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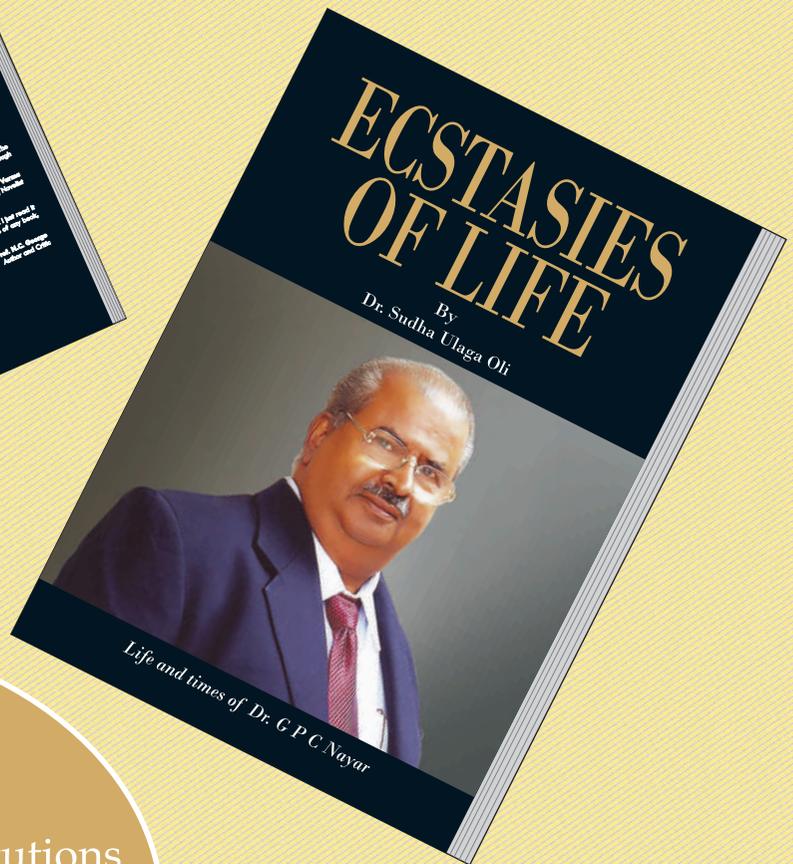
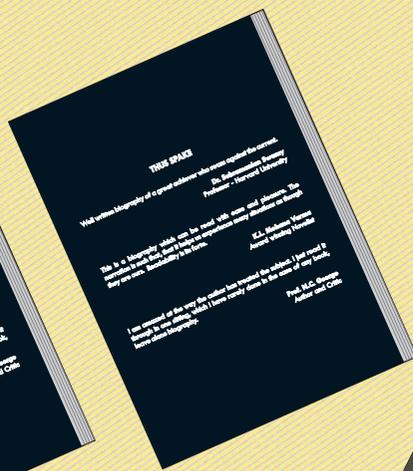
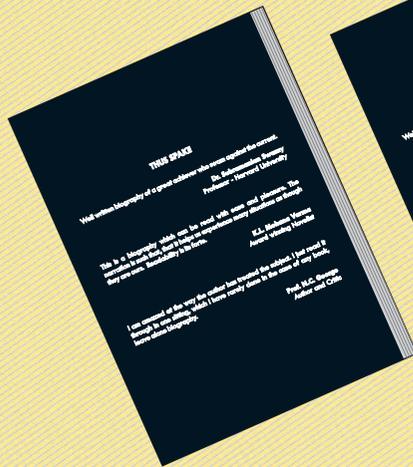
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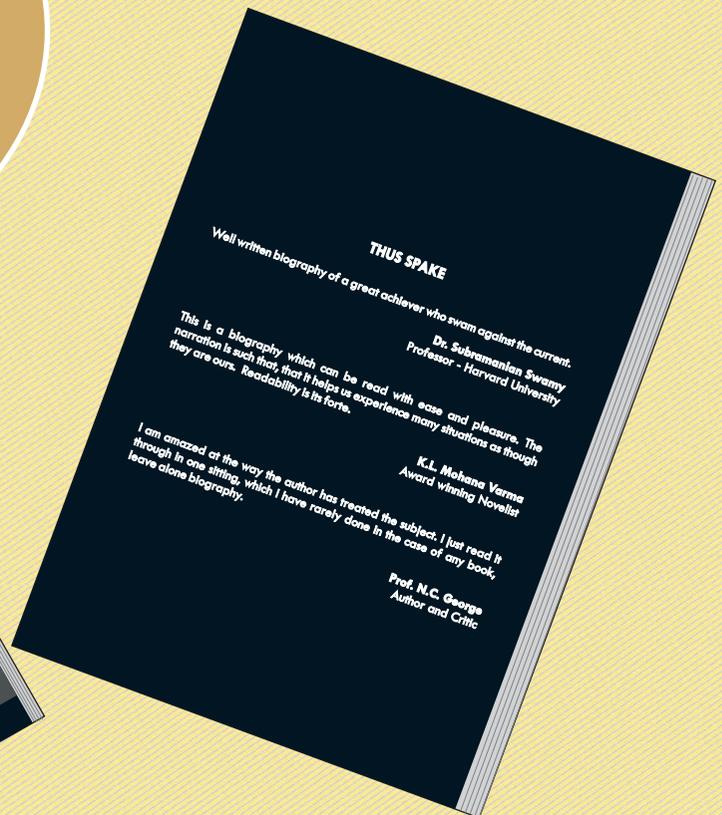
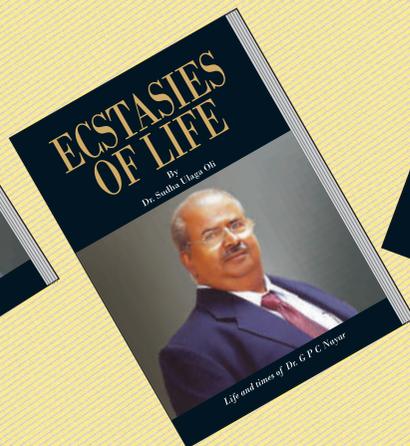
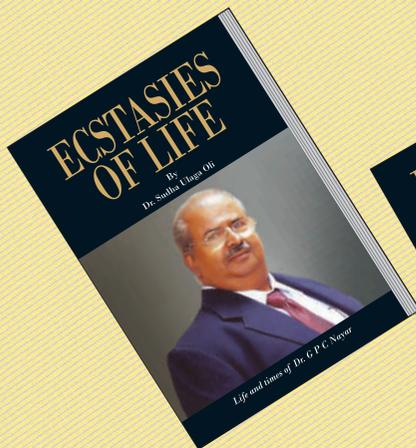
Aravazhi Irisappane and Vijayalakshmi Sundar

Scale Development : Validation

Anamika Sinha and Tanvi Paras Kothari



Here's an entrepreneur who has created some excellent academic institutions in an unfriendly environment. It is a saga of trials and tribulations in an extremely readable manner by a consummate writer in English.



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Chairman's Overview



The heart of India lies in the villages. 73 percent of our population equivalent to 12 percent of the world population, live in more than 6,30,000 villages, speaking around 15 major languages and more than 1250 dialects.

The profile of the rural consumers in India is changing fast. Their buying preferences are also subject to radical change opening up fresh opportunities to the marketers.

The rural market has acquired special significance and attracts intense attention of marketers worldwide as a result of substantial increase in the purchasing power of this segment in recent times. It offers a plethora of opportunities in the context of large untapped market, increase in disposable income, increase in literacy, and large scope for penetration.

At the same time the complexity of the market calls for in-depth studies to enable efficient utilisation of the possibilities that arise. Our lead paper in this issue throws more light on this vital topic of redefining rural marketing in India.

Sales and marketing integration is a hot topic for discussion today. Integration involves many things such as shared goals, well-oiled business processes, smart technology investments and the like. But above all, the most important integration is about learning how to work together as a unified team, in the absence of which all the technological advances will go waste. Effective communication plays an important role in this respect to create mutual understanding. The second lead study paper in this issue deals with this hot topic of integration of sales and marketing.

Spiritual intelligence is regarded as a higher dimension of intelligence because it is the ability to behave with wisdom and compassion, while maintaining inner and outer peace, regardless of the situation. The concept is relatively new and we are sure that a study on spiritual intelligence and occupational commitment will be of interest to our readers.

In addition, the issue carries a number of learned articles on a variety of topics such as Equity Market, Tiger Economies, BSE vs. NASDAQ, Transformational Leadership and EI, Building Contended Customers, Performance Evaluation, and Role of HR Professionals.

I am confident that this issue will be truly informative and educative to our readers.

Dr. G. P. C. NAYAR

Chairman, SCMS Group of Educational Institutions.

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Editorial



Journal Potential in education and research

Quite recently The Times Higher Education and Thomas Reuter released the World University Rankings. Underpinning the World University Rankings is a sophisticated exercise in information gathering and analysis. The Global University performance tables judge research-led universities across all their core missions – teaching, research, knowledge transfer, and international outlook. Thirteen carefully calibrated performance indicators provide the most comprehensive and balanced comparisons, trusted by students, academics, university leaders, industry, and governments. These thirteen performance indicators are grouped in five areas: teaching the learning environment (worth 30% of the overall ranking score), research: volume, income, and reputation (worth 30%), citations: research influence (worth 30%), industry income: innovation (worth 2.5%), and international outlook (worth 7.5%).

Citations explain and vindicate the significance of research influence. A journal is considered the best vehicle for academic and research knowledge. Research influence (30%) is promoted by journals. It is the single most influential of the 13 indicators. It looks at the role of universities in spreading new knowledge and ideas. Scholars use this vehicle to disseminate knowledge. Research influence is examined by capturing the number of times a university's published work is cited by scholars globally. Thomas Reuter in 2013-14 examined more than fifty million citations to 6 million journal articles, published over five years. The data are drawn from the 12,000 academic journals indexed by Thomas Reuter's Web of Sciences database. They include all indexed journals published between 2007 and 2011. The citations help show how each university is contributing to the sum of human knowledge. They tell us whose research has stood out. They pronounce how research has been shared around the global scholarly community to push further the boundaries of our collective understanding, irrespective of disciplines.

All these suggest how relevant and appropriate the role of a journal in higher education and research scenario is. Researchers may avail themselves of the columns of refereed journals, prepare scientific papers, and make their contribution known to the whole world. Therefore, all well-wishers and benefactors of the academic journals shall be meticulous in the sustenance of journals in disseminating knowledge across the globe.

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Rural to International : Blueprint for Marketing

Ajith P.

Abstract

The emerging field of rural marketing is witnessing rapid changes especially in India. With the focus shifting to unmet or poorly met ever increasing needs of rural consumers; there is a need to arrive at a clear understanding among practitioners and academicians. This paper takes a critical look at the role and domain of rural marketing in the 21st century. This paper redefines rural marketing domain by including an emerging exchange namely 'rural to international' (R₂I). Based on the current reality and emerging role of rural markets, a new rural marketing definition is proposed. The expanded marketing mix needed to achieve sustained success in rural markets is also delineated.

Key Words : Rural Marketing Domain, R₂I Flow, Rural Marketing Mix, Partnership, PDC Cycle, India.



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Marketing should be viewed as a process that encompasses all the facets of an organization that are involved in making and fulfilling its promises to customers. Nirmalya Kumar (2004) recommended marketers to change their role from implementers of traditional marketing functions to strategic coordinators of organization-wide initiatives aimed at profitably delivering value to customers. Marketing has a big role in shaping the destiny of the firm. Marketing should build a corporate-wide respect for the customer. The Marketing team of an organization should help management describe the business as pursuing a bigger idea (not just selling or marketing some offerings), one that adds value not only to the core customers but to employees, other stake holders and society as a whole. This will also contribute to the vision and mission which in turn will guide and motivate employees to perform better. This will also help avoid marketing myopia or urban myopia (Levitt, 1960; Paninchukunnath, 2010).

Rural marketing has emerged as a distinct academic discipline. Pioneered by agri-input companies, today rural

markets provide opportunity for almost all organizations. From the slogan of ‘no-rural’ many years back, now the mantra for majority of organizations is ‘Gaon Chalo’ (in Hindi) which means ‘go to village’ or ‘go to rural. Majority of companies today adopt ‘go-rural’ as their main strategy for survival, growth or market leadership at a national level. Agri-export companies depend 100% on rural for their survival and growth. Though comparatively easier for Indian companies, both Indian and MNC companies find Indian rural markets very challenging to enter and operate due to extreme heterogeneity. Rural consumers are more value conscious and demand value for money products. This demands the adoption of a different strategy than used in urban markets to address the needs of rural customers. Creative and innovative approaches with long-term commitment are needed to overcome all challenges and satisfy highly demanding rural customers.

With the customer as the focus of its activities, rural marketing is one of the major components of rural management. A good understanding of the role and domain of rural marketing is critical for both academicians and practitioners of rural marketing. The objectives of this paper are; (1) to give insight into the evolving definitions of marketing; (2) propose a new definition of rural marketing; (3) discuss the various exchange relationships in society involving rural people,

community, and institutions; (4) expand the domain of rural marketing by including *R₂flow*; and (5) expand the marketing mix for rural marketing by including ‘*partnership*.’

The Urban –Rural Continuum

In Indian context, what is non-urban is rural. From a geographical point of view, a non-urban area is rural. As per the Census of India 2011, the definition of urban area is –(1) All places with a municipality, corporation, cantonment board or notified town area committee, etc. (2) All other places which satisfied the following criteria: (i) A minimum population of 5,000; (ii) At least 75 per cent of the male main working population engaged in non-agricultural pursuits; and (iii) A density of population of at least 400 persons per sq. km. The first category of urban units is known as Statutory Towns. These towns are notified under law by the concerned State/UT Government and have local bodies like municipal corporations, municipalities, municipal committees, etc.;irrespective of their demographic characteristics as reckoned on 31st December 2009. The second category of urban units is known as Census Town. These were identified on the basis of Census 2001 data. From the sociological point of view, rural can be defined as, “a group of people who are traditionalists in outlook, rooted in the land, and who resist change”(Krishnamacharyulu and Ramakrishnan, 2012).

100% Urban				100% Rural				
Urban				Semi-urban			Rural	
Urban with 31% of Indian population				The current rural market of India- The Bharat - with 69% of population				
				RURAL MARKET				
Mega Metro	Metro	Big City	Small city	Big Town	Small Town	Corridor village	Accessible Village	Remote village

Source: Author’s research.

Figure 1: The Urban-Rural Continuum

As shown in **Figure 1**, the rural market of India (called the Bharat) is a combination of semi-urban market and rural market. This makes rural India the largest single rural market in the world with 12% of world population (830 million people). This also makes the Indian rural market highly

heterogeneous. The Indian rural market can be described as vast, diverse, dispersed, sparsely populated with big BoP. To understand a rural context better, it will be good to compare it with urban context/market.

Table 1: Comparison of Rural and Urban Markets

Rural Market	Urban Market
Low density of population	High density of population
High information asymmetry	Low information asymmetry
Low literacy	Higher literacy rate
Many households have only women and children as men migrate to urban areas in search of employment	Most households have male member
Highly heterogeneous	Less heterogeneous
Big BoP	Small BoP
High influence of caste system	Low influence of caste system
High influence of heritage and tradition in all activities	Appreciate and follow modernity
Most product categories have low penetration	High penetration
Less competitive market	Highly competitive market
Customers have limited choices	Customers have many choices

Source: Author's research.

Evolution of Role of Marketing

The accepted definitions of marketing from time to time, as shown in **Table 1**, clearly indicates the shifting and growing role of marketing in the business and social context.

Table 2: Evolution of Marketing Definition

AMA Definition 1985	AMA Definition 2005	AMA Definition 2007(Current)
Marketing is the process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational objectives.	Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders.	The activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large.

Source: AMA, 2013

The evolution of marketing from a function to a 'market oriented way' of carrying out organizational activities is evident from the definitions in the **Table 2**. The over focus on production, technology, product, competition or customer has given way to ensuring the well-being of *all*

stakeholders and society in general. The latest definition promises to fulfill the multiple role of marketing at micro and macro-level in an inclusive and sustainable way. Grönroo(2006) has defined marketing as "a customer focus that permeates organisational functions and processes and

is geared towards making promises through a value proposition, enabling the fulfillment of expectations created by such promises and fulfilling such expectations through support to customer's value-generating processes, thereby supporting value creation in the firm as well as its customer's and other stakeholder's processes." If marketing organizations have to sustain, the starting point has got to be the *concern for human beings*, who must be sufficiently empowered to consume by entering in to exchange relationship with them (Paninchukunnath, 2010).

A comprehensive but simple definition of marketing by Paninchukunnath(2013a) is "the sustainable process of empowering target individuals and groups to enter into exchange relationships for value creation that will ensure well-being of all key stakeholders and society at large." The key components in the definition are – Sustainability, Empowerment, Exchange, Value Creation, and Well-Being. Sustainability stands for meeting customer needs profitably with the judicious use of resources. Empowerment stands for effective communication, awareness creation and education of all key stakeholders so that information asymmetry is minimized. Exchange stands for tangible and intangible aspects of offering shared by individuals involved in the value creation. Value creation stands for the efforts made by participants in the exchange process to fulfill needs by sharing available resources and competencies. Well-being stands for the desired outcome of the process at micro and macro level. This definition adds the relationship building and strategic role of marketing to the latest AMA definition and is more holistic. In line with the change in scope and role of marketing depicted by the latest definitions of marketing, rural marketing can be redefined to reflect its role in 21st century.

Redefining Rural Marketing

The need to teach rural marketing to budding managers in emerging markets is ever increasing. The elements of the rural marketing system include rural consumers, competitors in rural markets and the channel members serving rural markets (Velayudhan, 2011). The purely commercial orientation of the industry with regard to rural marketing has not led to any improvement in the quality of life of rural consumers. It is time to reconceptualize rural marketing to enhance its contribution to sustainable rural development (Vaswani et al., 2005). Modi (2009) defined rural marketing as 'any marketing activity with net positive developmental

impact on rural people,' whereas Kotler et al.(2007) defined it as any marketing activity in which one dominant player(seller, buyer or intermediary) is from rural area. Walmsley (2012) defined rural marketing as 'determining the specific needs and desires of rural communities and workers in tandem with these communities to deliver their needs effectively and promote their general wellbeing.' Krishnamacharyulu and Ramakrishnan(2012) has defined rural marketing as 'an entrepreneurial process of developing rural people by partnering with development agencies and a business function that involves assessing, stimulating and satisfying demand for products and services through innovative approaches with a concern for customer satisfaction and corporate profitability.'

A New Definition for Rural Marketing

Based on the current market reality, role of marketing in society and the future role of rural marketing, rural marketing can be defined as follows;

The entrepreneurial and sustainable process of empowering rural consumers, communities and organizations to enter into exchange relationships for value creation that will ensure well-being of all stakeholders and rural society at large.

The key components in the definition are – Entrepreneurial, Sustainability, Empowerment, Exchange, Value Creation, and Well-Being. Entrepreneurial stands for opportunity creation for rural people to enhance their livelihood by taking part in value addition beyond basic production. It also represents the innovative approaches(new value or new ways of creating value) needed to address the needs and aspirations of rural people. Sustainability stands for meeting customer needs profitably with the judicious use of resources (especially locally available resources). Empowerment stands for effective communication, awareness creation and education of all key stakeholders so that information asymmetry is minimized. Empowerment also stands for enhancing purchasing power of rural people by making them an important player in the production-distribution-consumption cycle (PDC cycle). Exchange stands for tangible and intangible aspects of offering shared by individuals involved in the value creation. Value creation stands for the efforts made by participants in the exchange process to fulfill needs by sharing available resources and competencies. Well-being stands for the desired outcome of the process at micro and macro level. This definition is

more holistic and strategic. The addition of communities and organizations in the new definition emphasizes the need to adopt more collectivistic approach to marketing so that it becomes sustainable.

Rural marketing and rural development

Sustainable rural marketing (SRM) is impossible without rural development (see Figure 2). SRM and rural development are mutually dependant and reinforcing. Rural development can lead to better purchasing power among rural consumers. Rural people, when included in the PDC cycle, will be empowered to consume in a sustainable way. The role of rural marketing is to include rural people in the existing and new PDC cycles of various products and services.

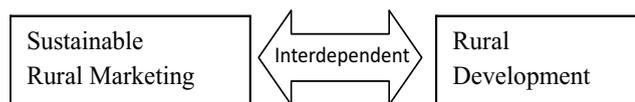


Figure 2: Relationship between Rural Marketing and Rural Development

In recent years, rural markets have acquired significance, as the overall growth of the economy has resulted into substantial increase in the purchasing power of the rural communities. In today’s competitive scenario, the rural markets are as vital as the urban markets for marketers.

Sustainable rural marketing can be achieved only by developing three capabilities namely: (1) Ability to understand the rural consumers, community and institutions along with the context, culture and lifestyle; (2) develop ability to market to rural consumers, households, community and institutions, and; (3) enhance potential rural consumers ability to consume by including them in the PDC cycle(Craig and Douglas, 2011).

Redefining the Domain of Rural Marketing

The domain of rural marketing should cover all types of exchange relationships where rural people are participants or are being empowered. Jha (1988) made the first attempt to classify rural marketing into three distinct flows namely rural to rural, rural to urban and urban to rural. This classification was further elaborated by Vaswani et al. (2005) with a developmental focus. To incorporate the recent developments in the Indian rural markets, the domain can be expanded to include *rural to international (R₂I)* as an important emerging flow (Paninchukunnath, 2013b). The four flows cover all the exchange relationships observed in the market where one of the participants in the exchange process is from rural area. The comprehensive coverage of all relationships expands the scope and relevance of rural marketing for 21st century. The dynamics and challenges of each of this flow are elaborated in the following section. The expanded domain or canvas of rural marketing can be broadly grouped into four flows as shown in Figure 3.

		Place of Consumption		
		Rural	Urban	International
Place of Production	Rural	R₂R	R₂U	R₂I
	Urban	U₂R		
	International			

Figure 3: The Four distinct flows of Rural Marketing

1. Rural to Rural (R₂R)

R₂R is intra rural economy where both the producer and consumer belong to same area. It involves short supply chains. The intermediaries are absent or very less. The products are directly sold by the producer in the nearby

retail outlets or periodic markets. The R₂R activities are unorganized. The involvement of organizations in production, distribution, storage and retailing are very less. Most of the products are sold in the raw form without much processing, packing, and branding. This flow meets most of the daily needs of rural producers and consumers.

Table 3: The dynamics of R₂R flow

Participants	Typical Products	Characteristics	Marketing interventions for development
Rural producers	Farm	Small supply chains	Eliminate intermediaries (if present)
Few rural intermediaries	Nonfarm	Unorganized Very weak infrastructure	Make it more organized(train participants for various skills)
Rural consumers		Rural retail outlets and haats are the major selling points	Explore home delivery(door to door pickup and delivery services)
		Limited difference among parties involved in exchanges	Help in better relationship building
		Limited gap in quality expected	Improve quality
		Limited gap in price expected	Fix fair price and print the price on the packing
		Mostly unpacked, unbranded products	Undertake packing and branding
			Involve rural people in value adding activities(beyond production&consumption)

Source: Author's research.

RUDI- A successful R₂R initiative from Gujarat, India

The RUDI model is organized to create short supply chains between rural producers and consumers by eliminating middlemen thus generating higher incomes for small farmers and employment opportunities for rural women in packaging and distribution; and providing good quality, basic products to rural customers at their doorstep at reasonable prices. RUDI was born when the largest rural women's network in the country, SEWA (Self Employed Women's Association) – in partnership with the Government of Gujarat, determined to assist rural women to produce, process, market and sell agro-commodities through training and mentoring, as well as eliminating middlemen through establishing direct ties with bulk buyers. The company operates with a unique short, supply chain model of procurement, processing, packaging and distribution of RUDI products through rural self-help groups of women, creating employment opportunities for rural women (Paninchukunnath, 2014).

