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**Theme:**  
**Towards Multi-dimensional Approach to Management**

*Guest Editor*

**Prashant Kulkarni**  
*Indus Business Academy, Bangalore*



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## Editorial Note



Research is a continuum. Vistas open up in abundance and there never ceases to be a surprise in the quest for exploration of the unknown. Moreover, often the known finds multifaceted applications in domains hitherto unexplored. Logically, sharing of information and conclusions gathered from research needs avenues for dissemination. For quite a few years now, Indus Business Academy (IBA) has been in the forefront of providing the platform for sharing research. These are the tangible outcomes of the annual conferences being held since 2008. Select papers presented at these conferences are compiled in the IBA Journal of Management and Leadership for discussion and dialogue as logical follow up of discourse reflecting the inherent institutional philosophy of 3D Model. The current edition follows this tradition.

In the first paper, N. Narayanan posits the emergence of polychotomous management in aid of pursuit of human self management, collaborative self management-process of self management of an individual collaborating with processes of self management of other individuals and reconciliation of dichotomies comprising the interdependent dimensions of various facets of the organization (implied self management of organizations). In the light of the above, the author enters into deep engagement of situating management education in the emergent polychotomous paradigm.

In his paper on Harmony in Supply Chain Management, A. Lakshminarasimha takes an interesting position. His line of thinking shifts away from the orthodox analysis and builds around the role of harmony among various nodes existing in the supply chain system. Moreover, he underscores this through the increased practice of Indian systems being an outcome of the fusion of Japanese and US supply chain systems possibly creating conflicts. He elaborates with an extensive survey to buttress the importance of harmony in supply chain management.

CEOs of the present corporate ecosystem are routinely confronted with multiple complexities. Their operational acumen coupled

with thought leadership can play a decisive role in seeking to navigate their organizations in the corridors of complexity burdened with uncertainty. Soni Srivatsava presents her findings through understanding of the insights that drive the decision making in the organizations. The findings potentially have several possibilities of application across organizations large and small.

Increased urbanization is perceived to lead to environmental degradation. In an interesting study, Prashant Kulkarni and Ananta Murthy test the standard IPAT proposition in examining the linkages between urbanization and environmental quality. Their results mirror the earlier findings of differentials in impact between the developed world and developing world. The difference lies in the different patterns of energy consumption between developed and developing geographic zones.

Neha Agrawal undertakes an examination of determinants of mergers and acquisitions. Using the case study of Vodafone and Hutch, she statistically examines the impact of customers, technological aspects, level of market development, synergies, revenues and future growth prospects on the merger. She concludes by asserting positive spill overs of the merger in the context of national economy.

In a sweeping review of interest rate derivatives markets, P. Panda and M.T.Raju analyse the state of the market. They feel the product being the child of Raghuram Rajan needs a strong interference from the regulatory authorities and too important to be left to the whims of the market. They seek to analyse the under performance of the Indian derivative market when their global counterparts are performing far better.

Despite increase in the participation of women in the workforce, their career path is not continuous. There are constant trade-offs between demands of the family and professional life. Rupashree Baral and Bharati Ravindran examine these dimensions in their piece. They call for increased proactive role on the part of organizations in building career path for re-entry of women into the workforce

Satish Kumar examines the increasing role of social media marketing and its implications on the organization. He delves into the case study of Ford India and its social media campaign for Ford Figo as shining example of how new digital era tools can be of vital importance in the domain of marketing.

**Prashant Kulkarni**

Guest Editor

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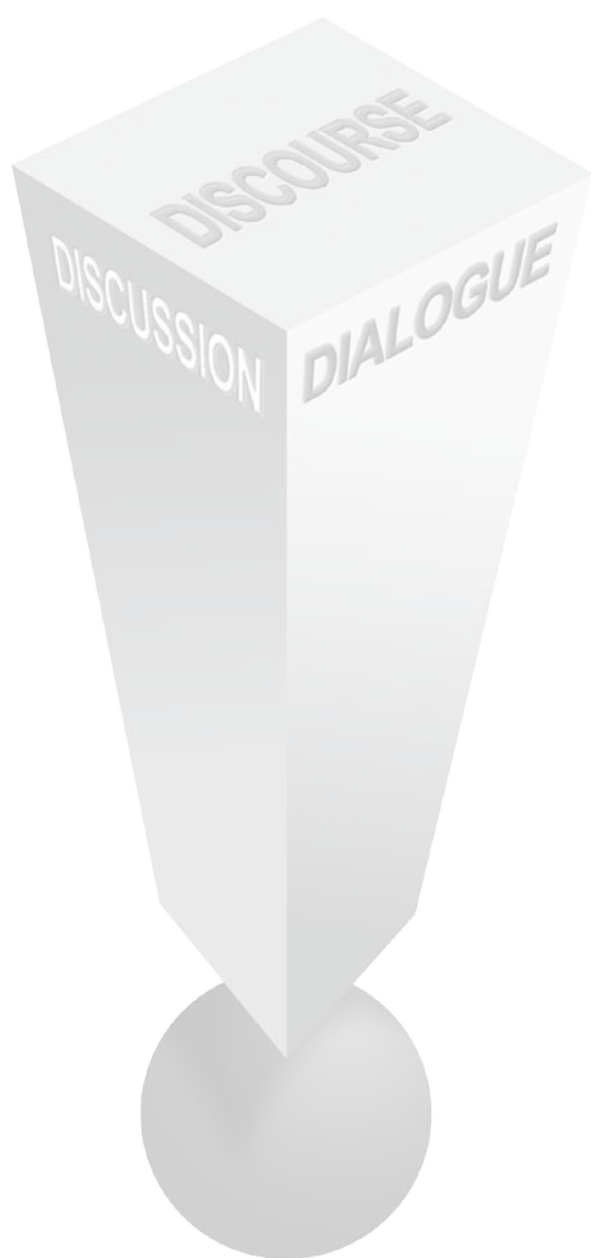
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# The Role of Management Education in the Context of the Emerging Practices and Theory of Polychotomous Management

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## Abstract

The growing global competitive environment today calls for never-ending pursuit of excellence in managing businesses for sheer survival, and for growth. As way to fullest possible utilization of all human potentials in the organization toward such a pursuit, winning organizations world-wide have been showing a trend of increasingly pursuing three vital ideals in their management processes:

1. 'Self-management' by all individuals, to the maximum possible extent, and a corresponding shift in emphasis from the traditional 'management of people', to the now increasingly accepted ideals of 'self-management' as the organization-wide practice,
2. A process of 'reconciliation of dichotomies' defining the numerous interdependent dimensions that comprises various business processes, which can happen best though a practice of 'self-management' in organizations, leading to fullest employment of the creative potentials inherent in all humans in the organization, and

3. Processes of collaboration by each human self-management process with other self-management processes in organizations, as way to realizing coordination across the different self-management processes, by either belonging, to, in terms of the 'purposes' served, and/or including, in terms of the 'means' employed

In addition to the above trend of emerging practices, a theory of 'Polychotomous Management' has also been emerging, as way to the pursuit of above ideals. This theory helps develop in every individuals capabilities for multidimensional thinking and action as way to cyclical processes of simultaneous, synergistic pursuit of improvement in the different process dimensions, on the 'micro' side (the 'means'), and the 'macro' side (the 'purposes'), in alternation.

Pursuit of the three above ideals, calling for new capabilities in all humans in organizations mean a need for extensive education and training for the people in organizations. Management education in the institutions of learning in management will also need to modify the content as well as the processes in their programs, to be able to meet this emerging need in the industry.

---

## 1. Introduction

'Management', as a term, may be seen to represent the *human way* to pursue and attain complex *human purposes*, through employment of the necessarily equally complex means that employ available resources. Such a view makes management one of the most fundamental of *human activities*. Yet, till the beginning of the twentieth century, management was not seen as a profession, or as a discipline of study in its own right. This was perhaps because management did not appear as a clearly recognizable and distinct human activity of value, or did not develop a distinct body of knowledge resting on accepted fundamental principles, as other accepted disciplines of study did. However, over the last one century, management as a profession has not only taken clear shape but is continuing to evolve considerably, and is also gradually being recognized as a discipline in its own right.

Management as a fledgling discipline has been drawing immensely on a number of other basic disciplines, especially from humanities, arts, mathematics, accounting, engineering and so on. As a result, its identity as a separate discipline tended to be unclear,

even as the profession itself had been evolving considerably in practice. There have been experiences of notable managerial success in terms of actual innovative management practices in the recent decades, especially as they were characterized by

1. Certain *trends* in practices and in the theory, in the form of a shift in emphasis from the traditional 'management of people', to the now increasingly more accepted approaches of 'self-management' as the organization-wide practice.
2. Application of certain forms of tacit knowledge that both acknowledges and faces up to the prevalent '*managerial dichotomies*' (Mair, 1996) to actively seek their reconciliations, and
3. Various forms of collaborative practices across different 'self-management' processes, as way to realizing their needed mutual coordination toward the overall organizational purposes.

These developments in practice have also been leading to the identification and development of the principles underlying them, and the ongoing emergence of a new

theory of 'Polychotomous Management' that seeks to be responsive to the myriad dichotomies surfacing, when faced with the principal managerial dichotomy inherent in the 'means-purpose' pursuit. The following pages seek to provide a review of these developments in practice, the consequent ongoing development of the new theory, and possible new directions for management education towards supporting these new management innovations.

### **The Increasing Emphasis of 'Self-Management'**

One of the first breaks away from the traditional emphasis of 'command and control' as managerial practices perhaps began with McGregor (1960)'s work, emphasizing the value of the proposed 'Theory Y' view of people at work as against the prevalent, what he termed the 'Theory X' view of people at work. Unlike the theory X view, which emphasized 'management of people' as way to realizing their work productively, the theory Y essentially viewed people as also being capable of 'self-management', given the necessary supportive environment. Managers and companies would typically be expected to evolve to a theory Y practice over a period of time. However, there were few converts to the theory Y practice in the traditional organizations. But, there were also a number of organizations, some new, were practices based on this new theory led to remarkable performances. One notable example of an organization run largely on principals of workplace democracy and self-management was Semco, a Brazilian Company (Semler, 1993). Sid Joyson (Joynson and Forrester, 1995), as a business consultant, explains how in six different companies he was able to guide their workers to manage themselves to realize uplifting, heroic performances.

As Japanese management practices, especially those employed in 'Lean Manufacturing', which placed a large amount of freedom and trust with workers, and assumed that workers had a strong loyalty and interest in team-working and the organization, gained

worldwide awareness since the late 1970's, many companies worldwide also began to place more reliance on the attitude and responsibilities of the workers, thus leading to even faster movement towards emphasizing 'self-management'. Many companies have emphasized de-layering in their organizations, leading to structures closer and closer to network structuring with matching emphasis on employee empowerment and self-management.

Very recently, Hamel (2011) relates the story of Morning Star, a leading food processor, which was created, in 1970, as a company in which all team members would ideally be.

- a) The company mission and the derived personal mission of every employee acting as one's boss in place of a manger,
- b) Truly empowerment people, and
- c) Realizing coordination through letting employee forge agreement in the form of a "Colleague Letter of Understanding" (CLOU) with their respective associates who are most affected by his or her work. The agreement can serve every employee as a process owner to firm up either his/her belonging to a higher level internal customer process, or his/her including a lower level internal supplier process.

It is obvious that empowering people is key to effectiveness at introducing self-management in organizations. And it is obvious that one crucial step to realizing effectiveness at self-management is to help develop employee capabilities for self-management of one's work in organization. The employee capabilities at self-management ultimately need to be in the form of the direct, tacit knowledge, in order to be effective. And this is what is emphasized most in the employee training process at Toyota Motors, arguably one of the most leading companies in the world in practicing employees' self-management. Spear (1999, 2004) enable training of the employees on the job, and right at their own workplace, directly in the tacit knowledge of self-management. This requires also having a large number of

trainers who themselves are first trained in training for self-management.

### **Employee Capability for Self-Management**

The rationale for the idea of self-management lies in the theory Y (McGregor, 1960) belief of the *potentials* every employee has for accepting and even seeking responsibility to contribute to the organization's performance. Managing one's own work, as opposed to just doing, is to face up to and respond to its rich multidimensionality in terms of its purpose-means dichotomous situation, as it actually exists in the organization. This process, and so the capability for it is essentially natural, but in traditional organizations where 'work' and 'managing work' have been clearly separated between the 'workers' and 'managers' respectively, the workers have never had opportunities to manage their own work, or develop such capabilities. Thus, in most organizations there will be a need to actually capitalize upon these natural potentials through appropriate employee training, in order to realize the required employee capabilities for self-management.

### **Polychotomous Management as Knowledge to Support Self-Management**

'Polychotomous management is, *as seen from the viewpoint of an individual or a work team or an organization*, essentially about squarely facing up to and dealing with the multiple dimensions of the work or the business process that are under his or her or their charge, and need to be managed. Each one of this dimension may be dichotomous, reflecting the organization's basic means-purpose dichotomy. The dichotomous, represent, in one sense, how the two sides *limit* each other, and this is what has often been seen and emphasized, but dichotomies also represent in another sense how each side can be *compatible* with, or even *compliment* the other by fulfilling the necessary precedence requirements of the other. It is the latter that is emphasized in the polychotomous management approach. When an individual has or conceptualized, as a polychotomous management model, a comprehensive and

rich framework truly representing a complex situation that he/she is faced with, he/she will find all the relevant things falling into place, and find a whole complex situation becoming truly clear in all its wholesomeness as well as detail. It will enable the individual develop and implement a truly responsive, complex solution, reflecting the reality of the rich understanding gained.

Self-management, as a polychotomous management process adopted by an individual may be seen as consisting of a number of simultaneous, mutually complimenting and synergizing cycles of processes, as follows:

1. 'Personal management of self process, involving managing oneself as a human being towards having a sense of self identity, self – knowledge, etc., and taking care of oneself, physically, mentally, spiritually, etc.
2. 'Self-management at work' process involving manage one's own work rather than of other people and their work (or individual human process – person / team / organization, etc.). This may be seen to consist of a 'precedence-prioritized' sequence of sub-processes, as follows:
  - a. The core self-management process at the individual's own level,
  - b. Human relationship building process: Every human self-management process can collaborate with other human self-management processes.
    - I. By first managing its own side of the human relationship that it seeks to build with the other human processes, and then
    - II. By either
      - Belonging to other human self-management process, in terms of the purposes served, and/or
      - Including other human self management processes, in terms of the means employed
3. Precedence-prioritization process for
  - a. Different kinds of 'business process

improvements' to be pursued by the organizations management processes

4. Management processes for the
  - a. Operations,
  - b. Business, and
  - c. Corporation (with multi-businesses)

Each of the above processes constituting polychotomous management may themselves also be multi-dimensional. All of the above processes together also contribute to the individual's 'internal management' 'transitional management' and 'external management'. In the employment of the polychotomous management approach for self-management, pursuit of the 'managing' process for the Operations, business or the corporation is the bull's eye to be aimed at, with the pursuits of reconciliations of all the other dichotomies either (a) serving to support the pursuits of the main pursuit of the managing the processes, or (b) are merely elaborations of the managing the processes.

1. The multiple dimensions governing his/her domain of interest, and the dominant overall sequence governing how these dimensions need attention in the pursuit of his/her overall objectives (Ferdows, and De Meyer, 1990).
2. Sub-dimensions that characterize each of these main dimensions.
3. The means-purpose dichotomies characterizing each of the sub-dimensions, the main dimensions, and the domain as a whole.

### **Implications of the Emerging 'Self-Management' Practices and the Discipline of 'Polychotomous Management' for 'Management Education'**

It is not unnatural that the approaches of 'self-management' and 'polychotomous management' have developed or are developing in practice in the industry first, ahead of theory development in educational institution, because it is, in general, natural for any new explicit knowledge to arise

essentially from new tacit knowledge- even in their unrefined and raw form-developing first. However it is desirable, once the initial development phase of new tacit knowledge in lead user organizations has run its course, that the educational institutes not only catch up, but even take a lead in codifying, further exploring, and refining of the new knowledge as explicit knowledge, in order to enable the industry practices to take the fullest advantage of the potentials that the new direction has to offer. The development of the explicit knowledge will also help in wider availability and use of the new knowledge, beyond the initial lead users, for the other potential industry users as well.

Thus, in order that the best advantage be taken of the new directions set by the emerging 'self-management' and the 'polychotomous management' practices, it is becoming imperative that institutions of management education begin both developing the required new theory or body of knowledge, and include them in their curricula of education. The process of management education can also take note of how these new management ways developed first as tacit knowledge in practice, to also develop later as explicit knowledge in theory, when looking at the way forward. Accordingly in organizing for experiential learning in the classroom, the educational institutions may develop their entire teaching/learning process in ways where they can schedule purposeful use of specific management cases, project work etc., to come ahead of the learning of relevant theory.

### **Conclusions**

Managing as a field of study and practice has variously been described as 'art' (based on mainly on viewing it as tacit knowledge) or 'science' (based on mainly viewing it as explicit knowledge). Taking a balanced view leads to accepting both views, allowing mutual complementation between them, even as, with the growing body of the explicit knowledge of polychotomous management as way to self-management, the discipline



of management may be gradually moving closer to science than ever before. Educational institutions may need to simultaneously take advantages of the status of the discipline 'as art', as well as 'as science' and excel, because of the reality of complementation between both the views. Students should ideally be able to learn by both experiencing it as art as 'self-management', and dissecting it as science, as a body of knowledge, as 'polychotomous management'. This is because, especially in this information age, theory or explicit knowledge by itself is no more at a premium, but the creation and use of new theory or explicit knowledge is, and the student should be enabled to learn this, for their life-long use.

## Reference

1. K. Ferdows, & A. De Meyer, (1990), Lasting Improvement in Manufacturing Performance: In Search of a New Theory, *Journal of Operation Management*, Vol.9, No.2, pp.168-184.
2. G. Hamel (2011), First, Let's Fire All the Managers, *Harvard Business Review*, December, 34-46.
3. S. Joynsson and A. Forrester (1995), Sid's Heros, Uplifting Business Performance and the Human Spirit: 30% Improvement in Productivity in 2 days, BBC Books.
4. A. Mair (1996), Honda Motors: A Paradoxical Approach to Growth, In: C. Baden-Fuller and M. Pitt (eds.), *Strategic International casebook*, London: Routledge, pp.435-61.
5. D. McGregor (1960) *The Human Side of Enterprise*, McGraw Hill; 1<sup>st</sup> edition.
6. William g. Oughi (1981) *Theory Z*, Avon.
7. R. Semler (1993), *Maverick! The Success Story Behind the World's Most Unusual Workplace*, London: Century/Random House.
8. S.J. Spear (1999), Decoding the DNA of the Toyota Production System, September-October, 97-106.
9. S.J. Spear (2004), Learning to Lead at Toyota, *Harvard Business Review*, may, 78-86.





# The Need for Harmony in Indian Supply Chains

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## Abstract

Supply Chain Management (SCM) is an essential element of business to improve Operational efficiency. SCM is required in societal settings also including medical missions, disaster relief and other major calamities and emergencies. Supply Chains in India have been benchmarking themselves against the West (Mainly USA) and Japan. The new trend in India is to try to mix and match the dimensions of the US supply chains with that of the Japanese Supply Chains and this would lead to a hybrid which will have no consideration for all the individuals in the supply chain. For these functions to be effectively executed harmony among the personnel involved in the operations across the supply chains is essential. Harmony could help in the smooth functioning of the supply chain. Harmony could result in improved mutual trust among the members in the supply chain. It can help improve communications and help establish a firm collaboration. The paper elaborates on some of the issues in the Indian Supply Chains, highlights role of harmony in the Supply Chain context, and suggests a modus operandi for Indian Supply Chains to weave Harmony into their interactions and thereby become more effective.

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## Introduction

Supply Chain Management (SCM) has emerged as one of the most powerful business improvement tools available today. Suppliers, manufacturers, distributors, retailers, and a number of service organizations have discovered that they must transform their operations or be beaten at the market place by competition that have more creative and aggressive supply networks (Poirier, 1999). Supply Chain Management (SCM) is a relatively new concept which involves the integration of all value adding components in the supply, manufacturing, and distribution processes, from the raw material extraction stage right through the various transformation value adding processes, to the distribution and end user consumption (Basnet et al., 2003). Globalization has brought in the effects of competition in a more focused way and to regain their competitive edge businesses will need to adopt Supply Chain Management.

Collaboration is said to be the driving force behind effective Supply Chain Management (Ellram and Cooper, 1990). Among many Managers, information technology is viewed as the answer to achieve integration; however, people are vital to supply chain success (McCarter M W, Fawcett S E, Magnan G M, (2005). In this context it is interesting to study the role of people in effective Supply Chain Management.

Harmony in Supply Chains is an evolving topic and its importance is only now being recognized. Cerasis, a Freight and Logistics company in its blog [cerasis.com](http://cerasis.com) emphasizes the importance of collaboration and more importantly harmony in a supply chain. Harmony, according to the blog, is not to be taken for granted, it is as important as outstanding customer service. "If you wish to live in harmony, you must respect every person and, in non-essential matters, yield!" (Vaswani Dada goodreads 2014). A detailed discussion on the importance of Harmony follows after the literature review.

## Literature Review

The information age and globalization are forcing companies to place a premium upon collaboration as a new source of competitive advantage (Dyer and Singh, 1998). Synchronization of planning (which basically implies CPFR – collaborative Planning, forecasting and replenishment), work flow coordination (automation of ongoing business activities) new business models (outsource vs insource) are precursors to Information integration (sharing relevant information) (Hugos 2011).

Companies that fail to exploit the potential for collaboration in the supply chain incur significant penalties. Additional inventory will replace information. In turbulent market situations the agility of individual firms is restricted since they cannot see from one end to another (Christopher et al., 2002).

McCarter et al. (2005), in their paper hypothesized that people issues must be considered along with IT when creating and attempting to sustain successful supply chain alliances. They contend that the number of management topics involving people and supply chains is vast and growing.

Hoover et al., 2001, explain in detail that innovation is unlikely to happen with arm's length relationships regulated by a rigid structure of contracts, purchasing orders, and terms of delivery. Co-evolution happens when it is assumed that the customer may want to operate in a number of different ways. Customers may have been kept at arm's length when information sharing and collaboration were high cost activities. As transaction costs continue to drop, the key to success is collaboration.

It has been postulated in the book by Bowersox et al. (2002) with respect to the context of the 21<sup>st</sup> Century Supply Chains, that successful supply chains need well defined jointly endorsed principles of collaboration. However, Bowersox et al. state that most companies do not have the framework

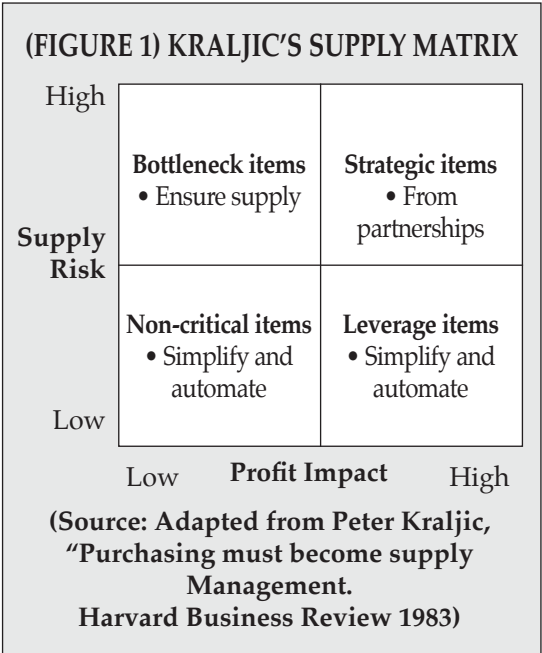


essential for long term success. As indicated by them, in a research conducted by Michigan State University, it was found that less than one in five firms engaged in collaborative arrangements had developed and approved policies to guide their managers in the structure and conduct of such arrangements. Further, none of the firms were willing to share cross-functional arrangements that extended beyond traditional performance contracts. Some of the contracts did contain performance incentives and risk mitigating agreements; however such agreements were not as much cooperative arrangements as they were statements of performance expectations. From this we may conclude that research needs to be carried out on collaboration in supply chains and the outcomes from such collaboration.

Vineet Nayar, 2010, indicates that Research at Gallup has proved that the 4Ps of Marketing- Product, Price, Promotion and placement (location) are extremely important for customers however, for a lasting relationship the 5<sup>th</sup> P viz People becomes adequately important for creating a lasting relationship. According to him Product, Placement, promotion and price cannot make up for lack of engagement. – execution, commitment, close relationship, between the peoples at the link in the supply chain.

Kraljic (Ref Kraljic Peter, 1983) suggests in his seminal work on Purchasing the following:

- For Strategic items form partnerships
  - For Bottleneck items ensure supply
  - For Leverage items exploit purchasing power and minimize cost
  - For non-critical items – simplify and automate.
- The definition of the various items are given by him in the matrix reproduced below.



(Reference: Kraljic Peter, 1983)

A study of this matrix would reveal that a high level of interpersonal interactions are required for Strategic items and Bottleneck items since the supply risk is high. It is for these items that harmony in dealing with the relevant supply chain partners becomes extremely important. For non-critical items and leverage items the interactions between partners in the supply chain can remain at a more formal level.

### Harmony in Supply Chains

When communication between supply chain partners in a business relationship, is very quick, apt and transparent, it results in harmony. When there is harmony the needs of all the members of the supply chain will be met. Typically a win-win relationship is formed when all parties respect each other and appreciate each other’s efforts. However, with changes internally, and changes in customer needs as well as changes in the environment, the partners in the supply chain must be ready to deal with all the changes as a team. This would bring in a harmonious supply chain.

Some of the points to be considered while bringing in harmony in a supply chain:

- The members of the supply chain should have an “open house” when other members of the supply chain can tour the members’ facilities and let key people ask questions. This process would bring in an improved level of relationship when ideas emerge from such interactions: “Oh can we help you with this” or “We did not know you did that”.

It may be appropriate here to refer to the following verse:

The original verse is contained in the *Mahopanishad* VI.71-73.

udārahṇpēśalācāraḥsarvācārānuvṛttimān |  
 antaḥ-saṅga-parityāgībahiḥ-sambhāravāniva |  
 antarvairāgyamādāyabahirāṣṇmukhēhitaḥ ||70||  
 ayāmbandhurayamñetigaṇanālaghucētasām |  
 udāracaritānāmtuvasudhaivakuṭumbakam ||71||  
 bhāvābhāva-vinirmuktaṁjārāmaraṇavarjitaṁ |  
 prāśānta-kalanārābhyaṁnīrāgaṁpadamāśraya ||72||  
 eṣābrāhmhīsthiṭiḥsvacchāniṣkāmāvigatāmayā |  
 ādāyaviharannēvaṁsaṁkaṭeṣunamuhyati ||73||

(*Mahopanishad*- VI.70-73)

*Discrimination saying “this one is a relative; this other one is a stranger” is for the mean-minded. For those who’re known as magnanimous, the entire world constitutes but a family.*

The above verse is also found V.3.37 of Panchatantra (3rd century BCE), in the in 1.3.71 of Hitopadesha - (12th century CE).

The statement is not just about peace and harmony among the societies in the world, but also about a truth that somehow the whole world has to live together like a family. We may define the supply chain as the family and this Vakhya can be used to emphasize the importance of a united family sharing information and building on capabilities.

- Effective communication is absolutely necessary both within the company and also with the partners in the supply chain. All the people should be on the same page. Obviously communication between the company and the 3PL service provider is also extremely important.(Bowman R, 1995).

The importance of communication and transparency is best illustrated with an example from personal experience: As the General Manager at QDOS FlexcircuitsSdnBhd in Penang I had to coordinate with Motorola the Principal customer and with our Principal supplier of raw material –Toray of Japan. QDOS manufactured Flexible PCBs for Motorola and Toray supplied us with the principal RM –flexible copper clad laminate film. Three months after I joined, Motorola wanted a 10% cost down so that they could meet the target prices prevailing in the market as set by Nokia. The copper clad laminate film made up upto 90% of cost of component. As such I invited Toray for a meeting when I requested a 10% minimum cost down. Toray would not budge. On the other hand they wanted to meet my customer’s representative (Motorola) to understand the whole requirement. I did agree for a meeting with Motorola and Toray and only after that did Toray work out a technically viable solution to bring down the cost which we eventually achieved in the next quarter. Imagine a similar situation in India. Will the manufacturer allow the supplier to meet the end customer? Could the result have been achieved without transparency and communication up and down the chain?

- Trust should be built up and solidified. Information Technology alone is not adequate serious efforts are required to build trust between supplier and buyer and this would be very difficult to achieve. An example used by Simchi Levi, 2011 may be very useful here: In January 2003, the Walt Disney Company sued Blockbuster, whom they accused of cheating Disney of over \$100 million under a revenue sharing agreement (NewYork Times, Jan 4<sup>th</sup>, 2003). A simple definition of trust being – confidence that the other party will do what it says it will do. Trust is essential for strategic alliances. (Burt D N et al 2003).

Developing co-operative relations with suppliers relying on trust is now a major

thrust area for good management practice (Humphrey J and Schmitz H, 1998). In the Indian context this has been described as follows: "Companies are reducing the number of their suppliers, sometimes to half the original number. To the few that remain, they are paying their undivided attention, helping them to improve their processes, reduce rejections and cost and so on. Where once the relationship with their suppliers was one of indifference or of unabashed exploitation, it is now one of close cooperation. 'Business partner' is the term that companies now use to describe their suppliers" (Business World, 14 June 1995 as quoted in Humphrey J and Schmitz H, 1998)

- With communications and trust well in place, the supply chain should look for solutions. The normal factors considered are QCDS meaning Quality, Cost, Delivery and Service. Issues can arise in one of the four parameters other than payment (due/ outstanding) and harmony would be the best tool to solve all the problems.

