, population and demographic characteristics are the market (retail) demand factors that affect retail sales. Income and population better explains the variability of retail sales. In another study Feber (1958)^{lix} empirically analyzes aggregate and individual income as the variable of shopping mall sales. The researcher finds that wealthier areas have higher retail sales. Lillis and Hawkins (1974)^{lx} and Anderson and Kaminsky (1985)^{lxi} share their agreement with the study of Russell out-shopping argument. They analyze shopping data across small towns. The conclusion drawn is that some consumers travel outside their areas to purchase products that could otherwise be obtained closer to home. Certain exclusive research work done by Adamchak, Bloomquist, Bausman and Qureshi (1999)^{lxii} shared their argument that retail sales and aggregate income may not be necessarily be correlated. The fact which emerged is that analyses of population and retail sales are also turning ambiguous. The parameters like, total population, household size and population change could help explain the total retail sales, sales per household and retail employment change respectively. On the contrary a research done by Liu (1970)^{lxiii} further added that population density may not necessarily explain retail sales. When we talk of demographic characteristics the review of already existing literature has provided many inputs on the consumer buying behavior. Certain researches focus more on consumer characteristics, including population age, education, occupation and ethnicity which in totality determine consumer tastes and subsequently leading to retail patronage. Lachman and Brett (1996)^{lxiv} has a typical argument that younger consumers pay more attention to advertising and brands while older consumers shops differently. They are more knowledgeable about merchandise quality and less concerned with image. Liu (1970), in turn, studied on college going students. The outcome has been that the proportion of consumers with college education positively affects aggregate and per capita sales. On the similar kind of research, Evans, Christiansen and Gill (1996)^{lxv} survey the shopping behaviour of various types of consumers. They provided insights on the extent to which the behaviour of consumers follow social and family influences. When the case of patronizing shopping mall comes, this survey provides an insight about the female homemakers who are more sensitive to family influences. It is found that when the retail supply decisions are generally being analysed, the competition, agglomeration, prices, entry barriers, scale economies and distance factors are accounted for. The researchers who studied market supply factors affecting retail sales have shared variety of findings. Certain exclusive researches by Benjamin, Jud and Okoruwa (1993)^{lxvi}, Benjamin, Jud and Winkler (1995, 1998a, 1998b)^{lxvii} studied the retail competition and shared the findings that

retail space which is usually recognised as a proxy for competition, is a function of retail sales. Another research by Bresnahan and Reiss (1991)^{lxviii} shared their outcome of the research that retail profits vary with the number of competitors. Gabszewicz and Garella (1987)^{lxix}, Wilde (1982)^{lxx} in their research put forth their findings that retailers which are located in proximity to one another reduce consumer search costs. They explained that the relationship between retail competition and sales are bi-directional. Another exclusive work by Bresnahan and Reiss (1991) could study the affect of competition on retail profits. They found that retail profit is high with few retailers and it diminishes as the number of competitor's increases. Some of the cases of research have explained the findings where excess profits getting reduced, even if the competition remains unchanged. On the contrary in other researches the excess profits persist with the presence and availability of new competitors. The research review touched upon the benefit of scale economies which exclusively depend on the market's retail capacity. Ryan, Von Hohenbalken and West (1990)^{lxxi} in their research findings explained that retailers make decisions to enter a market in response to the changes in market capacity. The capacity is measured as the number of stores of the same type. Agglomeration concept is also being reviewed. The principle of minimum differentiation explains that competition between two sellers of a similar product leads to agglomeration at the shopping mall of a linear market. They suggested that the sales of similar stores increase as they locate closer to each other. In any case, agglomeration process is being recognized as the attempt made by similar retailers to reduce consumer search costs. Researches done on the subject has been exhaustive. Researchers Gabszewicz and Garella (1987)^{lxxii} studied on this phenomenon of agglomeration. They confirms this view point that by noting store clustering outweighs the uncertainty associated with consumer search. It creates a positive effect on sales.

It reveals that store proximity is beneficial when the combined set of retailers meet consumer needs that a store could not meet singly. According to the findings market equilibrium may not be attained, if the sellers are not far enough from each other. The study on retail externalities shares the fact that positive inter-store externalities, sometimes termed as demand externalities (Eppli and Benjamin 1994), are the positive effects generated from one or more tenant(s) to other tenant(s). This effect is realised without consent and compensation between the generator and receiver. These demand externalities have been recognized as significant agglomeration economies. To have an overall view on retailing it generates increased returns in shopping malls. However, the researchers explained agglomeration economies in shopping malls as more than just the spillover of customer drawing power of the anchor tenants. Under a wider definition of positive inter-store externalities, these inter-store effects should have a

broader content including compatibility and complementarily among tenants. The research outcomes explained about the enhancement of the shopping atmosphere by the mall management resulting into sales efforts, shopper circulation, the public services and facilities provided by the shopping mall. Consequently, one of the most critical objectives before a shopping mall management is to maximize these positive inter-store externalities. This has lead to achieve the highest profits and possible investment returns. Although, the research study has taken note of a well-managed shopping environment where the mall management put stress to the internalization processes that are accomplished through the distribution of obligations and resources among tenants. These parameters are like rents, service charges, leasing incentives, other non-monetary obligations and regulations. Consistent studies try to figure out the meaning of "strong" tenants and observe the internalizing process through empirical studies. The major objective in the empirical study revolves around the impact factor of "strong" tenant's base. The three characteristics highlighted through researches are: size of tenant, strength of chain stores and the top retailers in each retail/service categories.