SEWA piloted the RUDI initiative in Sabarkantha district of Gujarat in 2004. 'RUDI' stands for Rural Urban Development Initiative. Sabarkantha District is bounded by Rajasthan

state to the northeast, Banaskantha and Mehsana districts to the west, Gandhinagar to the South and Aravalli District to the South - East. Himmatnagar is the district headquarters, and talukas Prantij and Talod are major industrial locations in Sabarkantha. The main economic activities include agriculture, ceramics, chemicals and milk processing. In 2006 the Ministry of Panchayati Raj named Sabarkantha one of the country's 250 most backward districts (out of a total of 640). It is one of the six districts in Gujarat currently receiving funds from the Backward Regions Grant Fund Programme. RUDI has set-up its own Rural Distribution Network. Through this network the agri business company directly procures from about 1, 25,000 small and marginal farmers and sells the produce locally through a cadre of barefoot saleswomen called '*RUDI bens*.' The company has launched its own brand RUDI, the rural small and marginal farmers themselves are the shareholders of the company and thus the owners as well. Thus RUDI helps in increasing the employment opportunities, livelihood, and market opportunity for the poor women members of SEWA. This is done in the following ways; it procures agri-commodities from the rural producers providing them direct and assured

market for their products, provides employment to the women in processing activities at the processing centers and as RUDI sales women (*RUDI bens*) to sell the processed and packed products to households in rural areas.

RUDI contributes to the strengthening local economy by engaging unemployed women in the value adding and distribution activities of farm produce and thereby making the intra-rural (R_2R) exchanges more organized. Mainstreaming agri-business through direct procurement and marketing under 'RUDI' brand has strengthened intra-rural economy. RUDI is not only a name but it is also a symbol of our women's strength, determination and dedication. RUDI reaches a total of 70 million households. The successful approach has allowed RUDI, a for-profit company, to expand its operations to 14 districts of Gujarat, in 6 states of India, as well as within Afghanistan. RUDI was launched to raise the economic status of women farmers in a sustainable, scalable and systematic manner by nurturing livelihoods at all levels of the supply chain (Dave, 2008). Through RUDI Agri-business initiative 15,000 farmers are able to access to direct market linkages by getting 20-30% more price than locally offered price by traders. *RUDI*

ben earn between Rs. 1,500 to Rs. 3,000 per month, and processors earn between Rs. 5,000 and Rs. 20,000 monthly. Since 2004, the total turnover of RUDI Multi Trading Company Limited is Rs. 25 crore. RUDI model can be replicated in all states of India to organize the R_2R flow of farm and non-farm products.

2. Rural to Urban (R_2U)

R_2U is inter (rural-urban) economy where both the producer and consumer belong to different areas. It involves very long supply chains. There are many intermediaries. The products are directly sold by the producer in the nearby mandi or purchased from farm by intermediaries who then transport the same to urban areas. The R_2U activities are semi-organized. The involvement of organizations in production, distribution and storage are very less. Most of the products are sold in the raw form without much processing, packing and branding. This flow meets most of the daily needs of urban consumers and provides raw material for urban producers. RUDI model has proven that 'Doing Good' (social contribution) and 'Doing Well' (profit making) can be achieved simultaneously.

Table 4: The dynamics of R_2U flow

Participants	Typical Products	Characteristics	Marketing interventions for development
Rural producers	Farm	Very long supply chains	Reduce/Eliminate intermediaries. Introduce farm to fork models.
Many intermediaries	Nonfarm	Semi-organized Weak infrastructure	Make it more organized(train participants for various skills).
Urban consumers		Mandis, Organized retailers, Kirana stores, haats in urban areas are the major selling points and also online sales	Promote direct sale by producers. Develop e-commerce sites. Promote sales exhibitions.
		Big difference among parties involved in exchanges	Help in better relationship building.
		High gap in quality expected(consumer)	Educate producers on expected quality by urban consumers.
		High gap in price expected(by producer)	Better transparency in pricing. Fair pricing. Ethical sourcing by intermediaries and urban buyers.
		Mostly unpacked, unbranded products, unprocessed or semi processed.	Undertake packing, labeling and branding so that the source can be identified.
			Involve rural people in value adding activities(beyond production and consumption)

3. Urban to Rural (U₂R)

U₂R is inter (rural-urban) economy where both the producer and consumer belong to different areas. It involves long supply chains. There are many intermediaries. The products are generally sold to intermediaries who transport and sell them in rural areas. Products are sold in a variety of ways. Haats, rural retail outlets and melas are very common selling

points. The U₂R activities are semi-organized especially at the level of intermediaries and also at the last-mile delivery. The involvement of organizations in last-mile delivery is very less. Most of the products are well packed, labeled and branded. This flow meets most of the farm and non-farm production input needs in addition to FMCG and durable products for rural household use.

Table 5: The dynamics of U₂R flow

Participants	Typical Products	Characteristics	Marketing interventions for development
Urban producers	FMCG	Long supply chains	Involve rural people in sales and distribution(make them partners).
Many intermediaries	Durables	Semi-organized. Weak infrastructure for last-mile product/service delivery.	Make it more organized(train participants for various skills).
Rural consumers	Agri-inputs	Haats, Rural retail outlets, Few emerging organized retail malls, and Melas are the major selling points. A large number of travelling salespersons do door-to-door selling.	Partner with NGOs, SHGs and other community organizations to create awareness and educate customers on proper use of various products and services.
		Big difference among parties involved in exchanges	Undertake research to study rural consumer behavior. Help in better relationship building.
		Feature rich and more technologically advanced than what rural consumers want	Provide simple, easy to use, durable, functional products. Customize products. Co-create products.
		Many products are not affordable for the majority	Fair pricing. Small unit packs at low price points.
		Mostly processed, packed and branded products	Use multilingual printing. Introduce multiple brands to cover various income segments.
		Many counterfeit products are available	Increase product presence, availability and restocking at the retail point. The product has to be well labeled with all details. Use barcoding.

Source: Author's research.

4. Rural to International (R₂I)

This is a new flow proposed by the author. A classic example of this flow is the procurement of soyabean by ITC exclusively for export. Farm produce like Darjeeling tea, alphonso mango (with geographical indication) and non-farm produce like handicraft, handloom (with geographical indication) can be good examples of this flow. R₂I is critical as some of the products are produced only in India and has high demand in the international market. Apart from fetching good benefit for all stakeholders, this flow is critical for earning foreign currency as well as to project the unique identity of the nation (especially its cultural heritage). Developments in e-commerce, logistics and supply chain management will provide a big fillip to this flow in the near future.

R₂I is export market where both the producer and consumer belong to different countries. It involves long supply chains. There are many intermediaries. The products are generally sold to intermediaries who export them. The R₂I activities are semi-organized especially at the level of producers and aggregators. Most of the products are sold to the intermediary in the raw form without much processing, packing and branding. The intermediaries in turn do most of the grading, processing, packing, labeling and branding

activities. This flow generally provides better remuneration than selling in domestic market. Products with Geographical Indications (GI) tag are mostly labeled by the producer before selling to intermediary to avoid any mix-up with similar products made in other parts of the country.

The WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) defines ‘geographical indications’ as indications that identify a good as ‘originating in the territory of a member, or a region or locality in that territory,’ where a given quality, reputation or other characteristic of the good is essentially attributable to its geographic origin. As products with GI mark cannot be produced in other places with same name, the original place of production is the only source for consumers across the world. Thus the producers of GI products have the responsibility to meet the demand of global consumers, as there is no second source for the GI products. This is an emerging opportunity for many producers in rural areas. The provision of GI in TRIPS is also an opportunity to protect the production method, quality, originality and the occupation of the people/community involved in the production of that product. It will also protect the knowledge and promote its transfer to next generation as the remuneration they receive for such products through export is better than what they can get from domestic market.

Table 6: The dynamics of R₂I flow

Participants	Typical Products	Characteristics	Marketing interventions for development
Rural producers	Farm	Long supply chains	Procure directly from producers. Develop fast and efficient supply chain.
Many intermediaries	Nonfarm	Semi-organized	Make it more organized(train participants for various skills)
International consumers		Finally procured by exporters	Partner with various organizations like APEDA, MPEDA, ECGC etc.
		Very big difference among parties involved in exchanges	Undertake research to study target country quality requirements and consumer behaviour.
		Nonfarm products are dominated by handicrafts and other rare and unique products. Among farm products, high quality (first grade) products and surplus quantity products dominate.	Customize products based on the quality standards and needs of the target country customers.
		Producers expect good price	Highlight the uniqueness of the product and place/country of origin.
		Mostly processed, packed and branded products	Use multilingual printing. Pack well to withstand the long supply chain and time period.

Source: Author’s research.

There are many impediments in the R_2I flow. Given below are a few of them especially for farm produce:

1. Low productivity,
2. Inadequate infrastructure,
3. Too many intermediaries in procurement chain,
4. Poorly developed export oriented production,
5. Lack of awareness about international standards,
6. Inadequate quality standards in domestic market,
7. Not able to meet high levels of quality standards of developed nations,
8. Good demand in domestic market making the producers depend heavily on it even when prices go down,
9. Poor awareness among various players in the value chain about export opportunity, and
10. Additional barriers from domestic or international markets from time to time(due to fluctuations in demand or changes in laws/rules/standards).

A recent case in point is the ban imposed by European Union from 1st May, 2014 on import of Indian Alphonso mangoes, after alleging to have found unwanted pests such as “non-European fruit flies” in some consignments.

The dynamics and challenges of each of the four flows need to be understood to participate effectively with diverse rural markets. The involvement with more than one flow will increase the viability of the rural marketing operation. ITC is involved with three flows- U_2R (choupal sagar), R_2U (various farm products for urban consumers) and R_2I (mainly for Soyabean). The ability to achieve synergy between different flows is what the firms should aim for. The involvement with multiple flows will enhance the market knowledge, opportunity for empowerment and long term relationship building. Developing appropriate strategy for each of this flow is essential for achieving effectiveness in marketing.

Rural Marketing Mix- The 5Ps or 5Cs of Rural Marketing

The framework of 4Ps is a structural and pedagogical axiom in marketing domain. Culliton (1948) originally suggested the marketing mix framework. Borden (1964) began using it in his teaching in the 1940s and it consisted of twelve controllable marketing elements if properly managed, would

result to a “profitable business operation.” McCarthy (1964) reduced Borden’s factors to a simple four-element framework: Product, Price, Promotion and Place (4P’s). Practitioners and academics alike promptly embraced the 4P’s (Marketing Mix) paradigm that soon became the prevalent and indispensable element of marketing theory and operational marketing management.

Table 7: Marketing Mix for Rural Marketing

5Ps - Producer centric	Equivalent 5Cs - Consumer centric
Product	Consumer solution
Price	Cost
Place	Convenience
Promotion	Communication
<i>Partnership</i>	<i>Collaboration</i>

Source: Adapted from McCarthy (1964); Schullz, Tannenbaum, &Lauterborn (1993)

In addition to the above four Ps, successful rural marketing need one more ‘P’ that is ‘Partnership.’ The partnership has to be preferably with individuals/groups/institutions that have complementary knowledge/skill especially of the local context. Building relationship with the partners and constant capacity building of partners is also critical. Schullz, Tannenbaum, and Lauterborn (1993) proposed a four C’s classification which is a more consumer oriented version of the four P’s. Through 4C’s model they attempt to fit the movement from mass marketing to niche marketing or a more customer centric approach. Product part of the 4Ps model is replaced by “Consumer Solution,” shifting the focus to satisfying the consumer needs. Price is replaced by “Cost,” reflecting the total cost of ownership. Many factors affect Cost, including but not limited to the customer’s cost to change or implement the new product or service. Promotion is replaced by “Communication,” which represents a broader focus. Communication can include advertising, public relations, personal selling, viral advertising, and any form of communication between the organization and the consumer. Place is replaced by “convenience.” *Partnership* can be replaced by “*collaboration*”(see Table 7). By adding one more ‘C’ namely, ‘*Collaboration*,’ 4Cs can be expanded to 5Cs. Rural marketers need to ask whether they have found the right partners from the context/market they wish to enter and operate? Do the partners possess complementary resources/skills? Can synergy be achieved by partnering/collaborating?

Conclusion

The field of marketing has been evolving fast and the emerging field of rural marketing has been also witnessing rapid changes especially in India. Majority of companies today adopt 'go-rural' as their main strategy for survival, growth or market leadership. To address the needs of rural consumers, a good understanding of the role and domain of rural marketing is critical for both academicians and practitioners of rural marketing. The new definition of rural marketing captures the current and future role of rural marketing. This paper has extended the domain of rural marketing by including rural to international (export) of various farm and non-farm produce as a new flow (R_2I) which is critical for the rural community and also for the whole country. The expanded marketing mix, with the inclusion of 'partnership,' can help in addressing the needs of rural consumers and community in a sustainable way. The rural marketing and the rural development have to be integrated to achieve sustainability in rural marketing efforts. The recommended new definition, extended domain and rural marketing mix can help the organizations succeed in undertaking the challenging rural marketing journey in the 21st century.

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Sales and Marketing: Integration

Pankaj M. Madhani

A b s t r a c t

The sales and marketing integration has a direct and significant impact on customers and the revenue-earning potential of the organization. This research demonstrates the benefits of a close integration between sales and marketing and evaluates its impact on the organization performance. Sales and marketing integration is a complex and multi-faceted construct and hence requires strategic approach for its evaluation. This study aims to understand how to achieve sales and marketing integration by focusing its facilitators and controlling distractors. This study focuses on how collaboration between sales and marketing improves business performance rather than evaluating its consequences. Hence, this research focuses on drivers of sales and marketing integration for creating superior customer value. Various models of this paper aim at providing guidelines for sales and marketing managers for building competitive advantages by achieving sales and marketing integration.

Key Words : sales; marketing; collaboration, integration; organization culture, customer value proposition



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Significant research efforts have been devoted to considering co-operation and collaboration between functional departments in organizations, based on the premise that interdepartmental collaboration is linked to improving business performance. However, relatively little attention has been paid to the interdepartmental relationship between sales and marketing as compared to other functional relationships with marketing. Only recently, sales and marketing interaction has gained more conceptual attention. Sales and marketing interface exhibits one of the most contentious relationships within organizations and is one that is attracting increasing attention from both academicians and practitioners.

The sales and marketing interface has a direct and significant impact on customers and the revenue-earning potential of the organization. Collaboration between sales and marketing may be important in reducing inter-functional conflict and creating high performance. There is need to have collaboration between sales and marketing to alleviate their behavioural conflicts. Hence, every organization should improve the relationship between sales and marketing.

The major objectives of this paper are firstly; to introduce sales and marketing integration as a process which combines the strengths of sales and marketing by shifting the focus to the customer; secondly; to demonstrate how such integration can leverage the strengths of sales and marketing, and meet the challenges of customer value creation in today's fast changing and highly competitive marketplace and thirdly; to suggest research framework of sales and marketing integration as well as methodology for calculation of customer lifetime value (CLV) for better understanding the interface of sales-marketing from inside-out. CLV measures the present value of all future profit streams of a customer across the entire customer life cycle. This study focuses on how integration between sales and marketing improves lifetime value of customers and ultimately business performance.

Literature Review

Previously the academic focus was more on marketing's interaction with other functions such as R&D or finance, and researchers did not differ between the sales and marketing functions at all (Kahn and Mentzer, 1998). Many researchers found sales-marketing interface as a rather unexplored area with either limited research study (Dawes and Massey, 2005) or not researched systematically and deeply (Homburg et al., 2008). Both sales and marketing may be following their own agendas, creating conflict, coordination problem, and ultimately great tension between the two groups. These issues can negatively characterize the interface between sales and marketing and may lead to conflict that is detrimental to collaboration (Dewsnap and Jobber, 2000).

According to Corstjens and Corstjens (1999), a lack of cooperation between sales and marketing has the potential to damage the overall success of the organisation. Both sales and marketing serve customers, with sales traditionally performing tactical tasks such as contacting customers, executing marketing strategies, and closing the sale in the field and marketing entrusted with providing support to salespeople and building consistent brand image in the marketplace (Matthyssens and Johnston, 2006). Improvements in collaboration and interdepartmental relations may reduce conflict as well as enhance the formulation of strategy (Menon et al., 1996). For success of the organization, market responsiveness and adaptability are important conditions and requires seamless integration

of the organization's many functional parts. The overcoming of functional boundaries and (often) the development of cross-functional teams as important facets of customer focused organizations (Homburg et al., 2000).

Le Meunier-FitzHugh and Piercy (2007), studied collaboration between sales and marketing in business-to-business (B to B) setting and found that it is positively related to enhanced business performance. The research findings empirically established that a positive senior management attitude toward collaboration between sales and marketing, the reduction of interdepartmental conflict, the improvement of communications, the establishment of organizational learning, and effective market intelligence systems are important antecedents to effective collaboration between sales and marketing. Similarly, empirical study by Le Meunier-FitzHugh and Lane (2009) confirms that collaboration between sales and marketing has a positive and significant impact on both market orientation and business performance.

Sales and marketing are different functions within an organization and usually have different goal orientations (Homburg et al., 2008). The sales-marketing interface may exhibit many negative features and are characterised by poor co-ordination, miscommunications, conflict, non-cooperation, signs of frustration, distrust and dissatisfaction with the other group's performance, disharmony, and poor understanding of each other's roles, which inhibits achieving the benefits of collaboration (Dewsnap and Jobber, 2002). Improved sales and marketing interaction has a positive impact on corporate growth as well as on new product development (Ernst et al., 2010). With sales and marketing collaboration, firms will outperform competition; create added value as well as customer satisfaction.

Hence, there is a shift from focusing only on how firms can create competitive advantages through increased productivity within the value chain towards a perspective on how they can increase the quality of their customer relationship via better cross functional teamwork (Rayport and Jaworski, 2004). The creation of superior customer value through an effective sales and marketing relationship provides competitive advantage to the firms (Guenzi and Troilo, 2007). Sales and marketing interaction is important for overall performance and growth of business as their productive relations is linked to improved productivity, competitiveness, superior value creation, and market

performance (Tjosvold, 1988). Paper works in this direction, and provides insights for enhancing sales and marketing integration. The ideas presented in this paper have the potential to enhance collaboration between sales and marketing and achieve better integration between them.

Sales and Marketing Conflict: Key Issues Following are major components of conflicts between sales and marketing:

A. *Separate Identity*

Although sales and marketing are sometimes considered being part of the same function with the same objectives, in reality they are often managed differently (Olson et al., 2001). Sales and marketing are usually structured and managed as two distinct departments with independent goals (Workman et al., 1998). Although there may be advantages in locating sales and marketing in close proximity (Dewsnap and Jobber, 2000), in many organisations sales and marketing are separated, sometimes geographically (Workman et al., 1998). Many organizations do not have a clear idea how sales and marketing should interact and relate (Krol, 2003). Problems arise with the sales and marketing interface when large, separate departments become independent silos that do not operate well together (Rouzies et al., 2005).

B. *Communication Flow*

Cross-functional integration requires employees from different departments of the organization to communicate and interact, in order to exchange work, resources, and assistance (Ruekert and Walker, 1987). Sales often complain about the lack of timely availability of information from marketing (Cespedes, 1994), while marketing reply that the information in which they invested time and money to gather it are not being used by sales (Moorman et al., 2007). To enhance bidirectional information flow among the different functional areas and decrease conflicts in communication, increased cross functional integration, more number of focused meetings and documented information exchange are needed (Kahn and Mentzer, 1998).

C. *Goal Difference*

The significance of goal differences on the effectiveness of the sales and marketing interface was highlighted by Guenzi and Troilo (2006).

The goal differences may be a source of interdepartmental friction and its resolution are often the responsibility of senior management of the organization. The goal differences may be attributed to a lack of understanding of the importance of coordination on the part of senior management (Colletti and Chonko, 1997).

D. *Conflict of time-frame*

Traditionally, one of the most cited reasons of conflict between sales and marketing is the difference in the time frame they refer to in the processes of goal setting, resource allocation and performance evaluation (Strahle et al., 1996). Such differences obviously translate into conflicting priorities and inconsistent activities because sales primarily focuses on relationships, tactical and short-term objectives such as revenue targets (Cespedes, 1994) while marketing are highly analytical, data oriented, long-term focused and believe in building competitive advantage for the future and hence mainly adopts a strategic, long-term perspective such as brand building. Several researchers have also highlighted the difficulties created by the short-term orientation of sales goals conflicting with the long-term orientation of marketing (Montgomery and Webster, 1997).

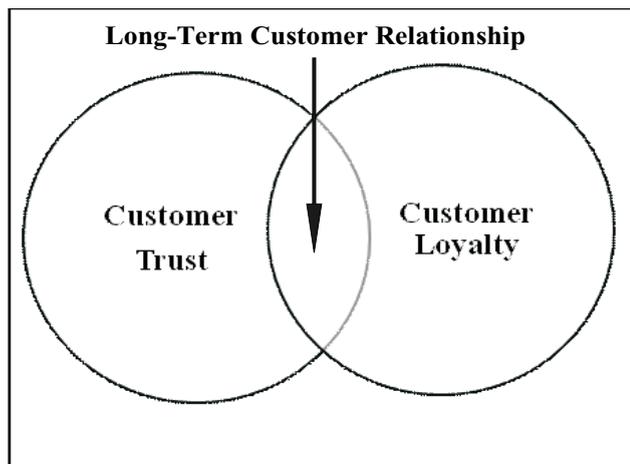
Research Methodology

A two stage methodological approach is adopted in this research paper. The first stage involves establishing relationship between sales and marketing interaction and CLV by developing sales and marketing integration model. In the second stage, research focuses on development of a methodology for CLV calculation.

Sales and Marketing Integration Model

Sales and marketing integration facilitates firms to foster long-term relationships with customers based on customer satisfaction, trust and loyalty. Sales and marketing integration focuses on meeting customer needs and provide greater value to its customer than competitors. Trust is a cumulative process that develops over the course of repeated and satisfactory interactions with the firm. Customer trust will result in the customer's willingness to develop and maintain a long-term customer relationship with the firm and build solid customer loyalty. Customer trust

has a positive correlation with customer loyalty. Loyalty causes customers to buy a particular brand, which improves the customer's value and ultimately the firm's performance. Customer loyalty can result in favorable operating cost advantages for firms, fewer markdowns, reduction in inventory and simplified capacity forecasting due to lesser fluctuations in demand.