Chuck Intrieri, 2013, has noted that the following points may be kept in view while implementing Harmony in a Supply Chain

- Harmony will help in keeping the lines of communication open and this could help in overcoming minor irritants.
- Creates a team spirit and mentality. This creates a comradeship whereby everyone is happy. This helps the members of the supply chain feel supported.
- The harmonious supply chain helps build trust and mutual respect since the members of the chain understand the objective of a particular approach very well.
- Such a chain could create allies and referrals (increase networking) which builds a tremendous amount of confidence in business.
- Allows discussions to be solution focused instead of the playing the traditional game of blaming.

In conclusion it has been conclusively argued that Harmony is extremely beneficial in Supply Chains and even more so for strategic and bottleneck items. The paper delineates in detail the advantages to be gained by having a harmonious supply chain.

## References

- Basnet Chuda, Jim Corner, Joel Wisner and Keah Choon Tan, 2003, Bench Marking Supply Chain Management Practices in New Zealand, *Supply Chain management an International Journal*, pp.57-64.
- Bowersox D J, Closs D J, Cooper MB, (2002); *Supply Chain Logistics Management*, McGraw Hill, pp.8, 9, 11, 25, 26, 27, 175, 321, 539.
- Burt D N Dobler, D W and Starling S L – *World Class Supply Management - The key to Supply Chain Management*, Tata McGraw Hill Seventh Edition, 2003, pp.78-88, 198.
- Christopher Martin, Adrian Payne, David Ballantyne, (2002), *Relationship Marketing*, Butterworth Heinemann, pp.26, 27a, 133-134a, 135d.
- Chuck Intreiri, 2013, Blog on Harmony in Supply Chains.
- Dyer, J.H. and Singh H., (1998); "The relational view: cooperative strategy and sources of interorganisational competitive advantage", *Academy of Management Review*, Vol.23 No.4 pp.660-79.
- Ellram L M Cooper M C, (1990); "Supply Chain Management, partnerships and the shipper-third party relationship", *International Journal of Logistics Management* Vol.1, No.2, pp.1-10.
- Hoover William E., Eero Eloranta, Jan Holmstrom, Katti Huunen, (2001); *Managing the Demand – Supply chain*, John Wiley and Sons, pp.2-10, 87-125.
- Hugos M H, 2011, *Essentials of Supply Chain Management*, third Ed, John Wiley and Sons, pp.143-145.

- Humphrey J and Schmitz H, 1998, Trust and Inter-firm Relationships in Developing and Transition Economies, *The Journal of Development Studies*, Vol.34, No.4, April 1998, pp.32-61.
- Kraljic Peter, 1983, Purchasing must become Supply Management, *Harvard Business Review* September – October 1983.
- McCarter M W, Fawcett S E, Magnan G M, (2005), "The effect of people on the supply chain world: some overlooked issues", *Human Systems Management*, Vol.24, pp.197-208.
- Poirier, C C (1999), *Advanced Supply Chain Management, How to build a sustained Competitive Advantage*. San Fransisco, Berret- Koehler Publishers, Inc.
- Simchi Levi David et al, 2011 *Designing and Managing the Supply Chain*. TMH.
- Vaswani Dada <http://www.goodreads.com/quotes/758488-if-you-wish-to-live-in-harmony-you-must-respect>.
- Vineet Nayar, 2010 *Employees First, Customers second* Harvard Business School Publishing. Pp.100 and 101.





# Global CEO's Perspective on Capitalizing Concepts - An Insight

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## Abstract

Change is inevitable. Be it global, social, economic or environmental. The fast changing arena impose a greater challenge for today's decision-makers – the CEOs (Chief Executive Officers) – as they are confronted with multiple complexities. These complexities are the challenges; vulnerabilities and issues arising out of interdependence and interconnection of multiple dimensions- such as operational, political, physical and digital infrastructure. The threats and opportunities are not just faster and predictable but they are merging and influencing each other and thus creating unique situations that are complex in nature. Solutions to these complexities lay in terrific insights. They are indicative of thought leadership and other attributes like creativity besides operational acumen. The objective of this paper is to highlight what matters the most for the top-notch executives while they make crucial decisions and further lead their enterprises in pursuit towards a smarter planet. The study taken under consideration has been put forth in detail by a world leading consulting firm, IBM.

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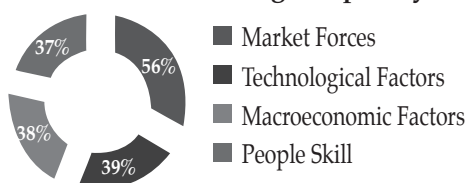
## Introduction

Till recently the major challenge faced by most of the CEO's was the "Change". They faced the challenge imposed by "The Change Gap". This gap comprised of the difference between the change expected and their ability to handle it. By now, they are more adapted with it. But the new challenge they have identified is the "Complexity Gap". For many organizations, this complexity mean that business models, ways of working and long-held assumptions are rapidly evaporating.

*Reason behind the complexities as associated by CEOs with the followings:*

1. Rapidly developing markets gain economic power: the economic power, innovations and consumer demands are increasing rapidly in developing countries where as very little is expected from the developed markets. (People skills and consumer relationships are given major focus).
2. The larger the government, heavier is the regulation: many feels that greater is the government involvement, stricter are the regulations as a result the government interface becomes a hindrance.
3. Continued globalization: Although few consider slowdown of the globalization due to local interests and requirements, but majority of the high-end decision makers believe continuous flow of global cash, trade across markets and exchange of skills and knowledge is a complexity factor.
4. Continuous rise of Technology as a key eternal factor besides regional differences that enhances the level of complexity: due to massive interconnections, broad-based natural and man-made systems' convergence like supply chain, cities, weather and natural disaster systems etc.

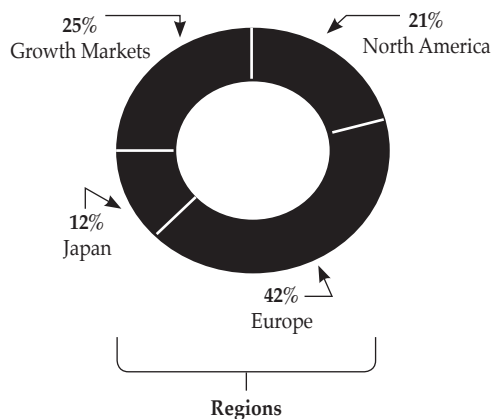
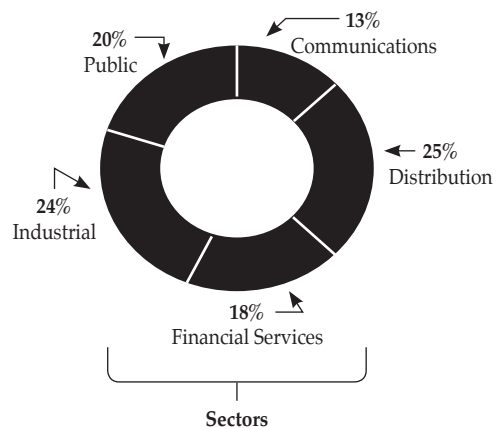
### Global CEOs perspective of external factors adding complexity



## Methodology

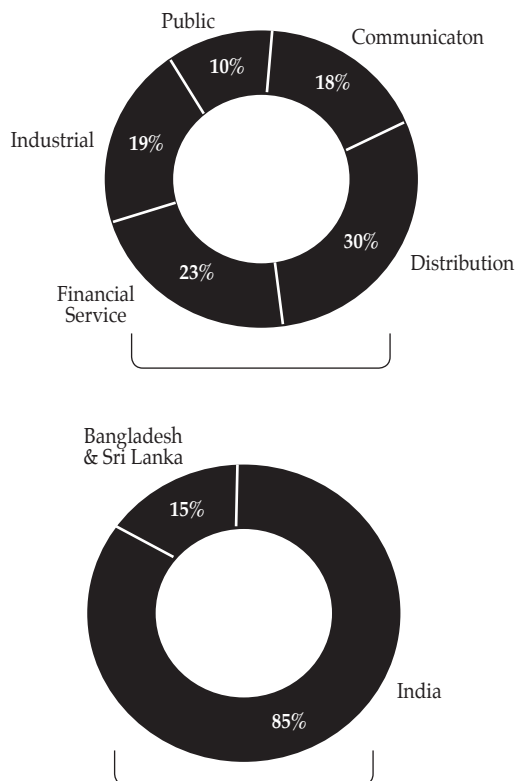
The study was conducted by this international institute across the world covering 1541 decision makers of senior most cadre including CEO, GMs and Senior Public Sector leaders encompassing 33 industries spread over 60 nations. Their research included the analysis of short term and long term operating margin performances over a period of 5 to 6 years. Hence they identified those organizations which had improving operating margins during short term and long term as well. These organizations were call 'Standouts'. Simultaneously, the same studies were conducted in India, Bangladesh and Srilanka (ISA) with 61 interviews, of which 85% CEOs and decision makers belonged to India.

*Across the Asia-Pacific- CEO evaluated:*





*CEOs Evaluation across India, Bangladesh and Sri Lanka:*



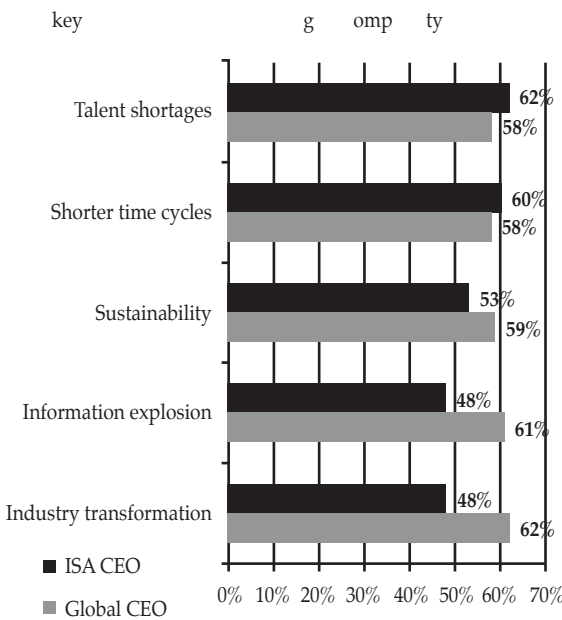
The second phase of the study covered the perspective of academia in which 3619 student from 100 universities around the World, were covered, of which 46% students were in various MBA programs, 3% were post doc, while the rest pursued various UG programs. Their responses were weighted against the GDP of the year. The objective of including the students perspective was based on the idea of being aware of future complexities they perceive ahead in career. Besides students have completely different unbound understanding of unlimited connectively, science and technology that may lead a collective ambition.

**Findings**

The Major External forces that added to the complexity were

- Market forces: include Volatility and Uncertainty. The Global CEOs consider

Industry Transformation, Information Explosion, Sustainability, Shorter Time cycles and Talent shortage as the key concerns for these, the ISA CEOs perceive Talent shortage, shorter time cycles and Sustainability as the key area of concern resulting in complexity.



- 54% of CEOs in ISA and China have mixed reactions about volatility and uncertainty while 73% the Global CEOs have deep concern about these w.r.t. high risks, less predictable deeper and faster cycles.
- 52% ISA CEOs don't perceive new economic environment as a factor of interconnected complexity and perceive the change not to be different structurally.
- The complexity gap at global level is 30% while that in ISA area 7%. Kindly note the complexity gap specifies difference between expected complexity and the extent to which CEOs feel prepared to manage complexity.

**Action Plan**

Among the organization understudy, those who had increasing operating margins over the years were identified as "STANDOUTS". These organizations have lower complexity gap. They are better prepared to handle

complexity and easily adapt to change. They belong to any industry and any part of the world. The Standouts had more astonishing performances during the economic crisis besides ever increasing operating margins on yearly basis for the following reasons:

- Embodying creative leadership- creativity is number one leadership quality. It refers to drive to bring about change in the organization to stay ahead of time and market by using various innovative tool and techniques/styles. It breaks the status quo of the industry and help to take actions despite uncertainty. Creativity is the basis for disruptive innovation and continuous re-invention. Besides there is a need for relationship between integrity and creativity with a global and customer oriented perspective. Standouts have found out ways to push past uncertainty. 20% had done so by bringing in creative change in the business models.
- Reinvesting customer relationships- 'Getting closer to the customer' is fundamental, understand and share global customers' needs and collaborate to provide for them. Use the extensive information to deliver unprecedented customer service.
- Building operating dexterity- Progressive CEOs refashion their organization by making them faster, more flexible and capable of using complexity to their advantage by simplifying the operations, integrating globally for cost reductions and following iterative strategies better and speedy decision makings.

**Action agenda:** The objective should be to bring the organization as a Standout one.

Thus CEOs or the Thought Leader with their teams, need to have the unique approach full of all these capabilities. A leader, here a CEO, must seize all the upside of the complexity and use to its benefit. He must be a thought leader with various capabilities that can be embodied by the organization. A thoughtful CEO's organization would:

1. Pursue iterative ongoing strategy.
2. Embrace ambiguity.
3. Focus on quick decision making despite uncertainty.
4. Leap ahead with new management and leadership styles and balanced communication approaches.
5. Have creative leaders that are more likely to change their organization and governance.

**And a creative leader would:**

1. Embrace ambiguity, i.e. they pursue despite uncertainty.
2. Rate innovation as crucial capability and pursue all new business model change at Enterprises, Industry and Revenue generation level.
3. Get closer to customer to understand the price preference and trade off as they always change.
4. Would know the innovative and preferred channel.
5. They would exploit the information explosion to better understand the customer and serve them.
6. Develop flexible organizations and processes that are ready to constantly adapt and course correct to handle uncertainty.
7. Locate and leverage global capabilities to shift in local markets.
8. Build operations, services and products to suit customers, organization and partners.
9. Exhibit operational dexterity and thus cost variability.

The Standouts managed by such CEOs and their teams, shows:

- Complexity management with 6% complexity gap. (CEOs are not afraid of complexities world over while ISA CEOs do give some preference to awareness to complexities.
- 14% more importance to getting closer to the customer than others.
- 82% preference for better understanding of customers' need and actively work with them.



- Understanding of customers' preference for price-value equation and preference for new and different channels to reach out to them.
- Greater focus on iterative on-going strategies to adjust with the rapid unknown change aligned in future.
- Extensive usage of information explosion to anticipate customer's need and model customer scenarios.
- Leveraging on complexity by giving customers a direct access to the everyone in the company and vice-versa.
- Greater flexibility and constant adaptability of the processes.
- Glocal approach to handle volatility.
- Operational dexterity through simplified processes/services/products for all stakeholders.

Thus, there is lot of scope for the CEO's operating in ISA region to bring about the change and create an organization for smarter planet.

### **Future Scope**

The study is a comparative one that has given CEOs from ISA another opportunity to find and understand the areas for modification / change for longer sustainability. This approach can further be used to create and develop such abilities in the prospective executive during their formative / grooming years.

### **Reference**

1. Capitalizing on complexity- Insights from the global chief Executive Officer Study, conducted by IBM Institute of Business Study, 2010.
2. "The Enterprise of the Future: Global CEO study", the IBM Institute of Business Value, /May 2008; <http://www.ibm.com//enterpriseofthefuture>
3. IMF World Economic Outlook Database, 2008, Actual regional GDP 2009, <http://www.imf.org/external/pubs/ft/weo2009/02/weodata/index.aspx>
4. Glocal from <http://en.wikipedia.org/wiki/glocal>
5. Recent trends- Agenda for CEOs of mining firms- converting complexity into opportunity- Harsh Kumar, Minerals and Metals Review, January 2012.





# Urbanization and Environment: Impact and Implications for Sustainable Development

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At the beginning of the twentieth century, 150 million people lived in urban settlements, representing less than ten per cent of the world's population. This increased twenty fold to nearly 3,000 million, i.e. almost half the world's population by the end of the century. The outcome is an increasing association of the cities with environmental degradation, poverty, dirt, traffic congestion and proliferation of slums rather than on the economic wealth they generate. With the support in terms of infrastructure and delivery of public services unable to keep pace with the rate of urbanization, the negative images of the city seem to stay. To add to the woes,

air, water and noise pollution have engulfed many cities of the developing world. Hence, a perception of increasing urbanization being a cause for environmental degradation seems well founded.

Central to this perception lays the data that seems to suggest the increasing incidence of urbanization and consequent demands on the resources it places upon is accompanied by deterioration in the environmental quality indicators. Therefore we take the well established method of analyzing the indicators of urbanization with respect to their impact on the environmental indicators. Needless to mention, the challenge lies

in defining the indicators. Therefore the current paper surveys the existing literature on the indicators representing the state of urbanization and environment. Following the identification of the indicators would be to design an appropriate methodology to test the impact. This gives the basis for the authors' inferences.

### Trends in Urbanization

At the beginning of the twentieth century, 150 million people lived in urban settlements, representing less than ten per cent of the world's population. By the end of the century, the world's urban population had increased twenty fold to nearly 3,000 million, i.e. almost half the world's population. Asia accounted for the lion's share (47.5 per cent) of the world's population in 'million' cities and had 143 of such 'million' cities. Asia also has 13 of the world's 23 mega-cities of at least 8 million inhabitants<sup>1</sup>.

Contrary to most predictions, there is a slow down in the population growth rates for many cities not only in developed world but also in the developing countries. The largest cities in these countries grew far more slowly in the 1980s than during the previous two decades. Besides, the mega cities harbored less than five per cent of the world's population in 1990. This indicates the large cities do not dominate the global demographic landscape to the extent predicted. Forecasts that cities such as Calcutta and Mexico City would grow to gigantic conglomerations of 30 to 40 million inhabitants now seem a distant nightmare.

Cities suffer from inadequate maintenance of urban infrastructure. This is to a good extent the result of lack of access to funds for the city governments. Further, the inflow of migrants into the city has accentuated the pressures on the infrastructure. Besides, it has also been a source of social conflicts within the city. Apart from this, we also see a deterioration of environmental standards in the country. The problem is accentuated in developing countries.

<sup>1</sup> UN Statistics

**Table 2: Environmental Fragility in Developing Countries**

Characteristics	Population (million)	Share of population on fragile lands (%)	Share of earth's land surface affected (%)
<b>Aridity</b>	<b>518</b>	<b>40</b>	<b>35</b>
Only	350		
Arid, slope	36		
Arid, poor soil	107		
Arid, slope, poor soil, forest	25		
<b>Slope</b>	<b>216</b>	<b>17</b>	<b>7</b>
Only	149		
Slope, poor soil	26		
Slope, forest	41		
<b>Poor soil</b>	<b>430</b>	<b>33</b>	<b>22</b>
Only	386		
Poor soil, forest	44		
<b>Forests (only)</b>	<b>130</b>	<b>10</b>	<b>7</b>
<b>Total</b>	<b>1294</b>	<b>100</b>	<b>74</b>
<i>Source: World Bank (2003).</i>			

Urbanization environmental nexus is viewed through IPAT prism. The impact on urbanization on environment (I) is a product of the population in urban agglomerations, affluence of the population and technological impact. The current study attempts to use this equation to measure the impact.

### Trends in Urbanization

At the beginning of the twentieth century, 150 million people lived in urban settlements, representing less than ten per cent of the world's population. By the end of the century, the world's urban population had increased twenty fold to nearly 3,000 million, i.e. almost half the world's population. Asia accounted for the lion's share (47.5 per cent) of the world's population in 'million' cities and had 143 of such 'million' cities. Asia also has 13 of

the world's 23 mega-cities of at least 8 million inhabitants<sup>2</sup>.

Three major trends dominate the discussion on urban landscape. First, contrary to most predictions, there is a slow down in the population growth rates for many cities not only in developed world but also in the developing countries. The largest cities in these countries grew far more slowly in the 1980s than during the previous two decades. Second, the mega cities harbored less than five per cent of the world's population in 1990. This indicates the large cities do not dominate the global demographic landscape to the extent predicted. Forecasts that cities such as Calcutta and Mexico City would grow to gigantic conglomerations of 30 to 40 million inhabitants now seem a distant reality<sup>3</sup>.

Third, the belief that larger cities may mean mismanagement and weak governance structure leading to chaos and instability does not seem to be the case. The links between urban change and economic, social, political and cultural change are not yet clear. Some large and rapidly growing cities have been well-managed and serviced, while some of the worst physical conditions have beset small towns.

Yet, the progressive urbanization of the globe is certain. It estimated that nearly half the world's population will be in urban areas within the next decade or two (Refer Exhibits I and II). As urbanization gathers momentum, it is unlikely that cities will remain isolated from the effects of globalization<sup>4</sup>. The world cities which are major players in national economies will become more visible and in all probability will drive the forces of globalization in their respective countries.

**Exhibit I: Urban Population as a Percentage of Total Population**

		2010*	2005	2000	1995	1990
Country						
Argentina	ARG	90.9	90.1	89.2	88.2	87
Australia	AUS	89.1	88.2	87.2	86.1	85.4
Bangladesh	BGD	27.3	25.1	23.2	21.5	19.8
Brazil	BRA	86.5	84.2	81.2	77.8	74.8
China	CHN	44.9	40.4	35.8	31.4	27.4
Egypt	EGY	43.7	42.8	42.5	42.8	43.5
France	FRA	77.8	76.7	75.8	74.9	74.1
Germany	DEU	75.6	75.2	75.1	75	73.4
India	IND	30.1	28.7	27.7	26.6	25.5
Indonesia	IDN	53.7	48.1	42	35.6	30.6
Japan	JPN	66.8	65.8	65.2	64.6	63.1
Korea, Rep	KOR	81.9	80.8	79.6	78.2	73.8
Pakistan	PAK	37	34.9	33.1	31.8	30.6
Russian Federation	RUS	72.6	73	73.4	73.4	73.4
South Africa	ZAF	61.7	59.3	56.9	54.5	52
Sri Lanka	LKA	15.1	15.1	15.7	16.4	17.2
Thailand	THA	34	32.3	31.1	30.3	29.4
United Kingdom	GBR	90.1	89.7	89.4	89	88.7
United States	USA	82.3	80.8	79.1	77.3	75.3
Viet Nam	VNM	28.8	26.4	24.3	22.2	20.3

Source: [www.earthtrends.wri.org](http://www.earthtrends.wri.org)

\*Projected figures

<sup>2</sup> World Development Indicators 2006, [devdata.worldbank.org/wdi2006](http://devdata.worldbank.org/wdi2006).

<sup>3</sup> World Development Indicators 2002.

<sup>4</sup> Globalization is a multifaceted process of drawing countries, cities and people ever closer together through increasing flows of goods, services, capital, technology and ideas.

## Exhibit II: Percentage of Population Residing in Urban Areas

World / Region	1980		1985		1990		2000		2010	
Country	%	in billion	%	in billion	%	in billion	%	in billion	%	in billion
World	39.4	1.752	41.2	1.997	43.1	2.282	47.6	2.962	52.8	3.779
More Developed Region	70.2	0.797	71.5	0.838	72.7	0.880	75.8	968	79.1	1.060
Less Devellped Region	28.8	0.954	31.5	1.159	34.3	1.401	40.3	1.993	46.8	2.717
Africa	27.3	0.130	29.6	0.164	32.0	0.205	37.6	0.322	44.2	0.493
Asia	26.2	0.678	28.6	0.813	31.2	0.974	37.1	1.369	43.8	1.845
Latin America	65.0	0.233	68.4	0.273	71.5	0.315	76.6	0.400	80.4	0.482

Source: World Urbanization Prospects- The 1992 Revision, United Nations. New Work, 1993.

### Data Results

We use the multiple regression model to capture the impact of urbanization on environment. Typically, the measure used is the IPAT model where I (Environmental impact) is a product of population (P), affluence levels (A) and technology (T).

Therefore the function can be written as

$$ESI = f((ALPTA, EP, HI TECH, FW))$$

The regression equation can be written as

$$ESI = \alpha + \beta_0 ALPTA + \beta_1 EP + \beta_2 HI TECH + \beta_3 FW + \text{Error}$$

The following proposition is tested both for developed and developing countries.

$H_0$ : There is no Influence of Economic indicators on ESI.

$H_1$ : There is an Influence of Economic indicators on ESI.

### Results of Regression Model

Results of Multiple Regression for ESI						
Summary Measures						
Multiple R	0.9328					
R-Square	0.8701					
Adj R-Square	0.7661					
StErr of Est	3.5877					
ANOVA Table						
Source	df	SS	MS	F	p-value	
Explained	4	430.9867	107.7467	8.3710	0.0193	
Unexplained	5	64.3573	12.8715			
Regression Coefficients						
	Coefficient	Std Err	t-value	p-value	Lower Limit	Upper Limit
Constant	51.5262	7.2647	7.0927	0.0009	32.8518	70.2006
ALPTA (x1)	0.0617	0.0762	0.8092	0.4552	-0.1343	0.2577
EP (x2)	0.0014	0.0004	3.3491	0.0203	0.0003	0.0025
Hi-Tech (x3)	-0.0618	0.1546	-0.3998	0.7058	-0.4591	0.3355
FW(Dummy x4)	-11.7092	4.4853	-2.6106	0.0476	-23.2391	-0.1793

Results of multiple regression for ESI						
Summary Measures						
Multiple R	0.2956					
R-Square	0.0874					
Adj R-Square	-0.1734					
StErr of Est	7.5118					
ANOVA Table						
Source	df	SS	MS	F	p-value	
Explained	4	75.6329	18.9082	0.3351	0.8498	
Unexplained	14	789.9839	56.4274			
Regression Coefficients						
	Coefficient	Std Err	t-value	p-value	Lower Limit	Upper Limit
Constant	48.9569	5.7769	8.4746	0.0000	36.5666	61.3472
ALPTA (x1)	-0.0680	0.0920	-0.7390	0.4721	-0.2654	0.1294
EP (x2)	0.0007	0.0010	0.7162	0.4857	-0.0014	0.0029
Hi-Tech (x3)	-0.0919	0.1378	-0.6671	0.5156	-0.3874	0.2036
FW (Dummy x4)	-2.9933	6.5957	-0.4538	0.6569	-17.1396	11.1530

## Inferences

While the developing world doesn't present a picture of an impact of urbanization on environment, we do detect an impact in the developed world. The impact is due to energy consumption. The data is limited by the lack of comprehensive index to measure the impact. Environmental Sustainability Index (ESI), now reformulated as Environmental Protection Index (EPI) is of recent vintage. Hence the lack of data does hinder the robustness of the results. However the model is consistent with the existing research on the subject and can serve as a broad framework for future studies.

## Annexures

### Annexure I

Country	Urban	Rural	Total	% age
Japan	84,810	43,157	127,967	66.3
Israel	6,349	579	6,928	91.6
Spain	34,079	10,200	44,279	77
France	47,541	14,106	61,647	77.1
Germany	60,727	21,873	82,599	73.5
Netherlands	13,356	3,063	16,419	81.3
Canada	26,394	6,482	32,876	80.3
United States of America	248,981	56,845	305,826	81.4
Australia	18,373	2,370	20,743	88.6
United Kingdom	54,620	6,149	60,769	89.9

### Annexure II

Country	Urban	Rural	Total	% age
Kenya	7,982	29,556	37,538	21.3
Egypt	32,193	43,305	75,498	42.6
Morocco	17,377	13,848	31,224	55.7
South Africa	29,266	19,310	48,577	60.2
China	561,251	767,379	1,328,630	42.2
Republic of South Korea	39,182	9,042	48,224	81.2
India	341,247	827,768	1,169,016	29.2
Pakistan	58,487	105,415	163,902	35.7
Indonesia	116,832	114,795	231,627	50.4
Syrian Arab Republic	10,726	9,202	19,929	53.8

Saudi Arabia	20,138	4,597	24,735	81.4
Turkey	51,101	23,776	74,877	68.2
United Arab Emirates	3,408	973	4,380	77.8
Russian Federation	103,778	38,721	142,499	72.8
Ukraine	31,365	14,841	46,205	67.9
Mexico	81,951	24,584	106,535	76.9
Argentina	36,298	3,233	39,531	91.8
Brazil	163,462	28,329	191,791	85.2

**Annexure III: Access to  
Drinking Water and Sanitation  
Developed Economy**

Improved Drinking Water Coverage						
	Total		Urban		Rural	
Developed Economy	1990	2008	1990	2008	1990	2008
Australia	100	100	100	100	100	100
Canada	100	100	100	100	99	99
France	100	100	100	100	100	100
Germany	100	100	100	100	100	100
Israel	100	100	100	100	100	100
Japan	100	100	100	100	100	100
Netherlands	100	100	100	100	100	100
Spain	100	100	100	100	100	100
United Kingdom	100	100	100	100	100	100
United States	99	99	100	100	94	94

**Developing Economy**

	Total		Urban		Rural	
Developing Countries	1990	2008	1990	2008	1990	2008
Algeria						
Argentina	94	97	97	98	72	80
Brazil	88	97	96	99	65	84
China	67	89	97	98	56	82
Egypt, Arab Rep.	90	99	96	100	86	98
India	72	88	90	96	66	84

Indonesia	71	80	92	89	62	71
Kenya	43	59	91	83	32	52
Korea, Rep.	...	98	97	100	...	88
Mexico	85	94	94	96	64	87
Morocco	74	81	94	98	55	60
Pakistan	86	90	96	95	81	87
Russian Federation	93	96	98	98	81	89
Saudi Arabia	89	...	97	97	63	...
South Africa	83	91	98	99	66	78
Turkey	85	99	94	100	73	96
Ukraine	...	98	99	98	...	97

**Annexure IV - Sanitation Coverage**

Improved Sanitation Coverage						
	Total		Urban		Rural	
Developed Economy	1990	2008	1990	2008	1990	2008
Australia	100	100	100	100	100	100
Canada	100	100	100	100	99	99
France	100	100	100	100	100	100
Germany	100	100	100	100	100	100
Israel	100	100	100	100	100	100
Japan	100	100	100	100	100	100
Netherlands	100	100	100	100	100	100
Spain	100	100	100	100	100	100
United Kingdom	100	100	100	100	100	100
United States	100	100	100	100	99	99
	Total		Urban		Rural	
Developing countries	1990	2008	1990	2008	1990	2008
Argentina	90	90	93	91	73	77
Brazil	69	80	81	87	35	37
China	41	55	48	58	38	52
Egypt, Arab Rep.	72	94	91	97	57	92
India	18	31	49	54	7	21
Indonesia	33	52	58	67	22	36

Kenya	26	31	24	27	27	32
Korea, Rep.	100	100	100	100	100	100
Mexico	66	85	80	90	30	68
Morocco	53	69	81	83	27	52
Pakistan	28	45	73	72	8	29
Russian Federation	87	87	93	93	70	70
Saudi Arabia		100	100			
South Africa	69	77	80	84	58	65
Turkey	97	97	98	98	95	95
Ukraine	95	95	97	97	91	90







# A Critical Evaluation of Determinants of Mergers and Acquisitions with Special Reference to Vodafone with Hutch

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## Introduction

Merger implies a situation where two or more companies join together and work as a single company to improve the efficiency and to avoid cut throat competition. The survivor acquires the assets as well as liabilities of the merged company or companies. Merger of two or more companies may be through absorption or consolidation. When two or more companies merge into an existing company, it is known as merger through absorption. On the other hand when two or more companies join together and form a new company, it is known as merger through consolidation. There are certain advantages of mergers like: Economies of scale, Tax benefits, Financial resources, Entry in global markets, Growth

and expansion, Helps to face competition, Increase in market share, Increases goodwill, Research and development (R&D).