Many researches on retail location theory bring in thrilling observations. Nelson (1958) was the first to illustrate the agglomeration of retail activities. The research is based on the theory of cumulative attraction and the principal of compatibility. In their research they suggested that retail store spatial affinities are based on three location theories. The research elaborates the theory of land use and land value, central place theory and the theory of tertiary activity. All the above theories relating to store clustering have given an insight concerning the agglomeration of retail stores. They are homogeneous or heterogeneous is not much stressed upon. The shopping mall management generates some kind of collective or inter-store advantages. These retail stores consequently increase transaction opportunities and store profits. The research reviews highlight the inter-store advantages generated by agglomeration process. The studies have also justified the possible ways to enhance or manage any positive inter-store effects. The resultant is achieving higher collective benefits for all stores. Within the shopping mall tenants are able to receive mutual benefits. The benefits are not only from other individual stores but, from the collective advantages of the whole shopping mall. Many researches for instance has been more focused on small tenants which altogether bank upon the strong customer drawing power generated by anchor stores. These benefits would not be available if they were scattered as single-freestanding stores. In a shopping mall by sharing the total costs of the public services and facilities, these tenants obtain the collective benefits of higher quantity and quality of services. These facilities given by small tenants are able to draw and serve more customers in a shopping mall. This synergy of retail

tenant-mix increases the interchange of customer footfall among stores and also raises operational performance. The turnover, profits and rental value of each tenant creates synergy. Positive inter-store externalities enhances favorable interactive effects generated from one store which spillover to other store(s). However, despite these positive inter-store externalities being only a “by-product” to the generators, they are essential resources for those stores receiving benefits and for the shopping mall at large. Consequently, maintaining and enhancing these positive inter-store externalities has become one of the most crucial tasks for shopping mall management.

OBJECTIVES AND CONTEXT OF RESEARCH

This study through a review of literature analysis develops the economic trade-off between spatial and non-spatial determinants of shopping mall sales. Location has long been known to play a major role in retail sales. Shopping mall site selection and retail store strategic placement has long been driven by primary market data linking income, wealth and location. Due to rising obesity levels, declining fitness levels and shopper lethargy, retail planners must give serious consideration to the physical demands malls are place on their patrons. The research encircles the following objectives:

- i. To identify the different spatial & non-spatial determinants with special reference to the shopping mall sales.
- ii. To investigate the role of retail crowding and its relationship with shopping mall sales.

RESEARCH ANALYSIS & FINDINGS THROUGH REVIEW OF RESEARCH

In analysis through review of literature six components of crowding emerged.

- i. Spatial crowding
- ii. Human crowding
- iii. Area spatial crowding
- iv. Consumer factors
- v. Perceived store crowding
- vi. Emotional responses
- vii. Consumer satisfaction
- viii. Behavioral outcomes

Retail density commonly explained as spatial density and human density are the antecedent of retail crowding. Spatial density refers to the number of fixtures and configurations in retail settings.

- i. Grid layout
- ii. Free-flow layout
- iii. Aisle tables
- iv. Cash registers

Are some of an important physical environment factors that are related to consumers' shopping attitude. Each may affect shoppers' perception of crowding in different ways. Ceiling height and lighting are being explained as additional physical factors in the literature review. They are important elements in store interior design that may affect consumers' perception of crowding and emotions, while the process of shopping is on, in the store. Human density, the other dimension of retail crowding, refers to the number of shoppers in a store at a particular time. In a retail store, high human density can affect shoppers' perceived crowding and their satisfaction. For retail crowding, two dimensions of retail crowding are very important:

- i. Spatial crowding
- ii. Human crowding

Perceptions of human crowding appear to arise from high density. This has lead to the number of shoppers simultaneously participating in browsing, transaction, and interaction activities on the selling floor.