(Source: Framework developed by Author)

Figure 1: Long-Term Customer Relationship: A Conceptual Framework

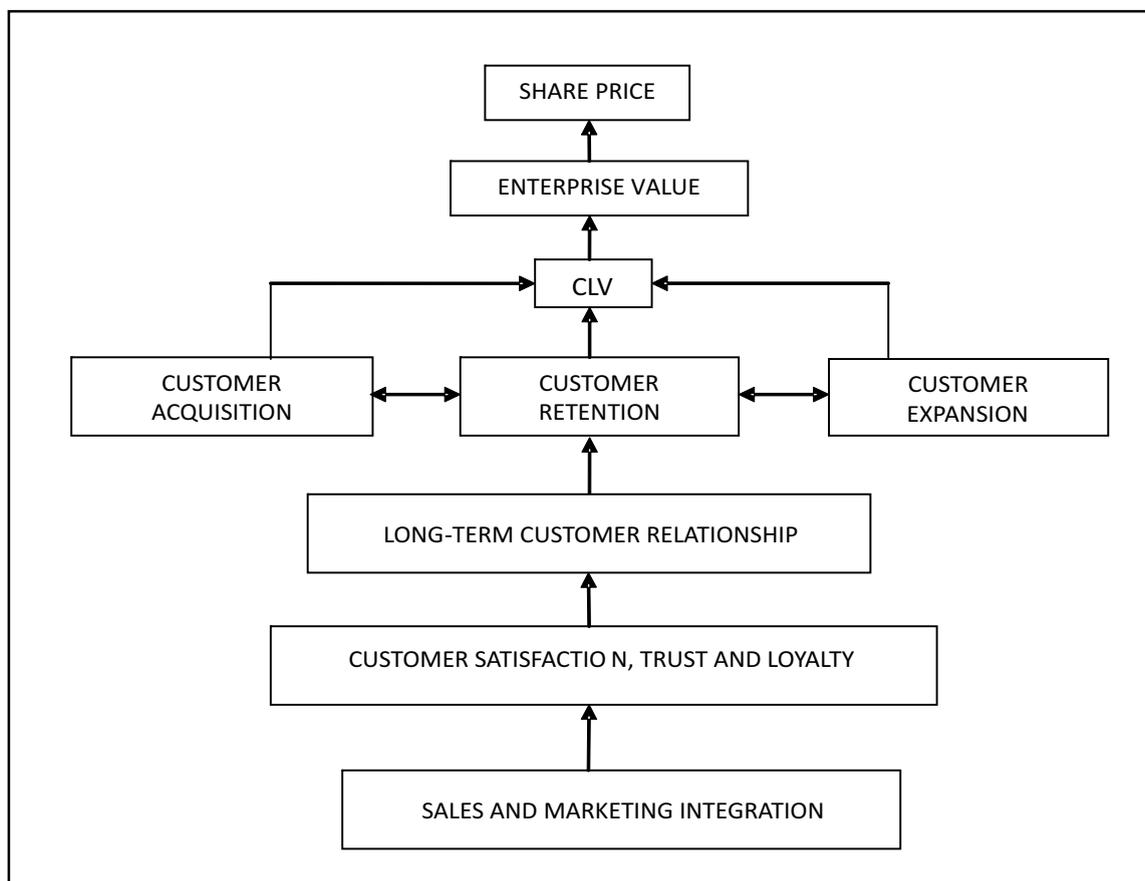
Since customer loyalty is considered to be the complement of trust, the degree of customer loyalty is an important consideration for firms. Customer loyalty has been recognized as an important source of sustained competitive edge in terms of customer retention, repurchase, and long-term customer relationships. Framework of Figure 1, shows relationship between customer trust, loyalty and long term customer relationship.

The need to create value in turbulent times has increased demand for new conceptual models and indicators to

determine successful measures of sales efficiency and marketing effectiveness. CLV is the only metric that incorporates into one, all the elements of revenue, expense and customer behavior that drive profitability. CLV focuses on long-term profitability instead of immediate sales outcome. CLV depends on three main components of customer relationship – acquisition, retention, and cross-selling. This metric also manages to score over other metrics by adopting a customer-centric approach instead of a product-centric one, as the driver of profitability.

CLV is a calculation of projected net cash flows that a firm expects to receive from the customer, adjusted to the probability of occurrence and are then discounted. The lifetime value of a customer for an organization is the net revenues obtained from that customer over the life time of transactions with that customer minus the cost of attracting, selling, and servicing the customer taking into account the time value of money (Jain and Singh, 2002). Although organizations are interested in knowing the CLV of their customers, they are also keen on identifying the factors that are in their control that could increase the CLV.

Framework as shown in Figure 2, describes how sales and marketing integration of a firm influence customer behavior (such as customer acquisition, customer retention, and customer expansion in the form of cross-selling / up-selling), which in turn affects customers' CLV or their profitability to the firm. CLV of customers (current as well as future), often eventually forms a proxy for firm or enterprise value and share price. Here, CLV is the dependent variable whereas sales and marketing integration is independent variable. Gupta et al., (2004) explicitly confirmed the positive link between CLV and firm value. The CLV of a customer represents the amount the customer will contribute to the bottom line of the firm over the span of the business relationship with them (Kumar and Shah, 2009). Hence, it cannot be seen in an isolated way but rather in the long-term relationship context occurring throughout the customer lifetime.



(Source: Framework developed by Author)

Figure 2: Sales and Marketing Integration Model: Enhancing CLV

As the cost of acquiring customers is high, the profitability from a customer arises if customers make many repeat purchases. Customer retention is very much a function of customer loyalty, and hence, strategies that strengthen the relationship between the firm and the customer should improve retention. Many authors have documented the financial benefits to a firm of increasing retention rates (Gupta et al., 2004). Retention can be increased with better products and services, more competitive pricing, promotions, particularly value added ones, and increased brand value (Malthouse and Mulhern, 2008). Another study found that increasing customer retention rates by 5% could increase firm's profit by 2% to 9% (Gupta et al., 2004). As shown in Figure 2, sales and marketing integration of a firm enhances customer trust, loyalty and satisfaction, strengthens customer relationship and ultimately increases CLV through customer acquisition, retention and expansion.

Calculation Methodology

CLV is influenced by retention rate, lifetime revenue of customer as well as profit margin. CLV provides the present value of a customer relationship over the lifetime with an organization, and is calculated based on a number of sales transactions with customers (Kumar and Rajan, 2009). The retention rate is the probability that an individual customer will remain loyal to the firm for the next period, provided that the customer has bought from firm on each previous purchase (Dwyer, 1997). Retention rate and life time tenure of customers are interrelated and are key drivers of firm's profitability. Retention rate or survival rate of customer is a measure of number of customers remaining in a user group over a specific period of time. Likewise, attrition rate or churn rate is a measure of the number of customers moving out of a collective user group over a specific period of time.

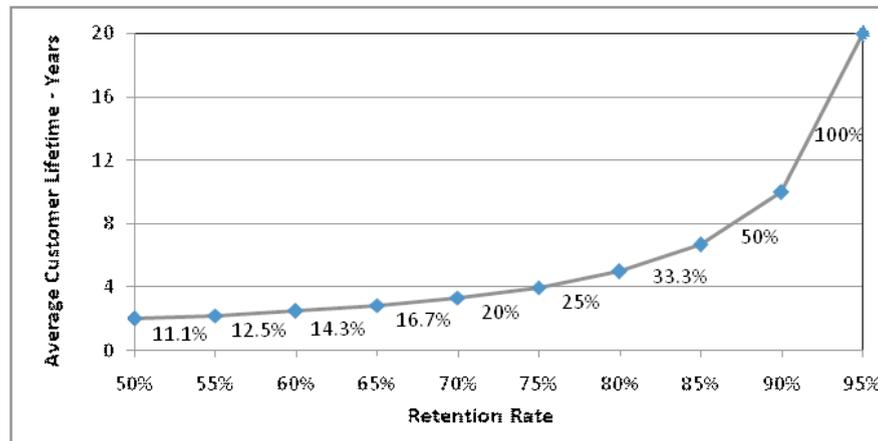
Retaining customers is a crucial function for any firm. Customer attrition impacts a firm in several ways. The primary impact is the loss of revenue from customers who have defected. Second, attrition results in the lost opportunity for the firm to recover the acquisition cost incurred on the customer. Third, the firm loses the opportunity to up-sell and cross-sell to customers who have defected, and this can be treated as a loss of potential revenue. Fourth, there are some lost social effects, such as influencing other customers on product/service adoption and potentially negative word of mouth. Further, firms must also invest additional resources to replace lost customers with new customers. This drains the firm's resources, which are already impacted by the loss of customers to competitors and puts an undue burden on the firm to break even (Kumar and Rajan, 2009).

Customer churn can have an adverse effect on the profitability and even the survival of a business. An annual churn rate of 25% is the same as an annual retention rate of 75% i.e., on an average, 75% of the customers continues to

remain customers in the next period. As calculated below, both imply a customer life time of 4 years:

$$\begin{aligned} \text{Lifetime duration of a customer} &= [1 / (1 - \text{retention rate})] \\ &= [1 / (1 - 0.75)] \\ &= [1 / (0.25)] \\ &= 4 \text{ years} \end{aligned}$$

For a different retention rate of customers, change in customer lifetime duration is calculated and plotted in Figure 3. It is evident from the Figure 3 that any increase in retention rate after value of 70% results into steep rise in average customer lifetime (e.g. it increases by 20% with 5% increase in retention rate, i.e. from 70% to 75%). With increase in customer retention rate from 90% to 95%, average customer lifetime has increased by 100%, i.e. from 10 years to 20 years. A study by the Gartner group found that profits could be raised 100 percent by retaining another 5 percent of customers (Nairn, 2002).



(Source: Calculated and plotted by author)

Figure 3: Variation of Customer Lifetime with Retention Rate

Sales and Marketing Integration: An Illustration

Consider a hypothetical illustration of a big retailer with sales and marketing integration issues. As there was no integration between sales and marketing functions of a retailer, there was major issue of delivering the right product to the right place at the right time. Hence, customers were dissatisfied because of non availability of desired products in desired quantity. Lack of integration between sales and

marketing resulted into loss of customer satisfaction, trust and loyalty and deterioration of customer relationship. Hence, it translated into low customer retention rate, i.e. 50%. However, after resolving various issues of sales and marketing integration, retailer was able to achieve better customer satisfaction, built environment of trust and loyalty and ultimately increased customer repeat purchase and retention rate. Hence, with sales and marketing integration initiatives by retailer, retention rate of customer has increased

to 75%. Calculation given below shows impact of sales and marketing integration in terms of high retention and enhanced CLV. As calculated in Table 1, the major cost of customer acquisition for retailer was cost of customized catalog sent to potential customers.

Calculation

If ‘M’ and ‘c’ are relatively fixed across periods, then CLV calculation can be simplified by assuming an infinite economic life, which leads to:

$$CLV = \frac{(M - c)}{(1 + d - r)} - AC$$

Where

CLV = Customer lifetime value

M = the margin of retailer generated by a customer in the year (\$25) (As calculated in row ‘12’ of Table 1)

c = the cost of promotions targeted to the customer (\$9) (As calculated in row ‘7’ of Table 1)

r = retention rate (75% or 50% depending on degree of sales and marketing integration)

d = discount rate for calculating Net Present Value (NPV) (10%)

AC = acquisition cost (\$25) (As calculated in row ‘5’ of Table 1)

CLV for both cases i.e. with sales and marketing integration (retention rate 75%) as well as during lack of sales and marketing integration (retention rate 50%) can be calculated with above equation. The only difference in calculation for both cases is change in the retention rate.

CLV (Without sales and marketing integration) = \$1.67 and CLV (With sales and marketing integration) = \$20.71.

As above CLV calculation is approximate value with assumption of infinite economic life, detailed stepwise calculation of CLV for both cases is given in Table 1.

Table 1: Sales and Marketing Relationship: CLV Calculation

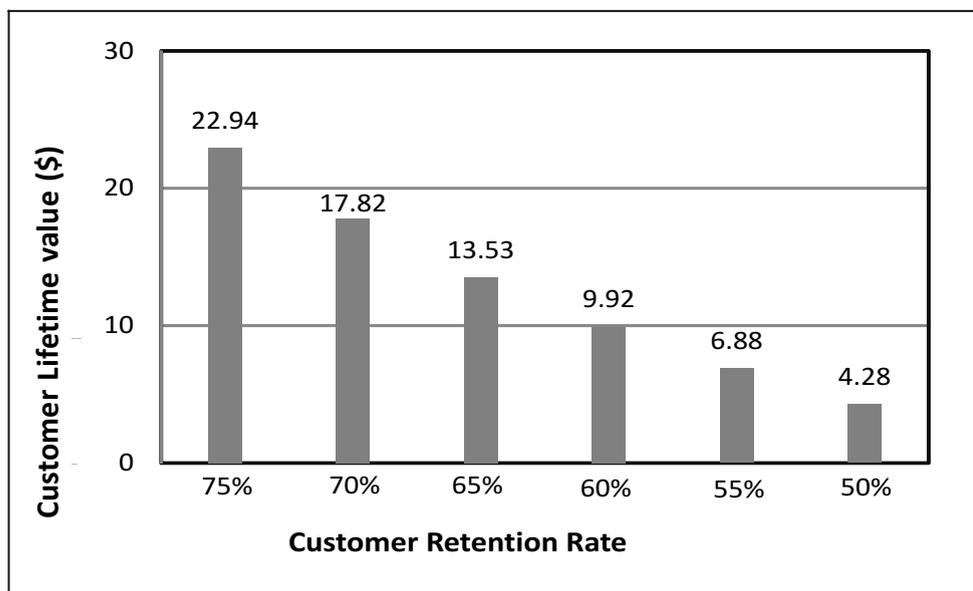
Sr. No.	Calculation	Year (n) (n >= 0)								
		0	1	2	3	4	5	6	7	
(1)	Unit cost of catalog (including mailing cost) (\$)	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
(2)	Cost of data per customer, bought from research firm (\$)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
(3)	Unit cost of customized catalog = (1) + (2) (\$)	1	1	1	1	1	1	1	1	1
(4)	Customized catalog response rate (%)	4	4	4	4	4	4	4	4	4
(5)	Customer acquisition cost = (3)/(4) (\$)	25	25	25	25	25	25	25	25	25
(6)	No. of times catalog sent = (every month)	12	12	12	12	2	12	12	12	12
(7)	Total cost of catalog = (1) x (6) (\$)	9	9	9	9	9	9	9	9	9
(8)	Average order size (\$)	50	50	50	50	50	50	50	50	50
(9)	No. of purchase/year	2	2	2	2	2	2	2	2	2
(10)	Gross margin (%)	25	25	25	25	25	25	25	25	25
(11)	Margin on each purchase = (8) x (10) (\$)	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
(12)	Margin on each customer = (9) x (11) (\$)	25	25	25	25	25	25	25	25	25
(13)	Discount rate (%)	10	10	10	10	10	10	10	10	10

(A) Lack of Integration between Sales and Marketing (retention rate = 50%)									
(14)	Retention rate (%)	50							
(15)	Churn rate = [1 – (14)] (%)	50							
(16)	Lifetime duration of a customer = [1/(15)] (years)	2							
(17)	Retention rate across years = (14) ⁿ (%)	100	50	25	13	6	3	2	1
(18)	Expected profit/customer = [[(12) – (7)] x (17)] (\$)	16	8	4	2	1	0.50	0.25	0.13
(19)	NPV of profit/ customer = [(18)/((1+(13)) ⁿ)] (\$)	16	7.27	3.31	1.50	0.68	0.31	0.14	0.06
(20)	CLV = Cumulative profit / customer (net of acquisition cost) (\$)	-9	-1.73	1.58	3.08	3.76	4.07	4.22	4.28
(21)	CLV of new customer (\$)	4.28							
(B) Integration between Sales and Marketing (retention rate = 75%)									
(22)	Retention rate (%)	75							
(23)	Churn rate = [1 – (22)] (%)	25							
(24)	Lifetime duration of a customer = [1/(23)] (years)	4							
(25)	Retention rate across years = (22) ⁿ (%)	100	75	56	42	32	24	18	13
(26)	Expected profit/customer = [[(12) – (7)] x (25)] (\$)	16	12	9	6.75	5.06	3.80	2.85	2.14
(27)	NPV of profit/ customer = [(26)/((1+(13)) ⁿ)] (\$)	16	10.91	7.44	5.07	3.46	2.36	1.61	1.10
(28)	CLV = Cumulative profit / customer (net of acquisition cost) (\$)	-9	1.91	9.35	14.42	17.88	20.23	21.84	22.94
(29)	CLV of new customer (\$)	22.94							
(30)	Increase in CLV with sales and marketing integration = (29) – (21) (\$)	18.66							
(31)	Increase in CLV with sales and marketing integration = (30)/(21)x100 (%)	435							

(Source: Calculated by author)

As calculated in Table 1, sales and marketing integration has increased CLV by 435% from \$4.28 to \$22.94. Figure 4 shows stepwise decrease in customer retention rate

because of sales/marketing integration issues and its impact on CLV. Notice how small increases in the retention rate have a dramatic effect on CLV.



(Source: Calculated and plotted by author)

Figure 4: Relationship between Customer Retention Rate and CLV

Kraft USA: An Illustration of Sales and Marketing Integration

Kraft USA had created the capacity to tailor its advertising, merchandising and operations to the needs of stores' particular customers. Through sales and marketing integration, Kraft was able to create customer intimacy. Kraft decentralized its marketing operation to empower sales department. Trade marketing team at Kraft headquarters sorts and integrates information related to consumer buying behavior, demographic and geo-demographic data from various databases to supply sales teams with a repertoire of usable programs, products, value-added ideas and selling tools. With sales and marketing integration, Kraft was in position to pinpoint which store gets which product there by reducing inventory and delivering the right product to the right place at the right time (Treacy and Wiersema, 1993). With sales and marketing integration, Kraft was able to achieve higher customer satisfaction, trust, loyalty and intimacy.

Sales and marketing Integration: Major Benefits

The working relationship between the sales and marketing is often described as unsatisfactory, so that any improvement at the sales and marketing interface will have a

positive effect on top and bottom line growth of the firm (Kotler et al., 2006). Good working relationship between sales and marketing enhances capabilities of the firm to adapt to the rapidly changing environment, as this requires cross functional support as well as even more focus on the customer (Malshe, 2010).

Illustrations

1. The Aberdeen Group (2002) found that sales repeatedly complained about support tools provided by marketing were inadequate, and marketing frequently accused sales of misunderstanding or misusing marketing collateral. It was estimated that as much as 80 percent of marketing's expenditures on lead generation were wasted/ignored as irrelevant or unhelpful by sales. Similarly, on the sales side, it was reported that 40 to 60 hours out of a typical salesperson's monthly efforts were devoted to redoing, collateral materials that marketing should have generated in the first places.
2. In 2011, the Netherlands based consulting firm Andeta Group, conducted research study on sales and marketing alignment for 160 business units in

Europe and USA, and found that only 25% of the companies were having 'high' alignment between sales and marketing. In half of the surveyed companies, there were regular conflicts between sales and marketing.

Organizations that effectively integrate their sales and marketing activities are much more likely to achieve better corporate performance in terms of sales, profitability, market share and even customer satisfaction. Following are major benefits of sales and marketing integration:

A. Enhanced Return on Investment

Sales and marketing integration helps organizations to sense consumer demand and respond to it in real time and provides a superior consumer experience at every opportunity while also decreasing time to market, trimming overall costs and optimizing productivity. Integration of sales and marketing will enhance customer satisfaction. Customer satisfaction is an important driver of firm's profitability (Luo and Homburg, 2007). There is a positive influence of customer satisfaction on financial performance indicators of an organization, such as return on investment (ROI) and return on assets (ROA) (Anderson et al., 1994; Rust et al., 2002). According to Gruca and Lopo (2005), firm generates benefits for itself beyond the present transaction by satisfying a customer. These benefits arise from the positive influence of the satisfied customer's future shopping behavior. For example, satisfied customers are more loyal and over time impact their purchase intention (Anderson and Sullivan, 1993; Reichheld, 1996). Some of this increased level of purchasing is due to satisfied customers being more receptive to cross-selling efforts (Fornell, 1992). Fornell (2001) emphasizes that, "satisfied customers can be viewed as economic assets of the firm that yield future cash flows."

B. Understanding the efficiency and effectiveness of marketing communications and promotions

Firms with effective sales and marketing integration are more likely to know how well channel partners participated in promotions schemes and how consumers responded to it. Thus, marketing

department is able to know if the marketing communication and promotion plan met their ROI criteria and other objectives.

C. Improvement in the top and bottom line

Effective sales and marketing integration has strong impact on productivity and profitability of firms. It helps firms in creating the business value they seek. The primary forces for driving this are cost reduction and revenue generation achieved by superior performance of various cross-functional drivers of sales and marketing.

Research Implications and Recommendations

The argument for combining sales and marketing strengths is compelling. Organizations, which effectively link their sales and marketing operations, gain competitive advantage by differentiating not only the products and services, but also the underlying delivery processes. It has the capability to satisfy different customer needs with differentiated sales cycle and, therefore, provides great value to the customer. Sales and marketing have the overall common goal to understand customer needs and solve customers' problems better than the competitors by offering superior value to customers.

When working relations between sales and marketing are poor, the communication, coordination, and collaboration that are crucial for the provision of overall customer value proposition may be lacking. In this scenario, sales and marketing may divert their attention and effort from serving customers to internal issues like blame game for errors and shortfalls in the common goals. This paper suggests that integration of sales and marketing can help firms provide superior customer value by developing a mutual understanding of responsibilities, sharing ideas, information and resources, and working together as a team to resolve cross-functional problems of sales and marketing.

This paper supports the emerging view that sales and marketing are highly connected, and are pre-requisite for better customer value propositions. Effective integration of sales and marketing activities enhances customer satisfaction, builds customer trust and loyalty, establish long-term customer relationship and enhance CLV. The frameworks presented in this research provide guidance to

sales and marketing managers who wish to enhance customer value proposition and improve their management efficiency.

Conclusions

There has been a drastic increase in the pressure on firms to find new ways to create and deliver value to customers through sales and marketing collaborative initiatives. Sales and marketing must work together in order to achieve organization goals as sales and marketing integration is increasingly recognized as a key driver for improving financial and operating performance. The absence of cross-functional integration may result in promises made by the firm's marketing department that have not been coordinated with sales, marketing promotions that are not synchronized with sales delivery schedules, and failure to deliver product by a firm in a specific requested format because it is not the most efficient way to do so. Without sales /marketing cross-functional collaboration, firms cannot be expected to respond optimally and promptly to customers' requirements.

As suggested in this paper, through an effective sales and marketing integration, firms could enhance overall efficiency by interlinking the sales and marketing operations, at the same time meet the long-term strategic goals, and maximize CLV. Future research may focus on a case based approach to quantify benefits of sales and marketing integration in terms of customer satisfaction, sales revenue and firm profitability. The main objective of this research is to gain a better understanding of the antecedents and consequences of sales and marketing integration to highlight benefits of enhanced CLV that may be associated with encouraging such integrative behavior.

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Spiritual Intelligence: Occupational Commitment

Nidhi Maheshwari

A b s t r a c t

Spiritual intelligence helps to determine the purpose of life. It helps to moderate the negative effect of perceived occupational stress. This study undertaken to understand the occupational commitment of women occupants of India, focuses on understanding the spiritual intelligence of the occupants and its link to their commitment level to occupation. For this, researcher has evolved a scale to measure the spiritual intelligence of the participants. The findings of the study indicate that spiritual intelligence has a positive impact on the occupational commitment level of the women occupants of different occupations.

Key Words : *Spiritual Intelligence, occupational commitment, workplace spirituality.*



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It is widely accepted fact that we are living in an unprecedented time, in which frequent unimaginable changes are demanding rapid human evolution. The knowledge of science as discipline has created a dividing line between the worldly activities and spirituality. It is true that in many ways the undercurrent of science as knowledge helped the human race to come out of superstition but at the same time detached us from the best in being human.

Mitroff and Denton (1999) concluded in the book *A Spiritual Audit of Corporate America: A Hard Look at Spirituality, Religion, and Values in the Workplace* that employees who are less fearful of their organization show more commitment and creativity at work. It is also acknowledged by Giacalone and Jurkiewicz (2003) that the unprecedented turbulences of organizations create insecurity amongst employees which creates a need for spirituality at the workplace.