Similarly Acquisitions in a general sense are acquiring the ownership in property. Acquisitions or takes over refers to acquire a company i.e., when a company or firms purchases or takeover another company or firm, it is known as acquisitions or takeover. In other words, acquisitions is an act which is related to acquire the control over the company i.e., get the ownership of another company or firm. This means that even after takeover although there is change in management of both the firms retain their separate legal entity. It is not necessary that acquisitions entail full control. Acquisitions or takeover may be

through acquiring assets or liabilities of the target company. Besides, this a company may be acquired by other contractual agreement, such as voting right or board right or taking important decisions. There are certain advantages of acquisitions like: Reaching New Markets, Increased Revenues, Merging of Cultures etc. the relevant details are being discussed in the following sections.

### **Mergers and Acquisitions Process**

Following are some of the important steps in the M&A process:

- Business Valuation
- Proposal Phase
- Planning Exit
- Structuring Business Deal
- Stage of Integration
- Operating the Venture

### **Vodafone Company – An Introduction**

Vodafone has come a long way since making the first ever mobile call in the UK on 1 January 1985. Today, more than 403 million customers around the world choose us to look after their communications needs. In last 25 years, a small mobile operator in Newbury has grown into a global business and the seventh most valuable brand in the world. They now operate in more than 30 countries and partner with networks in over 50 more. In an increasingly connected world just mobile in many markets, more customers look to Vodafone for great value in their fixed line and broadband services too.

### **Hutchison Telecommunications International Limited**

Hutchison Telecommunications International Limited (Hutchison Telecom) is a multinational telecommunications Services Company headquartered in Hong Kong and a wholly owned subsidiary of Hutchison Whampoa. It operates GSM mobile telecommunications services in Sri Lanka and Vietnam, and CDMA services in Indonesia and Thailand, under brands including Hutch, 3 and Vietna mobile. Hutchison Telecom was formerly a listed company with a primary listing on the Hong Kong Stock Exchange (stock code: SEHK: 2332) and American Depositary Shares

quoted on the New York Stock Exchange. In May 2010, Hutchison Telecom became a fully owned subsidiary of the Hong Kong-based Hutchison Whampoa Group and its shares were delisted.

### **Vodafone and Hutch Merger**

Vodafone and Essar have reached an agreement under which they continue the growth of Hutchison Essar Limited (Hutchison Essar), one of India's leading mobile operators. This follows Vodafone's announcement on 11 February 2007 that it had agreed to acquire Hutchison Telecommunications International Limited's (HTIL) controlling interest in Hutchison Essar, in which Essar is, and will continue to be, a 33% shareholder. The partners have agreed that Hutchison Essar will be renamed Vodafone Essar and, in due course, that the business will market its products and services under the Vodafone brand.

Under the terms of the partnership, Vodafone will have operational control of Vodafone Essar, and Essar will have rights consistent with its shareholding, including proportionate Board representation. Ravi Ruia appointed by Vodafone as Chairman of Vodafone Essar, and Arun Sarin appointed by Essar as Vice Chairman. Essar will have certain liquidity rights including, between the third and fourth anniversaries of completion, and subject to regulatory requirements, an option to sell its 33% shareholding in Vodafone Essar to Vodafone for US\$5 billion or an option to sell between US\$1 billion and US\$5 billion worth of Vodafone Essar shares to Vodafone at an independently appraised fair market trading value.

### **Literature Review**

The literature review reveals that several papers have been published on Mergers and Acquisitions. Following are some of the papers have been studied to highlight and summarize the following reports.

**Narayan and Soni (2003)** studied the objective to identify the presence of any trend of Mergers and Acquisitions of the Indian industry on

post – liberalization period and to examine the impact of it on performance of corporate enterprises. **Rossi and Volpin (2004)** observed that differences in laws and regulation across the country act as a major determinant of Mergers and Acquisition. **Voigt and Stahl (2005)** provided a review of theoretical perspectives and empirical research on the role of culture in Mergers and Acquisitions [M&A], with a particular focus on the performance implications of cultural differences in M&A and therefore conclude, that the relationship between cultural differences and M&A performance is more complex and difficult to analysis. **Rottig (2007)** identified that the key difficulties that may cause the high failure rates of cross-border mergers and acquisitions, and develops a typology of strategies to facilitate the management of these problems. **Brandao et al (2008)** reported that there is a group of mode-encompassing variables which are common to all entry modes (such as economy's size, openness, governance and human development index) and mode-specific variables. Investor's protection and cultural variables seem to play an important role in the explanation of M&A and greenfields, respectively. **Duvenage (2011)** identified that the success of the acquisitions is not measured solely through market reaction or ability of the firm to integrate the target, but also the ability of the acquiring firms to conclude the transaction at a price that does not fully erode the net present value benefits of the transaction. **Liao et al (2012)** investigated that the vast majority of cross-border mergers involve private firms outside of the United States. They analyse the study through a sample of 56,978 cross-border mergers between 1990 and 2007 and observed that geography, the quality of accounting disclosure, and bilateral trade increase the likelihood of mergers between two countries to evaluate the determinants of merger and acquisition (M&A) activity in Australian credit unions over the period 1992/93 to 1994/95. **Wilson (2013)** identified that share prices, market size, rate of return, macroeconomic stability and financial openness play a key

role in determination of location of M&A activity. However, exchange rates do not seem to significantly affect the number of M&A activity in the main regressions. The results from this study point to the important contribution of financial markets, in particular stock markets in facilitating M&A activity in South Africa.

### Objectives of the Study

- To work out the determinants of Mergers and Acquisitions.
- To critically evaluate all the determinants with reference to Mergers and Acquisitions (Telecom Sector) of last ten years.

### Research Methodology

The research methodology adopted for the study is - Telecom sector is the universe, sample: Hutch and Vodafone Acquisition, sampling technique: convenient sampling, sample period: 2003-2013, research design is descriptive and analytical. Data collection has been done through secondary Data i.e. Company's site & annual reports of the companies, tools used: Trend analysis.

Following are the determinants on which study has been carried out:

### Determinants of Mergers and Acquisitions

- A) Customers
- B) Level of Market Development
- C) Technological Aspects
- D) Future Growth Prospects
- E) Obtain Synergy
- F) Increased Revenue

### Data Analysis – Vodafone and Hutch Merger

In the study, determinants are identified and had been critically analyzed.

#### A) Customers (MILLION)

YEAR							
2006	2007	2008	2009	2010	2011	2012	2013
Number of Customers							
10	28	44.1	85.8	113.77	146.84	147.48	160

**TABLE 1** (Source: Vodafoneindia – Wikipedia)

The above data can be analyzed with the help of trend analysis which is shown below-

YEAR	No. of customers (Y)	Time deviations (X) from 2009.5 and multiplied by 2	X <sup>2</sup>	XY	Trend value $Y_c = a + bX$
2006	10	-7	49	-70	$91.99 + 11.81 \times (-7) = 9.32$
2007	28	-5	25	-140	$91.99 + 11.81 \times (-5) = 32.94$
2008	44.1	-3	9	-132.3	$91.99 + 11.81 \times (-3) = 56.56$
2009	85.8	-1	1	-85.8	$91.99 + 11.81 \times (-1) = 80.18$
2010	113.77	+1	1	113.77	$91.99 + 11.81 \times 1 = 103.8$
2011	146.84	+3	9	440.52	$91.99 + 11.81 \times 3 = 127.42$
2012	147.48	+5	25	737.4	$91.99 + 11.81 \times 5 = 151.04$
2013	160	+7	49	1120	$91.99 + 11.81 \times 7 = 174.66$
N = 8	$\sum Y = 735.99$	$\sum X = 0$	$\sum X^2 = 168$	$\sum XY = 1983.59$	

**TABLE 2**

$$a = \sum Y / N$$

$$= 735.99 / 8 = 91.99$$

$$b = \sum XY / \sum X^2$$

$$= 1983.59 / 168 = 11.807$$

$$Y_c = 91.99 + 11.81x$$

Estimated customers for the following future period can be analysed - (in million)

$$Y_{2014} = 91.99 + 11.81 \times 9 = 198.28$$

$$Y_{2015} = 91.99 + 11.81 \times 11 = 221.9$$

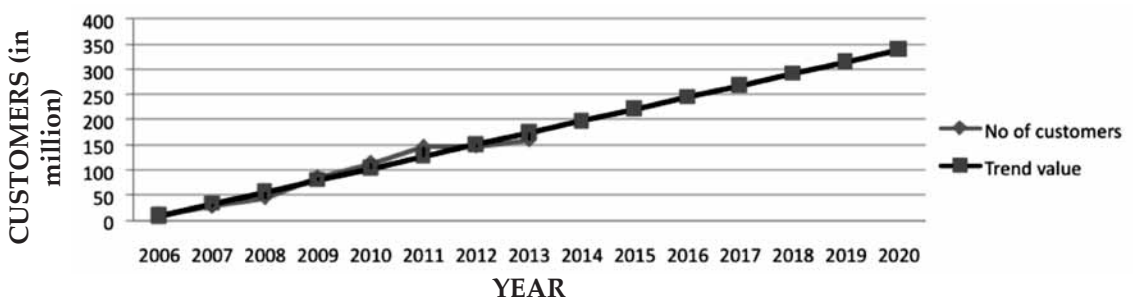
$$Y_{2016} = 91.99 + 11.81 \times 13 = 245.52$$

$$Y_{2017} = 91.99 + 11.81 \times 15 = 269.14$$

$$Y_{2018} = 91.99 + 11.81 \times 17 = 292.76$$

$$Y_{2019} = 91.99 + 11.81 \times 19 = 316.38$$

$$Y_{2020} = 91.99 + 11.81 \times 21 = 340$$



**FIGURE 1**

It has been observed that the number of customers have been increasing over the years i.e., after the acquisition in 2007. Data is also analyzed with the help of trend in which we have estimated the data for future period which shows upward moving trend. In 2009, the customers become twice of that in 2008 this may be because customers are fully satisfied with the services provided by company. As the acquisition may provide many benefits to customers such as network coverage, value added services, different recharge plans etc.

## B) LEVEL OF MARKET DEVELOPMENT

For the analysis of this determinant, we have taken into account subscriber's market share due to Vodafone acquisition in India. For this purpose the following increase in subscriber's market share has been revealed -

YEAR							
2006	2007	2008	2009	2010	2011	2012	2013
Subscriber's Market Share (%)							
12.85	23.19	23.57	24.05	23.94	23.63	21.54	22.44

**TABLE 3** (Source: Vodafone Wikipedia)

The above data can be analyzed with the help of trend analysis which is shown below-

YEAR	Subscriber's market share (%) (Y)	Time deviations (X) from 2009.5 and multiplied by 2	X <sup>2</sup>	XY	Trend value Y <sub>c</sub> = a+bX
2006	12.85	-7	49	-89.95	26.90+0.35×(-7)=24.45
2007	23.19	-5	25	-115.95	26.90+0.35×(-5)=25.15
2008	23.57	-3	9	-70.71	26.90+0.35×(-3)=25.85
2009	24.05	-1	1	-24.05	26.90+0.35×(-1)=26.55
2010	23.94	+1	1	23.94	26.90+0.35×1=27.25
2011	23.63	+3	9	70.89	26.90+0.35×3=27.95
2012	21.54	+5	25	107.7	26.90+0.35×5=28.65
2013	22.44	+7	49	157.08	26.90+0.35×7=29.35
N =8	ΣY=175.21	ΣX=0	Σx <sup>2</sup> =168	ΣXY=58.95	

**TABLE4**

$$a = \Sigma Y / N$$

$$= 175.21 / 8 = 26.90$$

$$b = \Sigma XY / \Sigma X^2$$

$$= 58.95 / 168 = 0.35$$

$$Y_c = 26.90 + 0.35x$$

Estimated customers for the following future period can be analyzed-(in percentage)

$$Y_{2014} = 26.90 + 0.35 \times 9 = 30.05$$

$$Y_{2015} = 26.90 + 0.35 \times 11 = 30.75$$

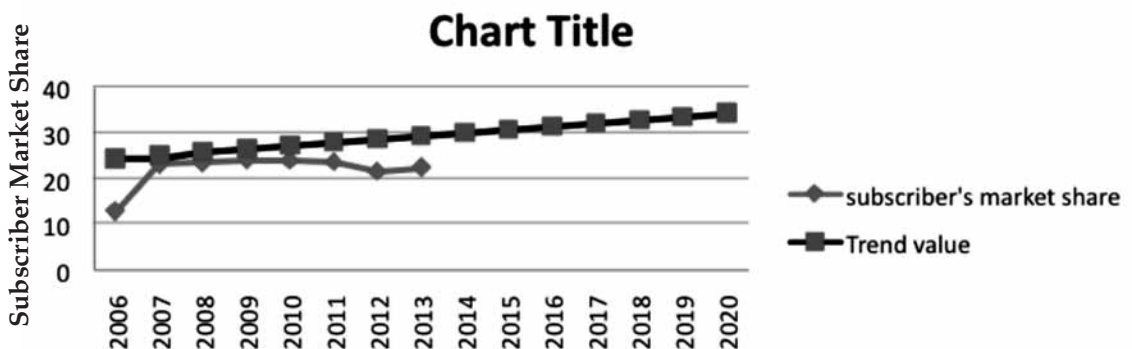
$$Y_{2016} = 26.90 + 0.35 \times 13 = 31.45$$

$$Y_{2017} = 26.90 + 0.35 \times 15 = 32.15$$

$$Y_{2018} = 26.90 + 0.35 \times 17 = 32.85$$

$$Y_{2019} = 26.90 + 0.35 \times 19 = 33.55$$

$$Y_{2020} = 26.90 + 0.35 \times 21 = 34.25$$



**FIGURE 2**

The subscriber's market share in 2007 has been increased considerably. But from 2010 to 2013 the increase in market share has been showing a little fluctuation, this means the acquisition was not favorable to show positive market development. Acquisition was not significant to fulfill the subscriber needs & aspirations. But with the help of trend analysis we can say that a positive moving trend is shown and depict positive position of the company.

### C) TECHNOLOGICAL ASPECTS

Sl. No.	Year	Technological Innovation
1	2006	With starting up its operation within India, it provides various forms of technological innovation, as Vodafone live, Vodafone mobile connect USB modem, Vodafone connect to friends, Vodafone Eurotraveller etc.
2	2007	In March 2007, Safaricom, which is part owned by Vodafone and the leading mobile communication provider in Kenya, launched a mobile payment solution developed by Vodafone
3	2008	In 2008, Vodafone had unveiled the 'Happy to Help' series during the first season of the Indian Premier League (IPL).
4	2009	In October 2009, it launched Vodafone 360, a new internet service for the mobile, PC and Mac. This was discontinued in December 2011 after disappointing hardware sales.



5	2010	In September 2010, Vodafone India, in an Endeavour to take the benefits of Blackberry services mainstream and reach out to its young and upwardly mobile audience, had successfully launched a campaign featuring the 'Blackberry Boys'. In February 2010, Vodafone launched world's cheapest mobile phone known as Vodafone 150, will sell for below \$15 (£10) and is aimed at the developing world. It will initially be launched in India
6	2011	Vodafone India provides 2.75G services based on 900 MHz and 1800 MHz digital GSM technology. Vodafone India launched 3G services in the country in the January–March quarter of 2011
7	2012	The Vodafone 'Made For you'-campaign was launched in November 2012.
8	2013	As of 3 September 2013, there are 16 Vodafone Angel Stores across 14 states of India.

**TABLE 5**

- **Angel stores** is a first of its kind retail concept store, that is completely managed and run by women employees, including security, pantry staff, customer service resources and management level personnel.
- **Made For you**-It was a set of three commercials that were practically identical except for the situations that had been portrayed. The first television spot was set in a tailor's shop, the second at the barbershop and the third in a fitness centre. Together they created a montage of shots of people talking to the camera and providing detailed specifications about their needs in every situation.
- **Happy to Help (IPL)**-In 2008, Vodafone had unveiled the 'Happy to Help' series during the first season of the Indian Premier League (IPL). With the launch of the second season, Vodafone had given birth to the Zoozoo: a special character created specifically to convey a value added service (VAS) offering in each of the newly released commercials.
- **Safaricom**-In March 2007, Safaricom, which is part owned by Vodafone and the leading mobile communication provider in Kenya, launched a mobile payment solution developed by Vodafone. M-PESA is aimed at mobile customers who do not have a bank account, typically because they do not have access to a bank or their income

is insufficient to justify a bank account. The M-PESA system allows customers to deposit and withdraw cash via local agents, and transfer money to other mobile phone users via SMS.

(Source: Vodafone India Wikipedia, Vodafone Wikipedia).

#### **D) FUTURE GROWTH PROSPECTS**

For measuring the future growth prospects of the acquisition of Vodafone and hutch the sales aspect, current assets and current liabilities are taken into considerations-

- i) Sales (in crores)
- ii) Current Assets (in crores)
- iii) Current Liabilities (in crores)

With the use of these variables we can predict the financial position of the company in terms of Ratio Analysis, which can be as follows -

#### **A) LIQUIDITYRATIO**

##### **a) Current Ratio**

**Current Ratio =Current Assets/Current Liabilities**

**In the financial statement of the company we are provided directly with the current assets &current liabilities -**

**CALCULATION OF CURRENT RATIO**  
(Ratio in proportionate)

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Current Ratio	0.875	0.643	0.417	0.676	0.397	0.466	0.496	0.627	0.833	0.745

TABLE 6

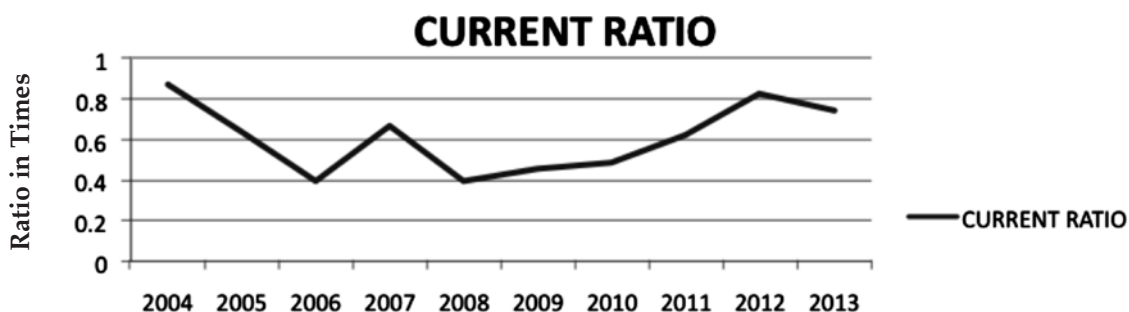


FIGURE 3

The ideal CR for any firm is 2:1. If we see the CR of the company for last 10 years has been less than the ideal ratio which means the company was not utilizing its assets properly to meet out its liabilities which was unsatisfactory for the company.

**b) Quick Ratio**

**Liquid Assets = Current Assets-Stock-Prepaid Assets**

**Quick ratio = Liquid assets/Current liabilities**

**CALCULATION OF QUICK**  
(Ratio in proportionate)

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Quick Ratio	0.844	0.613	0.400	0.661	0.378	0.451	0.481	0.608	0.813	0.731

TABLE 7

**CALCULATION OF LIQUID ASSETS-(RS IN MILLION)**

**2004 = 13,149-458 = 12691**

**2005 = 9,411-440 = 8971**

**2006 = 7,532-297 = 7235**

**2007 = 12,813-288 = 12525**

**2008 = 8724-417 = 8307**

**2009 = 13029-412 = 12617**

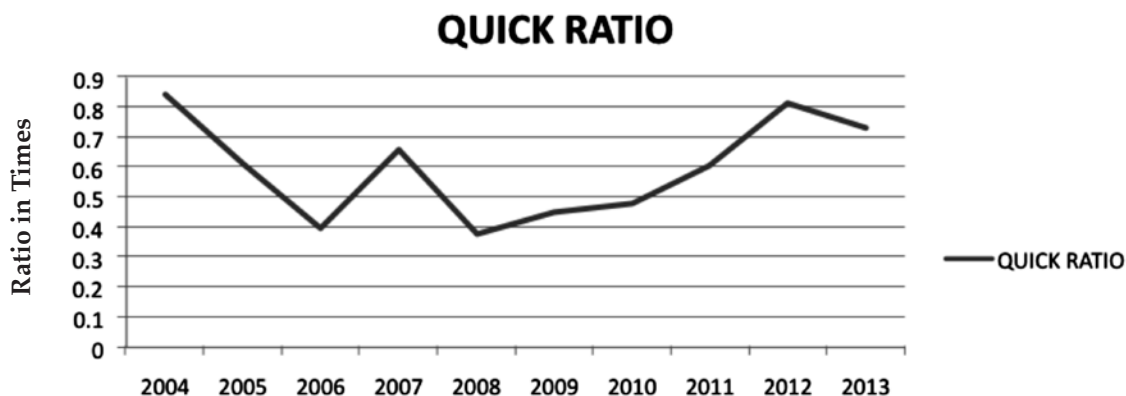
**2010 = 14,219-433 = 13786**

**2011 = 17,003-537 = 16466**

**2012 = 20025-486 = 19539**

**2013 = 23,287-450 = 22837**





**FIGURE 4**

A QR is an indication that the firm is liquid and has the ability to meet its current liabilities in time. The ideal QR is 1:1. Company's quick ratio is less than the ideal ratio which means the liquid assets are less than current liabilities, and therefore company has to raise additional cash to meet out its liabilities.

## B) Leverage or Capital Structure Ratio

### a) DEBT EQUITY RATIO

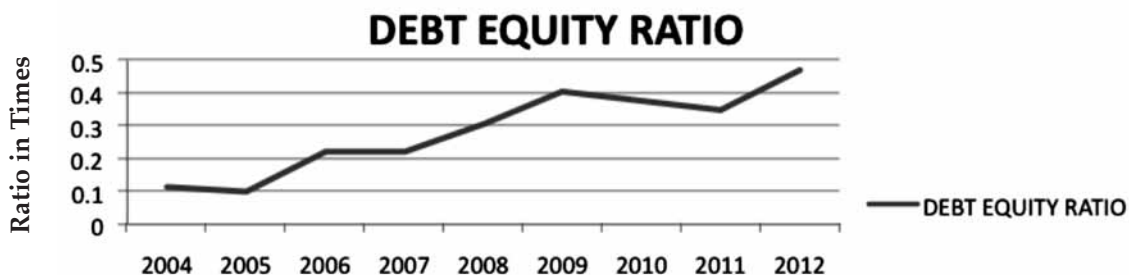
Debt Equity Ratio = Long term Loans / Shareholder's Funds or Net Worth

#### CALCULATION OF DEBT EQUITY RATIO (Ratio in proportionate)

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
D.E.R	0.115	0.100	0.225	0.225	0.309	0.406	0.377	0.352	0.357	0.472

**TABLE 8**

In this analysis, Debt covers net borrowings of the company. Equity covers share capital and Reserves.



**FIGURE 5**

Debt Equity Ratio shows that how much funds a company has to meet the long term obligations. Lesser the ratio shows better the position of the company. As we have shown in the figure debt equity ratio of the company has showing a declining trend but in the 2013, it is showing a rising trend as compared to its previous years this means that in the current year the claims of creditors are greater than those of owners.

## b) Proprietary Ratio

$\text{Proprietary Ratio} = \frac{\text{Shareholder's Funds}}{\text{Shareholder's Funds} + \text{Long term loans}}$   
OR

$\text{Proprietary Ratio} = \frac{\text{Proprietor's fund or Shareholder's fund}}{\text{Total Assets-Fictitious assets.}}$

### CALCULATION OF PROPRIETARY RATIO

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Proprietary Ratio (%)	76	77.3	67.4	61.1	61.3	56.4	57.5	57.8	55.1	50

TABLE 9

Proprietor's fund includes share capital and reserves.

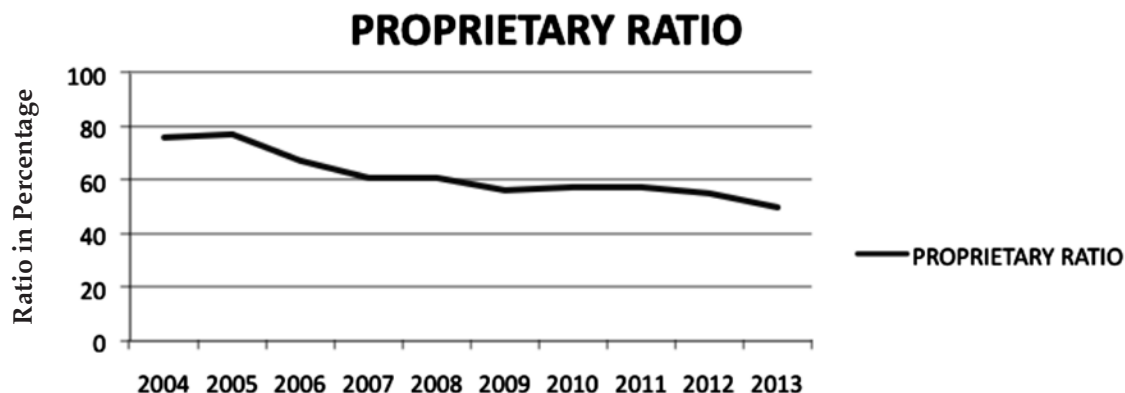


FIGURE 6

The ratio highlights the fact as to what is the proportion of proprietors and outsiders in financing the total businesslike, it highlights importance of the creditors who can ascertain the proportion of shareholder's funds in the total assets employed in the firm. As the ratio keep on decreasing after the acquisition it indicates inadequate or low safety cover for the creditors. It may lead to unwillingness of creditors to extend credit to the enterprise.

## C) Activity Ratio or Turnover Ratio

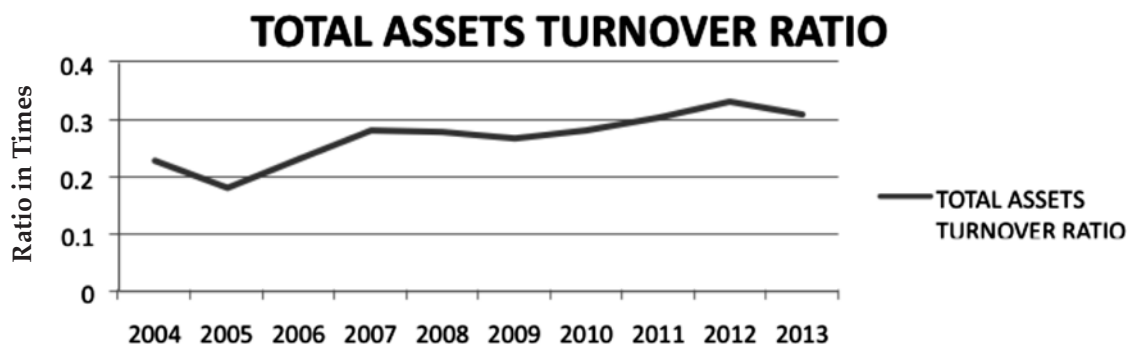
### a) Total Assets Turnover Ratio

$\text{Total Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Total Assets}}$

### CALCULATION OF TOTAL ASSETS TURNOVER RATIO (Ratio in times)

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Asset Ratio	0.228	0.181	0.231	0.283	0.278	0.268	0.283	0.303	0.332	0.311

TABLE 10



**FIGURE 7**

This ratio indicates how total assets of the company are being utilized. In the acquisition year, it had been increasing as compared to the previous year. From 2011 onwards it keeps on increasing which is desirable for the company.