The second component of the conceptual framework focuses on a shopper's characteristics like:

- i. Shopping motives
- ii. Time pressure
- iii. Expectations of crowding
- iv. Prior experiences of crowding
- v. Tolerance for crowding
- vi. Gender and age

These parameters on non-spatial determinants may influence one's perception of retail crowding. The effect of spatial density and human density on retail crowding varied depends on individual's perception and actual experience such as, tolerance of crowding. The third component is overall perceived store crowding. This has emerged from perceptions of the factors of spatial crowding and human crowding. The fourth component illustrates emotional responses being explained under conditions of crowding. According to previous studies, individual's non-verbal responses to retail environments were a major determinant of shopping behavior. The conceptual design included negative emotions being explained through various varied review of literature. There are studies which have immensely contributed towards positive emotions to the consumer retail shopping. The emotional response dimensions are elaborated as pleasure, arousal, and dominance. These characteristics have been used to predict approach and avoidance behaviors with respect to the retail environment. The final component elaborates the consumer shopping behavioral outcomes. This has been included to examine the behavioral factors explaining how shoppers adapt to the crowded retail environment and make their shopping decisions.

The research review analysis has highlighted this fact that anchor retailers enhance the sales of non-anchor retailers by attracting consumers to the shopping center.

This has created a shopping spillover effect. On the contrary the availability of non-anchor retailers, as a group in a shopping mall affect their own sales performance by locating close to one another. This has added value to the shopping experience by satisfying the consumers' multipurpose shopping needs. It is imperative that the shopping mall sales performance is measured in terms of non-anchor retail sales per square foot. Retail image in a shopping mall throw reflection in the form of customer footfall. Normally research review provides insights on anchor retailer non-spatial attributes. These attributes are measured in terms of anchor retail fashion image. On the contrary non-anchor retailer non-spatial attributes are measured in terms of non-anchor retail mix.

The research review brings in this fact that anchor retail fashion image and non-anchor retail-mix do not affect non-anchor retail sales per square foot. Furthermore, the correlation function in variety of researches elaborate that the more fashion-oriented anchor retail image is facilitating more heterogeneous non-anchor retail mix. This would lead to more non-anchor retail sales per square foot. The review analysis indicates that anchor retail fashion image and non-anchor retail mix significantly affect non- anchor retail sales per square foot. Typically on a mall survey its being found that the large department stores are serving as anchor stores. Varieties of non-anchor retailers arranged along covered pedestrian space are serving the spatial dimensions. The findings of literature analysis have described spatial attributes. These attributes are related to and focused more upon the shopping mall's market, site, and building. Various studies further laid down explanation of non-spatial attributes which describe the retailers' character. These characters are usually measured in terms of retail image and mix.

Retail image is the store's character in the shopper's mind. Retail mix is the combination of retailers resulting from a threshold decision process that indicates:

- i. recruitment of new retailers
- ii. the eviction of existing ones
- iii. the exchange of one retailer for another

Shopping mall inter-store externalities result from the concurrent presence of anchor and non-anchor retailers. Sales performance of anchor retailers affects non-anchor retail by attracting consumers to the shopping mall and thus, creating spillover effect. In the same way, non-anchor retailers, as a group, affect their own sales performance by creating an agglomeration effect. This allows them to satisfy the consumers' multipurpose shopping needs. Anchor and non-anchor inter-store externalities can be spatial. Spatial inter-store externalities are commonly recognized. Non-spatial inter-store externalities are also recognized but not easily measured. In the review analysis of researches, the limited empirical evidence could be evaluated with reference to the effect of attributes related to the anchor

retail image and non-anchor retail mix. This has impacted the shopping mall patronage.

The existence of inter-store externalities has been found unique to the operation of a shopping mall. As opposed to freestanding retail locations, shopping mall provides anchor and non-anchor retailers with the means to satisfy consumer demand more efficiently. Research review highlights that shopping malls with more or larger anchor retailers perform better than shopping malls with less or smaller anchor retailers. Shopping malls multiply the individual retailers' ability to attract consumers and, in the process, permit certain retailers to benefit from the presence of others. The concurrent presence of anchor and non-anchor retailers in a shopping mall is guaranteed through various contractual arrangements. Shopping mall owners first negotiate the presence of anchor retailers. Recognizing the anchor retailer's consumer drawing power, shopping mall owners commonly subsidize department stores by giving land, paying a lump sum that is used to build stores, or reducing the rental payments. Anchor stores strategic placement within a shopping mall is not uniform across the industry. But it's found that shopping mall owners usually attract department stores by offering direct or indirect benefits. In exchange for these benefits department stores stay in the shopping mall for relatively long terms. At the same time, shopping mall owners lease space to non-anchor retailers. Owners lease space to satisfy the non-anchor retailers' desire. The research findings show that the desire is to locate close to other retailers to attract more consumers. Non-anchor retail rents vary depending on the retailer merchandise category and the individual retailer. Sales performance of a shopping mall is typically measured in terms of non-anchor retail floor space productivity. Its namely in terms of non-anchor retail sales per square foot.