The spiritual intelligence enhances individual's capabilities and qualities such as compassion, creativity, and wisdom by improving the self awareness and feelings of connection with divine energy. Specifically the conscious efforts in the

direction of spiritual quotient improve individual's relationship with self, with others and with the cosmos (Freshman, 1999, Sisk and Torrance, 2001, Vaughan, 2002). Similarly the eastern epics like *Geeta* and *Ramayana* as well as Socrates' insistence to 'know thyself' recognize the relevance of spirituality and the exemplars like Krishna, Buddha, Christ, and Muhammad enlighten us to explore the peaceful and prosperous life through spirituality.

Though we acknowledge the importance of spirituality and its strong connection for wealth and prosperity, its relevance in the boundaries of organizations is not yet recognized which has created a deep spiritual emptiness resulting in chaos, disharmony and greed for worldly pleasures. One of the reasons for this spiritual emptiness could be the lack of substantial academic inquiry in the academia to mitigate this spiritual emptiness in the organizational boundaries (Mitroff and Denton 1999, p. xiv). In this direction, sporadic attempts are taken but they are not sufficient to build the connectedness between spirituality and business success.

The recent spurt of articles in various popular and scholarly outlets (Manz, 2001; Gunther, 2001; Graber, 2001; Brandt, 1996; Thompson, 2000; McCarthy, 1996; Hein, 1999; Herman and Gioia, 1998; Ashmos and Duchon, 2000; Mitroff and Denton, 1999; Bryant, 1998) reflects the growing interest in the corporate world in "spirituality." Marques, 2007 (p. 12) presents the following definition:

Spirituality in the workplace is an experience of interconnectedness among those involved in a work process, initiated by authenticity, reciprocity, and personal goodwill; engendered by a deep sense of meaning that is inherent in the organization's work; and resulting in greater motivation and organizational excellence.

In this connection, Harrington (2004) summarizes spirituality at workplace: it is about those people who perceive work as energizer and value work as real purpose of life rather than contributing organization solely for paychecks. Myers (1990) attributes spirituality as ultimate objective and purpose of life, a connectivity with the universe and a personal belief system to meaningfully complete the journey of life. The research conducted by Rego (2007) tries to establish a connectivity between spirituality and organizations and presents an empirical evidence about employees spiritual perception and organizational commitment. He concludes that as more committed people have a propensity to devote higher efforts, if such people

are nurtured for their spiritual well-being than the organizational performance will be extraordinary. Conversely, he finds that those organizations which are not supportive for employees' spiritual well-being than job efficiencies, will be decreased. In support to this Bell and Taylor (2001) contribute that employees are a multitude of spiritual "holes" which should be fed by spiritual practices so that organizational performance can be enhanced. According to Marques (2007), such organizations which devote their assets for spiritual well-being, a sense of community develops within the organization which improves organizational satisfaction and performance. The in-depth literature review about spirituality can be summarized as an internal urge towards spirituality as "feelings of completeness and joy," explained by Giacalone and Jurkiewicz (2003), by Ashmos Plowman and Duchon (2005) as nourishment of "inner life," and by Marques (2007) as "personal goodwill." Further the review suggests that to know all about spirituality is completely philosophical and exclusive from the practicality of a science.

Spiritual intelligence can be considered as important individually varying variable dependent on individual's way of making sense of their lives, handling the ethical dilemmas and searching the meaning of existence and discussing one's existence with reference to others (Sisk and Torrance, 2001). It is a specific intelligence which is constituted on the constructs of unique individual experience (such as transcendence) which all individuals are considered to possess to varying degrees (Emmos 2000; Zohar and Marshall, 2000).

This individuality and intangible phenomena of spiritual intelligence, which can be felt but cannot be expressed, makes it very difficult for researcher to evolve a scale which can measure the spiritual intelligence of the participants. Dr. Kalam, formerly President of India, recommends religion as a ground for spirituality which clarifies the doubts for the existence of a being. In the same manner, Tacey (2000a; 2001) recommends religion as a grounding force providing context, interpretation to the spiritual pursuits which Moore (1992) recognizes as representing soul.

Keeping this in mind the researcher felt a need to devise a scale to measure the spirituality. Further, the researcher tries to identify the connectedness of spirituality and occupational commitment in order to develop measures to enhance the performance and satisfaction level of the employees/occupants.

Objectives

To fulfill the spiritual emptiness of the corporate world this study tries to fulfill the following objectives:

- ❖ This study aims to develop a scale to measure the spiritual intelligence of the participants,
- ❖ To measure the level of spiritual intelligence of the occupants,
- ❖ To measure the level of occupational commitment of the occupants, and
- ❖ To trace the relationship between spiritual intelligence and occupational commitment of the occupants.

Hypothesis:

On the basis of literature review and objectives of the study the following hypothesis is created:

Hypothesis 1: No relationship exists between Spiritual quotient and occupational commitment of working women.

Research Methodology

Keeping the intangibility and difficulty in wordy expression of the spiritual experiences the emphasis is given to self reporting method for developing this tool. Further, keeping the religiosity as an outward expression to the spirituality dimension of an individual, religion was taken as base to quantify the spiritual intelligence of individuals.

The researcher contacted the targeted participants through personal and professional networks. The procedure followed a type of non-probability sampling process called “*judgmental, purposive, or expert sampling*” (Nelson, 1996, p. 455). For this study, working women of major cities of Rajasthan of different occupations was contacted. Three hundred working women were contacted personally through telephone as well as through emails. Out of three hundred working women, two hundred and sixty were working with the organization or were self-employed. To make the sample representative of certain occupations, purposive stratified sample were collected from the following profession: Doctors

(Medical practitioners), practicing Lawyers, College teachers (qualified as per UGC norms), Chartered accountants, and Software engineers (B.Tech, M.tech /MCA).

Owing to the personal and sensitive nature of the variables, participants were assured that the information would not be disclosed to any other member of the organization. The questionnaire for measuring the SQ is consisting of 36 items based on the above mentioned dimension and for identification of variables, factor analysis was done. The survey questions describe the critical aspect of each skill that indicates the presence of SQ in the behavior of the individual being assessed. The frequency with which the person being assessed demonstrates the behaviors related to the skill is the best measure for the skill. Therefore the questions in the SQ instrument are structured using a five point frequency interval scale. The five behavioral anchors are measured with the help of following descriptors: 1=Strongly Disagree, 2= Disagree, 3= somewhere agree ,4= Agree,5= strongly agree.

To measure the occupational commitment of the participants the tool developed by Blau, Paul and St. John (1993) was taken. In this scale, occupational commitment was defined as “one’s attitude, including affect, belief, and behavioral intention toward his/her occupation. The scale has reported reliability of alpha between 0.76 and 0.84, an internal consistency, which has ranged from 0.87 and 0.85, and a test-retest reliability of 0.67.

Data Analysis:

1. Factor analysis to identify the important factors of Spiritual Quotient (SQ) Inventory

The exploratory factor analysis (principal component analysis and varimax rotation) with SPSS 13 was conducted for all the 36 items. After factor analysis, the items loaded less than 0.50 and/or loaded on an uninterruptible factor were dropped or rephrased.

1.1 Exploratory factor analysis for Spiritual component analysis

Table 1.1: Measure of sampling adequacy KMO and Bartlett’s Test for spiritual Competency inventory

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.772
Bartlett's Test of Sphericity	Approx. Chi-Square	2927.472
	Df	630
	Sig.	0

Above table 1.1 shows the measure of sampling adequacy (MSA) and the Bartlett test for the SQ. For the measure of sampling adequacy SQ instrument has values exceeding 0.7

and are significant on the Bartlett Sphericity Test. That means this sample is adequate for identification of factors for Spirituality quotient.

Communalities

Table 1.2: Communalities for Total SQ Score

Variables	Initial	Extraction
I believe the almighty god exist.	1.000	.717
Supportive religious environment in the family	1.000	.613
Frequent Visit to religious places	1.000	.576
Views about Pilgrimage	1.000	.581
Views about religious Celebration	1.000	.455
Your views regarding charity	1.000	.693
Vies about religious rituals	1.000	.701
Role of Spiritual belief in life	1.000	.546
Think about the people who have Hurt you and respond	1.000	.644
When I have thoughts which are considered to be sinful	1.000	.593
Your desire to Serve society is motivated by spiritual	1.000	.634
I develop my spiritual intelligence through Disciplined	1.000	.633
Views about Religious places	1.000	.694
I do thing to Protect animal and plants and do give food	1.000	.611
How often are Prayer s said before or after meals in	1.000	.508
Regularity in Chanting mantra	1.000	.731
Fasting to be become spiritual	1.000	.633
Views about Religious belief	1.000	.529
Without my religious foundation, my life would be	1.000	.585
The events in my life unfold according to a divine or	1.000	.575
Influence of Religious life on one's life	1.000	.718
How often do you watch or listen religious programme	1.000	.626
To what extent do you consider yourself Spiritual	1.000	.508
Meaning of Spiritual belief	1.000	.629
Reasons for the creation of religious scripture	1.000	.634
What do you say about daily worship and prayers	1.000	.606
All the affairs of the world are manifestation of the	1.000	.640
I have full Faith in my religious scripture/scriptures	1.000	.609
Commitment towards higher self to come close to God	1.000	.651
When I wake up God is often the first thing that comes	1.000	.677
Whenever I am in Stress the strategies adopted by me	1.000	.643
To avoid focusing on Stressor strategies adopted	1.000	.526
I desire to be close to or in Union with God.	1.000	.626
My prayers have contents which connects me to divine	1.000	.656
Sinful deed and spiritual belief	1.000	.650
Salvation the ultimate aim of my life	1.000	.616

Values above 0.6 of the communalities of the items are considered acceptable for the variables to be taken as related to one similar theme (Hair, 1998; Tabachnick and Fidell, 2007; Eiselen, 2006) in the above mentioned table for the

communalities the instruments has values in range of 0.508 to 0.731 and they are not exceeding from one so we can say that the variables are related and there is one underlying theme.

Variance

Table 1.3: Total Variance Explained for SQ Score

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.005	13.904	13.904	5.005	13.904	13.904
2	4.045	11.237	25.141	4.045	11.237	25.141
3	2.739	7.609	32.750	2.739	7.609	32.750
4	2.514	6.982	39.733	2.514	6.982	39.733
5	1.678	4.661	44.394	1.678	4.661	44.394
6	1.563	4.343	48.737	1.563	4.343	48.737
7	1.383	3.841	52.578	1.383	3.841	52.578
8	1.162	3.228	55.805	1.162	3.228	55.805
9	1.151	3.196	59.001	1.151	3.196	59.001
10	1.026	2.849	61.851	1.026	2.849	61.851
11	.967	2.687	64.538			
12	.869	2.414	66.951			
13	.827	2.297	69.248			
14	.773	2.147	71.395			
15	.758	2.106	73.501			
16	.703	1.954	75.455			
17	.672	1.867	77.322			
18	.641	1.782	79.104			
19	.607	1.686	80.790			
20	.599	1.665	82.455			
21	.584	1.624	84.078			
22	.535	1.485	85.563			
23	.502	1.394	86.957			
24	.486	1.349	88.306			
25	.446	1.240	89.546			
26	.439	1.221	90.766			
27	.417	1.157	91.923			
28	.392	1.090	93.013			
29	.388	1.078	94.091			
30	.366	1.017	95.108			
31	.359	.998	96.105			
32	.327	.907	97.012			
33	.303	.843	97.855			
34	.277	.770	98.625			
35	.253	.704	99.329			
36	.241	.671	100.000			

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 12 iterations.

For the SQ instrument ten factors have been extracted, however since the first factor accounts for 61.85%. Based on the above analysis, it can be concluded that there is one underlying construct for the SQ Instrument. It is clear from

the table 1.3 that in the initial screening ten components were extracted. The ten factors were named as the above mentioned description of factors

Table 1.4: Rotated component matrix for initial screening for SQ Score

Variables	Component									
	1	2	3	4	5	6	7	8	9	10
I believe the almighty god exist.						.825				
Supportive religious environment in the family						.738				
Frequent Visit to religious places						.660				
Views about Pilgrimage				.639						
Views about religious Celebration				.797						
Your views regarding charity				.794						
Vies about religious rituals				.628						
Role of Spiritual belief in life									.766	
Think about the people who have Hurt you and respond how have you responded to these people.									.740	
When I have thoughts which are considered to be sinful (hatred, arrogance)							.711			
Your desire to Serve society is motivated by spiritual cause							.747			
I develop my spiritual intelligence through Disciplined things like meditation							.694			
Views about Religious places								.739		
I do thing to Protect animal and plants and do give food to animals because								.574		
How often are Prayer s said before or after meals in your home.										.831
Regularity in Chanting mantra										.624
Fasting to be become spiritual		.560								
Views about Religious belief		.698								
Without my religious foundation, my life would be meaningless.		.724								

The events in my life unfold according to a divine or greater plan.	.769								
Influence of Religious life on one's life	.683								
How often do you watch or listen religious programme on television or radio	.523								
To what extent do you consider yourself Spiritual person	.632								
Meaning of Spiritual belief	.739								
Reasons for the creation of religious scripture	.749								
What do you say about daily worship and prayers	.724								
All the affairs of the world are manifestation of the power and will of the almighty God.	.588								
I have full Faith in my religious scripture/scriptures		.662							
Commitment towards higher self to come close to God		.745							
When I wake up God is often the first thing that comes to my mind		.763							
Whenever I am in Stress the strategies adopted by me		.643							
To avoid focusing on Stressor strategies adopted		.551		.544					
I desire to be close to or in Union with God.				.729					
My prayers have contents which connects me to divine				.788					
Sinful deed and spiritual belief				.753					
Salvation the ultimate aim of my life			.739						

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A Rotation converged in 12 iterations.

Keeping the rotated component analysis researcher had identified the items under the ten factors which are as follows:

1. Inclination towards Spirituality,
2. Readiness for receptivity of spiritual,
3. Eagerness to develop the capacity to experience,
4. Nurturance of belief through self -introspection,
5. Knowing self through developing individuation
6. Sense of self resilience,
7. Following the moral merits,
8. Trying to explore the meaning of life,
9. Elimination of negativity, and
10. Efforts to develop peaceful environment.

Reliability analysis for SQ dimension

To know the internal consistency reliability estimates, Cronbach’s alpha examined for this study. For the composite scale the reliability measure Corbanch Alpha was 0.605. This indicates an acceptable reliability coefficient for the scale.

Validity of Spirituality quotient Composite Scale

A correlation analysis was conducted to examine the relationship of the SQ Composite Scale with the ten SQ subscales, in order to determine the validity of using the full scale measure in the data analyses for this study. The inter correlations between the SQ Composite scale and the SQ subscales were all significantly correlated ($p < .01$), ranging from 0.60 to 0.91. The high internal consistency and

significant inter-correlation of the commitment and cognizance with the total SQ composite scale provides strong support of the uni-dimensionality of SQ measure, along with evidence for validity to use the scale for further analysis.

Hypothesis Testing:

The data was analyzed through a statistical method called Linear Regression to discover if Spiritual Intelligence predicts occupational commitment. In this analysis we have occupational commitment as the dependent variable DV and Spiritual Intelligence as the independent variable (IV). The test checks if the IV “predicts” or “influences” the DV, and assesses the significance of the relationship.

Table 1.5: Regression analysis of occupational commitment on Spiritual Intelligence

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.563(a)	.317	.314	1.14099

a Predictors: (Constant), total SQ

The regression analysis table shows that an adjusted R-squared of 0.317 and the correlation between the predicted and actual number of ratings is 0.563 ($p < 0.001$). Further, regression explains 31.7% of the variation in the occupational commitment is because of spiritual intelligence.

The table 1.6 also shows that the independent variables statistically predict the dependent variable, $F(1, 258) = 184.953, p < .0005$ (i.e., the regression model is a good fit of the data).

Table 1.6: ANOVA of occupational commitment on Spiritual Intelligence

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	205.321	1	205.321	184.953	.000(a)
Residual	286.413	258	1.110		
Total	491.735	259			

Table 1.7: Coefficients for occupational commitment on Spiritual Intelligence

Model	Unstandardized Coefficients	Standardized Coefficients		T	Sig.
	B	Std. Error	Beta		
(Constant)	26.338	.400		65.895	.000
Total SQ	.055	.005	.563	10.942	.000

a Dependent Variable: occupational commitment

The significance (Sig) of 0.000 is less than 0.01 affirming that the IV (SQ) significantly influences the DV (OC), with a possible error in less than 1% of the cases ($p < .01$). We also have to consider that the correlation between the two variables is very high (Beta = 0.563). This means there is a positive, significant, and moderate relationship between the two variables.

It is apparent from the above tables that SQ measure has good predictive validity for the occupational commitment and outcome assessed when SQ is entered first in the evaluation. This suggests that when people find meaning in their work activities and feel involved in a spiritual organizational climate, they become happier and healthy employees engaged in a collaborative manner, to apply the full potential to work and bring their entire selves to the organization. They, thus become more productive over the long run compared with employees in organizations where spirituality is ignored or disrespected.

Conclusion

Workplace spirituality is a deep sense of meaning which promotes greater motivation and organizational productivity. In this direction this research indicates that spirituality helps to improve the occupational commitment of the occupants. As spirituality helps to develop the capacity to tolerate, adapt and care which helps the occupants to understand the circumstances and be able to stay calm and focused. Further, this attitude helps them to stay focused and relaxed which promotes occupational commitment and thus, individual and overall organizational.

The above discussion suggests that organization should promote spirituality which will satisfy the psychological needs of the people, which motivate them and make them feel that they are valued, which will enhance their organizational belongingness.

The study therefore recommends that Indian organizations should make every effort to inspire spiritual commitment in organizational members in order to be assured of their high level of commitment at work.

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Risk Anomalies: Equity Market

Prakash Pinto and Guruprasad K.

Abstract

Conventional finance is based on the idea that high risk is rewarded with higher average returns. It is intriguing to note that portfolios comprise high-risk stocks have considerably underperformed their lower-risk counterparts. This anomaly identified as low-volatility anomaly offers potential opportunities for investors. The fact that low risk stocks have higher expected returns is a notable anomaly in the field of finance. It is notable because it is continual – existing now and as far back in time as we can see. It is also notable because it is all-inclusive. The objective of this paper is to examine the risk anomaly on the scrips traded in National Stock Exchange. It is an approach which attempts to build a portfolio which maximizes returns for scrip while keeping volatility at minimum. The volatility in the research undertaken is determined by the standard deviation of the stock returns. The study is limited to those stocks which are traded in the National Stock Exchange (NSE).

Key Words : *Low Volatility, High Volatility, Market Portfolio, Positive Returns, Negative Returns*



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The outperformance of low volatility stocks during the last 50 years has been among the most puzzling anomalies in equity markets. At the same time, low risk investing has recently gained a remarkable interest, due to its recorded performance and due to the unprecedented volatility experienced during the last global financial crisis (Russo, A.2013, p.4). Among the long-standing anomalies in modern investment theory, perhaps none are as puzzling and compelling as the low-volatility effect. It challenges the traditional equilibrium asset pricing theory that an asset's expected return is directly proportional to its beta or systematic risk, or, in other words, higher-risk securities should be rewarded with higher expected returns while lower-risk assets receive lower expected returns (Soe Aye M. 2012,p.1)

Low volatility investment strategy is remarkable in the sense that it has been able to achieve higher absolute returns as well as risk-adjusted returns consistently. It is also very significant in knowing the efficiency of the market as a whole. Low-volatility investing is not a novel idea, but the financial

crisis of 2008 and the market's extreme volatility in the second half of 2011 have brought it back to the investment community's notice for risk management purposes. The reappearance of low-volatility investing has also reignited the theoretical debate on the properties of a true market portfolio. Modern Portfolio Theory (MPT) states that a "market portfolio" is an optimal portfolio i.e., no other portfolio can exist with higher return for a given level risk. However, the market portfolio is unobservable, so a market cap-weighted broad market index (say SENSEX or Nifty) is typically used as a proxy. Low-volatility strategies have raised the question of whether the superior performance is due in the insufficiency of the single factor model or due to an anomalous in behaviour. This paper examines the risk anomalies in Indian equity market using selected stocks from the four sectoral indices of National Stock Exchange (NSE) namely CNX FMCG Index, CNX Pharma Index, CNX Realty Index, and CNX IT Index.

Literature review

Black, Jensen and Scholes (1972) observed that the expected excess return on a security is not linearly related to its beta. They found that the alphas of high-beta securities were negative while the alphas of low-beta securities were positive. Black (1972) offers an early theoretically consistent interpretation of why low risk stocks might do so well relative to high risk stocks. He shows that a delegated agent mispricing arising from borrowing restrictions such as margin requirements might cause low-beta stocks to outperform.

Haugen and Baker (1991) found significant reduction in volatility with no reduction in returns, for US minimum variance portfolios. Clarke, de Silva, and Thorley (2006) carried out an interesting study on the characteristics of minimum-variance (MV) portfolios. These authors found

that MV portfolios, based on the 1,000 largest U.S. stocks over the period 1968-2005 achieved a volatility reduction of about 25% while delivering comparable or even higher average returns than the broad market portfolio. They found that MV portfolios gave an average of 6.5% excess return above T-Bills with a volatility of 11.7% whereas the market index gave average excess return of 5.6% with a volatility of 15.4%. A related study in this regard is Andrew, Hodrick, Xing and Zhang (2006), report that US stocks with high volatility earn abnormally low returns over the 1963-2000 period. These authors focus on a very short term (1 month) volatility measure.

Baker, Bradley, and Wurgler (2011) demonstrated that despite risk was defined as beta or volatility, low-risk portfolios consistently outperformed high-risk portfolios over a long-term investment horizon. Using data from January 1968 to December 2008, stocks were divided into five groups based on their five-year trailing volatility or trailing beta. The results showed that the bottom quintile beta and volatility portfolios outperformed the top quintile portfolios.

Data and Methodology

The methodology involves a process of portfolio construction and measures adopted in evaluating the portfolios for demonstrating prevalence of risk anomaly. As the study is based on testing risk anomalies in different sectors of Indian Equity Market, identifying the sectors and selection of stocks of the concerned sectors which are traded in large volumes becomes the primary objective. Accordingly ten stocks each from four sectoral indices namely CNX FMCG Index, CNX Pharma Index, CNX Realty Index, CNX IT Index are considered to examine the risk anomalies. Following is the list of stocks selected from the above sectors:

Sl No.	Sectoral Stocklist			
	FMCG Sector	Pharma Sector.	Realty Sector	IT Sector
1	Britannia Industries Ltd.	Biocon Ltd.	DLF Ltd.	Cyient Ltd.
2	Colgate Palmolive (India) Ltd.	Cadila Healthcare Ltd.	GMR Infrastructure Ltd.	HCL Technologies Ltd.
3	Dabur India Ltd.	Cipla Ltd.	Housing Development and Infrastructure Ltd.	Infosys Ltd.
4	Emami Ltd.	Divi's Laboratories Ltd.	IRB Infrastructure Developers Ltd.	MindTree Ltd.
5	Gillette India Ltd.	Dr. Reddy's Laboratories Ltd.	Indiabulls Real Estate Ltd.	MphasiS Ltd.
6	GlaxoSmithkline Consumer Healthcare Ltd.	Glaxosmithkline Pharmaceuticals Ltd.	Jaiprakash Associates Ltd.	NIIT Technologies Ltd.
7	Godrej Consumer Products Ltd.	GlenmarkPharmaceuticals Ltd.	Larsen & Toubro Ltd.	Oracle Financial Services Software Ltd.
8	Hindustan Unilever Ltd.	Lupin Ltd.	Sobha Developers Ltd.	Tata Consultancy Services Ltd.
9	I T C Ltd.	Piramal Enterprises Ltd.	Unitech Ltd.	Tech Mahindra Ltd.
10	United Breweries Ltd.	Ranbaxy Laboratories Ltd.	Voltas Ltd.	Wipro Ltd.