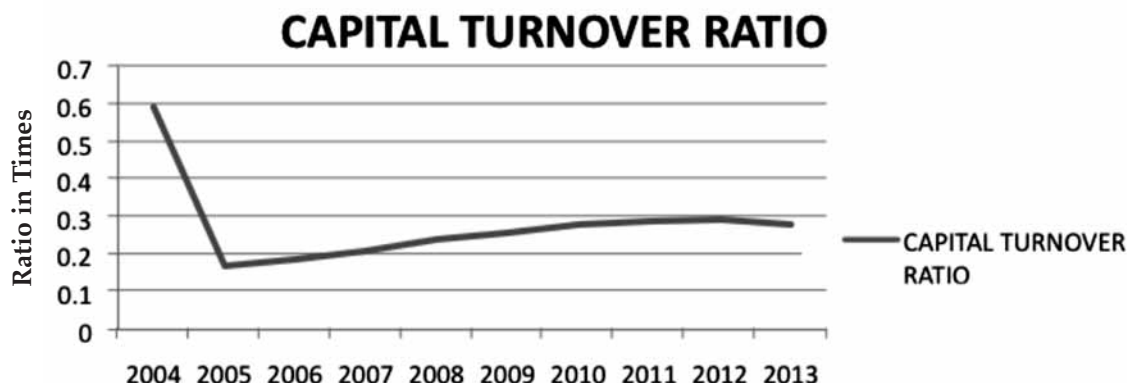
#### **b) CAPITAL OR NET WORTH TURNOVER RATIO**

**Capital Turnover Ratio=Net Sales/ Share Capital**

#### **CALCULATION OF CAPITAL TURNOVER RATIO (Ratio in times)**

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Capital Turnover Ratio	0.594	0.170	0.187	0.210	0.240	0.260	0.282	0.291	0.293	0.281

**TABLE 11**



**FIGURE 8**

This ratio shows the efficiency with which capital employed in a business is used. It indicates how many times capital has been rotated for generating sales. In 2004, it shows the highest ratio but then it keep on decreasing. In the acquisition year, it shows a increasing trend but it is not more than 2004 which means it is a sign of insufficient sales & possibility of lower profits.

#### **E) INCREASED REVENUE**

##### **Profitability Ratios or Income Ratios**

Profitability ratios are calculated to provide answers to the following questions:

1. Is the firm earning adequate profits?
2. What is the rate of gross profit and net profit on sales?
3. What is the rate of return on capital employed in the firm?
4. What is the rate of return on proprietor's (shareholder's) funds?
5. What is the earning per share?

Profitability ratio can be determined on the basis of either sales or investment into business.

#### a) Operating Profit Ratio

$$\text{Operating Profit Ratio} = \text{Operating Profit} / \text{Net Sales} \times 100$$

Here, Net Sales = Sales – Sales return.

#### CALCULATION OF OPERATING PROFIT RATIO (Ratio in percentage)

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Operating Profit Ratio	-14.23	29.52	-47.98	5.02	28.31	14.27	21.31	12.19	24.10	10.63

TABLE 12

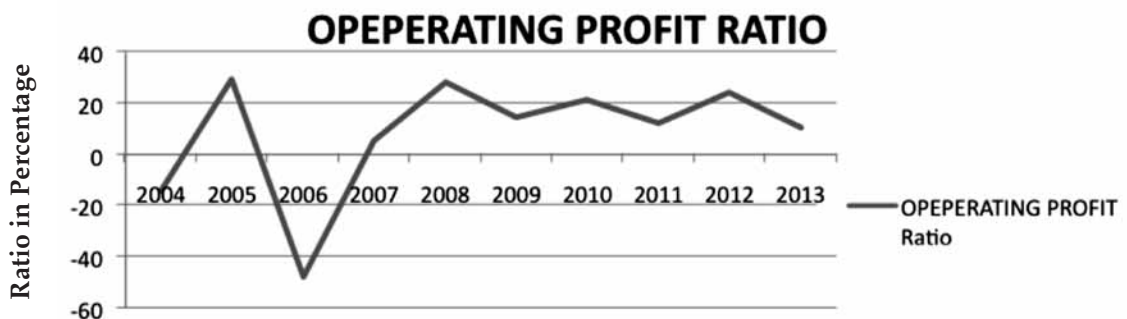


FIGURE 9

This ratio is an indicator of operational efficiency of a concern. Higher the ratio better is the operational efficiency of the concern. In the above figure, it is highest in the year 2005 as compared to all other years. In the acquisition year, it turns from negative to positive and starts increasing but it is not more than the desired one which is the sign of inefficiency of a concern.

#### b) Return on Capital Employed

$$\text{Return on Capital Employed} = \text{Profit before interest, tax and dividends} / \text{Capital Employed} \times 100$$

Where, Capital Employed = Equity Share Capital + Preference Share Capital + All Reserves + P&L Balance + Long-Term Loans - Fictitious Assets (Such as Preliminary Expenses OR etc.) – Non-Operating Assets like Investment made outside the business.

$$\text{Capital Employed} = \text{Fixed Assets} + \text{Working Capital}$$

#### CALCULATION OF RETURN ON CAPITAL EMPLOYED (Ratio in percentage)

YEAR	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Return on Capital Employed	7.83	6.99	9.18	12.82	9.84	10.04	9.85	10.83	11.17	11.50

TABLE 13

Capital Employed can be calculated as under - (Rs. in million)

2004 = 1, 11,924.00 + 12,869.00 = 1, 24,793

2005 = 1, 13,800.00 + 11,424.00 = 1, 25,224

2006 = 85,425.00 + 19,250.00 = 1, 04,675

2007 = 67,067.00 + 15,134.00 = 82,201

2008 = 78,043.00 + 24,510.00 = 1, 02,553

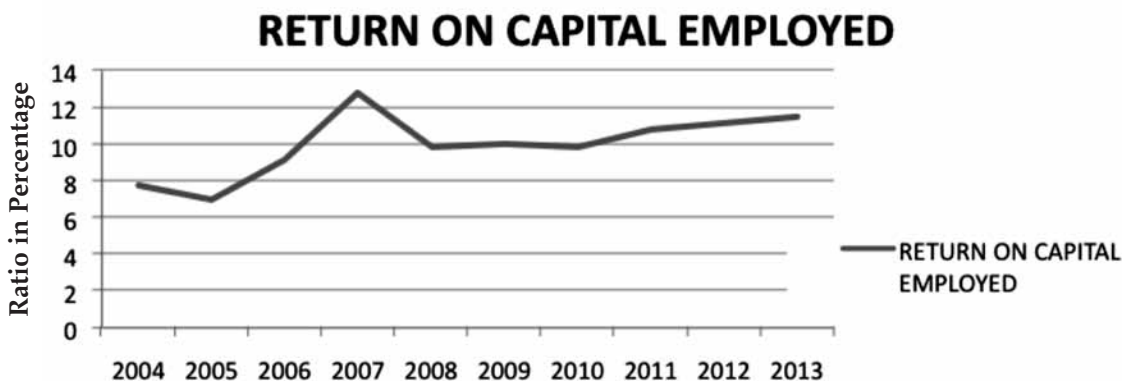
2009 = 86,162.00 + 35,042.00 = 1, 21,204

2010 = 90,381.00 + 34,130.00 = 1, 24,511

2011 = 87,555.00 + 30,860.00 = 1, 18,415

2012 = 76,935.00 + 27,482.00 = 1, 04,417

2013 = 71,477.00 + 33,774.00 = 1, 05,251



**FIGURE 10**

This ratio indicates how well the management has utilised the funds supplied by the owners and creditors. Higher the ratio, the more efficient the management is considered to be in using the funds available. In the acquisition year, it was maximum and after 2011, it shows increasing trend but is not up to the desired level which means it is unsatisfactory to measure the earning power of capital employed.

**F) OBTAIN SYNERGY:** Synergy is an act of combining two activities to get maximum result. In other words it is the magic force that enhances the efficiencies of the combined firm or company. For analyzing this determinant it is necessary to identify the benefits or strengths which a Vodafone Essar holds with this acquisition. Some of the strengths which are incorporated through this acquisition are as follows-

#### **STRENGTHS**

- Accelerates Vodafone move to a controlling position in a leading operator in the attractive and fast growing Indian mobile market as India is the world 2<sup>nd</sup> most populated country with about 160 million users of mobile phones upto December 2013.
- Hutch Essar delivers a strong existing platform in India with nationwide expansion of about 23 circles.
- Offers largest mobile phone range starting from 650-1050 to attract the customers and various innovative products & services and focused on communication services to Indian customers.

- The Brand Trust Report, 2011 published by Trust Research Advisory has ranked Vodafone as the 16th most trusted brand in India.
- **On 16 March 2011**, Vodafone launched 3G services in Uttar Pradesh (East) in the city of Lucknow. Vodafone had already launched limited 3G services in Chennai and Delhi earlier, but the Uttar Pradesh (East) launch counts as its first fully commercial launch. This makes Vodafone the fifth private operator (seventh overall) to launch its 3G services in the country following Tata Docomo, Reliance Communications, Airtel and Aircel.
- **On 23 June 2011** Vodafone launched 3G service in Kerala by joining with Idea in an Intra Circle Roaming agreement. Initially Vodafone 3G services will be available in the following cities in Kerala – Ernakulam, Aluva, Calicut, Koyilandy, Alappuzha, Cherthala, Malappuram and Manjeri. On 28 June 2012, Vodafone launched a new international roaming package under which the users shall have not to pay multiple rentals in the countries they are visiting.
- The Group is listed on the London and NASDAQ (ADR listing) stock exchanges and is headquartered in Paddington, London.
- Vodafone has secured its second place with 23.89% market share as of June 2010 which is after BhartiAirtel in India.

### Conclusions

Both the company shows a greater increase in the number of customer and act as a positive force in satisfying the customers' needs. Both the companies, in respect of market development show a sudden increase up to 2 to 3 years & after that the development shows slight variation. A future growth prospect of Vodafone does not consider being a desirable one as it was less than the ideal ratio, which is an indication of slack management practices i.e. more inventories for current requirements and lack of current borrowing capacity. But if we consider Idea merger it had far reaching impact up to 2010 and thereafter shows little variation. After using the trend analysis future position of the company keeps on increasing and serves as a long term benefit for the company up to 2020. The companies benefited after their Merger & Acquisition and they obtained a complete platform for obtaining synergy and other benefits.

Therefore it can be further seen that the acquisition and merger act as a positive force in economic development of a country as large number of benefits has been incorporated for the company as well as for the citizens of the country.

more services to its customers as well as try to make innovation in terms of technology, products network facilities, so that customers will be encouraged to use the facilities provided by the company.

### References

- Brandao et al (2008) "The Macroeconomic Determinants of Cross Border Mergers and Acquisitions and Greenfield Investments"
- Duvenage (2011) "Determinants of Premiums in Acquisitions of JSE listed Companies".
  - Liao et al (2012) "Determinants of Cross Borders Mergers and Acquisitions", *The Journal of finance*, Vol LXVII, No 3, pp.1045.
  - Manchin (2004) "Determinants of European cross border Mergers & Acquisition".
  - Nieto et al (2008) "Determinants of domestic and cross-border bank Acquisitions in the European Union".

- Narayan & Soni (2003) "Mergers and Acquisitions in India: A strategic impact analysis for the corporate enterprises in the post – Liberalisation period".
- Nga et al (2007) "Critical Success factors in Mergers & Acquisitions projects".
- Reed and Babool (2003) "Cross Country Determinants of Mergers and Acquisitions", *The Journal of Financial Economics*, Vol.74, pp.277-304.
- Rossi and Volpin (2004) "Factors affecting International Mergers and Acquisitions", *The Journal of International Food and Agribusiness Management Review*, Vol.6, No.4.
- Rottig (2007) "Successfully managing International Mergers & Acquisitions: A Descriptive Framework", *The Journal of AIB-SE*.
- Shanley and Yin (2008) "Industry determinants of the Merger vs alliance decision" Vol. 33, No.2, 473–491.
- Wilson (2013) "Trends & Determinants of Mergers & Acquisitions targeting South Africa 1990-2011".
- Worthington (2004) "Determinants of Mergers & Acquisitions activity in Australian cooperative deposit – taking institution", *The Journal of Business Research*, Vol.57(1), pp.47-57.
- Voigt and Stahl (2005) Impact of cultural differences on Mergers & Acquisitions performance: A critical research review and an integrative model", Vol.4, pp.51–82.
- Vyas et al (2012) "Determinants of Mergers and Acquisitions in Indian Pharmaceuticals Industry", *Eurasian Journal of Business and Economics* 2012, Vol.5, No.9, pp.79-102.

## WEBSITES

[www.google.com](http://www.google.com)

[www.ideacellular.com](http://www.ideacellular.com)

[www.vodafone.com](http://www.vodafone.com)

[www.moneycontrol.com](http://www.moneycontrol.com)

[www.morningstar.com](http://www.morningstar.com)





# Rise and Fall of Interest Rate Futures in Indian Derivative Market

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## Abstract

Derivative products are popular financial instruments to hedge against the risk associated with the underlying. Interest rate derivatives are the most traded and widely accepted derivative instrument in the international market. But this product is not popular in Indian derivative market. In 1999, the Over the counter (OTC) interest rate derivative products introduced in Indian derivative market. This product was successful in terms of volumes<sup>5</sup>. To overcome the drawbacks of the OTC derivative market, Indian financial market introduced exchange traded interest rate derivative in 2003, 2009 and 2014. While two times (in 2003 and 2009) this product failed, in the third time (in 2014) the initial volumes are sharply declining in three exchanges viz. MCX-SX, NSE and BSE. In this backdrop, this study attempts to analyse the past, present and future of interest rate futures in Indian derivative market using the volumes, values and open interest of Interest rate derivatives for three exchanges.

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## Introduction

Equity derivatives, interest rate derivatives, commodity derivatives, foreign exchange derivatives and credit derivatives are

derivative products available all over the World. Among all, interest rate derivative is the most popular product and interest rate derivative market is the largest derivative

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<sup>5</sup>Report of the working group on rupee derivatives available at -  
<http://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage&ID=633>

market in World. Frankel (1984) mentioned interest rate futures as an innovation in financial techniques for the management of risk. Morris (1989) found greater volatility in the returns of bond create risk to the bond holders. Interest rate futures (IRFs) help the investors to protect their bond return by providing a hedge against interest rate changes.

There are two ways to trade these derivative products, one is through Over the Counter (OTC) derivative market and another is through recognized stock exchanges. Hence, there are two interest rate futures, one is OTC IRFs and another one is Exchange traded IRFs (ETIRFs). The Eurodollar future is the most popular interest rate derivative product in the

world well traded in the Chicago Mercantile Exchange (CME) since 1981 (Chokhani, 2010)<sup>6</sup>. IRF is an agreement to buy or sell an underlying debt security at a fixed price on a fixed day in the future. The borrower paid the interest rate to the lender on borrowed cash as a compensation for forgoing the opportunity of earning income from other investments that could have been made with the loaned cash. IRF is a cash contract between a buyer and a seller agreeing to the future delivery of any interest bearing asset such as Govt. bonds. The participants who are looking for benefit from interest rate movements may attract towards interest rate futures. The purpose of the participants to use IRFs are presented on the below table.

Participants of IRFs and their Purpose								
Banks	Primary Dealers	FIIIs	Mutual Funds	Insurance Companies	Corporate	NBFCs	Proprietary Traders	Retail / HNI
Hedging	Hedging	Hedging	Hedging	Hedging	Hedging of assets	Hedging	Intra-day trading	Hedging
Arbitrage	Arbitrage	Arbitrage				Arbitrage	Arbitrage	
View based	View based	View based			Hedging of liabilities	View based	View based	View based
Duration based	Duration based	Duration based			Changing duration of portfolio	Changing duration of portfolio	View based	Duration based
Long hedged	Long hedged	Calendar spread	Locking of yield	Calendar spread		Calendar spread		Locking of yield
Calendar spread	Calendar spread							

Notes: HNI-High Net Worth Individuals, FIIIs-Foreign Institutional investors

Sources: BSE and NSE<sup>7</sup>

The OTC derivative products were successful in Indian market (which was introduced in 1999)<sup>8</sup>. But India failed two times in introducing exchange traded interest rate derivatives in

<sup>6</sup> The region wise volumes (contracts turnover) on organized stock exchanges presented in Table-4 and total notional principal (in billions of US Dollar) presented in Table-5 of appendix.

<sup>7</sup> <http://www.bseindia.com/downloads1/IRFEBrochure.pdf> and [http://www.nseindia.com/products/content/derivatives/irf/IRF\\_Brochure\\_new.pdf](http://www.nseindia.com/products/content/derivatives/irf/IRF_Brochure_new.pdf)

<sup>8</sup> The OTC interest rate derivative market in India is well regulated by RBI. Two OTC derivative products like interest rate swaps (IRS) and forward rate agreements (FRAs) are available in India. Because of this, the share of Indian OTC derivative

2003 and 2009. This is the third time IRFs are allowed to trade in exchanges from January 2014. The interest rate future is a popular derivative product in international market, still India is not able to introduce it effectively. Gyntelberg and Upper (2013) studied the international OTC (Over the Counter) interest rate derivative market in 2013. The OTC interest rate derivative market like swaps and forward rate agreements (FRAs) in world were actively traded. As per this study, the daily turnover in the IRFs market in April 2013 was 14% higher than three years before. In the OTC interest rate segment, interest rate swaps are mostly traded (60% in 2013) followed by forward rate agreements (FRAs) (32% in 2013) and interest rate options (7% in 2013). Authors found, the turnover in the Euro interest rate is almost doubled where as turnover in yen, US dollar and Canadian dollars were noticeably declined. This study presents the past, present and future of IRFs in India and World.

The rest of the sections of this study are organized as - section 2 focuses background of the study followed by Success and failures of the Interest Rate Futures in India in section 3, conclusion in section 4 and reference in section 5.

## **Background of the Study**

### ***Global Scenario on IRFs***

Long term (10 years and above) and short term (up to one year) are two types of interest rate futures globally available. The long term futures are known as long bond futures and short term futures are called Treasury bill futures and reference rate futures. The long term bond futures markets in worldwide are both physically settled and cash settled. For example- the Futures on the 10 year municipal bond index of Chicago Board of Trade (CBOT) is cash settled. The short term futures like T-Bill futures are physically settled where as

the futures on reference rates like London Inter-Bank Offer Rates (LIBOR) are cash settled. (Bansal, BSE)<sup>9</sup>.

Since 1960's the commodity futures have been trading on organized stock exchanges of the United States. The first interest rate futures (IRF) contract in the world was started in 1975 at Chicago Board of Trade (CBOT) based on Ginnie Mae (Government National Mortgage Association-GNMA) mortgages. This contract was initially success but later on it failed (in December 1984, this product stopped trading). CBOT was first introduced the 30 year Treasury bond futures in 1977. This product was successful with highest volume of contract<sup>10</sup>. At present 2 years, 5 years, 10 years Treasury note and 30 year "Ultra" Treasury bond futures are available in Chicago Mercantile Exchange (CME) group<sup>11</sup>. The Eurodollar futures contracts are most widely traded in the world through Chicago Mercantile Exchange (CME) which are cash settled in nature. Each CME Eurodollar futures contract bears a face value of \$ 1,000,000. This product was first launched on 9<sup>th</sup> December 1981. Now the three month Eurodollar futures offer greater liquidity and lower transaction costs. The price of this instrument is 100 minus the implied interest rate. A price of 95.00 means an interest rate of 5.0% and a price of 93.00 means an interest rate of 7.0%. Interest rate futures traded in the CME, Korea exchange and Tokyo Stock exchange are presented in the table 3 of appendix. The major international exchanges involved in the interest rate derivatives are Australian Securities Exchange, BM&FBOVESPA, CME group, EUREX, Intercontinental Exchange, NYSE Euronext, NasdaqOmx, Singapore Exchange, Tokyo Stock Exchange, and South African Futures Exchange-JSE etc.

### **IRFs in Indian Scenario**

Sovereign (Government) debt market and

Indian OTC derivative market in world OTC derivative market is very small. This study presents the past and present of IRFs in India and World.

<sup>9</sup> Available at- <http://www.bseindia.com/downloads/InterestRateFutures.pdf>

<sup>10</sup> Available at- <http://husky1.stmarys.ca/~gye/derivativeshistory.pdf>

<sup>11</sup> On July 12, 2007, CBOT holdings Inc. and Chicago Mercantile Exchange Holdings inc. merged to create CME group.

corporate debt markets are two types of debt markets exist in India. Government bonds are more popular than the corporate bonds because the chance of default is very limited. Interest rates futures are widely used in more developed market. To get the benefits out of IRFs, RBI introduced OTC interest rate derivatives in 1999. The most prominent OTC IRFs introduced in 1999 were interest rate swaps (IRS) and forward rate agreements (FRA). Exchange traded IRFs are introduced in 2003, 2009 and 2014. This product fails in 2003 and 2009. Recently India introduced IRFs on 10 year Government of India bonds. Yet it is to see whether it will get popular in the market or fail in Indian market as earlier.

*Interest Rate Swaps (IRS):* It is a contract between two parties exchanging or swapping a stream of interest payments for a notional principal amount on multiple occasions during a specified period. These contracts involve exchange of fixed to floating interest rate or vice versa.

*Forward Rate Agreements (FRA):* It's a contract between two parties to exchange interest payments for a 'notional principal' amount on settlement date, for a specified period from start date to maturity date. Accordingly, on the settlement date, cash payments based on contract (fixed) and the settlement rate, are made by the parties one another. The settlement rate is the agreed bench mark/reference rate prevailing on the settlement date.

*Participants:* Scheduled Commercial Banks (Excluding Regional Rural Banks), Primary Dealers (PDs) and all Indian Financial Institutions (FIs) are allowed to participate in this product. Banks/FIs/PDs can also offer these products to corporate for hedging their (corporate) own balance sheet.

The volume of OTC derivative trading was successful in India. The transaction of FRAs/IRS increased from about 200 contracts amounting to Rs.4,000 crore on March 2000 to 6,500 contracts amounting Rs.1,50,000 crore in December 2002. But there are some

shortcomings of this product like information asymmetries and lack of transparency and its connection in major institutions for which IRS and FRA may not fully hedge the interest rate risk.

### **Exchange Traded IRFs 2003**

To overcome the drawbacks of the OTC interest rate futures, Securities and Exchange Board of India (SEBI) with Reserve Bank of India (RBI) and Fixed Income Money Market and Derivative Association of India (FIMMDA) introduced exchange traded IRFs on 2003. The RBI has formed a Committee under the chairmanship of Jaspal Bindra, CEO, Standard Chartered Bank. The committee recommended the idea of introducing the exchange traded derivatives. Based on this report, Futures on 10 year zero coupon Govt. of India security was allowed to trade from 2003.

Exchange-traded derivative market has the following features:

- i. An electronic exchange mechanism and emphasizes anonymous trading,
- ii. Full transparency,
- iii. Use of computers for order matching,
- iv. Centralization of order flow,
- v. Price-time priority for order matching,
- vi. Large investor base,
- vii. Wide geographical access,
- viii. Lower costs of intermediation,
- ix. Settlement guarantee,
- x. Better risk management,
- xi. Enhanced regulatory discipline, etc.

### **Features of IRFs introduced on 2003**

Features of the IRFs introduced on 2003 are as follows-

- i. The delivery of the contract shall be on cash settlement.
- ii. The contract has to be priced on the basis of the average 'Yield to Maturity' (YTM) of a basket comprising at least three most liquid bonds with maturity between 9 and 11 years.

- iii. The price of the futures contract was to be quoted and traded as 100 minus the YTM of the basket.
- iv. In the event that bonds comprising the basket become illiquid during the life of the contract, reconstitution of the basket shall be attempted, failing which the YTM of the basket shall be determined from the YTM of the remaining bonds. In case 2 out of the 3 bonds comprising the basket become illiquid, pooled yield shall be used.

The daily settlement price for unexpired futures contracts shall be the futures prices computed using the (price of the notional bond) spot prices arrived at from the applicable ZCYC (Zero Coupon Yield Curve). The ZCYC shall be computed by the exchange or any other agency.

But this instrument failed due to the following reasons.

- i. Common traders were not able to understand Cash settled on a ZCYC basis.
- ii. Banks were prohibited in taking positions in these contracts.

### **Exchange Traded IRFs 2009**

On February 2008 RBI and SEBI constituted a committee on the chairmanship of Mr. V.K. Sharma to look into the matter. The joint committee recommended –

- i. Banks would be allowed to take trading positions in the interest rate futures.
- ii. The short selling intervals co-terminus with the future contracts.

### **Features of Interest Rate Futures introduced in 2009**

Standardized Interest Rate Futures contract shall have the following features:

- i. The contract shall be on 10-year notional coupon bearing Government of India security.
- ii. The notional coupon shall be 7% per annum with semi-annual compounding.

- iii. The contract shall be settled by physical delivery of deliverable grade securities using the electronic book entry system of the existing Depositories, namely - National Securities Depositories Ltd. and Central Depository Services (India) Ltd. and Public Debt Office of the Reserve Bank.
- iv. Deliverable grade securities shall comprise Govt. of India securities maturing at least 7.5 years but not more than 15 years from the first day of the delivery month with a minimum total outstanding stock of Rs.10,000 crore.

On 7<sup>th</sup> August, 2009, BSE and NSE introduced interest rate derivatives. But this also failed in the market. The causes of failure of IRFs in 2009 are as follows-

- i. Short selling was not allowed beyond 5 days.
- ii. Due to physically settlement and illiquid in the underlying bond, the bank participation was low.
- iii. Banks were more attracted by OTC market rather than exchange platform.

### **Exchange Traded IRFs 2014**

In January 2014, RBI Governor, Raghuram Rajan introduced 3<sup>rd</sup> time exchange traded IRFs in India with cash settlement basis. Three exchanges like Bombay Stock Exchange (BSE)<sup>12</sup>, National Stock Exchange (NSE)<sup>13</sup> and Multi Commodity Exchange Stock Exchange Limited (MCX-SX)<sup>14</sup> are allowed to trade. Initially serial monthly contracts with a maximum maturity of three months would

<sup>12</sup> BSE on Interest rate futures at: <http://www.bseindia.com/downloads1/IRFEBrochure.pdf>

<sup>13</sup> NSE on interest rate futures at: [http://www.nseindia.com/products/content/derivatives/irf/IRF\\_Brochure\\_new.pdf](http://www.nseindia.com/products/content/derivatives/irf/IRF_Brochure_new.pdf)

<sup>14</sup> MCX-SX on interest rate futures at: [http://www.mcx-sx.com/downloads/Circulars/CircularDownloads/Circular\\_\(1703\)\\_Launch\\_of\\_Interest\\_Rate\\_Futures.pdf](http://www.mcx-sx.com/downloads/Circulars/CircularDownloads/Circular_(1703)_Launch_of_Interest_Rate_Futures.pdf)

<sup>15</sup> On October 29, 2013, RBI mentioned in its 2nd quarter review of monetary policy 2013-14 to allow IRFs in Indian market. On December 5th 2013, RBI and SEBI released circular for introducing this product.



be available. As per SEBI, the IRF will be introduced on a pilot basis and the features of the products will be reviewed based on the experience gained. This particular product will be traded from 9 am to 5 pm. from Monday to Friday<sup>15</sup>. As per the SEBI circular on 5<sup>th</sup> December 2013, two different designs of 10 years GOI security are allowed, that are –

Option A: Coupon bearing Govt. of India security as underlying and Option B: Coupon bearing notional 10 year Govt. of India security with settlement price based on basket of securities as underlying. Exchanges are allowed to launch either one or two of these options.

### Features of the Product (IRFs 2014)

1. *Underlying: Option A:* GOI security of face value Rs.100 with semiannual coupon and residual maturity between 9 and 10 years on the day of expiry of IRF contract, as decided by stock exchanges in consultation with FIMMDA (Fixed Income Money Market and Derivatives Association)

*Option B:* Notional coupon bearing 10 year GOI security with a notional coupon paid semiannually and face value of Rs.100 for each contract there shall be basket of Govt. of India securities with residual maturity between 9 and 11 years on the day of expiry of IRF contract with appropriate weight assigned to each security in the basket.

2. *Size of the contract:* Each future contracts shall represent 2000 underlying bonds of total face value of Rs.2,00,000/-.<sup>16</sup>

3. *Quotation:* Quotation shall be similar to the quoted price of the Govt. of India security.

4. The tenure of the contracts now serial monthly with maximum of 3 months maturity.

5. The contract value shall be = Quoted price \* 2000.

6. The daily contract settlement value shall be =  $P_w * 2000$

$P_w$  = volume weighted average futures price of the last half an hour.

7. *Final contract settlement value:*

Final contract settlement value shall be =  $2000 * P_f$

$P_f$  is the final settlement price of the underlying/notional bond which shall be determined as given below-

*Option A:*  $P_f$  is the weighted average price of the underlying bond based on the prices during the last two hours of the trading on NDS-OM (Negotiated dealing system – Order matching). If less than 5 trades are executed in the underlying bond during the last two hours of trading, then FIMMDA price shall be used for final settlement.

*Option B:* The final settlement price shall be based on average settlement yield ( $Y_s$ ) which shall be the weighted average of the yields of bonds in the underlying basket.  $Y_s$  will be rounded off to 4 decimal digits. For each bond in the basket yield shall be calculated by determining weighted average yield of the bond based on last two hours of the trading in NDS-OM. If less than 5 trades are executed in the bond during the last two hours of trading, then FIMMDA price shall be used for determining the yields of individual bonds in the basket.

$$P_f = \left[ \frac{100}{\left(1 + \frac{Y_s}{2}\right)^{20}} \right] + \left[ \sum_{k=1}^{20} \frac{100 * \frac{C}{2}}{\left(1 + \frac{Y_s}{2}\right)^k} \right]$$

$P_f$  = the final settlement price of the underlying or notional bond.

$Y_s$  = Settlement yield

$C$  = the notional coupon of underlying bond.

$K$  = the time period

Banks are permitted to participate in the IRFs for the purpose of hedging the risk in the underlying portfolio and also take trading

<sup>16</sup> Exchange Traded Cash Settled Interest Rate Futures (IRF) on 10 year Government of India Security, SEBI Circular on 5th December 2013

position. However, banks are not allowed to undertake transactions in IRFs on behalf of clients. Primary dealers are allowed to deal in IRF for both hedging and trading on own account and not on clients account. This criterion is same as the 2009 criteria. Brokerage house, insurance companies, Primary Dealers, Mutual funds, Provident and pension funds, Corporate Houses, Retail individuals, FIIs are also allowed to take a position on IRFs. The Exchanges offer 10 years Govt. of India Bond in two maturity dates comprising two products. First one is 7.16% GOI security maturing on 20<sup>th</sup> May 2023 and second one is 8.83% GOI security maturing on 25<sup>th</sup> Nov. 2023<sup>17</sup>. The detailed of the products, exchanges, participants and trading hour is presented in Table-1 of Appendix.