The literature analysis also highlighted the fact that the income is the only factor affecting the location of shopping malls. The size of the catchment area of the shopping mall from inner zone is larger than the peripheral ones. It's due to higher accessibility with alternative transportation systems and supporting functions in its surrounding areas. The review of literature highlights that the concept of central place theory was reinforced. The roles of market and infrastructure factors in shaping spatial patterns have been examined in variety of researches. The available researches on central place theory are greatly enhanced by geographical information system (GIS).

Certain research papers investigated the spatial distribution of shopping malls according to the concentric zones of the city. The relationship has been established between the shopping mall space and income, population and distance to the central business district (CBD), and trade area analysis of malls. Although characteristics of malls such as combining shoppertainment, shopping and eating already exist in the traditional shopping streets and climate control in the

historical covered bazaars. A shopping mall offers convenience when it minimizes the spatial, temporal and effort costs of shopping. The literature analysis highlights existing strategies for spatial convenience. This includes limiting the size of a shopping mall by controlling the entry of non-retail firms, creating a compact physical design, and creating compatible clusters of shops.

The research review throw light on the issue related to the size of a shopping mall, the recent academic interest has typically focused on the notion that “bigger is better”. This finding is in the context of a mall. In this regard, mall size has been found to have a positive impact on mall sales. However in the researches already done the potential negatives that stem from shopping at a large retail centre have been largely overlooked. The larger a shopping mall, the greater the potential distance the shopper must walk. Thereby impacting upon its intra-centre spatial convenience and subsequently the time and effort required to shop there. Increased size may not automatically equate to increased utility because most consumers will only be interested in that portion of the shopping mall that carries their desired product. As such, academic opinion is divided on the importance consumers assign to shopping mall size. The importance consumers assign to intra-centre spatial convenience only establishes its potential influence. A reason to choose one retail format over another, consumers must perceive spatial differences between them. This is being supported by the concept of offering superior value of merchandise over another.

Literature analysis highlights the fact that “lesser-known stores can free ride off the reputations of better-known stores. The research analysis discusses other factors such as age of mall, shopping mall size; number of units, lease terms, shopping mall location type, enclosure type and parking spaces defines the spatial and non-spatial determinants of shopping mall sales.

CONCLUSION

The research review analysis highlights that intra-centre spatial convenience was one of the three convenience factors rated as important by consumers. The mall further enhances intra-centre spatial convenience by organizing its stores into compatible clusters. Malls also minimize intra-centre spatial costs by segregating shopping and non-shopping functions. Thus, it becomes quite clear that the mall offers shoppers greater intra-centre spatial convenience. The review also explains the benefit in combining a demand-side and supply-side approach. Convenience has always influenced the varying fortunes of malls. Hence, the mall owners should always be open to the land consolidation, re-zoning and /or creating compatible clusters of stores to bridge the competitive gap. Attributes like a compact size and layout, and compatible clusters of stores are more in trend. Retail planners thus, must give full weightage to creating retail environments compatible with such human factors and conditions of strategic convenience. Offering intra-centre spatial convenience provides one such strategy for a mall to outshine the competitors.

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Risk Based Supervision

CA R S Raghavan^[1]

ABSTRACT

Under the Risk Based Supervision (RBS) mechanism, supervisor is expected to concentrate its efforts on ensuring that financial institutions use the process necessarily to identify as well as measure and control risk exposure. The RBS is expected to focus supervisory attention in accordance with the Risk Profile of the bank, in the structured Risk Profile Templates (RPT) to enable the bank to make a self-assessment of their Risk Profile. It is designed to ensure continuous monitoring and evaluation of Risk Profile of institutions through risk matrix. This may optimize the utilization of the supervisory resources of the RBI so as to minimize the impact of a crises situation in the financial system. Preparation of Risk Audit Matrix is based on the magnitude of risk and frequency of risk is as per the direction of RBI. Once the Risk Audit Matrix is compiled after the risk based internal audit, Branch Monitorable Action Plan (BMAP) will have to be chalked out for the branch so as to take timely corrective action and also to mitigate any significant risks that may have been identified during the supervisory process.

RISK BASED SUPERVISION

The Reserve Bank of India (RBI) has been mandated with the task of overseeing the banks in the performance of its duties enshrined u/s 22 of Banking Regulations Act 1949. The RBI has been constantly endeavouring to enhance the sophistication, efficiency and effectiveness of its supervisory mechanism over banks. The R B I has its supervisory mechanism by way of On-site inspection and Off-Site Monitoring and Supervision (OSMOS) on the basis of the audited financials and under CAMELS approach (CAMELS stand for Capital adequacy, Asset quality, Management aspects, Earnings capability, Liquidity management and System controls).