Formulation of the portfolio

Daily closing prices of all the selected stocks of the concerned sectors for the entire study period are downloaded from the NSE website. Similarly the daily closing prices of the relevant sectoral indices are also downloaded. On identifying the closing prices of each of the stocks from each sector the average monthly closing price for each of the stocks is calculated for all the sectors including the CNX index for the concerned study period between 31-03-2009 to 01-04-2014. It is then followed by computing monthly returns of each stock for each of the 4 sectors along with the CNX index. Monthly returns are followed by computing

daily returns for each of the stocks for the relevant study period. Daily returns are then used to compute standard deviation on a monthly basis for each of the stocks of the selected sectors along with index.

On calculating the standard deviation of all the stocks for the relevant study period, these stocks are then arranged in the descending order of their volatility and in this case it is measured by the standard deviation of the stock returns over the time period of study and is arranged on a monthly basis. The intention of this concept is to construct portfolios characterized by different levels of volatility. The risk return nature of portfolios is then measured. Once the portfolios

are arranged in the decreasing order the top 5 stocks are considered to be high volatile (HV) stocks and the remaining 5 stocks form the low volatile (LV) stocks. The average returns of each of the portfolios for the respective months are then calculated using the formula:

$$P1 = (S1 + S2 + S3 + S4 + S5) / 5$$

Here P represents monthly average return for the first portfolio. S indicates the stock return and the subscript indicates the stock number. It is followed by the computation of the standard deviation of the monthly portfolios formed for a period of 60 months covering all the 4 sectors. This monthly portfolio standard deviation and the average returns are then reduced to an average for four months for ease of presentation and analysis viz: P1 to P 30 (the values are presented in the appendix). Similarly using the closing prices of the market indices, monthly returns and standard deviations are computed which are then averaged for four months.viz: MP1 to MP15 (the values are presented in the appendix). The portfolios are compared against market index for better analysis.

Computation of Sharpe ratio

Sharpe ratio is calculated annually in order to determine portfolio performance. Sharpe ratio is determined using the formula:

$$\text{Sharpe Ratio} = (R_p - R_f) / \text{ASD}$$

Where, R_f is the risk free rate (repo rate), R_p is the average returns of the high volatile and low volatile portfolios for the entire period. ASD is the standard deviation of a sector for the entire period.

Similarly the returns and the standard deviation are calculated for all the sectors and are tabulated. For the study, repo rate of 8% is taken as risk free rate for all calculation purposes.

Analysis and Interpretation

The following section analyses the returns and volatility for the selected sectors and the market represented by the Sectoral indices of NSE.

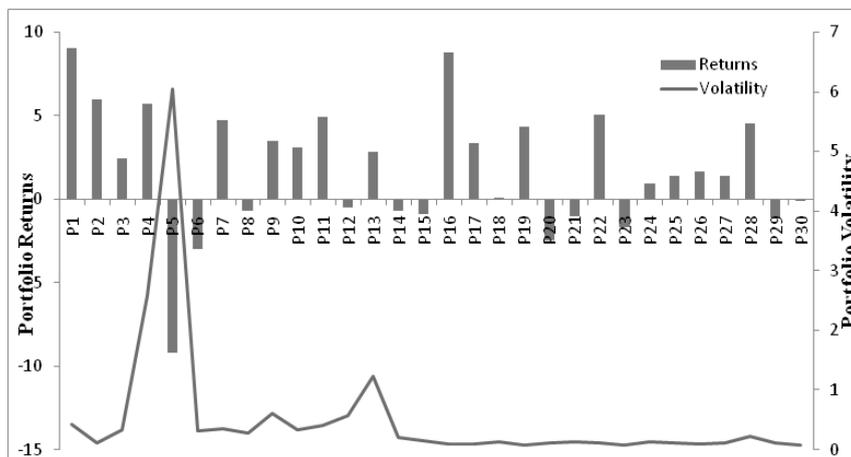


Figure 1: Comparison of Portfolio Returns and Volatility of FMCG Sector

FMCG Sector

It is observed that portfolios P1, P2 and P3 offer high return at a relatively low risk under high volatile stocks. They offer around 9.013%, 5.933%, 2.45% return at a risk of 42%, 11% and 32.4% respectively. However the return is seen to be moderate for P4 with return of 5.71 to a risk for 258%, for portfolios 5, 2, 6, and 8. It is observed that return fell

drastically with the increase in volatility. This means that high risk does not guarantee high return always. It is also evident from the risk return obtained in P14 and P15 where the risk being almost similar, the return is seen to be decreasing.

In comparison with the return of low volatile stock it is observed that P16, P17 and P19 the return earned are much

higher than the risk i.e., P16 has a return of 8.98 at risk 8%. It is also observed that for most of the portfolios in the low volatility stock, the return obtained is relatively better when compared to the risks it bears. It is also seen that P7 of high volatility stocks yield 4.68 return at a risk of 35.4% whereas

the low volatility stocks for the same period have a return of 5.00 at risk of 10%. A similar phenomenon is observed for the portfolio 13 of HV where 2.79 return is obtained at a risk of 12.2% where for the same period LV stocks yielded 4.5 return at a risk of 22%.

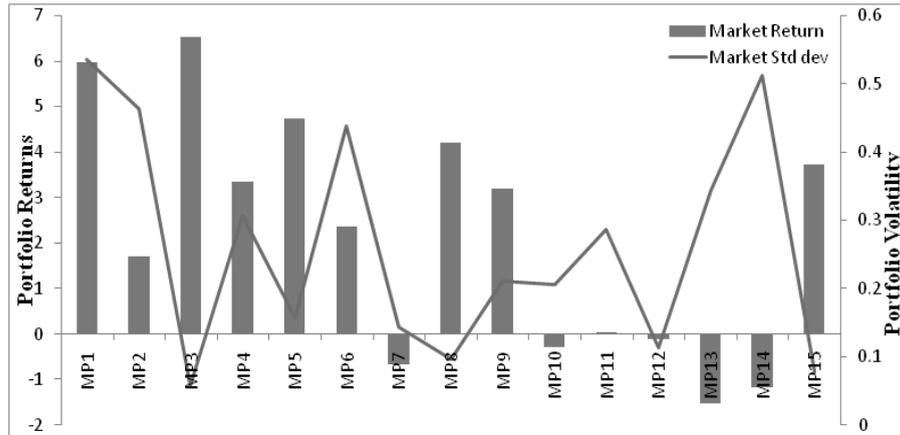


Figure 2: Risk vs. Return of CNX FMCG Index

It can be observed that MP2 offers low return i.e. around 1.71 at a high volatility of 46%. However MP3, MP5, MP9 and MP15 offer high return for low volatility.

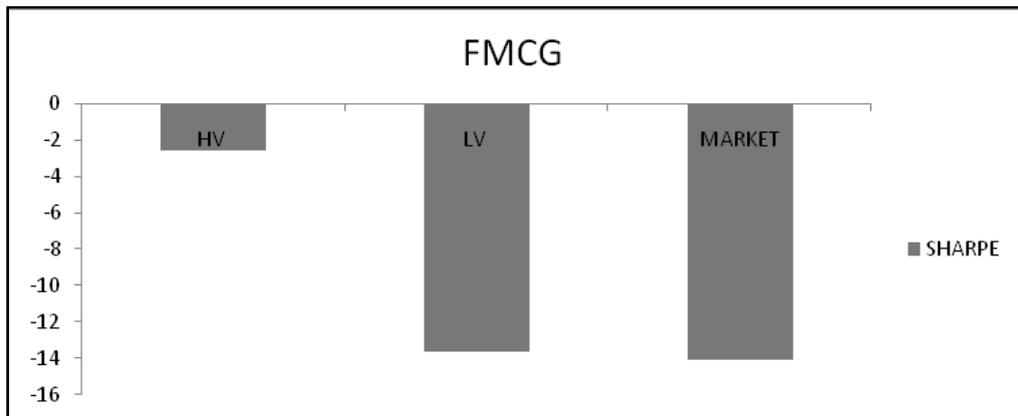


Figure 3: Sharpe Ratio for FMCG sector

The above graph shows the Sharpe ratio of HV portfolio, LV portfolio and also of market in case of FMCG Sector. The graph indicates that both HV and LV portfolios have outperformed the market in case of FMCG Sector. HV

portfolio is been ranked first as it has performed much better the market. Performance of LV portfolio is almost similar to that of performance of the market.

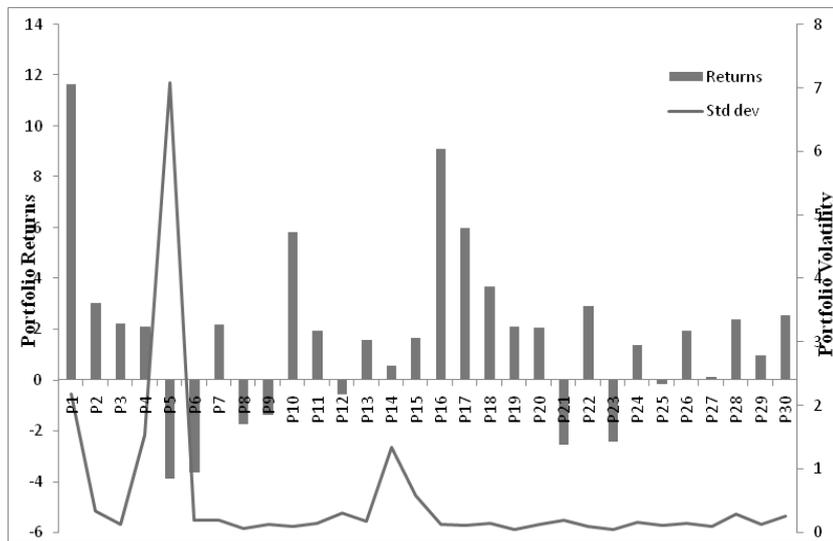


Figure 4: Comparison of Portfolio Returns and Volatility of Pharma Sector

Pharma Sector:

In the pharma sector it can be observed that returns obtained for the risk taken in case of high volatility stock is insignificant with the risk being on a high side as compared to the returns. Portfolio P1 (High Volatility-HV) gives a return of 11.66 at a risk of 217.53%. This return decreases to 3.87 with an increase in the risk to 708.1% in Portfolio 5. However P10 gives a return of 5.8% at a risk of 8%. It is supposed to be the best portfolio offering a substantial high return at a relatively high volatility. Among the low volatility portfolios

P16, P17, P18 tend to offer relatively high returns of 9.11%, 5.99%, and 3.66% each for the risk of 12%, 10%, and 214% respectively. The return of the Low Volatility (LV) portfolio is continuously maintained at a steady rate of 2.09 % and 2.95 for portfolios P19 and P22 with risk rate at a meager 4% and 9% respectively. On the whole low volatile stocks have consistently given more positive return than high volatile stocks.

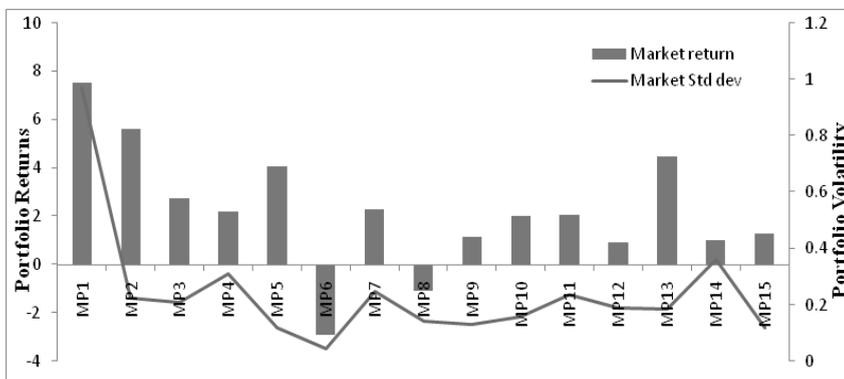


Figure 5: Risk vs. Return of CNX PHARMA Index

It can be observed that MP1 is offering higher return at a higher volatility; MP2 is providing moderate return at lower volatility. MP6 is offering a negative return at a lower volatility and MP10, MP11, MP12 are providing very small

return at low volatility. MP13 is providing moderate return at less volatility. For MP14 volatility is higher but return is on the lower side.

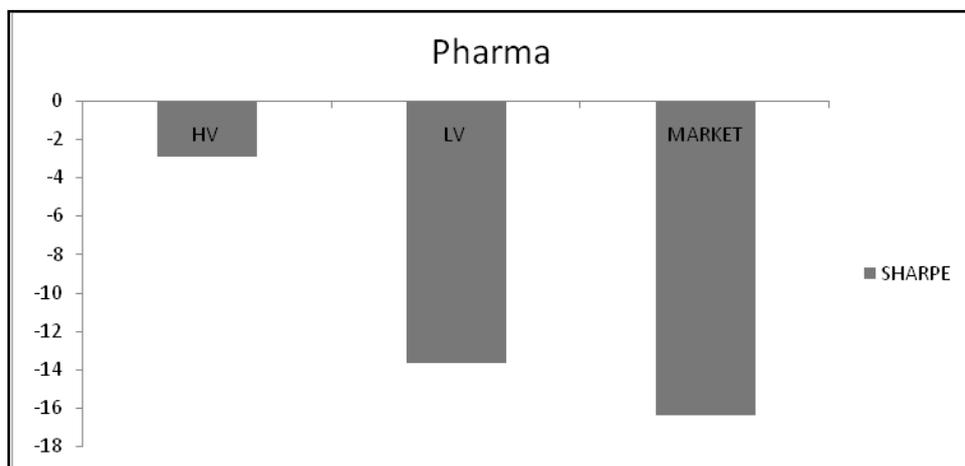


Figure 6: Sharpe Ratio for Pharma Sector

The above graph shows the Sharpe ratio of HV portfolio, LV portfolio and also market for the Pharma Sector. The results indicate that HV portfolio, LV portfolio and the market returns are ranked 1, 2 and 3 respectively indicating HV and

LV portfolios have outperformed the market in case of Pharma Sector. HV portfolio has been ranked first as it has performed much better than the LV portfolio and the market.

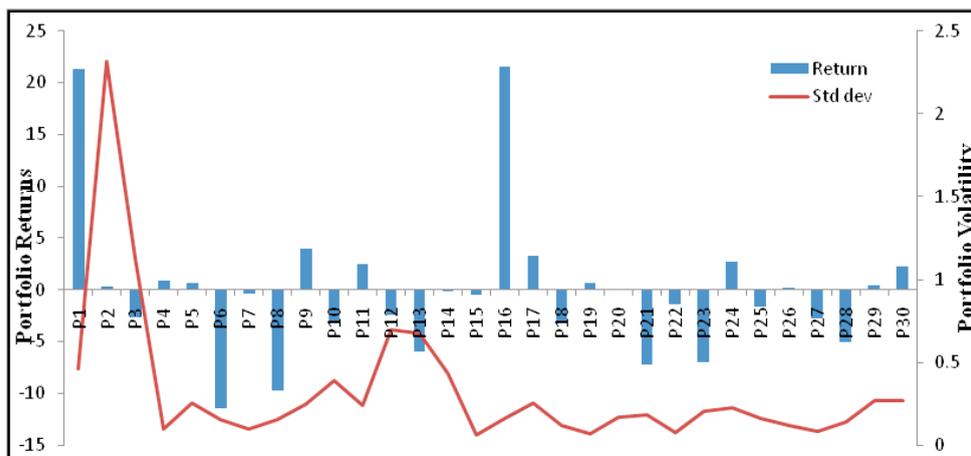


Figure 7: Comparison of Portfolio Returns and Volatility of the Realty Sector.

Realty Sector:

The stock return for the realty sector shows that the return is negative for most of the portfolios from P1 to P15 with P1 providing a highest return of 21.39 at a volatility 46%. The return is seen to be very low for P6, which is -11.45% for a risk of 15%. It is also seen that P15 offers a return of -0.488% at a volatility of 228%. Portfolio returns show negative returns for portfolios P21, P22 and P23 respectively providing return of -7.23%, -1.43% and -6.98% with a risk of 0.08%,

20.4%, and 22.4% respectively. Comparison of the performance indicates that volatility stocks for the portfolio have been performing well as against high volatile stocks.

On the whole the same trend is seen for other time periods from April 2013 to April 2014. To conclude, realty sector also shows significant inclination towards low volatile stocks performing relatively better as compared to high volatile quarterly stocks.

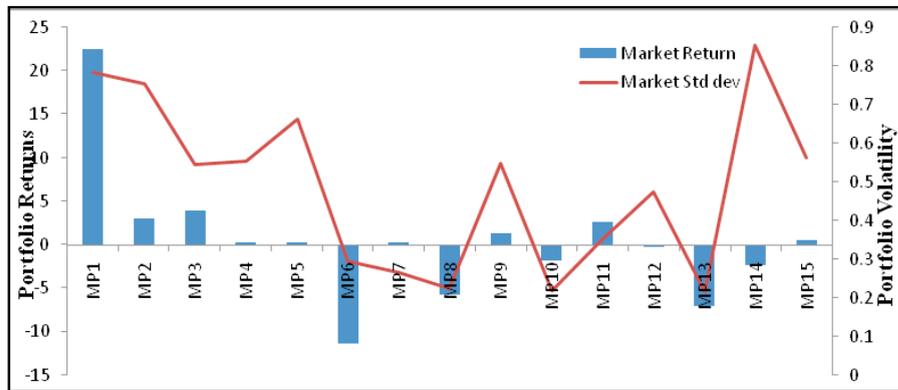


Figure 8: Risk vs. Return of CNX Realty Index

MP1 is offering a higher return of 22.56% at a volatility of 78%. But MP2, MP3, MP4, and MP5 are offering a lower return at higher volatility. MP6 is offering a high negative

return of -11.32% with a volatility of 29.5%. MP14 is offering a negative return at a high volatility of 85%. MP15 is also offering a very low return at a higher volatility.

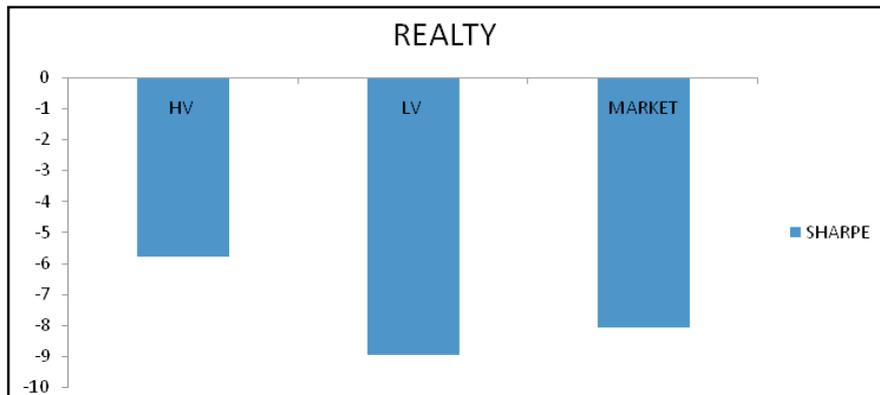


Figure 9: Sharpe Ratio for Realty Sector

The above graph shows the Sharpe ratio of HV portfolio, LV portfolio and for the market in case of Realty Sector. According to Sharpe index of measuring performance, HV

portfolio is performing better than both LV portfolio and the market in case of Realty sector.

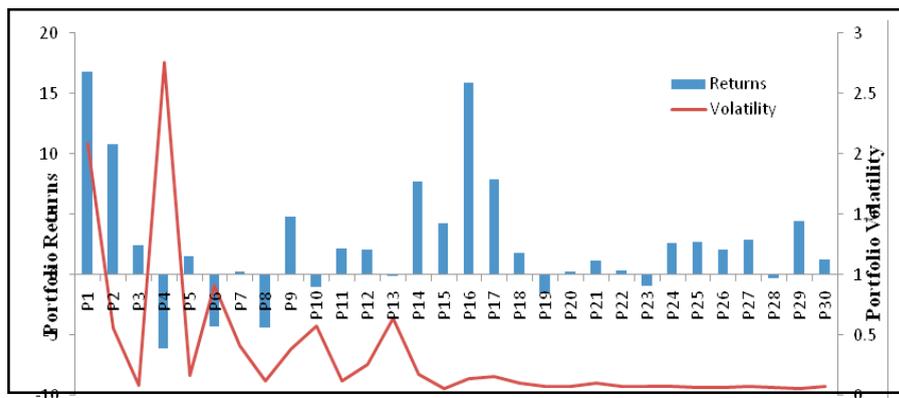


Figure 10: Comparison of Portfolio Returns and Volatility of IT Sector

IT Sector

The results indicate that returns for Portfolios 4, 6, and 8 are negative at -6.05%, -4.23%, and -0.98% respectively with a risk of 275.6%, 90.06%, and 12.06%. Portfolio 14 and 15 show a positive return of 7.74% and 4.26% bearing a risk of 448.5% and 129.9% respectively. The returns for the Low volatility portfolios are positive for most of the portfolios.

It is to be noted that the volatility or the standard deviation for high volatility stock is greater than that of low volatile stocks except for few exceptions. For instance portfolios 19, 21, 22, 25, and 27 exhibited greater returns which form a part of low volatile stocks in low volatile portfolio.

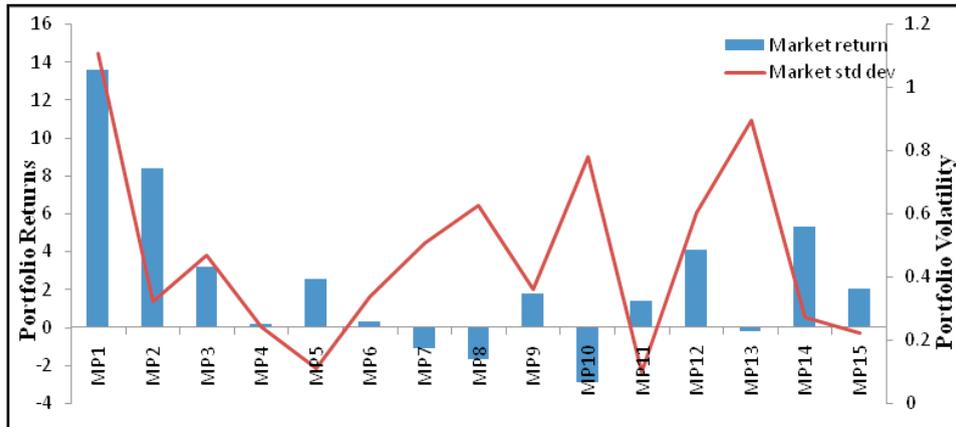


Figure 11: Risk vs. Return of CNX IT Index

It can be observed that MP1 is offering high return at a high volatility and MP2 is offering a return of 8.45 at a volatility of 31% and MP6, MP7, and MP8 are offering a low return at a high volatility. MP10 is giving a negative return of -2.91% at a volatility of 78.2%.

MP12 and MP13 are also providing low return at a higher volatility. MP14 and MP15 are providing moderate return at a lower volatility

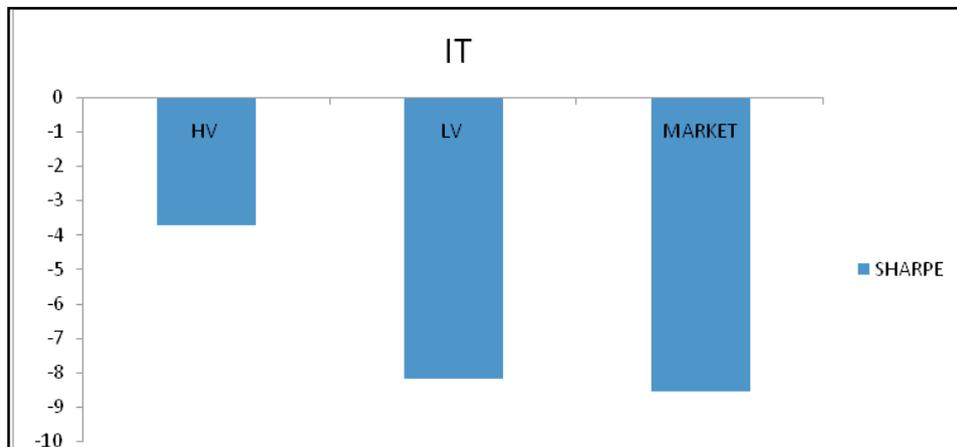


Figure 12: Sharpe Ratio for IT Sector

The Sharpe ratio indicates that HV portfolio has performed much better than LV portfolio and the market. Performance of LV portfolio is almost similar to that of performance of the market.