### **Success and Failure of the Interest rate futures in India**

RBI allowed trading on exchange traded Interest rate futures on 10 years Govt. of India Bonds in 2003. At that time only NSE launched this product. There was restriction for the Banks to trade on this derivative product and the calculation of all the futures rate was on the basis of ZCYC which was not understood by common traders. For these causes the IRF of 2003 failed in the Indian Market. On 2009, Again Indian financial market introduced the IRF of 10 years Govt. of India Bonds on Physically settled basis keeping the fact that the interest rate futures are occupying the major role in the international derivative market. On 2009, RBI allowed the banks to trade on this product but there was a liquidity problem, since the settlement was on physical basis. That's why the 2009, IRFs failed in Indian market. Financial experts indicated the cause of failure was because of the faulty design of the product. Time to time RBI constituted several committees for reforming the introduction of interest rate futures and to get benefit out of that. Still not a single time this product gets success. This

time on January 2014, again the RBI permitted the same product with cash settlement basis and SEBI allowed NSE, BSE and MCX-SX to introduce for trading on exchanges. The media named this product as 'Rajan's Baby'. It is again another question whether this product will gain in Indian market or will fail like 2003 and 2009. The Rajan's Baby will be an efficient youth or inefficient youth and will follow the past psychology of the investors or will change the sentiment of the investors is yet to see on this innovative product. May be the cash settled IRF of 2014 will attract the investors to trade. The detailed of the success and failure of IRFs in India is presented in the Table-2 of Appendix.

### ***Present moments of IRFs in India:***

The existence of an innovative financial instrument like IRFs is in doubt for Indian derivative market. From the first day of trading to till date the volume as well as total value reduced sharply.<sup>18</sup> The change in volumes, values and open interest of all the three exchanges are given below.

*Volumes:* Table-6 and Figure-1 (in appendix) presents volumes/no of contracts traded in three exchanges like MCX-SX, BSE and NSE. The first day volume of all exchanges was so high but after three days in case of MCX-SX it came down from 45,642 to 17,341 no of contracts, after one day in case of BSE it came down from 23,294 to 9,329 no of contracts and in case of NSE it came down from 1,51,134 no of contracts to 61,768 no of contracts after one day. The overall period's volumes in three exchanges came down drastically. BSE came down to almost zero (AS on 24<sup>th</sup> March, 2014 it was traded only 7 contracts), NSE came down to 19,687 no of contracts as on 21<sup>st</sup> March, 2014 and MCX-SX came down to 872 no of contracts as on 25<sup>th</sup> March, 2014. In the

<sup>17</sup> The IRFs on 2014 first launched by (MCX-SX) on 20<sup>th</sup> January 2014 followed by NSE on 21<sup>st</sup> January and BSE on 28<sup>th</sup> January 2014.

<sup>18</sup> We use daily data based on the volume and total value of interest rate derivatives traded in 3 exchanges. We take data from 20<sup>th</sup> Jan. 2014 to 28<sup>th</sup> March, 2014 with total of 47 observations for MCX-SX, from 21<sup>st</sup> Jan. 2014 to 28<sup>th</sup> March, 2014 with total of 46 observations for NSE and 28<sup>th</sup> Jan. 2014 to 28<sup>th</sup> March, 2014 for BSE with total of 40 observations.



last week of March (24<sup>th</sup>- 28<sup>th</sup> March, 2014), volumes in the BSE and NSE and MCX-SX are increasing but on the last day (28<sup>th</sup> March, 2014) it again started falling.

We calculated the total number of contracts of all the three exchanges and consider the percentage share of each exchange to total no of contracts traded on daily basis. This is presented in Table 7 and figure 2 (in appendix). Total no of contracts traded over the period of time in all the three exchanges is 1,987,252 out of which NSE shares almost volumes (77%), then MCX-SX (17%) and less volumes are traded in BSE (6%). This indicates that IRFs are doing well in NSE then that of other two exchanges.

*Values/Turnover:* The total value/ turnover of all the three exchanges over the period of time are presented in table-8 and figure 3(in appendix). On the first day of trading MCX-SX has 928.39 Crores, BSE has 467.86 Crores and NSE has 3081.5 Crores. This turnover came down day by day to almost zero in case of BSE (0.72 Cr. on 20<sup>th</sup> March, 0.9 Cr. on 21<sup>st</sup> March and 0.14 Cr. on 24<sup>th</sup> March 2014) and MCX-SX (22.19 Cr. On 21<sup>st</sup> and 17.4 Cr. On 25<sup>th</sup> March, 2014). Over the period of time NSE crossed 1,000 Cr. volumes only in 4 days.<sup>19</sup> But it never touched or came to nearer to the first day volume (i.e. 3,081.5 Crore). Overall turnover in NSE is more as compared to MCX-SX and BSE.

Table - 9 and Figure-4 (in appendix) presents the percentage turn over in three exchanges over the period of time. First we calculate total turnover of three exchanges and percentage turn over in each exchange wise. Over the period NSE covers 77%, MCX-SX covers 17% and BSE covers 6% of total turnover.

*Open Interest:* Table-10 and figure-5 (in appendix) presents the open interest (number of contracts outstanding) in three exchanges. The open interest is more in case of NSE over

the period of time. The turnover at BSE is very less and in MCX-SX it is also following BSE.

We calculate total open interest of all the three exchanges and percentage of open interest in each exchange wise on daily basis. This is presented in Table-11 and figure 6 (in appendix). Over the period the open interest is 53,864 out of which NSE covers 77%, MCX-SX covers 21% and BSE covers 2%. It is clear that open interest in BSE is very less and in NSE it is so high.

We present the exchange wise volumes, values and open interest in the appendix. Here question arises when the international derivative markets are able to trade efficiently and effectively on IRFs, why India fails time to time? This may require forming a committee to review on the matter which can help IRFs to become a popular instrument in Indian derivative market.

## Conclusion

A new product ever faces problem in its existence. This time the fear of failure (as it failed in 2003 and 2009) may create problem on trading in this innovative product in Indian market. But by the passage of time it may touch the heart of the investors and grow in Indian derivative market. When global IRFs market is doing well, why not India? The 2014 IRF become simpler as compared to earlier because there is no ZCYC norms, banks are allowed to trade in this product and the products are cash settled. This time the RBI Governor Dr. Raghuram Rajan is directly interfering in this matter. The problem of IRFs in Indian derivative market has to be re-examined by the regulatory authority. The so called Rajan's baby day by day is going to be sick. It needs strong interference of the regulatory authority to cure the sickness associated with the IRFs.

## Reference

1. Bansal, Manish. "Interest Rate Futures." 122-125 available at-<http://www.bseindia.com/downloads/InterestRateFutures.pdf>
2. BSE on Interest rate futures. Available at:

Volumes on the NSE as on 22nd January, 2014 is 1250.95 Crores, 25th February, 2014 is 1035.63 Crores, 26th March, 2014 is 1,418.92 Crores and as on 27th March, 2014 it is 1,785.47 Crores.

<http://www.bseindia.com/downloads1/IRFEBrochure.pdf>

3. Chokhani, Pradeep. 2010. "Interest-rate Futures in India-Interesting Future?" *Taxmann's Corporate Professionals Today* 17(79): 163-167.
4. CME group [http://www.cmegroup.com/trading/interest-rates/files/Eurodollar\\_Futures\\_Interest\\_Rate\\_Building\\_Blocks.pdf](http://www.cmegroup.com/trading/interest-rates/files/Eurodollar_Futures_Interest_Rate_Building_Blocks.pdf)
5. Frankel, A.B. 1984. "Interest Rate Futures: An Innovation in Financial Techniques for the management of risk." *BIS Economic Papers*, No-12: 1-28 available at - <http://www.bis.org/publ/econ12.pdf>
6. Gyntelberg, Jacob and Upper Christian. 2013. "The OTC Interest rate derivatives market in 2013." *BIS Quarterly Review*: 69-82.
7. Labuszewski, J. W., Nyhoff, J. E., Co, R. and Peterson, P. E. 2010. "Eurodollar Futures: Interest Rate Market Building Blocks" *The CME Group Risk Management Handbook: Products and Applications*, John Wiley & Sons, Inc., Hoboken, NJ, USA. Available at: doi: 10.1002/9781118266564.ch6
8. Morris, Charles S. 1989. "Managing Interest Rate Risk with Interest Rate Futures".

*Economic Review*, Federal Reserve Bank of Kansas City: 3-20.

9. NSE on interest rate futures at: [http://www.nseindia.com/products/content/derivatives/irf/IRF\\_Brochure\\_new.pdf](http://www.nseindia.com/products/content/derivatives/irf/IRF_Brochure_new.pdf)

### **Circulars**

1. Cash Settled Interest Rate Futures (IRF) on 10 year Government of India Securities, NSCCL Circular on 9<sup>th</sup> January 2014. Available at <http://www.nseindia.com/circulars/circular.htm>
2. Exchange Traded Cash Settled Interest Rate Futures (IRF) on 10 year Government of India Security, SEBI Circular on 5<sup>th</sup> December 2013.
3. Exchange traded Interest Rate Futures, RBI circular on 5<sup>th</sup> December, 2013.
4. Introduction of Interest Rate Futures (IRFs) on 10 year Cash Settled Government Securities at BSE, BSE notice on 11<sup>th</sup> Jan., 2014.
5. Launch of Cash Settled Interest Rate Futures (IRF) on 10 year Government of India Securities, MCX-SX circular on 14<sup>th</sup> January, 2014.
6. Launch of trading in Interest Rate Futures, NSE Circular on 9<sup>th</sup> January, 2014.

## Appendix

**Table-1: Interest Rate Derivatives In India**

Year	Products	Stock Exchanges	Participants	Trading Hour
1999	FRA	These are purely OTC instruments and are not allowed to trade in <b>Exchanges</b> .	Scheduled Commercial Banks (Excluding Regional Rural Banks), Primary Dealers (PDs) and all Indian Financial Institutions (FIs)	-----
	IRS			
June 2003	10 year Govt. of India Bonds	NSE	Primary Dealers (PDs). Banks are Barred from holding trading position in IRF	9 am to 5 pm Monday to Friday
August 2009	10 year Govt. of India Bonds	NSE and BSE	All Scheduled Commercial Banks, Primary dealers, Urban co-operative banks, Non-banking Finance Companies and specified All India Financial Institutions	9 am to 5 pm Monday to Friday
January 2014	10 year Govt. of India Bond	NSE, BSE and MCX-SX	Banks, Insurance companies, Brokerage House, Primary Dealers, Mutual funds, Provident and pension funds, Corporate Houses, Retail individuals and FIIs.	9 am to 5 pm from Monday to Friday

Notes: FRA- Forward Rate Agreement, IRS- Interest Rate Swaps, IRF-Interest Rate Futures

Table-2: Success or Failure of Interest Rate Futures (IRFs) in India					
Year	Product	Nature of Settlement	Nature of the Product	Failure/Success	Changes Required
1999	FRA and IRS	Cash Settled	OTC Derivative	Successfully worked. Still Exchange traded derivative required for maintaining transparency and hedging interest rate risk accordingly.	Due to the dynamic nature of gross credit exposures and information asymmetries and lack of transparency of this product, it is not able to hedge the risk Efficiently. Thus exchange traded derivative requires to introduce to reduce the risk through a clearing corporation, novation, multilateral netting, centralized settlement and risk management
2003	10 year Govt. of India Bonds	Cash Settled	Exchange Traded Derivative	Failed due to Cash settled on a ZCYC and Banks were not allowed to take a trading position on this instrument and short selling was not allowed.	Need of Banks participation, modification of ZCYC and short selling requires to allow.
2009	10 year Govt. of India Bonds	Physically Settled	Exchange Traded Derivative	Failed due to illiquidity on the Physically settled system, Short selling was not allowed beyond 5 days. For these causes, Banks participated more on the OTC market.	Cash settlement requires on this product, short selling need to allow for more than 5 days. More measures require maintaining liquidity in this particular product.
2014	10 year Govt. of India Bonds	Cash Settled	Exchange Traded Derivative	Yet to see how it is working. MCX-SX is going to introduce on 20 <sup>th</sup> ; NSE on 21 <sup>st</sup> and BSE on 28 <sup>th</sup> of January 2014.	---

**Table-3: Interest Rate Futures in the International Level**

Country/ Exchanges	IRFs Product	Year of Lunching	Maturity Period	Settlement Basis
US/Chicago Mercantile Exchange	Euro Dollar Future based on a \$1 Million face value	9th December 1981. It's a successful futures contract and most widely traded contract in the World since 1981	3 month maturity, matures during the month of March, June, September or December	Cash Settlement based on a BBA (British Banker's Association) rate for three month Eurodollar Interbank time deposits.
	10 year US Treasury Note futures		The first five consecutive contracts in a quarterly cycle	Physical Settlement
	30 year, 10 year, 5 year, and 2 year deliverable interest rate swap	30 year IRF launched on 1977,	Contract months are Quarterly –March, June, September and December. Maturity periods are different according to contract	Physical Settlement
Korea Exchange (South Korea)	3 year Korea treasury bond with 5% coupon rate and semiannual coupon payment	September 29, 1999	Contract Size is KRW 100 Million. First two consecutive month in the quarter are the contract month	Cash Settlement
	5 year Korea treasury bond with 5% coupon rate and semiannual coupon payment	August 22, 2003	Contract Size is KRW 100 Million. First two consecutive month in the quarter are the contract month	Cash Settlement
	10 year Korea treasury bond with 5% coupon rate and semiannual coupon payment	February 25 <sup>th</sup> 2008	Contract Size is KRW 100 Million. First two consecutive month in the quarter are the contract month	Cash Settlement
Tokyo Stock Exchange (Japan)	5 years JGB Futures	February 16, 1996	100 Million yen face value. Final settlement is 20 <sup>th</sup> of each contract month	Physical Settlement
	10 years JGB Futures	October 19, 1985	100 Million yen face value Final settlement is 20 <sup>th</sup> of each contract month	Physical Settlement
	20 years JGB Futures	July 8, 1988	100 Million yen face value. Final settlement is 20 <sup>th</sup> of each contract month	Physical Settlement
	Mini 10 years JGB Futures	March 23 <sup>rd</sup> , 2009	Multiply 100 thousand yen by the price of 10 year JGB futures	Cash Settlement

Notes: JGB- Japanese Govt. Bond; BBA: British Banker's Association

**Table-4: Interest rate Futures traded in organized exchanges  
(No of Contracts Turnover in Millions)**

Markets	2010	2011	2012	Q4 2012	Q1 2013	Q2 2013	Q3 2013
All Markets	2,546.1	2,840.5	2,399.6	538.1	697.4	826.9	664.2
North America	1,77.9	1,344.2	1,070.0	230.3	297.7	372.5	305.1
Europe	931.3	985.6	780.2	172.5	253.2	251.1	218.0
Asia and Pacific	119.2	141.2	147.2	35.1	40.4	48.6	38.9
Other Markets	317.8	369.6	402.2	100.3	106.1	154.8	102.3

Sources: BIS Quarterly Review, December 2013, June 2012

**Table-5: Interest rate Futures traded in organized exchanges  
(Notional principal in billions of US dollar)**

Markets	2010	2011	2012	Q4 2012	Q1 2013	Q2 2013	Q3 2013
All Markets	1,235,907.4	1,359,130.6	1,026,135.4	226,458.6	312,537.9	350,564.8	300,647.5
North America	658,193.5	740,210.8	553,546.2	116,169.4	143,769.6	188,097.5	161,208.4
Europe	498,836.1	525,662.3	387,886.6	89,882.8	145,344.1	134,775.2	119,263.6
Asia and Pacific	60,899.6	71,504.0	64,084.9	15,501.0	18,103.9	20,181.1	15,575.4
Other Markets	17,978.1	21,723.5	20,617.7	4,905.3	5,320.2	7,511.0	4,600.1

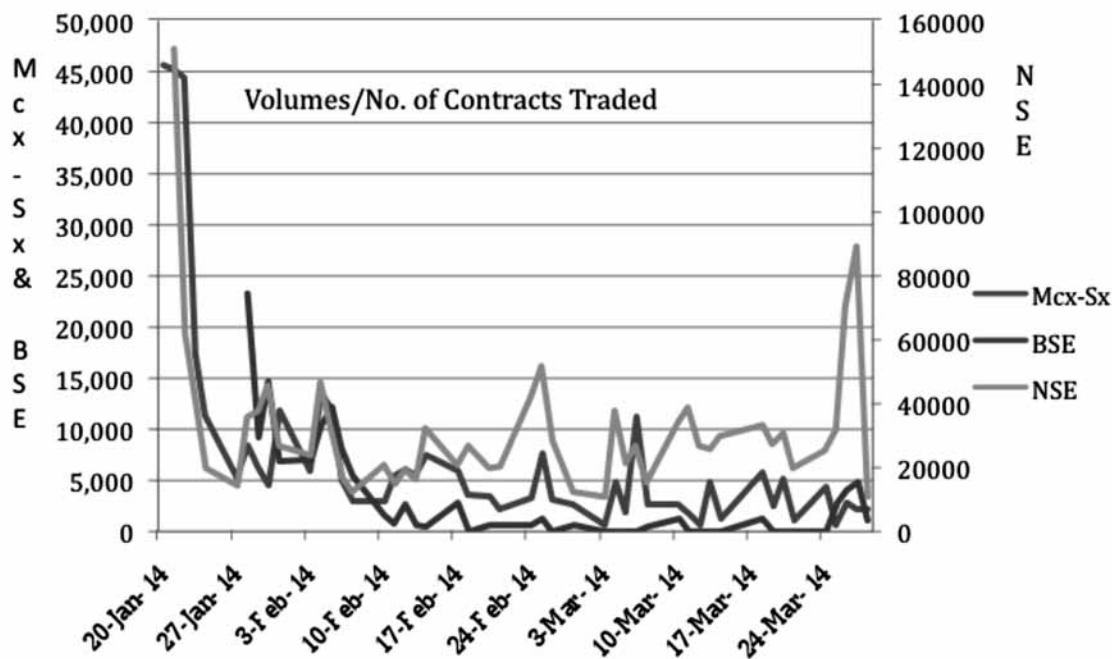
Sources: BIS Quarterly Review, December 2013, June 2012

**Table-6: Volumes/ No of Contracts Traded**

Trade Date	MCX-SX	BSE	NSE	Trade Date	MCX-SX	BSE	NSE
20-Jan-14	45,642			21-Feb-14	2,160	706	20287
21-Jan-14	45,224		151134	24-Feb-14	3,199	660	41613
22-Jan-14	44,387		61768	25-Feb-14	7,625	1340	52004
23-Jan-14	17,341		42961	26-Feb-14	3,042	113	28501
24-Jan-14	11,348		19698	28-Feb-14	2,600	648	12358
27-Jan-14	5,271		14442	3-Mar-14	873	0	10891
28-Jan-14	8,329	23294	36088	4-Mar-14	4,757	425	37719
29-Jan-14	6,400	9329	37765	5-Mar-14	1,855	46	21555
30-Jan-14	4,413	14649	45870	6-Mar-14	11,111	262	26699
31-Jan-14	11,746	6862	27110	7-Mar-14	2,673	548	15326
3-Feb-14	5,936	7053	23717	10-Mar-14	2,525	1239	34394
4-Feb-14	13,531	10419	46612	11-Mar-14	1,601	82	38991
5-Feb-14	11,828	12225	31440	12-Mar-14	638	92	26939
6-Feb-14	4,881	8148	16659	13-Mar-14	4,810	108	25856
7-Feb-14	2,922	5477	12276	14-Mar-14	1,269	220	29857
10-Feb-14	2,884	1671	20870	18-Mar-14	5,742	1312	33285
11-Feb-14	5,384	776	14745	19-Mar-14	2,481	104	27421
12-Feb-14	6,067	2786	19196	20-Mar-14	5,066	36	30993
13-Feb-14	5,333	644	16606	21-Mar-14	1,108	45	19687
14-Feb-14	7,492	525	32239	24-Mar-14	4,282	7	25456
17-Feb-14	5,949	2815	20787	25-Mar-14	872	2818	31977
18-Feb-14	3,568	230	26709	26-Mar-14	2,766	4070	70721
20-Feb-14	3,351	697	19972	27-Mar-14	2,155	4958	89130
				28-Mar-14	2,118	1110	11824



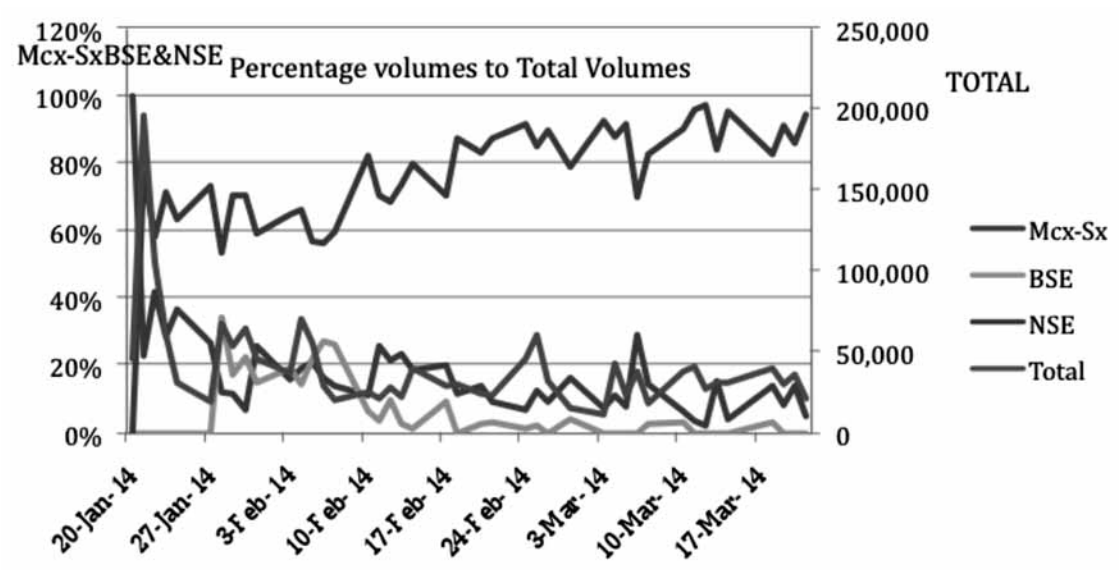
Figure - 1



**Table-7: Percentage Volumes to Total Volumes**

Trade Date	Total	MCX-SX	BSE	NSE	Trade Date	Total	MCX-SX	BSE	NSE
20-Jan-14	45,642	100%	0%	0%	25-Feb-14	60,969	13%	2%	85%
21-Jan-14	196,358	23%	0%	77%	26-Feb-14	31,656	10%	0%	90%
22-Jan-14	106,155	42%	0%	58%	28-Feb-14	15,606	17%	4%	79%
23-Jan-14	60,302	29%	0%	71%	3-Mar-14	11,764	7%	0%	93%
24-Jan-14	31,046	37%	0%	63%	4-Mar-14	42,901	11%	1%	88%
27-Jan-14	19,713	27%	0%	73%	5-Mar-14	23,456	8%	0%	92%
28-Jan-14	67,711	12%	34%	53%	6-Mar-14	38,072	29%	1%	70%
29-Jan-14	53,494	12%	17%	71%	7-Mar-14	18,547	14%	3%	83%
30-Jan-14	64,932	7%	23%	71%	10-Mar-14	38,158	7%	3%	90%
31-Jan-14	45,718	26%	15%	59%	11-Mar-14	40,674	4%	0%	96%
3-Feb-14	36,706	16%	19%	65%	12-Mar-14	27,669	2%	0%	97%
4-Feb-14	70,562	19%	15%	66%	13-Mar-14	30,774	16%	0%	84%
5-Feb-14	55,493	21%	22%	57%	14-Mar-14	31,346	4%	1%	95%
6-Feb-14	29,688	16%	27%	56%	18-Mar-14	40,339	14%	3%	83%
7-Feb-14	20,675	14%	26%	59%	19-Mar-14	30,006	8%	0%	91%
10-Feb-14	25,425	11%	7%	82%	20-Mar-14	36,095	14%	0%	86%
11-Feb-14	20,905	26%	4%	71%	21-Mar-14	20,840	5%	0%	94%
12-Feb-14	28,049	22%	10%	68%	24-Mar-14	29,745	14%	0%	86%
13-Feb-14	22,583	24%	3%	74%	25-Mar-14	35,667	2%	8%	90%
14-Feb-14	40,256	19%	1%	80%	26-Mar-14	77,557	4%	5%	91%
17-Feb-14	29,551	20%	10%	70%	27-Mar-14	96,243	2%	5%	93%
18-Feb-14	30,507	12%	1%	88%	28-Mar-14	15,052	14%	7%	79%
20-Feb-14	24,020	14%	3%	83%	Average Over the Period	1,987,252	17%	6%	77%
21-Feb-14	23,153	9%	3%	88%					
24-Feb-14	45,472	7%	1%	92%					

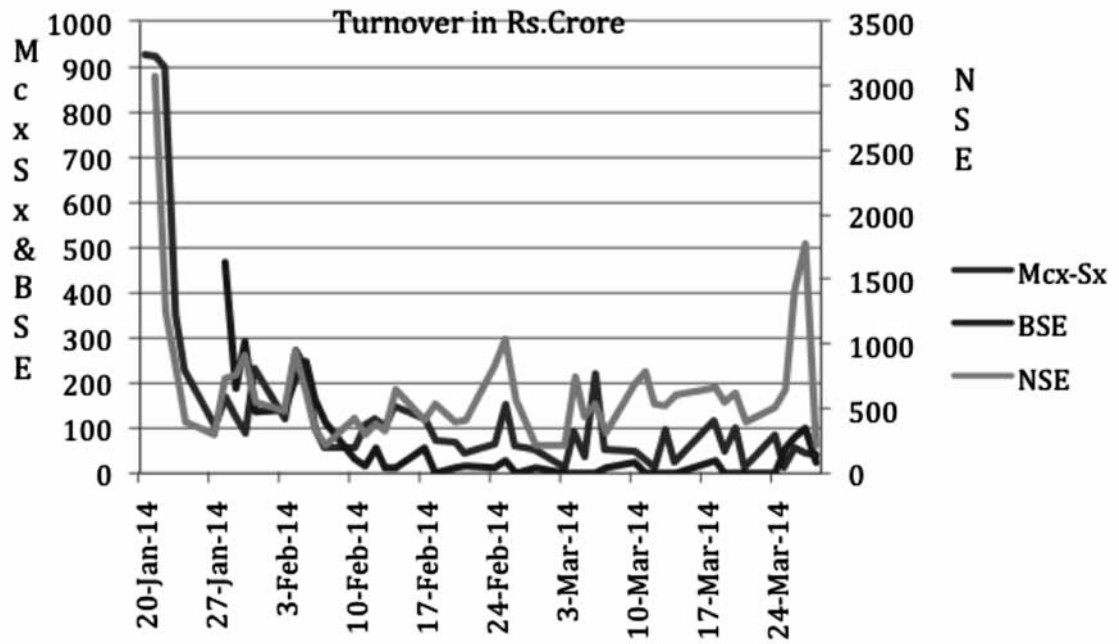
Figure - 2



**Table-8: Values/Turnover in Rs. Cr.**

Trade Date	MCX-SX	BSE	NSE	Trade Date	MCX-SX	BSE	NSE
20-Jan-14	928.39			24-Feb-14	63.89	13.18	830.64
21-Jan-14	922.68		3081.5	25-Feb-14	151.79	26.69	1035.63
22-Jan-14	898.75		1250.95	26-Feb-14	60.54	2.25	567.12
23-Jan-14	351.18		869.2	28-Feb-14	51.81	12.92	246.15
24-Jan-14	228.81		396.99	3-Mar-14	17.38	0	216.74
27-Jan-14	106.01		290.5	4-Mar-14	94.77	8.47	751.16
28-Jan-14	167.33	467.86	724.91	5-Mar-14	37.05	0.92	430.42
29-Jan-14	128.68	187.48	758.96	6-Mar-14	222.42	5.25	534.42
30-Jan-14	88.28	293.09	917.3	7-Mar-14	53.49	10.96	306.57
31-Jan-14	234.82	136.96	542.18	10-Mar-14	50.52	24.78	687.93
3-Feb-14	119.07	141.54	476.35	11-Mar-14	32.16	1.65	783.27
4-Feb-14	272.51	209.75	938.02	12-Mar-14	12.82	1.85	541.82
5-Feb-14	238.27	246.13	633.36	13-Mar-14	96.74	2.17	520.11
6-Feb-14	98.34	164.26	335.7	14-Mar-14	25.47	4.41	598.91
7-Feb-14	58.77	110.15	246.85	18-Mar-14	115.03	26.28	666.72
10-Feb-14	58.1	33.68	420.47	19-Mar-14	49.71	2.09	549.66
11-Feb-14	108.23	15.61	296.43	20-Mar-14	101.47	0.72	619.87
12-Feb-14	121.68	55.85	384.86	21-Mar-14	22.19	0.9	394.43
13-Feb-14	106.69	12.88	332.2	24-Mar-14	85.88	0.14	510.52
14-Feb-14	149.63	10.49	643.81	25-Mar-14	17.48	56.49	640.82
17-Feb-14	119.07	56.28	416.14	26-Mar-14	55.41	81.62	1,418.92
18-Feb-14	71.59	4.61	535.8	27-Mar-14	43.15	99.32	1,785.47
20-Feb-14	67.17	13.96	400.28	28-Mar-14	42.29	22.19	236.19
21-Feb-14	43.3	14.15	406.65				