Under the Risk Based Supervision (RBS) mechanism, supervisor is expected to concentrate its efforts on ensuring that financial institutions use the process necessarily to identify as well as measure and control risk exposure. The RBS is expected to focus supervisory attention in accordance with the Risk Profile of the bank, in the structured Risk Profile Templates (RPT) to enable the bank to make a self-assessment of their Risk Profile. It is designed to ensure continuous monitoring and evaluation of Risk Profile of institutions through risk matrix. This may optimize the utilization of the supervisory resources of the RBI so as to minimize the impact of a crises situation in the financial system.

The RBS approach is an attempt to overcome the deficiencies in the traditional point-in-time, transaction-validation and value based supervisory system. It is forward looking enabling the supervisors to differentiate amongst banks to focus attention only on those having high-Risk Profile. The implementation of risk based auditing would imply that greater emphasis is placed on the internal auditor's role for mitigating risks. By focusing on effective risk management, the internal auditor would not only offer remedial measures for current trouble-

prone areas, but also anticipates problems that may play an active role and protecting the bank from risk hazards.

RBS may be defined as a process by which the risk facing each supervised entity is analysed and an appropriate supervisory strategy is developed. The system is formulated to ensure continuous monitoring and evaluation of Risk Profile of bank, in relation to business strategy and exposure through self-assessment process by means of risk matrix, followed by final assessment by RBI. The supervisory cycle would vary depending on the Risk Profile of each bank under the broad view of higher the risk, more the frequency for supervisory exercise.

Reduced supervisory scrutiny may include infrequent examination coupled with minimal or no transaction testing. In the bank specific Basel environment, the Risk-Focused Audit (RFA) would be an additional tool of assessment, as it would be the basic mechanism to judge performance in risk management area and to convince RBI that the bank has a risk management system that function effectively. The onus would be on the banks' part to convince that RFA system is sound and the off-site data is quite reliable. The RBI has structured the Risk Profile Templates to enable the bank to make a self-assessment of their risk. Apart from optimizing the utilization of the supervisory resources of the RBI, it may also minimize the impact of a crises situation in the financial system. The transaction based audit and supervision is slated to, slowly and steadily, graduate to risk focused audit. The institutional mechanism set up to attend to the requirements of RBS should be kept distinct and separate from the institutional mechanism attending to risk management functions.

The supervisory programme would be tailored to banks focusing on high-risk areas and specifying the need for further scrutiny in the identified problem areas.

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It would comprise off-site surveillance, structured meeting with the banks, commissioning of external audits and issuance of supervisory directions through Monitorable Action Points (**MAP**). The Risk Profile would highlight the strengths and weakness or vulnerabilities of the Bank so as to provide proper foundation to determine the procedures to be adopted during the inspection. The quarterly up-dated Risk Profile document of the Bank would be the subject matter for deliberations and discussions at the Board of Directors or suitable sub-committee of the Board. The implementation of risk based auditing would imply that greater emphasis is placed on the Internal Auditor's role for mitigating risks. By focusing on effective risk management, the internal auditor would not only offer remedial measures for current trouble-prone areas, but also anticipates problems to play an active role in protecting the bank from risk hazards.

RISK PROFILE TEMPLATE

It is mandatory for the banks to set up robust risk management architecture to take care of various risks that run through the functional activities. This would obviously necessitate the banks to carry out a fresh review of their current status of risk management architecture, by an expert team and initiate measures to bridge or fill up the gaps, steadily. As a prelude and part of moving towards switching over to RBS, the RBI had advised banks to carryout self-assessment of risk profiling exercise in a structured and comprehensive manner. In order to facilitate smooth transition to RBS as well as ensuring uniformity in the approach among banks, the RBI has come out with standardized Risk Profile Template (**RPT**). Compilation of Risk Profile in respect of each bank is the central plank of RBS. Banks are required to document their Risk Profile, containing various kinds of financial and non-financial risks faced by the Bank. **These are grouped under Business Risk, containing 5 risk parameters viz. Credit Risk, Market Risk other than Liquidity Risk, Liquidity Risk, Operational Risk & Group Risk and Control Risk containing 3 risk parameters viz. Organisation Risk, Management Risk & Compliance Risk, in all comprising 8 areas for capturing entire gamut of the banking activities.** Matters pertaining to Earnings and Capital are deliberated separately. Business Risk are those risks that are considered inherent in the activities undertaken by a bank irrespective of whether controls are in place, whereas Control Risks enable to arrive at proper judgment as to whether adequate controls are in place.

As RBI would structure their inspection programme based on the Risk Profile document, it is imperative that both the qualitative and quantitative details are correctly drawn as input to the R P T. **This Risk Profile document is required to be scrutinized by the Quality Assurance Team, consisting of Top and Senior Management executives representing major business as well as**

control areas of the Bank, constituted for the specific purpose for an independent evaluation of risk assessment of the bank.