Observations and Suggestions:

FMCG Sector

The analysis of the LV portfolios of FMCG indicates that stocks of Colgate Palmolive (India) Ltd., Britannia Industries

Ltd. and Hindustan Unilever Ltd. have considerably outperformed other LV stocks thus realizing higher risk adjusted returns as compared to other stocks considered for the study. The prospective investors with a wide time span are advised to invest in the stocks of Colgate Palmolive (India) Ltd., Britannia Industries Ltd., and Hindustan Unilever Ltd.

Pharma Sector

From the analysis of the LV portfolios of Pharma stocks, it is observed that stocks of Glaxosmithkline Pharmaceuticals Ltd., Dr. Reddy's Laboratories Ltd., Cipla Ltd., and Divi's Laboratories Ltd. have outperformed other LV stocks, thus giving high risk adjusted returns. Hence it is prudent for the long term investors to invest in stocks like Glaxosmithkline Pharmaceuticals Ltd., Dr. Reddy's Laboratories Ltd., Cipla Ltd., and Divi's Laboratories Ltd. as they have given higher returns for the period under study.

Realty Sector

Based on the analysis of the LV portfolios of Realty stocks, it is recommended that investors with broad time horizon should invest in stocks of Larsen & Toubro Ltd. and Voltas Ltd. as these stocks have consistently yielded higher risk adjusted returns as compared to other LV stocks.

IT Sector

Based on the LV portfolios formed for the concerned study period, an attempt is made to suggest the most viable LV IT stocks which have productively performed well, thus yielding better returns. The stocks of Infosys Ltd., Wipro Ltd., Tata Consultancy Services Ltd., and Oracle Financial Services Software Ltd. have successfully performed better resulting in higher risk adjusted returns over other LV stocks in the same sector. The study suggests that the risk averse investors are advised to invest in stocks of Infosys, Wipro, TCS, and Oracle as they have consistently provided higher returns than other LV stocks considered for the study.

To sum up, it is recommended to construct portfolios of stocks of Infosys Ltd., Wipro Ltd. from the IT Sector, Colgate Palmolive (India) Ltd., Britannia Industries Ltd., and Hindustan Unilever Ltd. from the FMCG Sector, Glaxosmithkline Pharmaceuticals Ltd., Dr. Reddy's Laboratories Ltd., and Cipla Ltd. from the Pharma sector, and Larsen & Toubro Ltd. and Voltas Ltd. stocks from the Realty Sector. The portfolios identified are suggested for those investors who are risk averse.

Conclusion

On the basis of this study it can be inferred that due diligence is required while investing in high risk equity stocks. The traditional belief in high risk high return philosophy could lead to significant losses. The low volatility portfolio strategy gives a higher return over a long period and it requires patience to reap its benefits. Thus, it can be considered a very good strategy when the market does not exhibit a specific direction and the volatility in general is relatively high. Over a long duration, it can be recommended with certainty that portfolio of low risk stocks would yield higher returns. The risky assets could be beneficial in the short run but they suffer from significant probability of yielding negative returns when compared to market and less risky assets. The inefficiency of Indian stock market is clearly established through the study. The study negates the popularly held assumption of high risk-high return in a capital market.

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ANNEXURE

This annexure contains the calculated values of returns and standards deviations (average of four months) of High Volatile (HV) and Low Volatile(LV) portfolio for the selected

sectors. P1 to P15 represent portfolios of high volatile stocks and P16 to P30 represent the portfolios of low volatile stocks.MP1 to MP15 represents market portfolios.

FMCG Sector

HV & LV Portfolio returns and volatility

Volatility	Portfolio	Returns	Volatility
High Volatility(HV)	P1	9.013625	0.426738652
	P2	5.933785	0.111110532
	P3	2.450185	0.324894304
	P4	5.717235	2.589911202
	P5	-9.209645	6.052696023
	P6	-2.99973	0.31360228
	P7	4.681345	0.354692281
	P8	-0.7067	0.277736105
	P9	3.4522655	0.604773332
	P10	3.08414	0.332693554
	P11	4.90371	0.401211293
	P12	-0.52814	0.570044051
	P13	2.7955	1.221130853
	P14	-0.688165	0.193508893
	P15	-0.90502	0.144554767
Low Volatility(LV)	P16	8.74538	0.085000498
	P17	3.3461297	0.090890983
	P18	0.089555	0.12022947
	P19	4.322925	0.074887024
	P20	-2.49303	0.104767593
	P21	-1.06355	0.121084033
	P22	5.00706	0.108750257
	P23	-1.71111	0.080595315
	P24	0.915515	0.126988289
	P25	1.38947	0.101418326
	P26	1.63189	0.082865524
	P27	1.38714	0.115137105
	P28	4.5074	0.224627553
	P29	-1.06669	0.102242112
	P30	-0.11942	0.072497094

Portfolio returns and volatility for the market

Market Portfolio	Market Return	Market Stddev
MP1	5.971325	0.536338593
MP2	1.7107575	0.464299792
MP3	6.529315	0.057665005
MP4	3.3322975	0.306473342
MP5	4.7294175	0.156545
MP6	2.3571925	0.438755722
MP7	-0.6730775	0.143472089
MP8	4.196825	0.095882622
MP9	3.20076	0.211162461
MP10	-0.2917625	0.2061977
MP11	0.0410025	0.287048905
MP12	-0.11108	0.112818739
MP13	-1.51716075	0.344539141
MP14	-1.175925	0.513558513
MP15	3.732274454	0.078177818

Pharma Sector**HV & LV Portfolio returns and volatility**

Volatility	Portfolio	Returns	Stddev
High Volatility(HV)	P1	11.660205	2.175302665
	P2	3.013514	0.334646497
	P3	2.21257	0.130711939
	P4	2.102425	1.540302546
	P5	-3.87605	7.081933709
	P6	-3.646505	0.183722202
	P7	2.1660255	0.195812893
	P8	-1.753285	0.065737231
	P9	-1.364455	0.116862467
	P10	5.812465	0.086532486
	P11	1.923465	0.142536791
	P12	-0.56396	0.30476232
	P13	1.565665	0.170572097
	P14	0.5522	1.333272392
	P15	1.64612	0.573629404
Low Volatility(LV)	P16	9.11859	0.128365748
	P17	5.99622	0.108070786
	P18	3.666335	0.14186617
	P19	2.093175	0.043875196
	P20	2.06656	0.128854867
	P21	-2.56339	0.181758717
	P22	2.902005	0.096443359
	P23	-2.451895	0.046062324
	P24	1.3571825	0.16316741
	P25	-0.158595	0.106568263
	P26	1.91751	0.134649161
	P27	0.118605	0.098792405
	P28	2.3840745	0.282800294
	P29	0.98029	0.12621563
	P30	2.537995	0.253522534

Portfolio returns and volatility for the market

Market Portfolio	Market return	Market Stddev
MP1	7.5276	0.971024218
MP2	5.6190075	0.222005319
MP3	2.746046	0.207897984
MP4	2.216149	0.309114549
MP5	4.0834125	0.1160328
MP6	-2.883685	0.043307013
MP7	2.285605	0.247259392
MP8	-1.0710125	0.142031065
MP9	1.1649075	0.128971081
MP10	2.0041525	0.156052181
MP11	2.045155	0.234423204
MP12	0.94558	0.186870001
MP13	4.48441575	0.182858636
MP14	1.025149	0.360661461
MP15	1.269545	0.11675817

Realty Sector**HV & LV Portfolio returns and volatility**

Volatility	Portfolio	Return	Stddev
High Volatility(HV)	P1	21.394995	0.461110629
	P2	0.282575	2.317043321
	P3	-2.6211335	1.132083208
	P4	0.86204	0.101806758
	P5	0.62635	0.253398215
	P6	-11.45653	0.153171782
	P7	-0.333115	0.102306677
	P8	-9.705925	0.15679264
	P9	3.979955	0.246043023
	P10	-3.007755	0.388317026
	P11	2.541805	0.238021917
	P12	-2.4452	0.699234423
	P13	-5.984215	0.679208828
	P14	-0.001315	0.433573152
	P15	-0.48823	0.063247665
Low Volatility(LV)	P16	21.627425	0.159743525
	P17	3.3413	0.252513807
	P18	-3.04359	0.118248659
	P19	0.670655	0.073917441
	P20	0.088325	0.169293081
	P21	-7.2346	0.186278219
	P22	-1.43602	0.08086507
	P23	-6.98885	0.204964078
	P24	2.769105	0.224716769
	P25	-1.64503	0.165440955
	P26	0.164925	0.120559485
	P27	-2.75115	0.082050501
	P28	-5.055015	0.141720016
	P29	0.463615	0.26832415
	P30	2.284745	0.270027415

Portfolio returns and volatility for the market

Market Portfolio	Market Return	Market Stddev
MP1	22.56745	0.78326375
MP2	3.0128	0.752717041
MP3	3.9981	0.5451086
MP4	0.24465	0.555152892
MP5	0.32515	0.661084706
MP6	-11.320625	0.295509866
MP7	0.331325	0.266160147
MP8	-5.675275	0.224994682
MP9	1.384775	0.548460048
MP10	-1.766275	0.219416355
MP11	2.653	0.351158695
MP12	-0.2238	0.474873039
MP13	-7.033625	0.216893545
MP14	-2.257925	0.852858324
MP15	0.53085	0.562196587

IT Sector

HV & LV Portfolio returns and volatility

Volatility	Portfolio	Returns	Volatility
High Volatility(HV)	P1	16.80787	2.084540516
	P2	10.852135	0.551056747
	P3	2.412905	0.084445708
	P4	-6.05087	2.756321036
	P5	1.587925	0.15967052
	P6	-4.230615	0.909777286
	P7	0.31391	0.404999637
	P8	-4.392185	0.120628811
	P9	4.81539	0.382873502
	P10	-0.985755	0.568911902
	P11	2.15055	0.120546414
	P12	2.0999	0.251099582
	P13	-0.09724	0.635299428
	P14	7.749165	0.175823916
	P15	4.268231	0.053898504
Low Volatility(LV)	P16	15.87632	0.132913051
	P17	7.883095	0.157363695
	P18	1.77978	0.095281248
	P19	-1.56083	0.070927909
	P20	0.249475	0.075034616
	P21	1.2242455	0.096073779
	P22	0.36355	0.068631801
	P23	-0.890515	0.074234567
	P24	2.677715	0.067640886
	P25	2.685845	0.061721985
	P26	2.057975	0.066083286
	P27	2.867545	0.075556137
	P28	-0.231395	0.066902853
	P29	4.48532	0.054778332
	P30	1.29908	0.073715071

Portfolio returns and volatility for the market

Market Portfolio	Market return	Market stddev
MP1	13.639465	1.108461716
MP2	8.439865	0.319947789
MP3	3.18492	0.466932403
MP4	0.16120225	0.240945394
MP5	2.54261775	0.110384364
MP6	0.332985	0.337474991
MP7	-1.13499	0.506629668
MP8	-1.698625	0.626075994
MP9	1.7623025	0.358159461
MP10	-2.9124675	0.782057743
MP11	1.43056525	0.097252924
MP12	4.0755525	0.60170694
MP13	-0.1791325	0.894857094
MP14	5.311335	0.270231107
MP15	2.04273	0.22009943

Tiger Economies: Asian Scene

Shalini Talwar and Nupur Gupta- Bhattacharya

A b s t r a c t

The authors have studied the currency movements and equity market indices of the so called 'tiger economies' of Asia including the original group of Pacific Rim tigers and two other economies, India and Thailand that have been gaining prominence over the past few years. The purpose of the study is to evaluate the investment opportunities that the financial markets of these countries present as a whole.

Uni-directional and bidirectional causality between the markets and the currencies under study have been tested using Granger Causality test after examining the two types of time series for stationarity through Augmented Dickey Fuller test. Thereafter, Johansen's cointegration test has been conducted with a view to diagnose the long term linkages among the markets under study.

Key Words : Asian markets, Asian tigers, Augmented Dickey Fuller test, Granger Causality test, Johansen's Cointegration test, correlation matrix.



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The continent of Asia comprises diverse profile of countries, ranging from advanced economies like Japan and Singapore to emerging economies like India and finally backward countries like Pakistan and Bhutan. How these countries impact each other's economies, stock markets and exchange rate movements, is a topic of great interest to economists, international investors, and policy makers.

Since post 2008 crisis, the economic dynamics has altered subtly in the southern and eastern parts of Asia. Many Asian nations are seeking ways to emerge out of the shadows of the giants: China and Japan. One re-alignment, rather, expansion of a group, seems to offer competitive advantage to the participating nations, at least from a short run perspective. This group is that of the Asian Tigers who formed the original economic Pacific Rim. Long back in 1995, a paper¹ talked about the attractiveness of the newly deregulated India as an attractive investment destination and called it the new Asian Tiger. Through the current study,

the authors plan to carry the same thought forward and make a case for India to actually be one of the Asian Tigers: Hong Kong, Taiwan, Singapore and South Korea, thereby suggesting an economic shift in the geographic Pacific Rim. It also makes a case for the inclusion of Thailand into the original group of Tigers to offer many trade and diversification benefits.

Although Thailand is already geographically and economically in sync with the original Tigers, India seems a little odd contender for being bracketed with the “Asian elite.” At a glance, it might seem improbable that India has much in common with these advanced and high-income economies with a different set of risks characterizing each category, but a deeper probe reveals more synergies in an economic alignment at political level and portfolio investment opportunities at individual and institutional level. In a recent supplement released in July 2014, Asian Development Bank² has cut Southeast Asia’s growth outlook from 5% to 4.75% in 2014, adding that its estimate for the gross domestic product (GDP) for developing Asia, which covers 45 nations, was unchanged at 6.2 per cent in 2014. The supplement highlights the fact that softening of growth prospects in South-east Asia are balanced by improvement in the expectations for South Asia, where India has been given an improved outlook following the recent general elections. The country is expected to outshine China in a few years.

India has morphed into a roaring tiger in 2000s, having averaged more than 8% growth for quite sometime. Transformation from an unknown quantity to a preferred investment destination in Asia, second only to China, has brought India to the cusp of being one of the few ‘miracle economies’ in Asia, strengthening its claim to be a part of the original miracle economies: “The Asian Tigers.” It is now ready to stake its claim to join the coveted group.

Thailand is recognized by the World Bank as “one of the great development success stories” in social and development indicators. Due to smart economic policies, it has become an upper middle income economy and is making progress towards meeting the Millennium Development Goals.³

The current paper plans to study the linkages between the movement of the foreign exchange rates and the equity markets of all six nations by applying Granger Causality test on the currency and stock market data for a period spanning 2009 to 2013. An understanding of such causality would

come handy in evaluating any grouping and enable the fund managers to take more informed investment decisions. Johansen’s Cointegration test has also been conducted on the currency and stock market data for a period spanning 2009 to 2013.

The paper is arranged as follows: Section 2 deals with the existing literature review. Objectives of the study are outlined in section 3. Section 4 deals with data description and methodology. The results of empirical tests are described in section 5, followed by conclusion in section 6.

Literature Review

Integration of international stock markets has become an important topic for research due to rising interdependence of financial markets across the globe and the diffusion of stock return movements among the key national markets. Greater integration implies relatively freer and easier access to foreign financial markets which makes fund raising easier for businesses (Gupta and Agarwal, 2011).

For a long time the research on the inter-linkages between the stock markets remained confined to western countries. However, inter-linkages between Asian equity markets have become a topic of great interest in the recent past. Yang and Lim (2002) investigated nine Asian stock markets using data for a period of January 1990 through October 2000 and discovered some indication of short-term linkages among these markets, but no evidence whatsoever of any long-term equilibrium relationship.

Granger causality, Johansen’s cointegration, and the VAR framework were used by Nath and Patel (2003) to study the inter-linkages of the Indian equity market with other emerging markets and few developed markets for a period ranging from July 1990 through May 2000. They also found no evidence of long-term relationships among these markets. However, significant short-term relationships among the emerging markets were seen with the exception of India. Inter-linkages between Southeast Asian financial markets were also found by Hashmi and Xingyun (2001). In Gupta’s study of stock market returns in 2011, India, Korea and Hong Kong were found to have a positive correlation.

We have chosen to study the inter-linkages between these six countries on account of the fact that they represent a diverse group of economies but are still united by the fact that they belong to Asia Pacific region, which is currently

attracting the attention of international financial community. The region is considered to be well poised to capitalize on the recovery of advanced economies and retain its growth momentum.⁴

The export-oriented economies of Singapore, Hong Kong and South Korea have recovered fully from the effects of global financial crisis⁵ despite the fact that South Korea was affected quite severely (Thompson, 1998).

Asia is observed to be fundamentally strong, backed by its sustainable growth. The income outlook from developed Asian markets is considered to be quite favorable vis-à-vis the choppy world markets. The outlook on Asia is essentially upbeat and positive.⁶

India and Thailand have also exhibited resilience and are considered to be key economies in Asia. Thailand has achieved steady growth, mainly on account industrial and agriculture exports. Its free-enterprise economy is ably supported by well-developed infrastructure and pro-investment policies. Its unemployment stands at less than 1% of the labor force, being one of the lowest in the world.⁷ *The Nation*, Bangkok's independent newspaper, had predicted that Thailand would become the "Fifth Tiger."

Since 1991, Indian economy has transformed and grown at a rate of more than 8% on a year-on-year basis for many years before the financial crisis of 2008. It rebounded from the crisis in 2010 on the back of strong domestic demand. Despite the recent economic issues, the outlook for India's medium-term growth has generally been positive.⁸

The stock markets of all six countries, perhaps with the exception of South Korea, are vibrant and attractive in terms of returns. Most Asian emerging markets have fared rather well in the face of global financial volatility in January 2014 and the financial environment in Asia has remained favorable. Asian equity markets have rebounded significantly from their 2013 lows.⁹

The authors have applied the Granger Causality and cointegration test to the exchange rates between the six countries under study. Such studies have also been given a lot of importance in the financial literature. There has been much interest in relationships between exchange rates [e.g., Baillie and Bollerslev (1994); Diebold et al. (1994); Hakkio and Rush (1991)]. As Asia accounts for an increasingly higher proportion of the global economy and financial

markets, Asian currency movements are ever more likely to have contagion effects elsewhere in the world.

Objectives of the Study

The authors aim to study the currency movements and the financial market indices of these countries to understand and identify the factors that may justify a grouping of these countries and evaluate the opportunities that their financial markets present as a whole.

This study aims to discuss the behavior of the six Asian stock markets in the international financial arena and examines how these markets provide an investment opportunity to international investors.

Data Description and Methodology

Data Description

The closing prices of stock Indices of six major Asian countries: BSE SENSEX (India), HANG SENG (Hong Kong-China), STI (Singapore), TSEC (Taiwan), SET (Thailand), and KOSPI (South Korea) were taken from www.yahoofinance.com for a period from January 2009 through December 2013 and used in the analysis.

The direct quote of exchange rates of six major Asian countries: INR (India), HKD (Hong Kong-China), SGD (Singapore), TWD (Taiwan), BHAT (Thailand), and KRW (South Korea) were taken from www.investing.com for a period from January 2009 through December 2013 and used in the analysis.

Methodology

The present study investigates the inter-linkages between the stock markets and exchange rate movements of India, Thailand and the four Tigers because such inter-linkages have far-reaching implications for portfolio diversification as well as macroeconomic policies of the countries under study. The tests used to investigate the stock market linkages are Granger Causality and Johansen's cointegration test.

Since stock prices and currency data are time series data, they need to be checked for stationarity because if non-stationary series is regressed to other non-stationary series, we might get a spurious regression with a high value R^2 (coefficient of determination) but low Durbin Watson

statistic (Gujarati, 1995). Checking for the existence of unit root tests non-stationarity, Augmented Dickey Fuller (ADF) [Dickey, D. and Fuller, W. (1979, 1981)] test is most commonly used test of unit root. It is based on the simple logic that a non-stationary process has infinite memory and it behaves like AR (1) process with $\hat{n}=1$. In ADF test, we test the hypothesis if $\delta = 0$.

If a time series is stationary at level/prices, it is called integrated of Order 0 or I (0) process. However, it has been observed that most economic and financial time series follow I (1) process i.e. they are non-stationary at level but become stationary after taking the first difference. For this purpose, generally the difference of the natural log of the series is taken.

The stock prices and currency data series have been log-transformed using the following equation:

$$R = \text{Ln}(P_t/P_{t-1}) * 100$$

Where, R= return, P_t = Price in t period, P_{t-1} = Price in t-1 period.

An investigation of the level of integration of the selected Asian markets has been performed by the authors by examining the following generalization: Do changes in a given market cause changes in another market? The test used to assess this kind of causality is called Granger causality test, a statistical approach proposed by Granger (1969, 1988) to surmise cause and affect relationship between given time series.

If a market causes change in another market, in terms of the test, it is said that this market “Granger – causes” another market. Such causality is said to exist if the lags of the first market are statistically significant in the equation for another market. Further, another market does not cause any changes in the first market, then the first market is said to be strongly exogenous in the equation for another market. If neither set of lags of one variable are statistically significant in the equation for the other variable then there is no causality and the markets are set to be independent (Brooks 2008).

The results of Granger causality are interpreted as:

X Granger causes Y, but Y does not Granger cause X => Unidirectional relationship

X does not Granger cause Y, but Y Granger causes X => Unidirectional relationship

X Granger causes Y and Y Granger causes X => Bidirectional relationship

X does not Granger cause Y and Y does not Granger Cause X => No direction in relationship

Correlation matrices have also been computed to assess the relationship among variables in the two time-series as correlation is considered a useful tool to examine the relationship between the select economies (Baig and Goldfajin, 1998; Forbes and Rigobon, 2002, Hernandez and Valdes, 2001; Fratzscher, 2003). A significant rise in correlations among the markets/currencies under study is considered evidence of contagion.

In order to perform the investigation of a long run relationship between the variables in multivariate models, the Johansen cointegration (Johansen, 1988, 1991) technique has also been applied in this study. Since the data investigated is post the US subprime mortgage crises, the issue of structural breaks is taken care of.

Cointegration test is considered to be a rigorous method for studying common trends in time-series and depicting the existence of short run and long run dynamics between the variables under study. The notion of cointegration, introduced by Granger (1986) and Engle and Granger (1987), rests on a simple intuition that if two variables are non-stationary and they are linked to each other by an equilibrium relationship, then stationarity will be observed in their linear combination.

Discussion on Results of Empirical Tests

As discussed above, the two time series were tested for stationarity using the Augmented Dickey Fuller test. The stock indices and direct quotes of exchange rates series are found to follow an I (1) process. The results of the ADF test are tabulated in table 1 for stock index returns and table 2 for exchange rates for the selected countries: India, Thailand, Hong Kong, Singapore, South Korea and Taiwan.