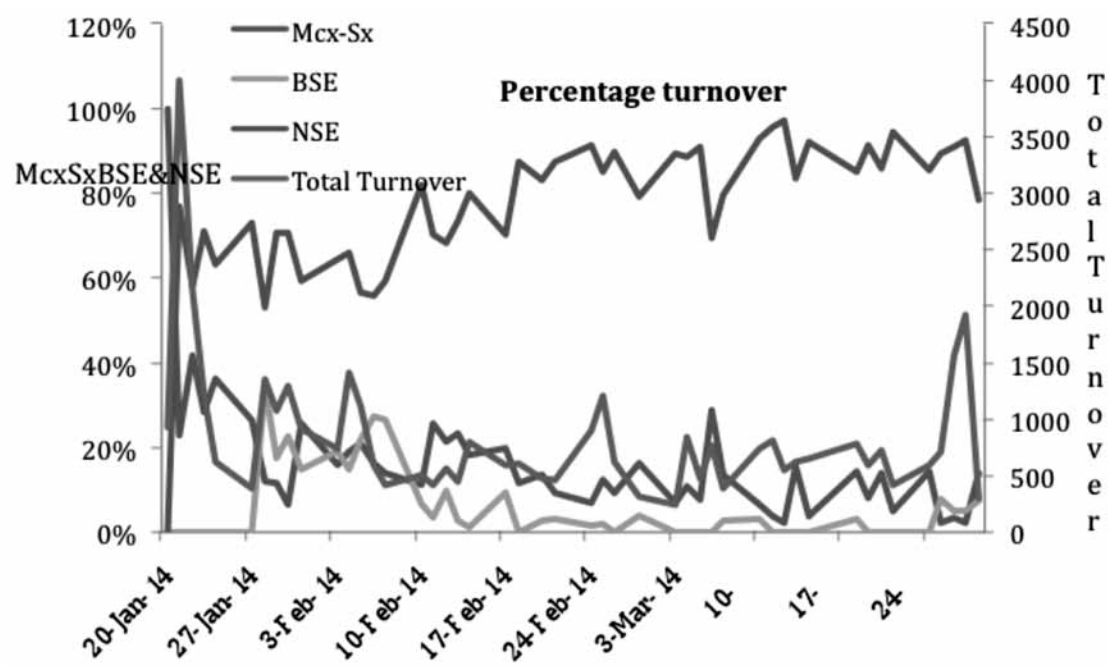
Figure - 3



**Table-9: Percentage Turnover Exchange wise**

Trade Date	Total Turnover	MCX-SX	BSE	NSE	Trade Date	Total Turnover	MCX-SX	BSE	NSE
20-Jan-14	928.39	100%	0%	0%	25-Feb-14	1214.11	13%	2%	85%
21-Jan-14	4004.18	23%	0%	77%	26-Feb-14	629.91	10%	0%	90%
22-Jan-14	2149.7	42%	0%	58%	28-Feb-14	310.88	17%	4%	79%
23-Jan-14	1220.38	29%	0%	71%	3-Mar-14	242.59	7%	0%	89%
24-Jan-14	625.8	37%	0%	63%	4-Mar-14	846.85	11%	1%	89%
27-Jan-14	396.51	27%	0%	73%	5-Mar-14	472.72	8%	0%	91%
28-Jan-14	1360.1	12%	34%	53%	6-Mar-14	767.8	29%	1%	70%
29-Jan-14	1075.12	12%	17%	71%	7-Mar-14	384.84	14%	3%	80%
30-Jan-14	1298.67	7%	23%	71%	10-Mar-14	740.1	7%	3%	93%
31-Jan-14	913.96	26%	15%	59%	11-Mar-14	817.28	4%	0%	96%
3-Feb-14	736.96	16%	19%	65%	12-Mar-14	556.81	2%	0%	97%
4-Feb-14	1420.28	19%	15%	66%	13-Mar-14	621.26	16%	0%	84%
5-Feb-14	1117.76	21%	22%	57%	14-Mar-14	650.66	4%	1%	92%
6-Feb-14	598.3	16%	27%	56%	18-Mar-14	783.84	15%	3%	85%
7-Feb-14	415.77	14%	26%	59%	19-Mar-14	600.09	8%	0%	92%
10-Feb-14	512.25	11%	7%	82%	20-Mar-14	722.24	14%	0%	86%
11-Feb-14	420.27	26%	4%	71%	21-Mar-14	417.52	5%	0%	94%
12-Feb-14	562.39	22%	10%	68%	24-Mar-14	596.54	14%	0%	86%
13-Feb-14	451.77	24%	3%	74%	25-Mar-14	714.79	2%	8%	90%
14-Feb-14	803.93	19%	1%	80%	26-Mar-14	1555.95	4%	5%	91%
17-Feb-14	591.49	20%	10%	70%	27-Mar-14	1927.94	2%	5%	93%
18-Feb-14	612	12%	1%	88%	28-Mar-14	300.67	14%	7%	79%
20-Feb-14	481.41	14%	3%	83%	Average over the Period	39944.59	17%	6%	77%
21-Feb-14	464.1	9%	3%	88%					
24-Feb-14	907.71	7%	1%	92%					

Figure - 4

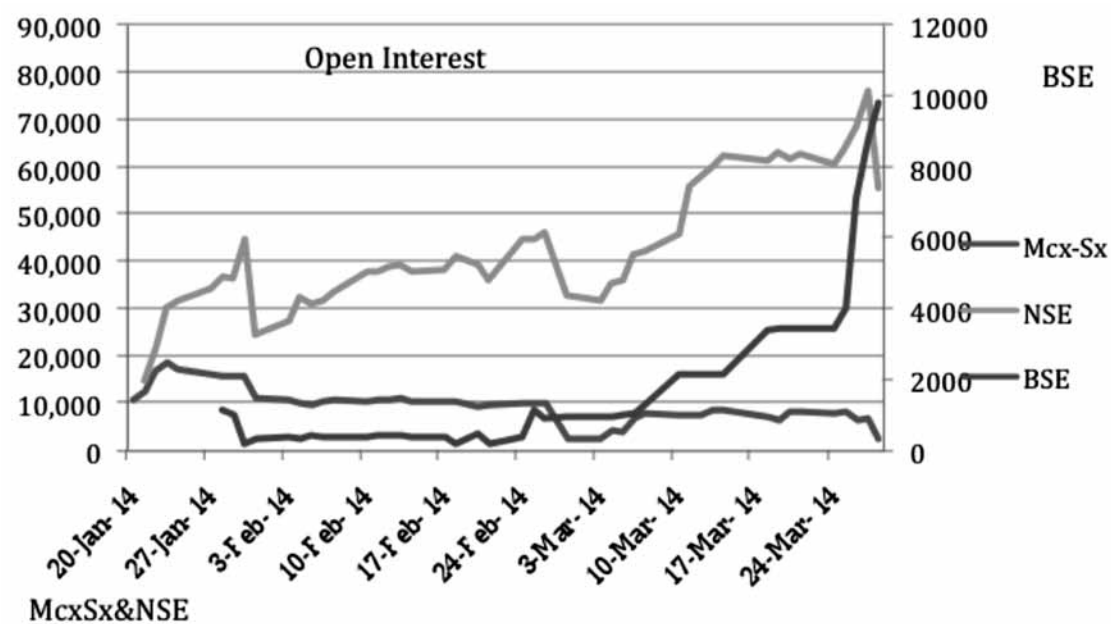




**Table-10: Open Interest**

Trade Date	MCX-SX	BSE	NSE	Trade Date	MCX-SX	BSE	NSE
20-Jan-14	10,690			21-Feb-14	9,717	270	36372
21-Jan-14	12,474		14915	24-Feb-14	10,205	347	44950
22-Jan-14	16,954		22117	25-Feb-14	9,968	1136	44985
23-Jan-14	18,742		30412	26-Feb-14	10,190	910	46428
24-Jan-14	17,203		32062	28-Feb-14	2,722	958	33138
27-Jan-14	16,358		34275	3-Mar-14	2,715	958	32026
28-Jan-14	15,875	1130	36808	4-Mar-14	4,300	958	35613
29-Jan-14	15,821	994	36715	5-Mar-14	4,090	960	36081
30-Jan-14	15,978	205	44725	6-Mar-14	6,914	1033	41743
31-Jan-14	11,103	310	24662	7-Mar-14	7,806	1283	42245
3-Feb-14	10,860	350	27583	10-Mar-14	7,693	2133	45954
4-Feb-14	10,165	287	32565	11-Mar-14	7,510	2133	56064
5-Feb-14	9,818	393	31098	12-Mar-14	7,541	2133	58071
6-Feb-14	10,551	369	32075	13-Mar-14	8,728	2133	59960
7-Feb-14	10,958	372	33704	14-Mar-14	8,780	2133	62428
10-Feb-14	10,590	345	38190	18-Mar-14	7,038	3383	61402
11-Feb-14	10,679	424	38090	19-Mar-14	6,449	3445	63299
12-Feb-14	10,823	405	39056	20-Mar-14	8,187	3445	61649
13-Feb-14	11,047	429	39547	21-Mar-14	8,319	3445	62729
14-Feb-14	10,361	339	38209	24-Mar-14	8,068	3445	60893
17-Feb-14	10,491	339	38334	25-Mar-14	8,302	4018	64053
18-Feb-14	10,566	273	41414	26-Mar-14	6,350	7113	68810
20-Feb-14	9,362	478	39431	27-Mar-14	6,823	8771	76248
				28-Mar-14	2,596	9829	55710

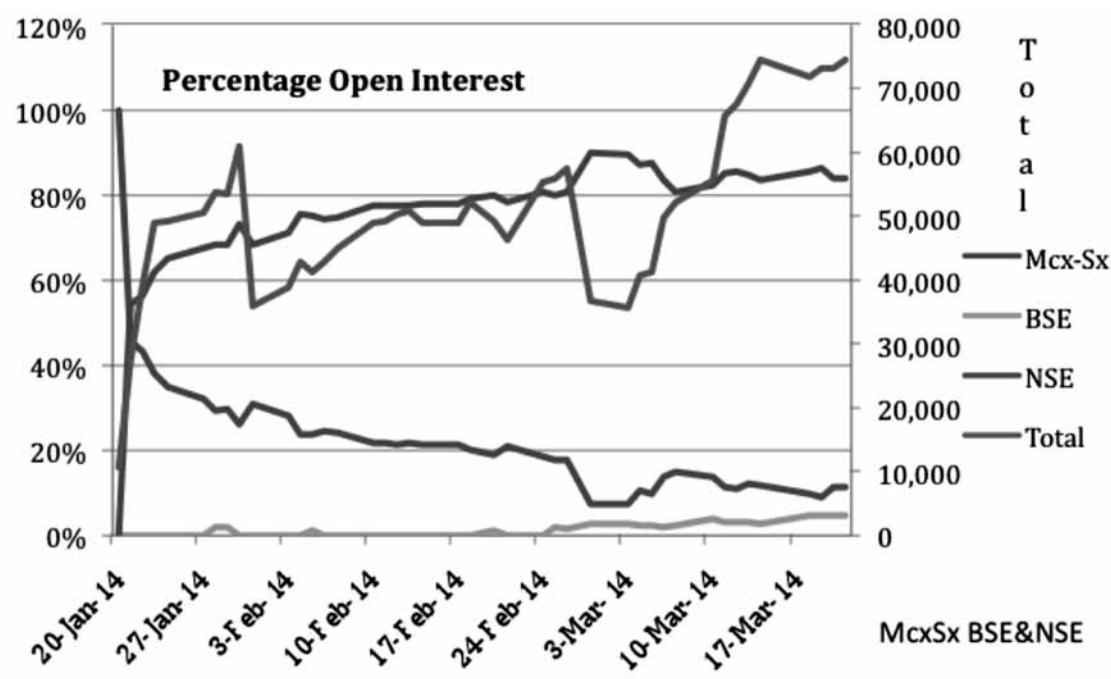
Figure - 5



**Table-11: Percentage Open Interest Exchange wise**

Trade Date	Total	MCX-SX	BSE	NSE	Trade Date	Total	MCX-SX	BSE	NSE
20-Jan-14	10,690	100%	0%	0%	25-Feb-14	56,089	18%	2%	80%
21-Jan-14	27,389	46%	0%	54%	26-Feb-14	57,528	18%	2%	81%
22-Jan-14	39,071	43%	0%	57%	28-Feb-14	36,818	7%	3%	90%
23-Jan-14	49,154	38%	0%	62%	3-Mar-14	35,699	8%	3%	90%
24-Jan-14	49,265	35%	0%	65%	4-Mar-14	40,873	11%	2%	87%
27-Jan-14	50,633	32%	0%	68%	5-Mar-14	41,204	10%	2%	88%
28-Jan-14	53,813	30%	2%	68%	6-Mar-14	49,940	14%	2%	84%
29-Jan-14	53,530	30%	2%	69%	7-Mar-14	52,184	15%	2%	81%
30-Jan-14	60,908	26%	0%	73%	10-Mar-14	55,780	14%	4%	82%
31-Jan-14	36,075	31%	1%	68%	11-Mar-14	65,707	11%	3%	85%
3-Feb-14	38,793	28%	1%	71%	12-Mar-14	67,745	11%	3%	86%
4-Feb-14	43,017	24%	1%	76%	13-Mar-14	70,821	12%	3%	85%
5-Feb-14	41,309	24%	1%	75%	14-Mar-14	74,591	12%	3%	84%
6-Feb-14	42,995	25%	1%	75%	18-Mar-14	71,885	10%	5%	85%
7-Feb-14	45,034	24%	1%	75%	19-Mar-14	73,193	9%	5%	86%
10-Feb-14	49,125	22%	1%	78%	20-Mar-14	73,281	11%	5%	84%
11-Feb-14	49,193	22%	1%	77%	21-Mar-14	74,493	11%	5%	84%
12-Feb-14	50,284	22%	1%	78%	24-Mar-14	72,406	11%	5%	84%
13-Feb-14	51,023	22%	1%	78%	25-Mar-14	76,373	11%	5%	84%
14-Feb-14	48,909	21%	1%	78%	26-Mar-14	82,273	8%	9%	84%
17-Feb-14	49,164	21%	1%	78%	27-Mar-14	91,842	7%	10%	83%
18-Feb-14	52,253	20%	1%	79%	28-Mar-14	68,135	4%	14%	82%
20-Feb-14	49,271	19%	1%	80%	Average over the Period	53,864	21%	2%	77%
21-Feb-14	46,359	21%	1%	78%					
24-Feb-14	55,502	18%	1%	81%					

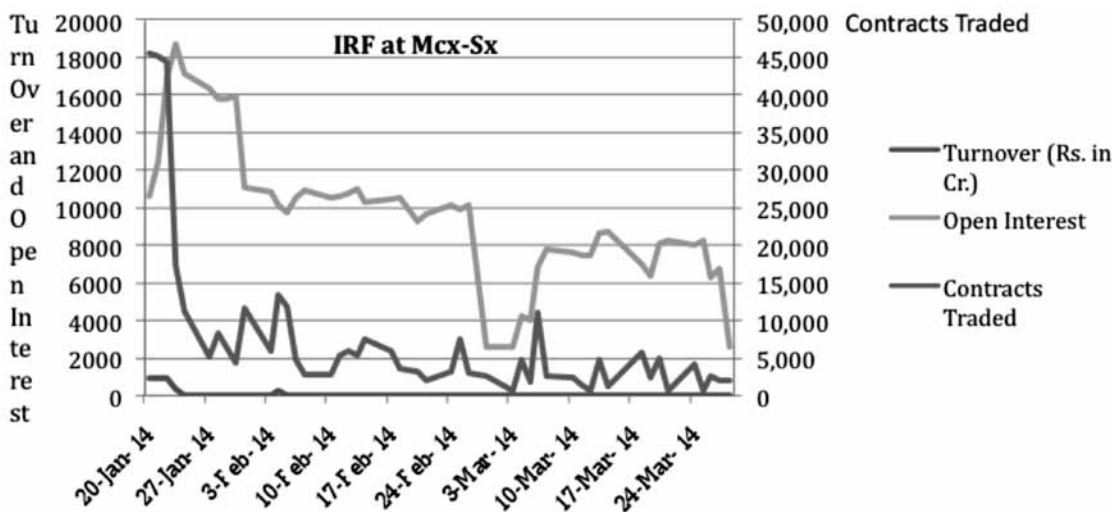
Figure - 6



**Table-11: Percentage Op Table-12: MCX-SX en Interest Exchange wise**

Trade Date	Contracts Traded	Turnover (Rs. in Cr.)	Open Interest	Trade Date	Contracts Traded	Turnover (Rs. in Cr.)	Open Interest
20-Jan-14	45,642	928.39	10,690	24-Feb-14	3,199	63.89	10,205
21-Jan-14	45,224	922.68	12,474	25-Feb-14	7,625	151.79	9,968
22-Jan-14	44,387	898.75	16,954	26-Feb-14	3,042	60.54	10,190
23-Jan-14	17,341	351.18	18,742	28-Feb-14	2,600	51.81	2,722
24-Jan-14	11,348	228.81	17,203	3-Mar-14	873	17.38	2,715
27-Jan-14	5,271	106.01	16,358	4-Mar-14	4,757	94.77	4,300
28-Jan-14	8,329	167.33	15,875	5-Mar-14	1,855	37.05	4,090
29-Jan-14	6,400	128.68	15,821	6-Mar-14	11,111	222.42	6,914
30-Jan-14	4,413	88.28	15,978	7-Mar-14	2,673	53.49	7,806
31-Jan-14	11,746	234.82	11,103	10-Mar-14	2,525	50.52	7,693
3-Feb-14	5,936	119.07	10,860	11-Mar-14	1,601	32.16	7,510
4-Feb-14	13,531	272.51	10,165	12-Mar-14	638	12.82	7,541
5-Feb-14	11,828	238.27	9,818	13-Mar-14	4,810	96.74	8,728
6-Feb-14	4,881	98.34	10,551	14-Mar-14	1,269	25.47	8,780
7-Feb-14	2,922	58.77	10,958	18-Mar-14	5,742	115.03	7,038
10-Feb-14	2,884	58.1	10,590	19-Mar-14	2,481	49.71	6,449
11-Feb-14	5,384	108.23	10,679	20-Mar-14	5,066	101.47	8,187
12-Feb-14	6,067	121.68	10,823	21-Mar-14	1,108	22.19	8,319
13-Feb-14	5,333	106.69	11,047	24-Mar-14	4,282	85.88	8,068
14-Feb-14	7,492	149.63	10,361	25-Mar-14	872	17.48	8,302
17-Feb-14	5,949	119.07	10,491	26-Mar-14	2,766	55.41	6,350
18-Feb-14	3,568	71.59	10,566	27-Mar-14	2,155	43.15	6,823
20-Feb-14	3,351	67.17	9,362	28-Mar-14	2,118	42.29	2,596
21-Feb-14	2,160	43.3	9,717				

Figure - 7

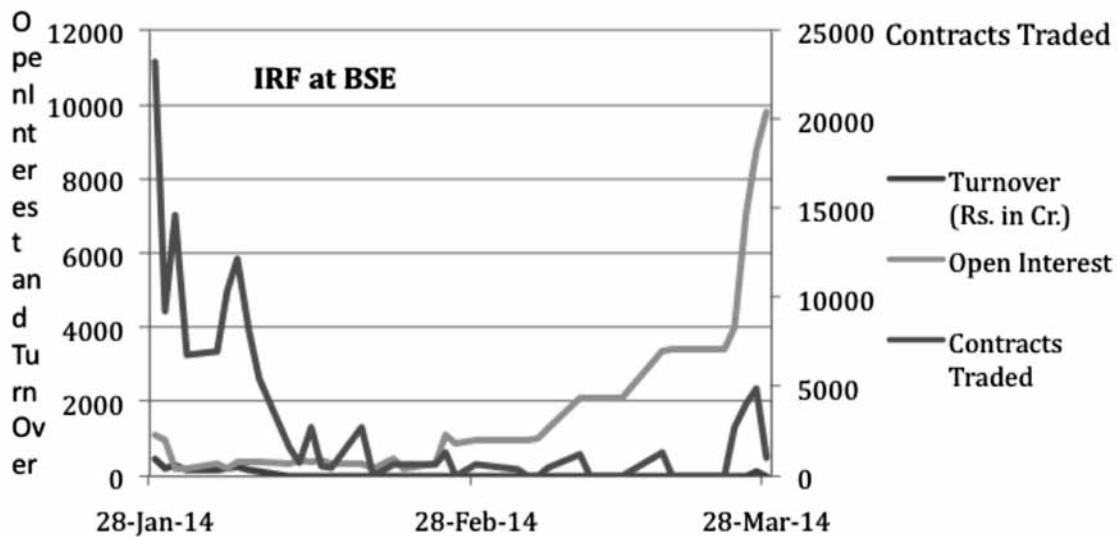


**Table-13: BSE**

Trade Date	Contracts Traded	Turnover (Rs. in Cr.)	Open Interest	Trade Date	Contracts Traded	Turnover (Rs. in Cr.)	Open Interest
28-Jan-14	23294	467.86	1130	26-Feb-14	113	2.25	910
29-Jan-14	9329	187.48	994	28-Feb-14	648	12.92	958
30-Jan-14	14649	293.09	205	4-Mar-14	425	8.47	958
31-Jan-14	6862	136.96	310	5-Mar-14	46	0.92	960
3-Feb-14	7053	141.54	350	6-Mar-14	262	5.25	1033
4-Feb-14	10419	209.75	287	7-Mar-14	548	10.96	1283
5-Feb-14	12225	246.13	393	10-Mar-14	1239	24.78	2133
6-Feb-14	8148	164.26	369	11-Mar-14	82	1.65	2133
7-Feb-14	5477	110.15	372	12-Mar-14	92	1.85	2133
10-Feb-14	1671	33.68	345	13-Mar-14	108	2.17	2133
11-Feb-14	776	15.61	424	14-Mar-14	220	4.41	2133
12-Feb-14	2786	55.85	405	18-Mar-14	1312	26.28	3383
13-Feb-14	644	12.88	429	19-Mar-14	104	2.09	3445
14-Feb-14	525	10.49	339	20-Mar-14	36	0.72	3445
17-Feb-14	2815	56.28	339	21-Mar-14	45	0.9	3445
18-Feb-14	230	4.61	273	24-Mar-14	7	0.14	3445
20-Feb-14	697	13.96	478	25-Mar-14	2818	56.49	4018
21-Feb-14	706	14.15	270	26-Mar-14	4070	81.62	7113
24-Feb-14	660	13.18	347	27-Mar-14	4958	99.32	8771
25-Feb-14	1340	26.69	1136	28-Mar-14	1110	22.19	9829



Figure - 8



**Table-14: NSE 3: BSE**

<b>Trade Date</b>	<b>Contracts Traded</b>	<b>Turnover (Rs. in Cr.)</b>	<b>Open Interest</b>		<b>Trade Date</b>	<b>Contracts Traded</b>	<b>Turnover (Rs. in Cr.)</b>	<b>Open Interest</b>
21-Jan-14	151134	3081.5	14915		24-Feb-14	41613	830.64	44950
22-Jan-14	61768	1250.95	22117		25-Feb-14	52004	1035.63	44985
23-Jan-14	42961	869.2	30412		26-Feb-14	28501	567.12	46428
24-Jan-14	19698	396.99	32062		28-Feb-14	12358	246.15	33138
27-Jan-14	14442	290.5	34275		3-Mar-14	10891	216.74	32026
28-Jan-14	36088	724.91	36808		4-Mar-14	37719	751.16	35613
29-Jan-14	37765	758.96	36715		5-Mar-14	21555	430.42	36081
30-Jan-14	45870	917.3	44725		6-Mar-14	26699	534.42	41743
31-Jan-14	27110	542.18	24662		7-Mar-14	15326	306.57	42245
3-Feb-14	23717	476.35	27583		10-Mar-14	34394	687.93	45954
4-Feb-14	46612	938.02	32565		11-Mar-14	38991	783.27	56064
5-Feb-14	31440	633.36	31098		12-Mar-14	26939	541.82	58071
6-Feb-14	16659	335.7	32075		13-Mar-14	25856	520.11	59960
7-Feb-14	12276	246.85	33704		14-Mar-14	29857	598.91	62428
10-Feb-14	20870	420.47	38190		18-Mar-14	33285	666.72	61402
11-Feb-14	14745	296.43	38090		19-Mar-14	27421	549.66	63299
12-Feb-14	19196	384.86	39056		20-Mar-14	30993	619.87	61649
13-Feb-14	16606	332.2	39547		21-Mar-14	19687	394.43	62729
14-Feb-14	32239	643.81	38209		24-Mar-14	25456	510.52	60893
17-Feb-14	20787	416.14	38334		25-Mar-14	31977	640.82	64053
18-Feb-14	26709	535.8	41414		26-Mar-14	70721	1,418.92	68810
20-Feb-14	19972	400.28	39431		27-Mar-14	89130	1,785.47	76248
21-Feb-14	20287	406.65	36372		28-Mar-14	11824	236.19	55710

# Examining the Moderating Effect of Perceived Work and Family Demands in the Link between Organizational Supports and Job Attitudes of Re-entry Women

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## Abstract

India has witnessed increased participation of women in all sectors of labor market. However, the career path of Indian women is not a continuous one. Despite the overflowing career prospects, women continue to quit their jobs. Some re-enter after taking a break, while others are forever lost to the labor markets. Those women, who re-enter to the work force, find difficulty in gaining back their career momentum because of the demands they face at work and home. Organizations are increasingly valuing the worth of re-entry women talent and taking lots of initiatives to bring them back to workforce as well as retain them by providing several workplace support systems such as flexible timings, work-from-home opportunities etc. Consequently, a number of studies have empirically examined the relationships between organizational supports and job attitudes of employees. But, there are very few studies that have analysed the role of perceived work and family demands in these relationships. Moreover, studies on examining the work related attitudes of re-entry women are limited. Hence, the primary objective of this study is to analyse the role of organizational supports (e.g. Policy Support, Work-Family Culture, Organizational Justice and Diversity Climate) and job attitudes (Job Satisfaction and Career Satisfaction) of Indian re-entry women in the IT sector. Secondly, this study aims to

investigate the moderating effects of perceived work and family demands on the relationships between organizational support factors and job attitudes of re-entry women. Data were collected from 152 re-entry women from various IT organizations situated in the Southern part of India through a questionnaire survey. Data were analysed using t-tests, ANOVA and hierarchical regression techniques. Results reveal support for many of the proposed direct relationships between organizational support factors and job attitudes. Perceived job and family demands were found to partially moderate the relationships between organizational support factors and the job attitudes of re-entry women. Practical implications of the study with regard to women talent retention are discussed.

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## Introduction

In the recent decades, the world has witnessed far-reaching demographic changes in the lives of women. These changes have touched almost all aspects of women's lives like, education, marriage, child bearing and labor force participation. Previous studies, however, have confirmed that female professionals encounter more problems in their careers than their male counterparts (Wajcman, 1998). A woman's world is perceived to include a specific genre of work activity such as, caring for others and balancing relationships, whereas a man's world has an emphasis on individual thought, independent achievement and success based on competition and hierarchy (Rudman and Phelan, 2008). At every level, female professionals – regardless of locations – complained of having to deal with blocked mobility, discrimination and stereotypes. For example, in India, 52% of the companies are doubtful about the commitment shown by working mothers and 45% of them are of the opinion that their skills may be out of date (Regus, 2011). This is highly alarming as studies have shown that, women in India are becoming the most important source of talent for IT organizations across the world (Panteli, 2012; Women Matter Report, 2010). Though women have been under-represented and stereotyped in almost all parts of the world, in developed countries, due to appropriate legal systems, governmental interventions, technical, educational and organizational policies and women themselves, the gender imbalance has been reduced (Brown, 2010;

Cabrera, 2007). However, in India, the governmental legislations and reforms towards working population have a distinct patriarchal attitude (Rajadyaksha, 2012), as the policies and legislations are framed based on the assumption that, the employee or the worker is a male by default. The situation becomes even more unfortunate for women in the IT sector where, work is more demanding and employees spend long hours at work (Panteli, 2012). Due to a lack of sufficient understanding of the challenges faced by Indian women, the Indian IT organizations are not entirely successful in addressing the female brain-drain (Glover and Guerrier, 2010; Valenduc, 2011).

Several researchers have stated that, an organization which can effectively value and manage diversity by deliberately recruiting diverse employees can gain a competitive advantage or strategic edge (Hicks-Clarke and Iles, 2000; Kossek and Zonia, 1993). However, in India, men are still four times more likely to be classified as "professionals" compared with women and pay rates are still equal and, employers still contend that women returners or Re-entry women, who are the most important source of talent pool in India, are less committed (Regus, 2011). If diversity and inclusion does confer significant competitive benefits to organizations, it becomes highly essential to foster a positive and inclusive environment for diverse employees like women returners. Hence, studying re-entry women in the Indian IT sector is especially important, in order to bring back the rest of

the educated and talented women population, who have become lost to the workforce since their career break.

### **Why Indian Women Quit their Careers?**

Reasons for women's career interruptions differ across countries. The most often cited reasons for career interruptions by Indian women are child care, elder care, spousal relocation and safety and travel issues (Bharathi and Baral, 2012; Center for Talent Innovation Report, 2013; Hewlett and Rashi, 2010). In India, multiple social roles like mother, daughter, daughter-in-law and wife, are equally important. Performing the duties entitled by these roles is mandated by the society (Aryee et al. 2005; Bharat 2003). Additionally, in cultures such as India, which are low on gender egalitarianism, support from the male spouse is less likely than it is in the western countries, which are high on gender egalitarianism (Jost and Banaji, 1994).

Therefore, it is not highly surprising when 'commitment to family responsibility' is stated to be a great barrier for career continuance and advancement by women in IT sector (Buddhapriya, 2009). The societal and familial demands make it highly challenging for Indian women to pursue a continuous career in the IT sector. This can be implied from the Women Matter Survey Report (2010) that shows gradual reduction of percentage of women employees from the entry levels to the higher levels across the corporate pipeline.