The Risk Profile Template, a very comprehensive document on the functional aspects of banks, consists of three parts, viz Overview of the Bank, Summary Risk Profile and Risk Assessment areas. In respect of the identified 8 risk assessment areas, the RPT should conclude with assessment indicating the “**Level of risk**” in which the bank is in and the “**Direction of movement of risk**” for the next quarter. **The Level of Risk is indicated as Low, Moderate, Average & High and the Direction as Decreasing, Stable & Increasing.**

On summarizing the Risk Assessment Templates, under the umbrella of the Business Risks and Control Risks, encompassing all the 8 critical assessment areas, the issues requiring immediate corrective action with medium term objective are identified. This self-assessment exercise is perused by the RBI to enable them to chalk out plan for their supervisory action under the concept of Risk Based Supervision. **As the Risk Profile document is intended to be a both comprehensive and dynamic one, as a single document covering the entire business as well as control functions of the bank, all changes and developments within and outside the bank that may have an impact on the risk profile, are to be tracked on an on-going and continuous basis.**

On the happening of certain significant developments in between two exercises, revision / update is also undertaken, when the situation warrants. It may be pertinent to note that **while improvement in risk profile normally occur over a period of time, deterioration in the risk profile could occur suddenly or for that matter, in short span of time.** Hence it is desirable to review and update the Risk Profile document, at least, on a quarterly basis.

RISK FOCUSED INTERNAL AUDIT

In tune with the objectives of RBS, banks should put in place a system of Risk Focused Internal Audit (**R F I A**) so that inspecting officials would focus their attention accordingly. Internal Inspection / Audit Department in banks will have to be made independent from the internal control process and be given an appropriate standing within the bank so as to carry out its assignments with objectivity and impartiality. The internal audit is expected to capture the application and effectiveness of risk management procedures as well as risk assessment methodology, in a larger way, covering critical evaluation of the adequacy and effectiveness of the internal control systems.

The internal audit department should pay special attention to auditing various activities of the bank carried out across the country. The precise scope of work to be

covered by the internal audit team should be determined by each bank as the minimum control aspects over key process by which risks are identified, analysed and managed, should figure in the review report. Banks should move gradually from transaction based auditing to risk focused auditing by placing greater emphasis on the role of internal auditors and concurrent auditors.

The transaction testing has served the system till recently. But, it cannot keep pace with the continuous changes occurring in bank's risk profile. It also imposes unnecessary regulatory burden on banks and constraints them to devote precious resources to unproductive areas. In addition to the selective and random transaction based auditing, banks should move gradually towards risk focused auditing.

The one-size fits all approach of transaction testing has increasingly been found to be insufficient and untenable in a world where banks dramatically vary in terms of size, business mix & risk appetite

In order to focus attention on areas of greater risk to the bank, a location-wise and activity-wise risk assessment should be performed in advance of on-site risk based auditing. If there are material doubts and infirmities on the risk management systems, significant reliance should not be placed on the existing system and a more extensive series of tests need to be undertaken to ensure that the bank's exposure to risk from a given function or activity is accurately captured and monitored. It is obvious that high-risk areas need to be looked into more frequently than the low risk ones.

Risk Focused Internal Audit should ensure that policies and procedures of the bank are complied with besides looking into the adequacy of these policies and procedures to ensure risk-optimisation. By prioritizing risk areas, R F I A should capture the application and effectiveness of risk management procedure and risk assessment system. While ensuring Risk Focused Internal Audit at the branches, it may be appropriate to keep in mind, various aspects such as Branch Profile, volume of business, inspection rating, issues of serious concern covered in the report, etc. Branches are to be grouped into different categories. The risk profile of a branch should be compiled after taking into account Credit Risk, Market Risk and Operational Risk covering all the aspects.

Based on the above and other similar features, the Risk Profile of the branch is required to be structured to **assess the Risk Level of the Branch, (Minimal Risk, Low Risk, Moderate Risk, Average Risk, High Risk & Very High Risk) and in which direction (increase / stable / decrease) it is likely to move within a foreseeable time frame of maximum of six months**, unless corrective measures are initiated. Moreover, it may be noticed that Market Risk is best addressed at the bank's Central or Head Office. With regard to branch level functions, the concentration and focus should be on Credit Risk and Operational Risk.

Apart from the branches, the exercise should cover certain sensitive and functional departments like Treasury, Funds Transfer, International Banking, Inter-Branch Accounting, Retail Lending, etc. There should be an Audit Plan for carrying out RFIA drawn in such a manner that over a specified period of time even Minimal Risk category branches will be subjected to RFIA. Risk Audit Matrix will have to be prepared for each branch and audit exercise will have to be prioritized depending on the level and direction of the risk.

Under the RFIA approach, banks are expected to re-orient their prevailing system of inspection so as to evaluate adequacy and effectiveness of risk management systems and internal control procedures in the Bank, wherever it co-exist along RFIA. The RFIA would provide quality counsel to management on effectiveness of risk management and internal controls, including regulatory compliance.