Table 1: Unit Root test of Stock Index Returns

Indice Name	ADF Test Statistic	Probability*
Sensex	-3.955597	0.0032
Set	-6.280415	0.0000
Hangseng	-7.769868	0.0000
STI	-5.007185	0.0001
Kospi	-3.443203	0.0136
Tsec	-5.028710	0.0001

*MacKinnon (1996) one-sided p-values

Source: Based on authors' calculations

The results of ADF test reveal stationarity in stock index returns.

Table 2: Unit Root test of Exchange Rate Returns

Direct Quote of Exchange Rate	ADF Test Statistic	Probability*
INR	-4.664184	0.0004
BHAT	-6.622925	0.0000
HKD	-4.481684	0.0007
SGD	-3.779709	0.0055
KRW	-9.699774	0.0000
TWD	-7.688627	0.0000

*MacKinnon (1996) one-sided p-values

Source: Based on authors' calculations

The results of ADF test reveal stationarity in exchange rate returns.

As the results of ADF test revealed stationarity in stock index and exchange rate data, Granger Causality test was

conducted on the two series. The results of pair-wise Granger Causality test for stock index returns and exchange rate returns are tabulated in tables 3 and 4.

Table 3: Results of Pair-wise Granger Causality between Stock Index Returns

Null Hypothesis	F-Statistic	Probability	Interpretation of significant relationships
HANGSENG does not Granger Cause SENSEX	2.98679	0.05917	There is a bidirectional relationship between Hang Seng and Sensex at 10% significance level.
SENSEX does not Granger Cause HANGSENG	3.16482	0.05046	
KOSPI does not Granger Cause SENSEX	0.61643	0.54376	
SENSEX does not Granger Cause KOSPI	1.10692	0.33824	
STI does not Granger Cause SENSEX	1.02067	0.36746	
SENSEX does not Granger Cause STI	3.19789	0.04900	Sensex Granger Causes STI at 5% significance level. This causality is unidirectional.
TSEC does not Granger Cause SENSEX	4.64911	0.01388	TSEC Granger Causes Sensex at 5% significance level. This causality is unidirectional.
SENSEX does not Granger Cause TSEC	2.10759	0.13179	
SET does not Granger Cause SENSEX	0.09308	0.91127	
SENSEX does not Granger Cause SET	0.64695	0.52780	
KOSPI does not Granger Cause HANGSENG	1.50400	0.23175	
HANGSENG does not Granger Cause KOSPI	5.49229	0.00685	Hang Seng Granger Causes Kospi at 1% significance level. This causality is unidirectional.
STI does not Granger Cause HANGSENG	1.54235	0.22350	
HANGSENG does not Granger Cause STI	1.90499	0.15907	
TSEC does not Granger Cause HANGSENG	1.66007	0.20004	
HANGSENG does not Granger Cause TSEC	0.60331	0.55078	
SET does not Granger Cause HANGSENG	0.55760	0.57597	
HANGSENG does not Granger Cause SET	3.70393	0.03134	Hang Seng Granger Causes Set at 5% significance level. This causality is unidirectional.
STI does not Granger Cause KOSPI	1.50175	0.23224	
KOSPI does not Granger Cause STI	0.64868	0.52691	
TSEC does not Granger Cause KOSPI	1.71431	0.19011	
KOSPI does not Granger Cause TSEC	2.57264	0.08602	Kospi Granger Causes Tsec at 5% significance level. This causality is unidirectional.
SET does not Granger Cause KOSPI	0.03974	0.96107	
KOSPI does not Granger Cause SET	0.93573	0.39880	
TSEC does not Granger Cause STI	1.77097	0.18028	
STI does not Granger Cause TSEC	0.65431	0.52403	
SET does not Granger Cause STI	0.36631	0.69506	
STI does not Granger Cause SET	1.38620	0.25911	
SET does not Granger Cause TSEC	0.44716	0.64188	
TSEC does not Granger Cause SET	1.51475	0.22940	

Table 4: Results of Pair-wise Granger Causality between Direct Quote of Exchange Rates

Null Hypothesis	F-Statistic	Probability	Interpretation
INR does not Granger Cause HKD	1.62783	0.20723	
HKD does not Granger Cause INR	3.13344	0.05279	HKD Granger Causes INR at 10% significance level. This causality is unidirectional.
TWD does not Granger Cause HKD	1.37285	0.26336	
HKD does not Granger Cause TWD	1.46945	0.24043	
BHAT does not Granger Cause HKD	1.04445	0.35991	
HKD does not Granger Cause BHAT	0.99872	0.37603	
SGD does not Granger Cause HKD	0.06978	0.93270	
HKD does not Granger Cause SGD	2.25476	0.11613	
KRW does not Granger Cause HKD	0.33341	0.71816	
HKD does not Granger Cause KRW	4.49476	0.01636	HKD Granger Causes KRW at 5% significance level. This causality is unidirectional.
TWD does not Granger Cause INR	2.02031	0.14397	
INR does not Granger Cause TWD	0.96167	0.38965	
BHAT does not Granger Cause INR	0.14219	0.86783	
INR does not Granger Cause BHAT	0.21304	0.80890	
SGD does not Granger Cause INR	2.27304	0.11421	
INR does not Granger Cause SGD	3.71475	0.03178	INR Granger Causes SGD at 5% significance level. This causality is unidirectional.
KRW does not Granger Cause INR	1.96995	0.15081	
INR does not Granger Cause KRW	4.98953	0.01084	INR Granger Causes KRW at 5% significance level. This causality is unidirectional.
SGD does not Granger Cause TWD	1.36557	0.26517	
TWD does not Granger Cause SGD	0.06266	0.93934	
KRW does not Granger Cause TWD	1.13871	0.32891	
TWD does not Granger Cause KRW	0.20861	0.81246	
SGD does not Granger Cause BHAT	0.95374	0.39263	
BHAT does not Granger Cause SGD	1.70748	0.19238	
KRW does not Granger Cause BHAT	0.75986	0.47339	
BHAT does not Granger Cause KRW	2.09428	0.13450	
KRW does not Granger Cause SGD	0.03326	0.96731	
SGD does not Granger Cause KRW	1.87160	0.16517	

Source: Based on authors' calculations

The results of Granger Causality test indicate a bidirectional causality relationship between the Indian and Hong Kong stock indices, whereas past data of movement of Hong Kong dollar can be used to predict movement in the Indian rupee and the Korean currency. There exists a unidirectional causality from the Indian Markets to Singaporean markets both in exchange rates as well as in the stock indices. This can be attributed to the fact that Singapore is one of the top trading partners of India. Movement in the Indian rupee

also causes movements in the Korean currency. In the capital markets, Taiwan market causes movements in the Indian markets, whereas Korean markets cause movements in the TSEC. The Hang Seng movements also cause movements in the KOSPI and Thai SET.

The correlation matrices displaying the pair-wise correlation between pairs of countries in terms of stock market returns and exchange rate movement are exhibited in tables 5 and 6.

Table 5: Correlation Matrix (Based on Lognormal Returns of Indices)

	SENSEX	HANG SENG	KOSPI	STI	TSEC	SET
SENSEX	1					
HANG SENG	0.702	1				
KOSPI	0.651	0.6785	1			
STI	0.804	0.8394	0.771	1		
TSEC	0.714	0.7062	0.737	0.748	1	
SET	0.616	0.6613	0.594	0.69	0.519	1

Source: Based on authors' calculations

Table 5 suggests a positive correlation between the movement of the Indian SENSEX and HANG SENG with the movement of the stock indices of the other Asian economies. These results are similar to the findings of the previous study of Gupta (2011) and Gupta and Agarwal (2011).

Positive correlations are also observed in the movement of Korean stock markets with Singaporean and Taiwanese markets. The former two markets exhibit positive correlation between themselves.

Table 6: Correlation Matrix (Based on Lognormal Returns of Direct Quotes)

	HKD	INR	TWD	BHAT	SGD	KRW
HKD	1					
INR	-0.213	1				
TWD	-0.475	0.505	1			
BHAT	-0.107	0.612	0.496	1		
SGD	-0.380	0.581	0.797	0.673	1	
KRW	-0.337	0.463	0.765	0.541	0.867	1

Source: Based on authors' calculations

Results of the correlation test between exchange rates depicted in table 6, suggest a positive correlation in the movements of exchange rates of Taiwan with Singapore and South Korea. The former two markets exhibit a positive correlation between themselves. The movement of the Hong Kong dollar exhibits a negative correlation with all the other five Asian currencies. This can be attributed to the reason that Hong Kong's currency is pegged to the US dollar since 1983 to ensure a stable external value against major world currencies.

Johansen test was conducted to investigate long run cointegration in the stock markets and exchange rates of the Hong Kong, India, Thailand, Taiwan, South Korea and Singapore for the period post-US subprime mortgage crises between 2009 to 2013. The test was performed on stock indices and exchange rates at level. The results of the same assuming Linear Deterministic trend with lag of 1, according to the Akaike classification, are presented in tables 7 and 8.

Table 7: Results of Johansen Cointegration Test on Stock Indices

Hypothesized No. of CE(s)	Trace Statistic	Probability**	Max Eigen Statistic	Probability**
None *	265.4935	0.0000	83.96482	0.0000
At most 1*	181.5287	0.0000	60.61033	0.0000
At most 2*	120.9183	0.0000	43.88237	0.0002
At most 3*	77.03596	0.0000	30.16062	0.0021
At most 4*	46.87534	0.0000	27.44175	0.0003
At most 5 *	19.43359	0.0000	19.43359	0.0000

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Based on authors' calculations

Table 8: Results of Johansen Cointegration Test on Exchange Rates

Hypothesized No. of CE(s)	Trace Statistic	Probability**	Max Eigen Statistic	Probability**
None*	174.5894	0.0000	50.62510	0.0023
At most 1*	123.9643	0.0000	40.68083	0.0066
At most 2*	83.28345	0.0000	25.87374	0.0814
At most 3*	57.40971	0.0000	23.36468	0.0238
At most 4*	34.04502	0.0000	19.44861	0.0069
At most 5*	14.59642	0.0001	14.59642	0.0001

Trace test indicates 6 cointegrating eqn(s) at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Based on authors' calculations

Tables 7 and 8 suggest that the six stock indices as well as the exchange rates have co-integrating vectors. Evidence presented in these two tables on cointegration among six indices and currencies are fairly robust being based on over five years of monthly observations covering a period from 2009 to 2013.

Discovery of significant cointegrating relationships between the stock indices and currencies of Hong Kong, India, Thailand, Taiwan, South Korea and Singapore have important implications in financial integration among the countries of Southeast Asia. With Asia attracting more and more international capital both in stock markets and long-term investment, an understanding of the cointegrating relationships among the selected countries can prove to be extremely valuable in evaluation country asset allocation and making effective hedging decisions.

Conclusion

The empirical results show integration in stock indices and exchange rate movements within the Asian markets (with

the exception of Hong Kong exchange rate movement, due to its peg against the US dollar). Causality test also confirms the precedence and information content of one market that can be used to predict the movement in the other markets. The presence of correlation and cointegration relationships in particular, generates a number of noteworthy advantages for a trading strategy. This information improves the portfolio performance compared to an equally weighted portfolio movement in the other.

Scope for further Study

As Asian Economies continue their successful financial development, the researchers will get more deep and steadfast information to study: financial and political risks, market sensitivity, adjustment of macroeconomic policies and so on. Investigating Asian markets volatility with GARCH approach or applying non-linear models would be the next step in examining these financial markets.

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ENDNOTES

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BSE versus NASDAQ

Sakshi Saxena and Neetu Chadha

Abstract

Emerging stock markets integration has naturally constituted a privileged field for International Financial Research. Markets are said to be integrated if they share a common trend and if they move together. This study examines the extent of cross-country returns co-movement between the stock markets of India and US. In the current context of globalization and the subsequent integration of the global markets, this study captures the trends, patterns in the activities and movements of the Bombay Stock Exchange of India (BSE) in comparison with the American Stock Exchange (NASDAQ) as well as examines the long term association and cause and effect relationship between the indices of BSE and NASDAQ. To measure the degree of co-movement, correlation coefficients are estimated. To check the hypothesis of short term and long term association, the nonlinear co-integration techniques are used. This paper uses the Johansen Cointegration test to ascertain whether the Indian stock market is interrelated with the US stock market. Our result shows that both stock markets are integrated with each other, NASDAQ Granger causes BSE. All tests prove the existence of integration between the US and Indian markets.

Key Words : Augmented Dickey Fullertest, BSE, Correlation, Granger Wald Causality, Johansen's Co-integration, NASDAQ, Risk, Return, Stock Market.



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Globalisation and technological developments have made the entire world a single market. Removal of structural bottlenecks, introduction of new players/instruments, free pricing of financial assets, relaxation of quantitative restrictions, improvement in trading, clearing and settlement practices and greater transparency has transformed the financial system of economies. The flow of investment is now without restrictions from one market to another. Dismantling of various price and non-price controls in the financial system has facilitated the integration of financial markets. The emerging markets like India are no exception to this development. Financial integration between economies can lead to development of markets and institutions, effective price discovery which contributes to higher savings, investment and economic progress. An integration of world financial markets has been the distinct feature of the recent global development. There has been huge acceleration in financial globalization because of increasing cross-country foreign assets. As of 2012- 2013, US stands 3rd in terms of imports of 24,343.73 TEU volume

and export of 36,152.30 TEU with India. Due to technological progress and the liberalization of capital flows, global stock exchanges have started competing for equity listings and trades. International diversification helps investors to choose securities from the larger basket of foreign securities. Countries have become more economically interlinked, thereby explaining the formation of price co-movement between stock markets on an international level which is significant for better understanding of this higher interdependency and integration. Stock market, however, appears to be unique in that they serve as economic barometers because they facilitate direct financing which is a significant engine of growth for the economy. Movements in stock markets appear to reflect not only domestic economic conditions, but also the level of confidence that domestic and foreign investors have in an economy. The ever closer relations among international stock markets have important implications for macro economic policies and outcomes.

But, linkages among financial markets can also pose to several risks like contagion and associated disruption of economic activities that were evident during the crisis in Asia in the late 1990s, and more recently in 2008, national stock markets declined sharply in the wake of credit market developments in the United States. Because of this global melt down, policy makers and analysts across the globe have recognised that they should continuously monitor dependency and integration of their market on continuous basis. Recognising this integration and dependency of Indian stock market on US stock market, various studies have concentrated on measuring the international integration of markets across developed and emerging markets. Given the great importance of stock markets, researchers now view the relations among stock markets as a proxy for the relations among economies. Therefore, studies on the integration and co-integration of stock markets have blossomed and advances in econometric techniques have catalysed this research.

There are conflicting views on the issue of stock markets integration. So this paper is a moderate attempt to address the issue, whether the Indian stock market (BSE) integrated with US market (NASDAQ) and does it have certain linkages with US market. In India, the stock market has undergone significant transformations with the liberalization measures. The Bombay Stock Exchange (BSE) of India has emerged as one of the largest stock exchanges in the world in terms of

the number of listed companies, comprising many large, medium-sized and small firms. It has always been observed that even our Indian stock market is deeply influenced by the major developed markets across the world and especially by the US markets. This empirical study has been undertaken to throw some light on the direction of causality i.e. short run causal linkages and investigate the long term linkages between NASDAQ and BSE to better understand how stocks in one market are transmitted to other markets and also try to study co-movement of Indian stock market index with developed countries' stock market index i.e. US market in this study. Study tries to find out the changes if any, in the short and long run inter linkages of Indian stock market with those of US over the period of study as the period selected includes the era of financial crisis. Maximum volatility is seen in stock markets during this time period.

Literature Review

There have been numerous studies on market integration and interdependence. However, the literature review shows that there is conflicting evidence on the issue of international stock market linkages.

Chan, Benton and Min (1997) conducted a study on integration of stockmarkets by including 18 nations covering a 32 year period. These markets were analyzed both separately and collectively in regions to test for the weak form market efficiency. The cross country market efficiency is tested by using Johansen'-integration test. The results proved that only small number of stock markets show evidence of co-integration with others.

Bala and Mukund (2001) in their study examined the nature and extent of linkage between the US and the Indian stock markets. They used the theory of co-integration to study the inter dependence between the Bombay Stock Exchange (BSE), the NYSE and NASDAQ. The data consisted of daily closing prices for the three indices from January 1991 through December 1999. The results investigated that the Indian stock market was not affected by the movements in US markets for the entire sample period.

Mishra (2002) investigated the international integration of India's domestic financial market with the U.S. stock market. By applying the ordinary least squares (OLS) method and cointegration technique, he found a positive correlation between NASDAQ and BSE. He concluded that BSE was influenced by the movements of NASDAQ. But there is no

cointegrating vector between BSE and NASDAQ indexes, which shows that there is no long-run relationship between these two stock exchanges.

Aqil Mohd. Hadi Hassan (2003) used multivariate co-integration techniques developed by Johansen (1988, 1991, 1992b) and Johansen and Juselius (1990) to test for the existence of long-term relationships between share prices in the Gulf region. Using a vector-error correction model, they investigated the short-term dynamics of prices by testing for the existence and direction of inter-temporal Granger-causality. Result shows that share prices in Kuwait and Bahrain are co-integrated with one co-integrating vector, which means the existence of a stable, meaningful long-term relationship between share prices in these two countries. They also investigated the inter-temporal interactions among share prices in three Gulf Co-operation (GCC) countries' stock markets, namely Kuwait, Bahrain and Oman.

Deb et al. (2003) analysed monthly volatility of market indices (Sensex & S&PCNX-Nifty) of Indian capital markets has been modeled using eight different univariate models. Out-of-sample forecasting, performance of these models has been evaluated using different symmetric, as well as asymmetric loss functions. The GARCH (1,1) model has been found to be the over all superior model based on most of the symmetric loss functions though ARCH (9) has been found to be better than the other models for investors who are more concerned about under predictions than over predictions.

Lim et al. (2003) examined the linkages between stock markets in the Asian region over the period 1988-2002 using non-parametric co-integration techniques and they found that there is a common force which brings these markets together in the long run.

Wing Keun Wong et al. (2004) investigated the relationship between the major developed markets of United States, United Kingdom and Japan with the emerging markets of Malaysia, Thailand, Korea, Taiwan, Singapore and Hong Kong, and found that Singapore and Taiwan are co-integrating with Japan while Hong Kong is co-integrating with the United States and the United Kingdom. There is no long run equilibrium relationship between Malaysia, Thailand and Korea and the developed markets of the United States, the United Kingdom and Japan. The relationship between the developed and emerging markets also change over time.

Wing-Keung Wong, Aman Agarwal, and Jun Du (2005) investigated the long run equilibrium relationship and short run dynamic inter linkages between the Indian stock market and world major developed stock market by using the weekly data of BSE 200 (India), S&P 500 (US), FTSE 100 (UK), and Nikkei 225 (Japan) from January 1991 to December 2003. Results show that Indian stock market is integrated with mature markets and sensitive to the dynamics in these markets in the long run. In short run, both US and Japan, Granger causes the Indian stock market but not vice versa. In addition, they found that the Indian stock index and the mature stock indices form fractionally co-integrated relationship in the long run with a common fractional, non-stationary component and that the Johansen method is the best to reveal their co-integration relationship.

Debjiban Mukherjee (2007) in his study has covered New York Stock exchange (NYSE), Hong Kong Stock exchange (HSE), Tokyo Stock exchange (TSE), Russian Stock exchange (RSE), Korean Stock exchange (KSE) from various socio-politico-economic backgrounds. Both the Bombay Stock exchange (BSE) and the National Stock Exchange of Indian Limited (NSE) have been used in the study as a part of Indian stock Market. The time period has been divided into various eras to test the correlation between the various exchanges to prove that the Indian markets have become more integrated with their global counterparts.

Mazharul H. Kazi (2008) examined whether the Australian stock market is integrated to the equity markets of its major trading partners under the influence of globalization. They used the co-integration technique of Johansen (1996, 2000) to ascertain whether the Australian stock market is interrelated with the UK, USA, Canada, German, French and the Japanese stock markets. Essentially, the long-run relationship among selected markets is investigated using annual data for the period 1945 to 2002. The result indicates that although selected markets are integrated yet not all are significant enough. The significant overseas markets for Australia are the UK, Canada and German of which the UK is dominating.

Arshad Hasan et al. (2008) examined the long term relationship between Karachi stock exchange and equity markets of developed world for the period 2000 to 2006 by using multivariate Co-integration analysis. Johansen and Juselius multivariate Co-integration analysis indicates that markets are integrated and there exists a long term

relationship between these markets. However, pairwise Co-integration analysis shows that Karachi stock market is not co-integrated with equity market of US, UK, Germany, Canada, Italy and Australia. However, Karachi stock exchange is found to be integrated with France and Japan.

Janak Raj and Sarat Dhal (2009) investigated the nature of the financial integration of India's stockmarket with global and major regional markets. Co-integration relation suggests that the Indian market's dependence on global markets, such as the United States and the United Kingdom, is substantially higher than on regional markets such as Singapore and Hong Kong. VECM result shows that international market developments at regional and global levels together could account for the bulk of the total variation in the Indian stock market. Within Asia, the Singapore and Hong Kong markets have significant influence, while the Japanese market has weak influence on the Indian market. The two influential global markets, the United States and the United Kingdom, could have a differential impact on the Indian market in the opposite direction, amid a structural shift in India's integration with these global markets.

Fredj Jawadi et al. (2009) studied the financial integration between the six main Latin American markets and the US market in a non-linear framework process Co-integration techniques suggested partial time-varying financial integration of Mexico and Chile into the US market. For Brazil, the integration process seems to follow a linear pattern, while they found no long-term relationships between the other Latin markets and the US market. The dynamics of these markets depend simultaneously on local and global risk factors.

Srinivasan (2009) attempted to analyse the causal relationship between Nifty spot index and index futures market in India. The analysis was conducted for the daily data series from June 12, 2000 to September 12, 2008. The results explained that a long-run relationship between Nifty spot and Nifty futures prices exists. Further, the results confirm the presence of a bidirectional relationship between the Nifty spot and Nifty futures market prices in India.

Mohamed El Hedi Arouri and Fredj Jawadi (2010) investigated the stock market integration hypothesis of two emerging countries (the Philippines and Mexico) into the world capital market over three decades. To check this hypothesis in the short and long run, they used the nonlinear co-integration techniques. The result shows that both stock

markets are nonlinearly integrated into the world market, although the degree of integration is higher for Mexico. Furthermore, they showed that the stock market integration process is nonlinear, asymmetric and time-varying.

Ashwin G. Modi et al. (2010) used the daily data from July 1, 1997 to June 30, 2008 to examine the stock market indices of India (SENSEX), Hong Kong (HANGSENG), Mexico (MXX), Russia (RTS), Brazil (BVSP), UK (FTSE-100) and US (DJIA and NASDAQ). Correlation and Co-integration technique has been employed to study the short term and long-term relationships between the markets. The results indicate that there is considerable volatility in the correlations between the eight stock markets. The result reveals that MXX, DOWJONES and NASDAQ are least dependent on other markets, whereas DOWJONES is the most influential market.

Ilhan Meric, Joe H. Kim (2012) extensively examined the co-movements of and the linkages between the U.S. stock market and Asian stock markets. They used principal components analysis (PCA) and Granger-Causality (G-C) statistical techniques. They found that the contemporaneous co-movements of Asian stock markets have become closer and portfolio diversification benefits with Asian stock markets have diminished over time during the January 1, 2001-January 1, 2011 period. They examined that the Singapore, Indian and Japanese stock markets are the most influential stock markets and the Philippine and South Korean stock markets are the least influential stock markets in Asia. The Japanese, Singapore and New Zealand stock markets are least affected stock markets while the movements in the other Asian stock markets and the Shanghai, Australian, and South Korean stock markets are the most affected stock markets.