Though organizations in India have started providing innovative family-friendly policies to help women balance their career and family, they still have not been entirely successful (Baral and Bhargava, 2010). In the absence of relevant support systems, women may become dissatisfied with their jobs and careers, which might lead to negative attitudes in the work context (Spector, 1997). Given these negative consequences, an analysis of factors that determine the satisfaction or dissatisfaction of women employees, is of great interest to the organizations. Among others, the culture and formal support systems present at the

workplace, as well as the organizational justice, have been identified as the factors that may predict the job attitudes of women (Grandey, Cordeiro and Crouter, 2005). Several researchers have analyzed the effect of work and family demands on the job attitudes of women (Ford, Heinem and Langkamer, 2007). However, there are very few studies, if any, that analyze the role of perceived work and family demands as a moderator in the relationships between organizational supports and job attitudes of women in the Indian context. Hence, this study aims at filling this gap by analyzing the role of perceived work and family demands on the relationship between organizational supports and job attitudes of Indian Re-entry women in the IT sector.

### **Attitudes of Importance to Women Returners**

Career satisfaction and Job satisfaction are important measures of an employee's attitudinal response towards his career and his job or organization respectively (Dikkers, Geurts, den Dulk, Peper and Kompier, 2004). Career satisfaction measures the extent to which individuals believe their career progression is consistent with their own goals, values and preferences (Erdogan, Kraimer and Liden, 2004; Heslin, 2003; Seibert and Kraimer, 2001). Career satisfaction, is greatly affected by organizational supports such as policy support, organizational justice and diversity climate (Hicks-Clarke and Iles, 2000). Work-family culture is also found to influence career satisfaction (Lyness, Thompson, Francesco, and Judiesch, 1999).

With respect to job satisfaction, Garcia-Bernal, Gargallo-Castel, Marzo-Navarro and Rivera-Torres (2005) argued that, job satisfaction should be cardinal to organizational objectives for organizations to be successful. Studies have also repeatedly shown that job satisfaction has strong ties to work-family culture, policy support, diversity climate and organization justice (Dikkers et. al, 2004; Hick-Clarke et. al., 2000; Thompson, Beauvais and Lyness, 1999).

### **Organizational Support Factors Influencing the Attitudes of Women Returners**

Organizational support theory posits that employees who encounter a supportive climate at work in the form of an organization that cares about their well-being, recognizes their contributions, and offers opportunities for recognition, promotion, and training and development will be more satisfied and committed to their jobs, and are less likely to consider quitting their organizations (e.g., Eisenberger, Huntington, Hutchison, & Sowa, 1986; Shore & Shore, 1995). Based on social exchange theory and norms of reciprocity that indicate that people feel obligated to help those that help them, Eisenberger and colleagues (e.g., Eisenberger et al., 1986; Shore and Wayne, 1993; Wayne, Shore, & Linden, 1997) have argued that employees who perceive greater support from their organizations would be more likely to feel obligated to their organizations and help the organization reach its goals, and in so doing, repay their organizations. Employees can repay their organizations in many ways including having favorable job attitudes.

Studies in both the Indian and Western contexts cite a lot of factors that have strong impact on the job attitudes of working women which determine the overall career exit, re-entry and up-ramping phenomena (Hewlett and Rashid, 2011). From the literature, it was found that policy support, diversity climate, work-family culture and organizational justice had positive linkages with the job attitudes namely, job satisfaction, career satisfaction (For details, refer Allen, 2001; Hicks-Clarke and Iles, 2000 and Lyness, Thompson, Francesco, and Judiesch, 1999). Hence, these are the organizational factors that were considered in the study and they are explained below.

**Diversity Climate** is defined as “employee behaviors and attitudes that are grounded in perceptions of the organizational context related to women and minorities” (Mor Barak, Cherin and Berkman, 1998). Cox (1994) used the following three levels to describe the context of diversity climate: individual, inter-group, and organizational factors. Of particular interest in this study were the individual and

organizational factors. Managing diversity refers to comprehensive managerial process for developing an environment that works well for all employees, including dominant culture employees (Ely and Thomas, 1991). Kossek and Zonia (1993) argue that power in most organizations still lies with males and that manages to create dominant heterogeneous culture. If employees from diverse backgrounds are not managed properly, it may lead to severe consequences ending with individual and organizational ineffectiveness (Milliken and Martins, 1996). Kossek and Zonia (1993) argue that women are often more aware of restrictions on their advancement and opportunities than are men. Hence, while measuring the attitudes of women in organizations, diversity climate becomes an important factor. Hence, the following hypothesis:

*Hypothesis 1: Diversity Climate will be positively related to Job Satisfaction, Career Satisfaction.*

**Policy Support** refers to the family-friendly policies that are offered to by the organizations, in order to help the employees balance their work and personal lives. The work of Alimo-Metcalfe (1993) and Sidney (1994) have shown the benefits conferred to the organizations due to these policies. The implementation of family-friendly policies is viewed as both responsive to and supportive of women's increasing participation in the labour force. Pylkkänen and Smith (2004), argue that family-friendly policies have a positive impact on the probability of women's return to labour market. Work-life balance practices and policies help employees to balance their work and family demands, which can lead to enhanced employee productivity and significant business improvements (European Network for Workplace Health Promotion, 2006; Human Resources and Social Development Canada, 2006). With regard to job attitudes, use of and satisfaction with policies like work schedule flexibility had been associated with increased organizational commitment (Halpern, 2005). In addition to policy availability, studies had also shown the



critical aspect of policy usage as an important predictor of women's job attitudes (Allen, 2001; Kim, Lee and Sung, 2013). Hence, the present study aims at finding the influence of both policy availability at the work place and the actual policy usage, on the job attitudes of re-entry women and poses the following hypotheses:

*Hypothesis 2a: Policy Availability is positively related to Job Satisfaction and Career Satisfaction.*

*Hypothesis 2b: Policy Usage is positively related to Job Satisfaction and Career Satisfaction.*

**Organizational Justice** is yet another important predictor of job attitudes of employees. Kim, Ok and Lee (2009) found that employees, who perceived that they were treated fairly by their company, tended to develop and maintain communal relationships with the company and were more likely to hold more commitment, trust, satisfaction, and control mutuality than when they perceived that they were treated unfairly. When committed to diversity management, an organization will be able to establish the fairness of the systems which evaluate, promote, and compensate its employees based on their performance and ability rather than criteria such as gender. According to Magoshi and Chang (2009), when a company effectively utilizes diversity management practices, employees may perceive that, decision processes are implemented on non-prejudicial factors, and accordingly, their sense of justice will be enhanced. Enhanced justice triggers the employee outcomes like job satisfaction and career satisfaction. Therefore, the resulting hypothesis is,

*Hypothesis 3: Organizational Justice will be positively related to Job Satisfaction and Career Satisfaction.*

A supportive **Work-family culture** has been defined as the shared assumptions, beliefs and values, regarding the extent to which, for women and men, an organization supports and values work and family integrations (Thompson et al, 1999). Supportive work-family culture is positively related to

job satisfaction, affective organizational commitment and negatively related to intention to leave the organization (Bhargava and Baral, 2009; Dikkers et al, 2004). Additionally, Lyness et al. (1999), have shown that supportive work-family culture increases pregnant women's career commitment and positively influences their plans to return to work sooner. Mauno (2005) argues that poorer work-family culture leads to poorer job satisfaction and that, the work-family culture is found to be more supportive among female respondents than male respondents. Hence, the resulting hypothesis would be,

*Hypothesis 4: Work-Family Culture is positively related to Job Satisfaction and Career Satisfaction.*

**Perceived Work Demand (PWD)** is a perception regarding demand levels within the work domain while **Perceived Family Demand (PFD)** is a perception regarding demand levels within the family domain (Boyar, Carr, Mosley, Jr. and Carson, 2007). It is posited that perceived demand will be identifiable to researchers and perceived by the individual (Arsenault and Dolan, 1983). Increasing levels of work and family demands may potentially increase the chance that one domain (e.g. work or family) can spill over to the other resulting in work-family conflict (Crouter, 1984; Lambert, 1990). Work-family conflict is defined as "a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" (Greenhaus and Beutell, 1985). As demands in one domain prevent an individual from fulfilling the demands of the other, there may be unmet role responsibilities, which results in conflict. Work demands are generally associated to work to family conflict while family demands are associated to family to work conflict. The perception of the job and family demands by the employees will often influence their behaviours and attitudes. According to Way (2008), perceived job demand negatively influences the job satisfaction and hence, higher the job demand, lesser the satisfaction in



job. For employees dealing with simultaneous work and family demands, flexible working practices or other family-friendly programs can be very important in choosing whether to stay with or leave an employer (Beauregard, 2007). Attitudes toward balancing a career with family commitments, as well as the actual experience of managing competing demands from work and from home are likely to have a significant influence on employees' satisfaction with their career outcomes (Sanders, Lengnick-Hall, Lengnick-Hall and Steele-Clapp, 1998) and perceptions of career success. In sum, perceived work or family demand may influence the relationship between organizational support factors and job attitudes. Thus, we propose the following hypotheses:

*Hypothesis 5: Perceived Work Demand has significant moderating effects on the relationship between organizational supports (policy availability, policy usage, diversity climate, organizational justice and work-family culture) and job attitudes of re-entry women (Job Satisfaction and Career Satisfaction).*

*Hypothesis 6: Perceived Family Demand has significant moderating effects on the relationship between organizational supports (policy availability, policy usage, diversity climate, organizational justice and work-family culture) and job attitudes of re-entry women (Job Satisfaction and Career Satisfaction).*

## Method

### Data and Sample

Data were collected through a survey questionnaire from 152 re-entry women employed in 9 different IT organizations in Southern India. 70.4 percent were married. Of the married respondents (n=107), 87.9 percent reported having at least one child. In terms of education, 96 participants (63.2 percent) reported to have a graduate degree in technical non-technical education and 56 (36.9 percent) reported to have a post-graduate degree in technical or non-technical education. All the respondents were full-time and regular employees in their respective organizations.

## Measures

To measure the *availability of policies*, participants were given a list of 13 - work-life balance policies commonly offered by organizations and were asked to state whether their current organization offers those policies or benefits. The respondents indicated their response by "no" or "yes". Policies that were available were coded "1", otherwise "0". Responses were summed up to create an overall Policy Availability index such that, higher scores indicated a greater number of policies available. Similarly, to measure the *usage of policies*, participants were given the same list of 13 work-life balance policies and were asked to state whether they had used the policies/benefits during their tenure in their current organization. The respondents indicated their response by "no" or "yes". Policies that were used by the respondents were coded "1", otherwise "0". Responses were summed up to create an overall Policy Usage index such that, higher scores indicated a greater number of benefits used. *Work-family culture* was measured using the nine-item short version work-family culture scale (Lyness et al., 1999) originally developed by Thompson et al. (1999). Respondents indicated their level of agreement to each statement (e.g. in general, managers/supervisors in this organization are quite accommodating of family-related needs) on a five-point scale ranging from "strongly disagree" (1) to "strongly agree" (5). Negatively worded items were reverse scored and responses were summed such that a high score represented a supportive work-family culture. *Organizational Justice* was measured using the 10 item scale developed by Tremblay, Sire and Balkin (2000). Respondents indicated their level of agreement to each statement (e.g. Management is transparent in terms of compensation management) on a five-point scale ranging from "strongly disagree" (1) to "strongly agree" (5). Negatively worded items were reverse scored and responses were summed such that a high score represented a fair workplace. *Diversity Climate* was measured using the 4 item scale developed by Mor Barak, Cherin and Berkman (1998).

Respondents indicated their level of agreement to each statement (e.g. Managers here give feedback and evaluate employees fairly regardless of factors such as sex/ gender) on a six-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Negatively worded items were reverse scored and responses were summed such that a high score represented a fair workplace.

**Job Satisfaction** was measured using the 6 item scale developed by Agho, Price and Mueller (1992). Respondents indicated their level of agreement to each statement (e.g. Most days I am enthusiastic about my work) on a five-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Negatively worded items were reverse scored and responses were summed to get the final score in each of the dependent variables. **Career Satisfaction** was measured using the 5 item scale developed by Greenhaus, Parasuraman, and Wormley (1990). Respondents indicated their level of agreement to each statement (e.g. I am satisfied with the success I have achieved in my career) on a five-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Negatively worded items were reverse scored

and responses were summed to get the final score in each of the dependent variables.

**Perceived Work Demand** and **Perceived Family Demand** were measured using the 5 item scales developed by Boyar, Carr, Mosley Jr., and Carson (2007). Respondents indicated their level of agreement to each statement (e.g. I feel like I have a lot of work demand, I have a lot of responsibility in my family) on a five-point scale ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (5). Negatively worded items were reverse scored and responses were summed to get the final score in each of the dependent variables.

*Demographic and background variables*

Demographic and background information were derived from self-reported information on respondent’s marital status (0 = single, 1 = married), parental status (0 = not having a child, 1 = having at least one child), age (in years), education (0 = graduate, 1 = post-graduate) and tenure in the current organization (in years). Means, SDs and correlations for all variables used in the analyses are presented in the following Table I, as are alpha reliabilities for all scales.

**Table I.** Descriptive Statistics, Reliabilities and Inter-correlations among variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
Age												
Marital Status			0.72**									
Parental Status			0.66**	0.76**								
JS	3.53	0.73	0.41**	0.47**	0.42**	(0.79)						
CS	3.42	0.77	0.33**	0.42**	0.36**	0.57**	(0.72)					
WFC	3.64	0.72	0.39**	0.52**	0.45**	0.6**	0.54**	(0.86)				
OJ	3.69	0.72	0.35**	0.47**	0.4**	0.54**	0.53**	0.97**	(0.84)			
DC	4.01	1.14	0.01	0.01	0.04	0.28**	0.32**	0.25**	0.25**	(0.9)		
PWD	4.07	0.86	0.05	0.09	0.13	0.34**	0.23**	0.46**	0.43**	0.21**	(0.83)	
PFD	4	0.93	0.23**	0.30**	0.36**	0.25**	0.2**	0.41**	0.38**	0	0.59**	(0.91)

Notes: n – 152; significance at \*\*p <0.01, \*p <0.05 (two-tailed); Cronbach’s alpha coefficients are reported in parantheses on the diagonal

## Analyses

We used t-test to estimate if there were any significant mean differences in job satisfaction, career satisfaction, career commitment and organizational commitment by marital status, parental status and education. We also performed analysis of variance (ANOVA) (post hoc Scheffe's test) to estimate if there were any significant mean differences in Job Satisfaction and Career Satisfaction across age groups. We used moderated regression analysis to examine the hypothesized relationships. Control variables were entered in Step 1 of the equation, followed by the independent variables in Step 2. The interaction terms were entered in the final step, permitting the significance of the interactions to be determined after controlling for the main effects of the independent variables. The predictor variables were centered before forming interaction terms, in order to reduce the multi - collinearity often associated with regression equations containing interaction terms (Aiken and West, 1991), The significant values of standardized coefficients and changes in  $R^2$  were observed to evaluate the ability of the interaction terms to explain variance beyond that accounted for

by the main effects in the equation. Results are presented in Table V.

## Results

As shown in Table II, t-test results showed no significant mean difference in job satisfaction and career satisfaction. Married respondents reported significantly higher level of job satisfaction ( $t = -5.34, p < 0.05$ ) and career satisfaction ( $t = -4.55, p < 0.05$ ) than did singles. Parents (having at least one child) reported significantly higher level of job satisfaction ( $t = -5.03, p < 0.05$ ) and career satisfaction ( $t = -3.76, p < 0.05$ ) than did non-parents. The ANOVA test (Table III) and post hoc Scheffe's test (Table IV) indicated significant differences among the respondents across different age groups on their average scores on job satisfaction and career satisfaction. Respondents from the age group 35-44 years reported higher levels of job satisfaction than the lesser age groups. However, respondents from the age group 25-34 years reported higher level of career satisfaction than the other two age-groups. Based on these results and previous literature, we included respondent's age, marital status and parental status in the analysis for control purposes, by entering them as a set in the first step of regression equation.

**Table II.** T-tests for Job and Career Satisfaction, based on demographic factors

Demographic Factors	Job Satisfaction (JS)				Career Satisfaction (CS)			
	N	Mean	SD	T	N	Mean	SD	T
Marital Status								
Single	45	3.0139	0.8684	-5.34**	45	2.9222	0.992	-4.55**
Married	107	3.7567	0.5217		107	3.6359	0.5403	
Parental Status								
Non-Parent	58	3.155	0.837	-5.03**	58	3.0977	0.9945	-3.76**
Parent	94	3.772	0.5278		94	3.6263	0.5078	
Education								
Graduate	96	3.4374	0.7541	-2.24	96	3.2824	0.8272	-3.3
Post-Graduate	56	3.7071	0.6455		56	3.6685	0.6046	

Note: Significant at: \*\* $p < 0.01$

**Table III.** One-way ANOVA comparing the three age groups on Job and Career Satisfaction

Demographic Factors	Job Satisfaction (JS)				Career Satisfaction (CS)			
	N	Mean	SD	T	N	Mean	SD	T
Marital Status								
Single	45	3.0139	0.8684	-5.34**	45	2.9222	0.992	-4.55**
Married	107	3.7567	0.5217		107	3.6359	0.5403	
Parental Status								
Non-Parent	58	3.155	0.837	-5.03**	58	3.0977	0.9945	-3.76**
Parent	94	3.772	0.5278		94	3.6263	0.5078	

**Note:** Significant at: \*\*p < 0.01

**Table IV.** Post hoc Scheffe's test - among the age groups on Job and Career Satisfaction

(I) AGE	(J) AGE	Job Satisfaction (JS)			Career Satisfaction (CS)		
		I-J	Std. Error	Sig.	I-J	Std. Error	Sig.
1 (18 to 24 years)	2	-0.623**	0.1427	0.00	-0.819**	0.1631	0.00
	3	-0.854**	0.1452	0.00	-0.797**	0.1655	0.00
2 (25 to 34 years)	1	-0.623*	0.1427	0.00	-0.819**	0.1631	0.00
	3	-0.231	0.1201	0.16	0.022	0.1339	0.99
3 (35 to 44 years)	1	-0.854**	0.1452	0.00	-0.797**	0.1655	0.00
	2	-0.231	0.1201	0.16	0.022	0.1339	0.99

**Note:** Significant at: \*\*p < 0.05

#### **Direct Effects of Organizational Supports on Job Attitudes of Re-entry Women:**

The results for Step 1 (Table V, Model 1a-1d) of the regression analysis indicated that the control variables explained only 23.9 percent variance in job satisfaction and 19.9 per cent in career satisfaction. When predictor variables policy availability, policy usage, diversity climate, organizational justice and work-family culture were entered together in the second step (Table 5, Model 1b) of the regression analysis, treating job satisfaction as the dependent variable, a statistically significant model emerged ( $F = 14.246$ ,  $p < 0.001$ ,  $df = 5, 142$ ), which explained 46.1 per cent of the total variance. Among all the independent variables, diversity climate ( $\beta =$

0.204,  $p < 0.05$ ), policy usage ( $\beta = 0.321$ ,  $p < 0.05$ ), organizational justice ( $\beta = 0.55$ ,  $p < 0.05$ ) and work-family culture ( $\beta = 0.855$ ,  $p < 0.05$ ) emerged as the significant predictors of job satisfaction. Contrary to the hypothesis, policy availability did not emerge as a significant predictor of job satisfaction.

When predictor variables, policy availability, policy usage, diversity climate, organizational justice and work-family culture were entered together in the second step (Table V, Model 2b) of the regression analysis, treating career satisfaction as the dependent variable, a statistically significant model emerged ( $F = 9.336$ ,  $p < 0.001$ ,  $df = 5, 142$ ), which explained 35.9 per cent of the total variance. Among all the independent variables, diversity climate ( $\beta =$

= 0.263,  $p < 0.05$ ) and policy usage ( $\beta = 0.244$ ,  $p < 0.01$ ) emerged as significant predictors of career satisfaction. However, work-family

culture, organizational justice and policy availability did not emerge as significant predictors of career satisfaction.

**Table V.** Regression Results: Direct and Moderation Effects

Variables	Job Satisfaction				Career Satisfaction			
Model	1a	2a	3a	4a	1b	2b	3b	4b
<i>Step 1 Control Variables</i>								
Age	0.13	0.034	0.038	-0.025	0.027	-0.038	-0.038	-0.059
Marital Status	0.285*	-0.083	-0.056	-0.052	0.337**	0.052	0.057	0.028
Parental Status	0.105	0.139	0.141	0.091	0.041	0.081	0.085	0.114
<i>Step 2 Predictors</i>								
Polity Availability		0.115	0.11	0.087		0.047	0.044	0.052
Policy Usage		0.309**	0.321**	0.385**		0.244*	0.244	0.239
Work-Family Culture		0.971**	0.855**	0.959**		0.168	0.156	0.218
Organizational Justice		0.605*	0.55*	0.622*		0.137	0.145	0.094
Diversity Climate		0.218**	0.204**	0.168*		0.263**	0.259**	0.31
Perceived Job Demand			0.146	0.183			0.025	-0.374
Perceived Family Demand			0.059	0.048			0.028	0.251
<i>Step 4 Interaction Terms</i>								
PA x PJD				0.012				0.06
PU x PJD				0.262*				0.048
WFC x PJD				0.094				0.005
OJ x PJD				0.009				0.08
DC x PJD				0.027				0.075
PA x PFD				0.028				0.094
PU x PFD				0.095				0.02
WFC x PFD				0.025				0.319*
OJ x PFD				0.005				0.516*
DC x PFD				-0.036				-0.073
R2	0.239	0.493	0.504	0.56	0.199	0.397	0.398	0.485
Adj R2	0.218	0.461	0.465	0.489	0.177	0.359	0.35	0.401
R2 Change	0.239	0.254	0.011	0.056	0.199	0.198	0	0.087
F Change	11.538**	14.246**	1.581	1.643	9.118**	9.336**	0.057	2.916**

**Notes:** Significance at: \* $p < 0.05$ , \*\* $p < 0.001$ ;  $n = 152$ ; MARITAL STATUS: 0-single, 1-married; AGE: 1- (18-24) years, 2- (25-34) years, 3- (35-44) years; PARENTAL STATUS: 0- no child, 1- atleast one child; values in tables are standardised beta coefficients; Model 1 includes only the variables listed in Step 1; Model 2 includes variables listed in Steps 1-2; Model 3 includes variables listed in Steps 1-3; Model 4 includes variables listed in Steps 1-4. Variables included: Policy Availability (PA), Policy Usage (PU), Work-Family Culture (WFC), Organizational Justice (OJ), Diversity Climate (DC), Perceived Work or Job Demand (PJD), Perceived Family Demand (PFD), Job Satisfaction (JS) and Career Satisfaction (CS).

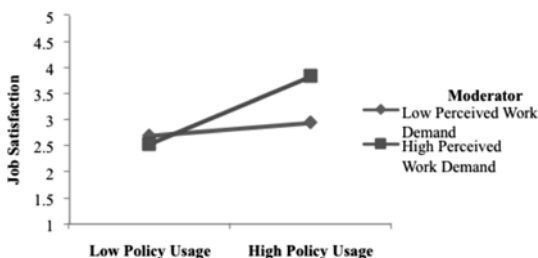


### Moderating Effect of Perceived Work Demand

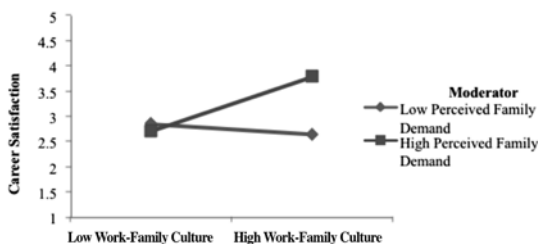
With regard to our hypotheses on moderating impact of perceived work demand on the relationships between organizational supports and job satisfaction, Table V shows significant interaction effects only for policy usage x perceived work demand (PU x PWD;  $\beta = 0.262$ ,  $p < 0.05$ ). However, perceived work demand did not moderate any of the relationships between organizational supports and career satisfaction.

### Moderating Effect of Perceived Family Demand

With regard to our hypotheses on moderating impact of perceived family demand on the relationships between organizational supports and career satisfaction, Tables V shows significant interaction effects for work-family culture x perceived family demand (WFC x PFD;  $\beta = 0.319$ ,  $p < 0.05$ ) and organizational justice x perceived family demand (OJ x PFD;  $\beta = 0.516$ ,  $p < 0.05$ ). However, perceived family demand did not moderate any of the relationships between organizational supports and job satisfaction.



**Figure 1.** Moderating Effect of Perceived Job Demand on the Relationship between Job Satisfaction and Policy Usage.



**Figure 2.** Moderating Effect of Perceived Family Demand on the Relationship between Career Satisfaction and Work-Family Culture.



**Figure 3.** Moderating Effect of Perceived Family Demand on the Relationship between Career Satisfaction and Organizational Justice.

## Discussion

The first objective of this study was to find out the direct effects of the organizational factors (policy availability, policy usage, diversity climate, work-family culture and organizational justice) on the job attitudes of re-entry women or women returners (job satisfaction, career satisfaction). The second objective of this study was to test the moderating effect of perceived job demand and perceived family demand in the above mentioned direct relationships. Overall, results indicate high levels of support for several study hypotheses examining the direct effects and also support for a few moderation effects as hypothesized. The findings are discussed in the following sections.

H1 examined the relations between diversity climate and the job attitudes of women returners. The results of this study reinforce the established positive link (Hicks-Clarke et al., 2000) between diversity climate and the job attitudes namely, job satisfaction and career satisfaction. This means that, when women returners feel welcomed and included, they tend to have a very positive outlook towards their career. The findings of this study are in line with the model posited by Virick, Goswami, and Czekajewski (2004), who state that women are strongly influenced by the treatment they receive at the workplace.

H2a examined the relationship between policy availability and the job attitudes of

women returners. The findings show that policy availability has no significant impact on the job attitudes of women returners. This was in contrast to the findings reported by Nelson (1990) which found that availability of work-life balance policies, independent of actual usage, produced positive results in terms of job attitudes. However, Allen (2001) found that availability of policies alone did not ensure their use or their helpfulness toward work-life balance. This fact was also supported by several other researchers (Clark, 2001; Thompson et al., 1999), who suggested that policy availability was not a significant or useful predictor of job attitudes because, although the policies like flexi-time, job sharing, etc., could reduce stress related to work-family conflict, such policies were not utilized in corporate settings, despite its availability in such companies.

H2b examined the relationship between policy usage and the job attitudes of women returners. The results indicate that policy usage has significant association with job and career satisfaction of women returners. The findings are similar to those obtained by Fang and Lee (2007) which states that usage of work-life balance policies enhances employee's level of satisfaction. The results reveal a very significant fact there is a very large difference between the number of benefits available and the perceived usage of these benefits. Almost 83.6 percent (n=127) of respondents in this study had marked more than 10 policies (out of the 13 policies listed) in their organizations. However, only 16.4 percent (n=25) of the study respondents have actually used even 8 policies out of the listed number of 13. For example, flexible workweek schedule was available in over 98 percent of the respondents' situations, yet its reported usage was minimal namely, 5.2 percent (n = 8). This goes on to suggest that, the existing culture in the Indian IT organizations, either does not provide the right kind of family support or does not encourage the use of such support. This is in accordance to the finding of Schwartz (1994) which reveals that, the usage

of work-life balance policies depends on the corporate culture.

H3 examined the impact of work-family culture on the job attitudes of women returners. The results indicate that work-family culture has significant impact on job satisfaction. This is in line with several recent studies which support the view that, workplace cultures and initiatives which openly address and support work and family issues may result in valued organizational outcomes such as lower turnover intentions (Brough, O'Driscoll, and Kalliath, 2005; Thompson et al., 1999). The present study also implies that, in a non-supportive climate, there may be subtle or overt messages sent that discourage the use of benefits or imply that employees may be negatively impacted if such benefits are utilized. This statement is affirmed by Cabrera (2007) and Brown (2010), who have found that gender bias and stereotyping continue to prevail in organizations and, women who follow traditional work-life balance models (part-time, flexi time, etc.) get discriminated. Interestingly, the results of the present study reveal that, work-family culture does not influence career satisfaction. Career satisfaction measures the extent to which individuals believe their career progress is consistent with their own goals, values and preferences (Erdogan et al, 2004; Heslin, 2003; Seibert et al., 2001). Thus, career satisfaction is addressed with a long term view of one's career facet while, job satisfaction is related to the job and the organization with which the individual is associated. This probably explains why work-family culture, which is an important attribute of the respective organization, has no significant impact on the career satisfaction.

H4 examined the influence of organizational justice on the job attitudes of women returners. The findings reveal that organizational justice has significant impact on job satisfaction. This had already been affirmed by several studies (Hicks-Clarke et al., 2000; Choudhry, Philip and Kumar, 2011). With respect to IT sector, Pare and Tremblay (2007) have proved that



organizational justice has a significant impact on commitment and turnover intentions of employees. This means that, when women returners perceive their organizations to be fair, they have better career outcomes. This in turn helps them in having a successful and satisfied career. However, organizational justice has no significant impact on career satisfaction. This may be because of the fact that, organizational justice, similar to work-family culture, is a facet of the organization with which the individual is associated, and hence is not related to satisfaction of one's career.

H5 considered the moderating influences of perceived job demand on the relationship between the factors influencing the attitudes of women returners (policy availability, policy usage, diversity climate, work-family culture and organizational justice) on the attitudes of women returners (job satisfaction and career satisfaction). Moderation effect of perceived job demand was observed on the relationship between job satisfaction and policy usage such that, higher the perceived job demand, stronger the positive association between job satisfaction and policy usage. This suggests that appropriate family-friendly practices and supportive culture for higher usage are absolutely essential for women in the IT sector, where jobs have a greater propensity for being extremely demanding.