The focus is to mitigate various risks, instead of inspection/audit serving as a full-scale transaction testing at the branches/offices of Bank.

RISK AUDIT MATRIX

The Risk Focused Internal Audit exercise is expected to throw the Branch Risk Profile, which, to start with, needs to be up-dated quarterly. Based on the risk profile of the branch / office, the Risk Profile Matrix is compiled and tabulated in respect of the areas of activity, as indicated below:

RISK AUDIT MATRIX

Risk Magnitude	Risk Frequency		
	Low High M Low F	Medium High M Medium F	High High M High F
High	Low F	Medium F	High F
Medium	Medium M Low F	Medium M Medium F	Medium M High F
Low	Low M Low F	Low M Medium F	Low M High F

Preparation of Risk Audit Matrix is based on the magnitude of risk and frequency of risk is as per the direction of RBI. Once the Risk Audit Matrix is compiled after the risk based internal audit, Branch Monitorable Action Plan (**BMAP**) will have to be chalked out for the branch so as to take timely corrective action and also to mitigate any significant risks that may have been identified during the supervisory process. The BMAP will, inter-alia, include directions to the branches / offices on the actions to be taken within a specified time schedule. The remedial action relates to the identified areas of high risk. The overall Risk Matrix of all the branches covered under RFIA is depicted in the following table.

		Control Risk			
		HIGH	FAIR	MODERATE	LOW
Business Risk	HIGH				
	FAIR				
	MODERATE				
	LOW				

Hitherto, **RBI was monitoring their supervisory exercise annually after the closure of year-end financials of the bank under OSMOS. While the on-site examination is done through the Annual Financial Inspection (AFI), Off-site monitoring is done through the system of DSB returns.** As the risk profile of each bank is different, now the monitoring needs would also differ based on the Risk Profile of each bank. Moving over to risk based supervision necessitates devising a policy for back-up and storage of various databases at regular intervals. This should specify details like frequency of backups, media to be used, off-site storage areas, departments and officials responsible for these actions. In respect of specific databases, Data Managers should be made responsible. As accuracy & timeliness of data are very important, banks would have to ensure the same through up-gradation of Management Information System & Information Technology System, after review of the present status. Therefore, banks have to initiate necessary measures to ensure that RBI data needs as well as reporting systems are streamlined.

The Prompt Corrective Action (**PCA**) framework contains mandatory and discretionary actions. Capital Adequacy Ratio is considered as a trigger point in the PCA framework. This coupled with Monitorable Action Plan would be a part of supervisory action. While banks with a better compliance record and risk management architecture & control system may be entitled with longer supervisory cycle as well as less supervisory intervention, banks which fail to show improvements in response to MAP may be subjected to more frequent supervisory scrutiny as well as higher supervisory intervention, consisting of directions, sanctions and levy of penalties.

Cost of Risk can never be correctly assessed, as Risk is very dynamic with an element of suspense always hanging over it. Calculating cost of risk may not be a worthy exercise, as it is akin to solving a non-existing problem and the problem can be gauged only when it surfaces and not otherwise. In this regard, bank may constitute a small Task Force Committee of Executives and entrust them with the responsibility to chalk out an action plan, implement and monitor the progress in adoption of risk management systems and risk focused audit and report to the Top Management and Board of Directors periodically.

The changeover to RBS will not, obviously, be at one go, but in a gradual manner as the inadequacies in the risk management system in the bank are removed and set right. Only a coordinated effort on the part of banks as well as RBI can result in a quick and smooth transition to RBS, which is nothing but proper blending of old practice of transaction testing and the new mechanism of assessing risks. Ideally speaking, an in-house Change Management Team is to be constituted and institutionalized to monitor the progress of implementation and suggest ways and means to overcome the obstacles. Banks are required to report a comprehensive quarterly report to RBI detailing down the

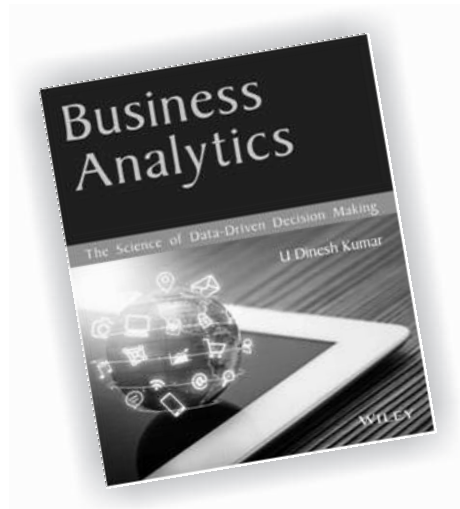
status of implementation to move towards Risk Based Supervision, in addition to the progress on implementation of ALM & Risk Management systems in the Bank in Basel framework.

As banking is considered to be the locomotive that drives the nation's economy and is a highly leveraged entity with lot of trust being placed on them by the general public, effectiveness of bank supervision is of public concern, the basic objectives being protection of depositors and safeguarding the integrity and soundness of the financial system. RBS has evolved out of the on-going supervisory pursuit to address the issues unanswered by the traditional method of supervision. Though, Cost of Risk and Cost of Banking Supervision are rather high due to very nature of operations of the bank spread to the nook and corner of the country, the cost of poor supervision may prove to be higher and riskier to the whole economy. Hence, it is imperative that Risk Based Supervision mechanism is put in place in the banks with all the vigour and earnestness.

BOOK REVIEW

Business Analytics

The Science of Data-Driven Decision Making



Author: Dr. Vidhyalakshmi

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“If you torture the data long enough, it will confess”. Ronald Coase

Analytics is being used as competitive advantage by many organizations. This book on “Business Analytics: The Science of Data-Driven Decision Making” by U. Dinesh Kumar, Professor and Chairperson, Decision Sciences and Information Systems area, IIM Bangalore is the primary resource for students and working professional who want to explore and excel the concepts of Business Analytics. The book provides holistic approach to analytics with theoretical explanations and practical demonstration with real time industry based examples. The book has coverage of various topics such as introduction to data, applications of big data, basic probability concepts, probability distributions, hypothesis testing, multiple linear regression, logistic regression, decision trees, forecasting, clustering, prescriptive analytics, stochastic models and Six Sigma. It consists of discussion of analytics applications in industries such as healthcare, manufacturing, banking and finance, marketing, e-Commerce, retail and services. Use of analytics for decision making and automation of processes, products and solutions driven by analytics makes it essential for business management.

The organization of the book is well planned that even students with no prior statistical knowledge can gain benefit from it. Each chapter has clearly defined chapter outline. The fun fact of the chapters highlights the insight derived from the correct and incorrect data. The book has 9 case studies which help readers to understand business concepts, using data science to derive actionable insights and deriving analytics problem from business context. The multiple choice questions of each chapter helps readers to test their understanding of the chapter concepts. The inline worked out exercises and the exercises at the end of each chapter enable readers to understand the concepts using different scenarios and are included to strengthen the conceptual understanding. The data sets used in this book are available online which will help readers to get hands on with the concepts.

The book has 17 chapters. Basic concepts of analytics, different types of analytics and its applications are discussed in Chapter 1. Introduction to data types, various scales, descriptive analytics and data visualization methods are explained in detail in Chapter 2. Concepts of probability are discussed in Chapter 3 which will help readers to have strong basics for further chapters. Chapters 4 to 8 deals with sampling techniques, hypothesis formulation, analysis of variance and correlation analysis. Simple and multiple linear regression followed by logistic regression is explained with various solved examples.

The case studies discussed in the book are of great practical importance. Some of the case studies discussed in this book are Pricing of Players in the Indian Premier League, HR Analytics at Scalenetworks, Markdown Optimization for an Indian Apparel Retailer, Managing Linen at Apollo Hospitals, Customer Analytics at Flipkart.com, Era of Quality at Akshaya Patra Foundation etc. on the whole learning business analytics from this book will clear basic concepts and also understand the application of analytics techniques in different business scenario. This will help organizations to shift from intuition based decision making to informed decision making.

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- The manuscript should not contain footnotes.
- References should be placed at the end of the manuscript in APA style.
- The list should mention only those sources cited in the text of the manuscript that they have not duplicated an article already published or accepted.
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AIMT conducts a two year full time residential MBA Course for the wards of army personnel in areas of Marketing, Finance, HR, IT and International Business. The Institute strives to impart value-based and character-centric management education to foster and refine perseverance, leadership, integrity and positive attitude skills which students imbibe right through their formative time spent in the Army Environment. The teaching pedagogy involves ingenious amalgamation of faculty-supervised case studies, simulations, role plays, management games etc. Students-driven activities include participation in forums like Marketing Club, Finance Club, HR Club, IT Club, Uddyami Club etc. to provide a non-formal forum for growth of dormant talents under the benign guidance of the faculty members.

Within a short span of its existence the institute has developed a strong and vibrant institute-industry interface with more than 1000 corporate linkages. Students from previous batches have found placements in leading Indian and MNCs like Capital IQ, Delloite, Nokia, Wipro, ICICI Bank, HDFC Bank, Nicholas Piramal, Idea Cellular, ITC, Bharti WalMart etc. Taking in account growing needs of industry, a large number of capsule courses like ERP, Business Intelligence, Investment and Security Analysis etc. are being conducted to enhance employability of students. The Institute has enlarged the scope of management training by conducting Management Development Programmes for 1000 Judicial officers, Workshops for corporate executives, ex-servicemen etc.





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