On considering the hypothesis H6, which posits that perceived family demand moderates the relationship between the factors influencing the attitudes of women returners (policy availability, policy usage, diversity climate, work-family culture and organizational justice) on the attitudes of women returners (job satisfaction and career satisfaction), perceived family demand acts as a moderator in the relationship between career satisfaction and work-family culture and organizational justice and career satisfaction. Thus, greater the family demands, stronger are the relationships between work-family culture and career satisfaction as well as, organizational justice and career satisfaction.

Interestingly, neither work-family culture, nor organizational justice showed any direct effect on career satisfaction as can be observed from the results for direct effects. This implies that, only during instances of high family demands, work-family culture and organizational justice become important for career satisfaction.

Contrary to our hypothesis, perceived work demand and perceived family demand emerged only as partial moderators in the relationships between organizational supports and job attitudes of re-entry women. One possible explanation for this finding may relate to the relatively small family size of the respondents. An inspection of the demographic attribute of the sample revealed that, although 70.4 percent of the respondents were married and 87.8 percent of them had children, only 3.2 percent of them had children aged less than 2 years. Among the 94 respondents who had children, the mean age of their youngest child averaged to about 7.31 years. These findings seem to suggest that the respondents may be experiencing relatively lower parental and family demands to significantly affect their job attitudes. This can be attributed as an important aspect of re-entry women in India. Re-entry women in India may quit their careers due to significant demands from their families especially for raising children in their initial years of growing up. On returning back, since they had already addressed the demands of their families during their career break, they have minimal family demands which may be insufficient to influence their job attitudes and career outcomes.

## Conclusions

This study has addressed the existing scarcity of research on Indian re-entry women. Though a number of researchers have studied re-entry women in developed countries, it is still a very novel concept in India. It is highly evident from the literature review that working women do face a lot of difficulties in their professional careers, which push them out of the workforce. Even after they return to work, they are met with prejudiced

attitudes and challenges in balancing their work and family. If the women returners are to be fully utilized in integrated in to the workforce, recommendations are needed to alter the misconceptions of the employers and guidelines are necessary for re-integration of women returners in to the workforce. The findings of this study have also attested the existing gap between organizations' policy provisions and their implementation. There is ample evidence to suggest that, the career outcomes and attitudes of Indian re-entry women are directly related to policy support, work-family culture, organizational justice and diversity climate. The results of this study are important because, they examine not only the workplace predictors of the job and career satisfaction of Indian re-entry women, but also examine the roles of the job and family demands perceived by them. Organizations should make efforts to make their workplace environments more supportive and inclusive. Culture also plays a crucial role in providing a supportive workplace, as implied by this study's findings. Therefore, organizations should make sure that their culture is also supportive to the women availing the work-life balance policies without being penalized. Organizations should also strive to recruit more re-entry women which can be mutually beneficial. A few of the organizations have already taken special recruitment drives that address Indian re-entry women specifically. For example, Tata Consultancy Services, IBM, Accenture, etc are some of the IT companies that have specific re-entry programs, aimed at bringing back women who are on career break.

However, there are a few limitations in this study, which must be considered while interpreting the findings. Firstly, the respondents are from IT sector only and hence, the results of this study cannot be generalized to other sectors. Secondly, the study addressed the respondents based in South India. Hence, it cannot be extrapolated to explain the situation in other parts of India. Furthermore, we have included only job and

family demands as the intervening variables between attitudes of women returners and their workplace support predictors. Future studies should include other demographic and situational characteristics such as family structure and personal characteristics to get a better picture of the complex relationships between the attitudes of women returners and their workplace predictors. Also, the study examines only the attitudinal outcomes to predict career success of women returners. Further studies should include performance outcomes to understand if there are any significant implications on Indian women returners' performance in their workplace.

## References

- Agho, A. O., Price, J. L., and Mueller, C. W. (1992), 'Discriminant validity of measures of job satisfaction, positive affectivity and negative affectivity', *Journal of Occupational and Organizational Psychology*, 65, 185-196.
- Aiken, L.G. and West, S.G. (1991), 'Multiple Regression: Testing and Interpreting Interactions', *Sage*, Newbury Park, CA.
- Alimo-Metcalfe, B. (1993), 'Women in management: organizational socialization and assessment practices that prevent career advancement', *International Journal of Selection and Assessment*, 1, 68-83.
- Allen, T. D. (2001), 'Family-supportive work environments: The role of organizational perceptions', *Journal of Vocational Behavior*, 58, 414-435.
- Arsenault, A., and Dolan, S. (1983), 'The role of personality, occupation and organization in understanding the relationship between job stress, performance and absenteeism', *Journal of Occupational Psychology*, 56, 227-240.
- Aryee, S., Luk, V., and Stone, R. (1998), 'Family-responsive variables and retention-relevant outcomes among employed parents', *Human Relations*, 51, 73-87.
- Aryee, S., Srinivas, E.S. and Tan, H.H. (2005), 'Rhythms of life: antecedents and outcomes of work-family balance in employed parents', *Journal of Applied Psychology*, 90, 132-46.

- Aycan, Z. (2004), 'Key success factors for women in management in Turkey', *Applied Psychology: An International Review*, 53, 453-477.
- Baral, R. and Bhargava, S. (2011). 'HR interventions for work-life balance: evidences from organizations in India', *International Journal of Business, Management and Social Sciences (IJBMSS)*, 2(1), 33-42.
- Beauregard, T. A. (2007), 'Family influences on the career life cycle'. In M. Ozbilgin and A. Malach-Pines (Eds.), *Career Choice in Management and Entrepreneurship: A Research Companion* (101-126), Edward Elgar Press.
- Bharat, S. (2003), 'Women, Work, and Family in Urban India: Towards New Families?' in Berry, J W; Mishra, R C and Tripathi, R C (Eds.), *Psychology in Human and Social Development: Lessons from Diverse Cultures*, New Delhi, India: Sage, 155-169.
- Bharathi R. and Baral R. (2012), 'Women's Career Exit and Reentry: A Qualitative Study', in *13th International Academy of Management and Business (IAMB) Conference Proceedings*.
- Bhargava, S. & Baral, R. (2009), 'Antecedents and Consequences of Work-family Enrichment among Indian Managers', *Psychological Studies*, 54, 213-225.
- Buddhapriya, S. (2009), 'Work-family challenges and their impact on career decisions: A study on Indian women professionals', *Vikalpa: The Journal of Decision Makers*, 34, 31-45.
- Cabrera, E. F. (2007), 'Opting out and opting in: understanding the complexities of women's career transitions', *Career Development International*, 12, 218-237.
- Center for Talent Innovation (2013), 'On-Ramps and Up-Ramps India', Center for Talent Innovation, New York.
- Crouter, A. C. (1984), 'Spillover from family to work: The neglected side of work-family interface', *Human Relations*, 37, 425-442.
- Brough, P., M. O'Driscoll, and Kalliath, T. (2005), 'The ability of 'family friendly' organizational resources to predict work-family conflict and job and family satisfaction', *Stress and Health*, 21, 223-234.
- Clark, A. E. (2001), 'What really matters in a job? Hedonic measurement using quit data.', *Labour Economics*, 8, 223-242.
- Cox, TH Jr. (1994), 'Cultural diversity in organizations: Theory, research, & practice', San Francisco: Berrett-Koehler.
- Dijkers J, Geurts S, den Dulk L, Peper B, Kompier M. (2004), 'Relations among work-home culture, the utilization of work-home arrangements, and work-home interference', *International Journal of Stress Management*, 11, 232-245.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986), Perceived organizational support. *Journal of Applied Psychology*, 71, 500-507.
- Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, 86, 42-51.
- Ely, R.J., Thomas, D.A. (2001), 'Cultural Diversity at Work: The Effects of Diversity Perspectives on Work Group Processes Outcomes', *Administrative Science Quarterly*, 46, 229-273.
- European Network for Workplace Health Promotion. (2006), 'Work-life balance: A balanced life - working healthily and more successfully'.
- Erdogan, B., Kraimer, M. L., and Liden, R. C. (2004), 'Work value congruence and intrinsic career success: The compensatory roles of leader-member exchange and perceived organizational support', *Personnel Psychology*, 57, 305-332.
- Fang, T., and B. Lee. (2007), 'Family-friendly Benefit Programs and Employee Labor Market Outcomes', in *82nd Western Economics Association Annual Conference Proceedings*.

- Ford, M.T., Heinem, F.B. and Langkamer, K.L. (2007), 'Work and family satisfaction and conflict: A meta-analysis of cross-domain relations', *Journal of Applied Psychology*, 92, 57-80.
- Garcia-Bernal, J., Gargallo-Castel, A., Marzo-Navarro, M., and Rivera-Torres, P. (2005), 'Job satisfaction: empirical evidence of gender differences', *Women in Management Review*, 20, 279-88.
- Glover, J. and Guerrier, Y. (2010), 'Women in Hybrid Roles in IT Employment: A Return to 'Nimble Fingers'?', *Journal of Technology Management and Innovation*, 5, 85-94.
- Grandey, A., Cordeiro, B.L. and Crouter, A.C. (2005), 'A longitudinal and multisource test of the work-family conflict and job satisfaction relationship', *Journal of Occupational and Organizational Psychology*, 78, 305-323
- Greenhaus, J. H., and Beutell, N. J. (1985), 'Sources of conflict between work and family roles', *Academy of Management Review*, 10, 76-88.
- Greenhaus, J. H., Parasuraman, S., and Wormley, W. M. (1990), 'Effects of race on organizational experiences, job performance evaluations, and career outcomes.' *Academy of Management Journal*, 33, 64-86.
- Halpern, D. F. (2005), 'How time-flexible work policies can reduce stress, improve health, and save money', *Stress and Health*, 21, 157-168.
- Heslin, P. A. (2003), 'Self-and other-referent criteria of success', *Journal of Career Assessment*, 11, 262-286.
- Hewlett, S. A. and Rashi, R. (2010), 'Winning the War for Talent in Emerging Markets. Why women are the solution', Harvard Business Review Press, Boston.
- Hicks-Clarke, D. and Iles, P. (2000), 'Climate for diversity and its effects on career and organizational attitudes and perceptions', *Personnel Review*, 29, 324 - 345.
- Hollenshead, C., Jean, W., Louise, A., Jessica, B., Jeanne, M., Gilia, S., and Beth, S. (2005), 'Family Friendly Policies in Higher Education: Where Do We Stand? Ann Arbor', MI: *The Center of the Education of Women*, University of Michigan.
- Jost, J. T., and Banaji, M. R. (1994), 'The role of stereotyping in system-justification and the production of false-consciousness'. *British Journal of Social Psychology*, 33, 1-27.
- Human Resources and Social Development Canada (2006), 'The business case for work-life balance'.
- Houston, D. M., and Waumsley, J. A. (2003), 'Attitudes to flexible working and family life', York: JRF Policy Press.
- Kim, H., Lee, J. And Sung, S. (2013), 'The effects of family-friendly practices and gender discrimination on job attitudes: the moderating role of supervisor support', *The International Journal of Human Resource Management*, 24, 1-18.
- Kim, W., Ok, C., and Lee, M.J. (2009), 'Antecedents of Service Employees Organizational Citizenship Behaviors in Full-Service Restaurants in Korea', *Cornell Hospitality Quarterly*, 50, 180-197.
- Kossek, E.E. and Zonia, S. (1993), 'Assessing diversity climate: a field study of reactions to employer efforts to promote diversity', *Journal of Organizational Behavior*, 14, 61-81.
- Lambert, S. J. (1990), 'Processes of linking work and family: A critical review and research agenda', *Human Relations*, 43, 239-257.
- Lyness, K. S., Thompson, C. A., Francesco, A. M., and Judiesch, M. K. (1999), 'Work and pregnancy: Individual and organizational factors influencing organizational commitment, timing of maternity leave, and return to work', *Sex Roles*, 41, 485-508.
- Magoshi, E. and Chang, E. (2009), 'Diversity management and the effects on employees' organizational commitment: Evidence from Japan and Korea', *Journal of World Business*, 44, 31-40.
- Mauno S, Kinnunen U. and Piitulainen,



- S. (2005), 'Work-family culture in four organizations in Finland: Examining antecedents and outcomes', *Community, Work and Family*, 8, 115-140.
- McKinsey Global Institute (2010), 'Women at the top of Corporations: Making it happen', McKinsey Global Institute, Mumbai.
- Milliken, F.J., Martins, L.L. (1996), 'Searching for common threads: understanding the multiple effects of diversity in organizational groups', *Academy of Management Review*, 21, 402-433.
- Mor Barak, M. E., Cherin, D. A., and Berkman, S. (1998), 'Organizational and personal dimensions in diversity climate: Ethnic and gender differences in employee diversity perceptions', *Journal of Applied Behavioral Sciences*, 34, 82-104.
- Panteli, A. N. (2012), 'A community of practice view of intervention programmes: the case of women returning to IT', *Information Systems Journal*, 22, 391-405.
- Pare, G., and Tremblay, M. (2007), 'The influence of high-involvement human resources practices, procedural justice, organizational commitment and citizenship behaviors on information technology professionals' turnover intentions', *Group and Organization Management*, 32, 326-357.
- Pylkkänen, E., and Smith, N. (2004), 'The Impact of Family-Friendly Policies in Denmark and Sweden on Mothers? Career Interruptions Due to Childbirth', IZA Discussion paper series.
- Regus (2011), 'A study of trends in hiring working mothers across the globe', Regus.
- Rudman, L.A. and Phelan, J.E. (2008), 'Backlash effects for disconfirming gender stereotypes in organizations', *Research in Organizational Behavior*, 28, 61-79.
- Sanders, M. M., Lengnick-Hall, M. L., Lengnick-Hall, C. A., and Steele-Clapp, L. (1998), 'Love and work: Career-family attitudes of new entrants into the labor force', *Journal of Organizational Behavior*, 19, 603-619.
- Sidney, E. (1994), 'Moving a ball and chain, women in the NHS', *International Journal of Selection and Assessment*, 2, 176-85.
- Seibert, S. E., and Kraimer, M. L. (2001), 'The Five-Factor Model of Personality and Career Success', *Journal of Vocational Behavior*, 58, 1-21.
- Sekaran, U. (1992), 'Middle-class Dual-earner Families and their Support Systems in Urban India'. In *Dual-earner families: International perspectives*, eds. S. Lewis, D.N. Izraeli, and H. Hootsmans, Newbury Park, CA: Sage.
- Shore, L. M., & Shore, T. H. (1995), 'Perceived organizational support and organizational justice'. In R. Cropanzano, & K. Kacmar (Eds.), *Organizational politics, justice, and support* (pp. 149-164). Westport, CT: Quorum.
- Shore, L. M., & Wayne, S. J. (1993), 'Commitment and employee behavior: Comparison of affective commitment and continuance commitment with perceived organizational support', *Journal of Applied Psychology*, 78, 774-780.
- Spector P.E. (1997), *Job satisfaction: Application, assessment, causes and consequences*, Thousand Oaks, CA: Sage.
- The Women Matter Report (2010), 'Women at the top of corporations: Making it happen', McKinsey.
- Tremblay, M., Sire, B. and Balkin, D. (2000), 'The Role of Organizational Justice in Pay and Employee Benefit Satisfaction, and its Effects on Work Attitudes', *Group and Organization Management*, 25, 268-289.
- Thompson, C. A., Beauvais, L. L., and Lyness, K. S. (1999), 'When work-family benefits are not enough: The influence of work-family climate on benefit utilization, organizational attachment, and work-family conflict', *Journal of Vocational Behavior*, 54, 392-415.
- Valenduc, G. (2011), 'Not a job for life? Women's progression, conversion, and dropout in ICT professions', *International Journal of Gender, Science and Technology*, 3, 483 - 500.

Virick, M., 'Goswami, R. M., Czekajewski, A. (2004), 'Diversity climate: A reality check', *Proceedings of the Academy of Management*, H1-H6.

Wajcman, J. (1998), *Managing like a Man*. Oxford: Blackwell.

Way, M. (2008), 'Job Demand, Job Control, and Support: A Comparison of Three Nursing Work Environments', Proquest.

Wayne, S. J., Shore, L. M., and Linden, R. C. (1997), 'Perceived organizational support and leader-member exchange: A social exchange perspective', *Academy of Management Journal*, 40, 82-112.



# Social Media as an Effective Tool of Marketing Communication

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## Abstract

The paper analyses the changing paradigms of Marketing Communication and highlight the importance of social Media as an effective marketing communication tool. The paper examines the Ford India's strategy of using social media in creating awareness and preference for its Ford Figo car. The Ford Motors were able to adapt their cars and promotion tools to the Indian market. The success of Ford lies in offering technologically advanced cars at an affordable price backed by excellent after sales service. Company could build excellent brand equity and customer relationship by effectively using Social media. The paper discusses in detail the social media campaign "Discover Smart Drive" adopted by Ford India for its Ford car and the outcomes of the campaign. The paper also explains the Ford Figo's "Discover Smart Drive" campaign.

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## Introduction

Globalisation and liberalization of Indian economy has paved the way for entry of multinational companies to the Indian market. Ford India is the classic case of an MNC which entered an emerging market such as India and with its effective marketing strategy captured the Indian Car market

with wide range of cars and SUVs. India is one of the most attractive emerging markets in the world. India is world's fourth largest economy behind the United States, China and Japan, in purchasing power parity (PPP), according to the latest World Development Indicators. Liberalisation of India economy in 1991 helped the country to shift from closed



economy to open economy. India's middle class population of 300 million exceeds the population of the U.K., Italy and France combined. Growing prosperity will make it one of the world's biggest markets for everything from FMCG, durables to automobiles. Indian manufacturers may be at a disadvantage in terms of capital cost and infrastructure but there is tremendous potential in Labour – intensive industries. The projects like Golden Quadrilateral has immensely helped India in improving the infrastructure. The Foreign Direct Investments increased considerably and on an average India is wooing FDI of Rs.4000 crore per month. The rising rate of growth of GDP, growth in disposable income, improved lifestyles, rising purchasing power of people with higher propensity to consume with preference for sophisticated brands would provide constant impetus to growth of automobile industry segment.

### **Social Media Marketing**

Social Media marketing is an engagement with various social media tools or any other online collaborative media to generate exposure, opportunity and sales. Social networking sites allow individuals to interact with one another and build relationships. When products or companies join those sites, people can interact with the product or company. That interaction seems personal to users because of their previous experiences with social networking site interactions. Social networking sites such as Twitter, Facebook, You Tube, and blogs allow individual followers to “rewet” or “repost” comments made by the product being promoted.

By repeating the message, all the users who are connected are able to see the message, thereby reaching more number of people. Social networking sites act as word of mouth. Because of the dissemination of information about the product through social networking sites, products/companies can have conversations and interactions with individual followers. This personal interaction can instill a feeling of loyalty into followers. And potential

customers also, by choosing whom to follow on these sites, products can reach a very narrow target audience. Social networking is a wonderful tool for establishing a brand. A reputed brand always commands highest recall value among the consumers. And in today's context, nothing can help in building better than social networking. Websites like Twitter, Facebook, LinkedIn, You Tube and Friend Feed etc. have proved so crucial for building a strong brand name. These social networking sites are extremely useful in promoting company's products/services. People having a website, blog, or online business can do much better for themselves using above mentioned networking sites.

LinkedIn has membership of over 14,000,000 professionals. Out of this 500,000 are senior executives from 498 Fortune 500 companies. There will be addition of 65,000 new professionals every week. Average household income of these members is US \$130,000 having an average work experience of 15 years. More than a third of American adult internet users (36%) consult the citizen-generated online encyclopedia Wikipedia. Credibility of Wikipedia has been called into question. Regardless of this, Wikipedia receives top placement on google and almost 10% of daily Internet users visit the site. Stumble upon has more than 3.5 million users. Twitter provides plenty of marketing opportunities to build a company profile, network with users and post links to articles, Stumble upon user can submit articles, photos and videos, force friends to stumble user's articles, join groups, add friends, review friends, grab successful stories and add to digg, reddit and other social networks. With “Digg” Marketing Opportunities available are to write “linkbait”, have a popular or top user submit company's story (or become one!), network with other Digg users by soliciting diggs from IM, Stumble Upon, Facebook, etc. As subscriptions and traffic increases, track blog posts that mention company's article and link to the company. Marketers can also use Google alerts and trackbacks

if the companies are on a blog system like Word press. Social networking is particularly useful for start-ups and individuals willing to offer quality services. Joining a popular social networking site is an essential part of brand building strategy. The networking factor helps in building relationships which in turn results into promotion of business. Online success cannot be achieved without building a strong brand name. Social networking helps the companies in socializing and providing quality content.

### **Social Media Campaign**

The Objective is to build brand loyalty and relationships. Components of Social Network Campaign being part of the conversation fostering dialogue on social networks, shift in power from brand to consumer, building relationships with users on social networks, E-commerce functionality on social networks, such as Facebook., Viral marketing and word-of-mouth marketing. Social Network Campaign Management is done through Profile monitoring, Fans turning on/against brands, Empowered fans. Research Findings indicate that Brand must use transparent communication. Here users do not want to purchase products and services via their profile page. Brands and marketers must listen to their friends/fans and any brand can benefit from social networks. Engage users far beyond the first transaction. User comments and suggestions offer real value. Great creative is the key to effective engagement. Social ads help build relationship between brand and the user. Loyalty and trust is the key metric not the number of friends or fans.

### **Nine Industry Rules for Social Media Optimization**

1. Know your audience and how to target it. Use analytics.
2. Create original content and don't be afraid to try new things (stay fresh).
3. Increase your likability by creating evergreen content (resources) and rewarding links.

4. Make tagging, bookmarking, and sharing easy.
5. Help your content travel through RSS (Really Simple Syndication), email subscriptions and newsletters, embeds, mash-ups, e-books.
6. Reward and thank helpful and valuable users, linkers, and traffic sources.
7. Be real and genuine.
8. Participate.
9. Make SMO part of your process and best practices, develop a strategy and use the tactics wisely.

### **Ford India's Social Media Campaign**

Ford India Private Limited is a wholly owned subsidiary of the Ford Motor Company. Ford India Private Limited's head quarter is located in Chengalpattu Chennai, Tamilnadu. It is the sixth largest car maker in India after Maruti Suzuki, Hyundai, Tata Motors, Mahindra and Chevrolet. The modern Ford India Private Limited began Production in 1996, although the roots trace back to 1907 when the Model A was launched. Its manufacturing facilities are in Maramalai Nagar near Chennai. Ford India Private Limited began production in 1926, but was shut down in 1954. Production began again with the joint venture Mahindra Ford India Limited (MFIL) in October 1995, a 50-50 venture with Mahindra & Mahindra Limited. Ford Motor company increased its stake to 72% in March 1998 and renamed the company Ford India Private Limited. FIPL has over 170 dealerships across 107 cities in India. FIPL's main manufacturing plant has a capacity of 100,000 vehicles annually. The Ford India's car models include: "Ford Endeavour" launched in 2008, "Ford Fiesta" launched in 2005, "Ford Fiesta Classic" launched in 2011 and "Ford Figo" launched in 2010.

As its new hatchback Figo was launched in March 2010, Ford Motor Company has invested \$500 million to double capacity of the plant to 200,000 vehicles annually and is setting up a facility to make 250,000 engines

annually. Immediately after its launch Ford Figo received overwhelming response and support from the customers and dealers. By October 2010, just after 6 months from its launch, Ford India was rolling out the 50,000<sup>th</sup> Ford Figo car. Ford organized various events to celebrating the launch of 50,000<sup>th</sup> Figo with its customers, online fans, dealers, and other stakeholders. While organizing these events across India, Ford also through it was apt to strengthen and connect with consumers across tier II cities and introduce the Ford Figo at these cities. There was considerable increase in the Ford Figo's online community. While answering fan's queries and concerns, Ford wanted to reinforce the message of the smart car by creating excitement and fun there by increasing the participation.

### **Ford's Marketing Objectives**

Ford's two pronged marketing strategy was to create interest and positive user experiences among Ford Figo fans, and also to generate interest among the potential customers. Ford organized "Discover Smart Drive" in which four young couples had to go on a tour across India in a Figo car. The objective was to explore the scenic beauty of India and experience the important locations of various cities and regions. During the process couples would discover 'smart' places and activities. Ford invited online entries through Ford Figo fan page on Facebook, Twitter and blog and four couples were selected out of 450 entries. Ford invited independent auto bloggers to be part of the jury. After the selection, the couples were also flown to Mumbai for a photo session and their pictures were later featured prominently in Ford Figo's print advertising campaign in national dealers. The people who were involved in this social media campaign were fans, customers, influencers, dealers, employees, community, and media. The social media channels used were Blog, Facebook, Twitter, Flickr, Twitpic, YouTube, and Foursquare.

### **Implementation**

The Ford Figo's "Discover Smart Drive" for

couple was planned to cover 2500 km, and 10 cities in a span of 25 days. The Ford Figo car in which the couples were travelling had a special design of the 50,000<sup>th</sup> Ford Figo milestone, painted by a popular artist. Each couple drove a leg of the drive consisting of 3 cities. Along the drive, the couples shared their journey stories, photos, videos and experiences on their Facebook and Twitter profile and blogs and on the Ford Figo online communities on Facebook, and Twitter. Ford formed a special team comprising of photographer, videographer, and an official blogger to follow the couple in a support car and update almost real-time on the adventures for the online fans.

Along the way the prominent lifestyle and auto bloggers were invited to meet the couples. For online fans that were following the drive and participating in the conversation, interesting contests, prizes were organized. Fans were requested to provide suggestions for the couple during the drive. The couples were actively engaged with the fans and they asked their suggestions at various stages of their drive. (Palin Ningthoujam)

To create fun and competition among the couples, Ford came out with a 'Most Loved Couple' award for the couple whose online updates got the maximum number of positive responses from Ford Figo fans. This motivated the couples to come out with number of unique and creative fun updates, pictures, postcards, and contests for the fans. Few of them organized tweet-ups in the cities and online fans were invited to join them. The couples also stopped at Ford dealers of those cities where media events were organized and they shared their views and experiences to the local media.

<http://www.facebook.com/fordfigo>

<http://www.twitter.com/fordfigo>

<http://www.drivingford.in>

### **Outcome of "DISCOVER SMART DRIVE" Campaign**

During the campaign Facebook received close

to 1.5 million views and over 600 updates on the Ford Figo fan page. "Ford Figo Discover Smart Drive" couples attracted over 15,000 comments and suggestions during the drive. The number of Ford Figo fans increased by 25,000. Many more conversations happened on Twitter, Facebook, and online forums during the drive. Over 300 journalists attended the media events organized at the dealerships in various cities resulting in more than 150 stories across 10 Tier II cities along the route of the drive. Prominent lifestyle and auto bloggers wrote about the campaign on their blogs. Many of these bloggers attended the tweet ups organized at various cities during the drive. Ford Figo's sales figure reached the peak in October 2010. Ford achieved its highest ever sales of Figo, highest order booking in a month, highest SMS leads, and highest booking in a single day since its launch. Monthly average of 35,000 plus enquiries of the Ford Figo increased to 60,000 plus enquiries in October 2010. (Palin Ningthoujam).

The "Discover Smart Drive" became a most successful social media campaign as part of Ford India's marketing communication. Not only creating excitement and interest among its online fans community it also propelled the interest of other stakeholders such as customers, dealers, employees, and media. The idea of discovering smart places and smart activities was also well received by customers and fans of the Ford Figo. The message on the launch of 50,000<sup>th</sup> Ford Figo car prominently appeared in the media stories (Michael Boneham).

Ford India also launched similar drive at regional level during January, and March 2011. Instead of driving across the country, the campaign focused on driving within a particular state or region. This campaign also helped Ford India in connecting with the customers, fans and the dealers resulting in increase in Ford Figo sales.

### **Social Media Future Challenges**

Social media, once the domain of younger,

tech savvy customers, has gradually entered in mainstream and covers the broad demographic spectrum. Although the intensity of usage is very high in metros and urban areas the social media is becoming increasingly popular among the younger generation semi-urban areas. With the increase in popularity of E-Chaupal initiatives of ITC and E-Governance initiatives of state governments there is a considerable increase in the usage of social media in the rural areas. Social media is no longer platform for friends to stay connected in real time social media its gaining popularity among the organization as an effective communication tool. Less than 10% Fortune 500 companies know, understand the value, and correctly use social media. Almost all social media campaigns are too generic and unfocused. Most social media campaigns don't last long enough to be valuable and expect too much in too little time.

### **Conclusion**

The social media campaign helped Ford India in boosting the sales of Ford Figo. This also resulted in connecting with existing Figo customers, fans and the dealers. This helped the company in creating the awareness and the brand preference for Ford Figo cars. Ford Figo won the awards "Car of the year 2010" and "Indian car of the year 2011". As social networking is particularly useful for start-ups and individual willing to offer quality services. Joining the popular social networking site is an essential part of brand building strategy. The networking factor helps in building relationships which in turn results into promotion of business. Online success cannot be achieved without building a strong brand name. Social networking helps in socializing and providing quality content. According to Michael Boneham, President and Managing Director of Ford India the "Discover Smart Drive" was a great success. This campaign facilitates the lucky couples to explore and experience beauty of India along with smart features of the Figo. Using an integrated marketing approach involving

digital marketing and wide dealer network, Ford was able to take Figo to consumer's doorstep. This also resulted in multiple positive conversations on new mediums. The overwhelming response Ford received from this campaign has boosted the Figo's popularity to a higher level.

## References

1. Michael Boneham (2011), President and Managing Director, Ford India.
2. Palin Ningthoujam (2010) "Case study Ford Figo Discover Smart Drive".
3. Rafi A. Mohammad, Robert J. Fisher, Bernard J. Jaworski, Gordon. J. Peddison (2011), Internet Marketing, Building Advantage in a Network Economy, McGrawHill Education Asia, Singapore.
4. Robert A. Hanneman and Mark Riddle (2011), Introduction to Social Network Methods, Riverside, CA: University of California, Riverside, USA.
5. Ford India website: [www.india.ford.com](http://www.india.ford.com)







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