Aman Srivastava et al. (2012) studied the short and long-term relationships in three Asian markets, namely Hongkong, Singapore and Japan along with four other global markets of the USA, UK, Germany and France, perceived to be driving Indian Stock prices. By using co-integration techniques they found that Indian stock markets are very much integrated with other global markets in short run but less integrated in long run.

Objectives of the Study

The specific objectives of this present study are as follows:

- To investigate the long term relationship between BSE and NASDAQ, and
- To examine the cause and effect relationship between BSE and NASDAQ.

Hypotheses

The following hypotheses have been formulated:

1. a) H_0 : There is no long term relationship between BSE and NASDAQ.
- b) H_1 : There is long term relationship between BSE and NASDAQ.
2. a) H_0 : There is no significant cause and effect relationship between BSE and other developed stock markets of the world.

2. b) H_1 : There is significant cause and effect relationship between BSE and other developed stock markets of the world.

Variable and Data

The study analyses the relationship in terms of cointegration between Indian stock market and US stock market. The stock indices used for the study are the most important national benchmark indices for each country; the NASDAQ as an indicator for US, BSE as an indicator for the Indian stock prices. A description of the indices analysed here is presented in table 1. The daily data series from 1st April 2004 to 31st March 2013 with 2165 observations taken for study. Data is collected from official websites of these sampled stock markets. The data has been analyzed using E-Views 7 software.

Table 1: Description of the Indices analyzed

Country	Stock Market	Index	Code used in Study
India	BSE	SENSEX	SENSEX_Return
USA	NASDAQ	NASDAQ Composite	NASDAQ_Return

Choice of market is guided by the consideration that India has significant trade and financial relations with US.

Methodology

This paper employed the Johansen Co-integration test to determine whether selected American stock markets is co-integrated with share prices in the Indian stock exchange. While analysing co-integration, causal relation is also elucidated by Toda-Yamamoto Granger causality and extent of volatility is also measured to analyse the whole long term association to have holistic view on the patterns developed by both the markets.

The Augmented Dickey- Fuller (ADF) approach is used to pre-test the order of integration for all-time series variables. Co-integration test is used to check whether India and US countries co-integrate in the long run and whether they converge to each other in the short run. Since the objective of this study is to check the co-integration of the movements of these indexes, natural logarithm of the empirical tests for co-integration can only proceed if the time series are non-stationary. In this analysis, series of indices have been tested for unit root properties using Augmented Dickey Fuller (ADF) Test. For this, the null hypothesis of a single root is tested against the alternative of stationary using the model stated in equation 1.

$$\Delta Y_t = \alpha_s + Y_{t-1} + \sum \beta_i \Delta Y_{t-1} + e_t \quad (1)$$

The co-integration analysis technique is still evolving and has many forms, as is evident from the literature. To examine the co-movements between the Indian stock market and US stock market, first of all relationship is studied with the simple regression.

$$X_t^I = a + bX_t^K + e_t \quad (2)$$

Where the endogenous variable X_t^I represents the Indian stock index, the exogenous variable X_t^K is the US stock index and e_t error term. This is very useful when it is wished to test and incorporate both the economic theory relating to the long-run relationship between variables and short run disequilibrium behaviours.

$$\Delta y_t = \alpha_1 + \sum \beta_i \Delta y_{t-1} + \sum \gamma_i \Delta x_{t-1} + \theta(y_t - \lambda x_1)_{t-1} + e_t \quad (3)$$

The short-run relationship is captured by the lagged terms of the Δx variable, the current impact of Δx to Δy is captured by the β_0 coefficient, while the long-run disequilibrium deviations are captured by the one period lagged error-term of the co integrating equation, with θ being the adjustment factor to equilibrium. θ of course takes values between 0 to 1, while it is obvious that the closest to one the largest is the adjustment to equilibrium and vice versa.

Maximum Eigen Value Test

The Eigen Values are the squared canonical correlation between a linear combination of stationary $\Delta \mathbf{X}_t$ and linear combination between non-stationary \mathbf{X}_{t-1} . This interpretation is intuitively appealing because this correlation will be high only if the linear combination of \mathbf{X}_{t-1} , is itself stationary. Otherwise, a non-stationary variable cannot have a high correlation with a stationary variable. Therefore, the higher the Eigen value, the higher will be the stationarity of the particular linear combination of the non-stationary variable. Only those Eigen values indicate the co-integrating relationship among the variables which are significantly different from zero. The corresponding (normalized to a variable) Eigen vector of an Eigen value is the potential co-integrating vector. However, this vector represents a co-integrating relationship only if its Eigen value is different from zero. Once the co-integrating vector (in the form of eigen vector) is known, the error-correction vector can easily be estimated using its OLS estimator.

Trace Test

Maximum likelihood estimator gives us k number of Eigen-values, but all of them will not be significantly different from zero. Let us assume only r Eigen values are different from zero. Now there are following possibilities:

- $r = 0$, it means there is no co-integrating relationship among the variables. Therefore the VAR should be estimated without error correction term.
- $r = k$, this can happen only when \mathbf{X}_t is stationary rather than non-stationary.
- $r < k$, then there are only r co-integrating relationship among the variables. This is the most obvious situation and in this case only r Eigen values are different from zero and remaining $(k-r)$ Eigen values are non-distinguishable from zero.

Johansen suggests trace test (ML based test) to determine the number of non-zero Eigen values.

Trace test examines the null hypothesis that the co-integration rank is equal to r against the alternative hypothesis that co-integration rank is k . The test is conducted in inverse sequence, *i.e.*, $r = k, k - 1, k - 2, \dots, 0$.

The test statistic is computed as follows:

$$\text{Trace} = -T \sum_{i=r+1}^k \ln(1 - \lambda_i) \quad (4)$$

Although both of these statistics are based on likelihood ratio approach, these do not follow the standard χ^2 -distribution. Rather they have non-standard distribution.

Toda-Yamamoto Causality Test

Toda-Yamamoto causality test is to overcome the problem of invalid asymptotic critical values when causality tests are performed in the presence of non-stationary series or even cointegrated. One advantage of procedure is that it makes Granger Causality test easier.

This technique is used to study the causal relationship between the SENSEX and NASDAQ. Ordinarily, a statistical approach known as Granger causality is used to infer cause and effect relationship between two (or more) time series. The test uses the following Vector Autoregression (VAR) model: -

$$P_t = \sum_{i=1}^n \alpha_i V_{t-i} + \sum_{j=1}^n \beta_j P_{t-j} + \mu_{1t} \quad (3)$$

$$V_t = \sum_{i=1}^n \delta_i V_{t-i} + \sum_{j=1}^n \gamma_j P_{t-j} + \mu_{2t} \quad (4)$$

Where, P_t is the SENSEX closing prices and V_t is the NASDAQ closing prices. $\alpha_i, \beta_i, \delta_i, \gamma_i$ are the coefficients of the respective variables and μ_{1t}, μ_{2t} are the error terms assumed to be uncorrelated. Causality from SENSEX to NASDAQ and NASDAQ to SENSEX is confirmed if the estimated coefficient on the lagged V_t and P_t are found statistically different from zero (*i.e.* $\sum \alpha_i = \sum \gamma_j \neq 0$). The Granger causality test is conventionally run by estimating vector autoregressive (VAR) models but according to Granger Representation Theorem, first of all cointegration test must be run if the series are I(1) or integrated of the same order as at least unidirectional causality must exist in either way but the same test fails to play eminent role if the series are not I(1) or integrated of different orders such as one is I(N) and the other is different from I(N) say I(N+1) or I(N-1). However, Granger causality test can be conducted in Vector Error Correction model to test the linear restrictions on the parameters of a model, usually by the help of Wald statistic. By following the above mentioned model, null hypothesis (H_0) of non causality from SENSEX to NIFTY and NIFTY to SENSEX expressed as:-, $H_0: \beta_i = 0, \forall i = 1, 2, 3 \dots k$ $\gamma_i = 0, \forall i = 1, 2, 3 \dots k$ are tested using a Modified Wald test (MWALD).

Empirical Analysis

Table 2 shows statistical moments of daily stock returns. For the whole sample period (April 2004-March 2013), the study found that Indian stock market provided highest stock returns. In terms of risk adjusted return (average stock adjusted to standard deviation), the securities listed in SENSEX provided highest returns with higher standard deviation. Skewness and kurtosis measure provide insights about the underlying statistical distribution of stock returns.

It is evident that skewness is negative and kurtosis is positive for both the markets during the sample period. Skewness and kurtosis exhibits more or less a similar pattern of statistical distribution. The Jarque-Bera statistic, defined over skewness and kurtosis measures, is very high for both the markets, implying that stock returns differ significantly from the normal distribution. This implies that in each stock market there are opportunities for investors to benefit from abnormal returns.

Table 2: Descriptive Statistics of Stock Return (April 2004- March 2013)

	BSE_Return	NASDAQ_Return
Mean	0.000549	0.000223
Median	0.001075	0.000836
Maximum	0.159900	0.116998
Minimum	-0.127960	-0.095877
Std. Dev.	0.016974	0.014635
Skewness	-0.214897	-0.026335
Kurtosis	11.94915	10.91981
Jarque-Bera	7237.853	5655.802

It is evident from the table 3 that Indian stock market is positively correlated with global stock markets of the United States with value of 0.278411. Regression equation is prepared to establish relationship between SENSEX as

dependent variable and NASDAQ as independent variable. The probability value of 0.0000 shows that NASDAQ has the power to explain the SENSEX returns.

Table 4: Regression Result

Variable	Coefficient	Probability
Constant	0.000477	0.1739
NASDAQ_RETURN	0.323419	0.0000

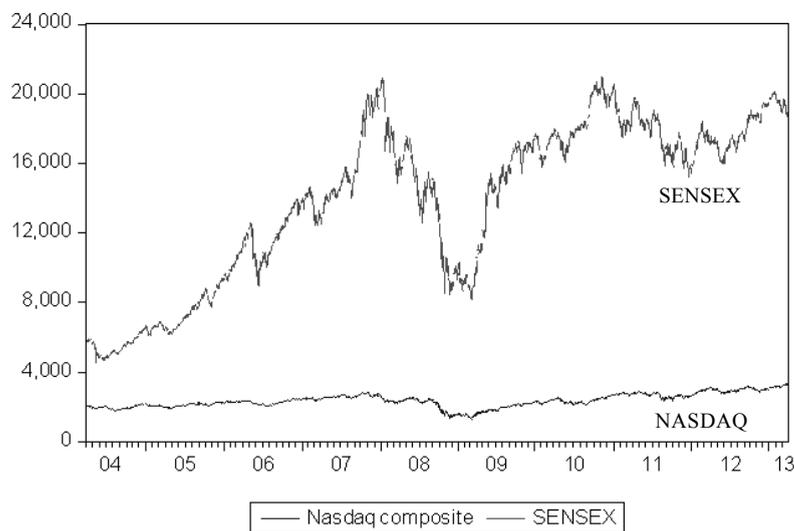


Figure 1: Stock Prices of BSE and NASDAQ

Figure 1 shows the movement of India’s stock prices with US stock market. The X-axis depicts the time frame in years and the Y-axis depicts closing prices of stock markets. Figure shows similar pattern of both the exchanges considered for the study. The dip seen in the year 2009 is due to the deepening of the crisis, when many well established financial institutions (like Lehman brothers) could not sustain the crisis and collapsed leaving the finances of the world devastated. The market sentiments were highly negative during this time frame and investors’ confidence in the markets had received a direct blow.

Thus, it can be deduced that there is a positive correlation among the two indices (and hence between the respective

exchanges that they are representing) and they move together irrespective of the market condition. This is proved further with the cointegration analysis of the two indices under study.

ADF Test Results

While testing for the stationarity of series using ADF test the hypothesis is:

- H_0 : presence of unit root i.e., non-stationary series.
- H_1 : no unit roots i.e., stationary series.

The critical values of the ADF at levels are tabulated in Table 4.

Table 5: Critical Values

	1%	5%	10%
Critical Values	-3.433072	-2.862628	-2.567395

The logarithm returns of all the selected index series are tested for stationarity at levels. The results for same are reported in table 5.

Table 6: Results of Stationarity

Periods	Values at level
D (NASDAQ_Return)	-51.12017
D (SENSEX_Return)	-44.11543

Comparing table 5 and 6 shows calculated ADF test statistics and its critical value. The result validates that null hypothesis of presence of one unit root at level and rejected at 1st difference.

Johansen’s Co-integration Test Results

Before testing for co-integration, it is necessary to determine the optimal lag length. The available literature suggests that optimal length with such kind of studies can be considered

as one. Accordingly, the study has taken the lag length as one in the model for analysis.

Co-integration Test

The test requires maximization of Eigen value and trace test which will determine the number of co-integrating equations. The hypothesis used for the test is:

H_0 : There is no long run relationship between returns of SENSEX and returns of NASDAQ.

Table 7: Critical Values at 5% level of significance

	Trace Statistic	Eigen value
None	15.49471	14.26460
Atmost One	3.841466	3.841466

The analysis is done for the defined period and results are reported in table 8.

Table 8: Unrestricted Co-integration Rank Test

PERIODS	Number of Hypothesised equations	Maximum Eigen Statistics	Trace Statistics	P-value
1-04-2004 to 31-03-2013	None	507.5207	909.4552	0.0003
	At most 1	401.9344	401.9344	0.0000

As can be seen in the table 8, for the period both maximum Eigen statistics and trace statistics have value more than their critical values at 5% level of significance, so the null hypothesis that there is no long run relationship between Sensex index return series and other stock indices return in logarithm is rejected, i.e., there exists a long-run relationship between the two return series. For the null hypothesis that there exists at most one co-integration equation between the two return series, both the maximum Eigen statistics and

trace statistics have value more than their critical values at 5% level of significance. Hence null hypothesis is rejected. So, finally we conclude that there exists a long-run relationship between SENSEX and NASDAQ returns.

Granger Causality Test Results

Granger Causality Test helps in determining whether one time series is useful in forecasting another. The following table shows Toda-Yamamoto causality test results:

Table 9: Toda-Yamamoto Causality (modified WALD) Test Result

Null Hypothesis	Chi-sq	Prob.	Granger Causality
NASDAQ does not granger cause SENSEX	109.4112	0.0000	Unidirectional Causality NASDAQ → SENSEX
SENSEX does not granger cause NASDAQ	0.377605	0.5389	

Having ascertained that a cointegrating relationship exists between NASDAQ and SENSEX, the final step in this study is to verify if NASDAQ Granger Cause SENSEX using the Toda and Yamamoto causality test. If so, then we can say that it is SENSEX that respond to movements in NASDAQ. The empirical results of Granger Causality test based on Toda and Yamamoto (1995) methodology is estimated through MWALD test and reporteds in Table 9. The estimates of MWALD test show that the test result follows the chi-square distribution with 2 degrees of freedom in accordance with the appropriate lag length on the basis of Akaike AIC, i.e., 1 along with their associated probability. It is clear from Table 9 that there is a unidirectional causality between NASDAQ and SENSEX, which run from NASDAQ to SENSEX.

Conclusion

The present study investigated the long run relationship and short term linkages between BSE and NASDAQ by using the daily data of Sensex and Nasdaq Composite from April 2004 – March 2013. Our main findings are as follows: Indian Stock market is statistically significantly correlated with American Stock Market. There exist two co-integrating equations between BSE and NASDAQ. Granger causality test proved that there is unidirectional granger causality running from NASDAQ to BSE. BSE and NASDAQ showed positive average daily returns for the selected period. Both long run equilibrium and short run dynamics detected in this study indicates and confirms that Indian Financial liberalization has opened the cross financial movements across borders and hence Indian stock markets exhibits similar and tighter co-movements with other Markets especially USA markets and that they are more integrated than never due to closer financial and economical linkages. Co-integrated markets imply financial stability among stock markets.

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Transformational Leadership : Emotional Intelligence

Molly Mathew and K. S. Gupta

A b s t r a c t

In this paper efforts are made to develop a conceptual framework of the relationship between Transformational Leadership (TL) and Emotional Intelligence (EI). It is important to know more about this relationship, because a growing body of research indicates that transformational leaders are smart with their feelings and they drive the emotions of those they lead in the right direction. Transformational leadership style is relationship centered and transformational leaders influence the team to do more than expected. People will follow a leader who inspires them. This research paper develops the relationship framework after an intensive literature search on TL and EI. This framework is used in developing a measuring instrument and the relationship between TL and EI is empirically examined among 300 leaders from different industries.

Key Words : *Emotional Intelligence, Emotions, Transformational Leadership, Leadership.*



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Organizations are made of people, processes and property. Current trend shows that company's people are the differentiator. Today, businesses can find meaningful advantage by focussing on the relationships with people whether it be customers, employees or leaders.

It is generally accepted that leaders with strong analytical skills perform better than leaders without these skills. But sometimes very intelligent leaders fail. Often these failures are due to problems that arise while relating to team members or bosses or clients. In today's business environment intellect alone won't make great leaders. In a study, Joseph (1998) found that while IQ scores had no predictive value (correlation of .07 with performance), EQ scores predicted 27% of job performance.

Leaders are being judged by their ability to handle themselves and the team. A leader with vision and passion can achieve great things by injecting enthusiasm and energy. Today leaders are expected to guide, motivate, inspire, listen, persuade, and create significance. Hence dealing with emotions is a crucial part of a leaders' success.

Great leadership requires excellence in many areas- strategy, execution, discipline, innovation, and analysis. However being smart with feelings has received the least attention and could be one of biggest drivers to managing many relationship challenges that leaders face at work. In reality effective leaders work through emotions (Goleman et al., 2002).

The role of emotional intelligence in forecasting effective leaders is an area of research that is gaining energy and popularity in Industrial/Organizational psychology (Goleman, 1995, 1998a,b, 2000; Sosik and Megerian, 1999; Miller, 1999; George, 2000; Barling *et al.*, 2000; Watkin, 2000; Dulewicz, 2000; Palmer *et al.*, 2001).

Transformational Leadership

Leadership is undergoing a fundamental transformation today. The transformation from a leader as a boss and critic to leader as a partner and coach. This transformed role requires certain skills because leadership is what you do with people, not to them.

Evidence from an array of studies has supported the positive effect of Transformational Leadership (TL) on productivity, job satisfaction, stress, and commitment (Bass, 1985; Howell and Avolio, 1993; Bass and Avolio, 1994; Avolio and Yammarino, 2002; Dionne, Yammarino, Atwater and Spangler, 2004). Therefore, it can be assumed that the skills of transformational leadership would encourage performance and innovation in this rapidly changing marketplace.

The four characteristics of TL as identified by previous researchers (Bass, 1985, 1990; Bennis and Nanus, 1985; Bass and Avolio, 1989; Podsakoff *et al.*, 1996) are as follows :

- a. Idealized influence where the leader is seen as a role model,
- b. Inspiration motivation where the leader inspires motivation and team spirit,
- c. Intellectual stimulation where the leader stimulates creativity and innovation, and
- d. Individualized consideration where the leader mentors and supports each follower.

By giving meaning and purpose to the work they do, transformational leaders inspire and motivate followers to go beyond expectations (Shamir, 1991).

Transformational leaders use intellectual stimulation to challenge their followers' customary ways of doing things and encouraging innovative ways of working and solving problems (Bass and Avolio, 1994, 1997).

Bass and Avolio (1997) suggested that transformational leaders attained greater levels of success in the workplace, were promoted more often, produced better financial results, and were rated to be more effective by their employees than transactional leaders.

Transformational leaders stimulate and inspire followers to achieve extraordinary outcomes and also develop their own leadership capacity. Transformational leaders respond to individual followers' needs by empowering them and by aligning the objectives and goals of the followers, the leader, the group, and the organization (Bass and Riggio, 2008).

Emotional Intelligence

Salovey and Mayer (1990) argued in their first article that there is another kind of intelligence called Emotional Intelligence that might help understand better who succeeds and who does not in business.

Goleman (1995) published his first book on EI and popularized the concept to the whole world. Goleman (1995) described emotional intelligence in five domains: knowing one's emotions, managing one's emotions, motivating oneself by marshaling emotions, recognizing emotions in others, and managing emotions in others so as to handle relationships. Leaders who are self aware, who manage themselves, and associate with others are able to nurture a work climate where people feel great and do more and better work. In "working with emotional intelligence," Goleman reported that 80-90% of the competencies that differentiate top performers are in the domain of EI. The many pressures on leaders today make emotional intelligence particularly important.

Emotionally intelligent leaders are thought to perform better in the workplace (Goleman, 1998a,b), be happier and more dedicated to their organization (Abraham, 2000), take advantage of emotions and use them to foresee major improvements in organizational functioning, improve decision making, solve problems, instill a sense of enthusiasm, excitement, trust and co-operation in other employees through interpersonal relationships (George, 2000).

Emotional Intelligence (EI) is about understanding and accepting emotions as assets as they convey something. When managed intelligently, leaders gain incredible value from emotions and develop real self-efficacy. Emotional Intelligence helps leaders make better decisions and gain the full commitment and energy of those they lead (Freedman, 2007).

To show how EI predicts performance, leaders in the Australian Tax office were studied by using their assessment tools, performance metrics and self-ratings.

Rosette (2005) found that cognitive ability predicted less than 2 % of the variation in performance and personality predicted nothing, while 25% of the performance variation was explained by EI.

TL and EI Relationship

A transformational Leader exhibits empathy, motivation, self-awareness, and self-confidence (Burns, 1978; Bass, 1985). Goleman (1995) described the above qualities to be subcomponents of emotional intelligence. Emotionally intelligent leaders use empathy to connect to the emotions of the people they lead. These leaders empathize and also express the emotions that the individual or group is experiencing. The team thus feels understood and cared for by the leader.

Charisma, a trait of a transformational leader, is a well developed social and emotional skill, (Riggio 1986, 1987, 1998). Emotional intelligence is both a core and necessary component of the personal charisma that is demonstrated by transformational leaders.

Transformational leaders use emotion to communicate their vision and to motivate followers (Conger and Kanungo, 1987, 1994, 1998; House et al., 1991; Kanungo and Mendonca, 1996).

Bass (1990) argued that transformational leaders meet the emotional needs of each employee and establish trust, which is a major component of transformational leadership style. Cooper (1997) proposed that trust is important characteristic of emotional intelligence. A trusting environment offers team members with a certain amount of emotional safety and provides the basis for coordinated effort.

Bass (1990b) described that transformational leaders use motivation to communicate high expectations to their

employees. Past researchers (Sosik and Megerian, 1999; Barling et al., 2000) have proposed that internal motivation relate well to transformational subscales. Goleman (1995) argued that all effective leaders possess intrinsic or self-driven motivation. These leaders strive to achieve beyond expectations. Self Motivation, a component of EI, is also a characteristic trait of transformational leaders.

Ashforth and Humphrey (1995) noted that transformational leadership appears to be dependent upon the evocation, framing and utilization of emotions. Leaders who are tuned into theirs and others emotions are better equipped to intervene in emotionally challenging situations through individualized support, empathy and role modeling.

Sosik and Mergerian (1999) suggested four points at which EI and TL intersect:

- (a) Adherence to professional standards of behavior and interaction, which they related to idealized influence or charisma,
- (b) Self-Motivation, the ability to control and influence life events, which they related to the inspirational motivation,
- (c) Intellectual stimulation: the leader must be able to stimulate the intellectual and professional development of the followers. Building strong supportive member relationships and trust helps accomplish this. Bass (1990) established trust to be a major component of transformational leadership style. And Cooper (1997) proposed that trust is important characteristic of emotional intelligence, and
- (d) Individual focus on others, which they related to, individualized attention.

Ashkanasy and Tse (2000) opined that transformational leaders are sensitive to needs of their followers, show empathy and are able to understand how others feel. A leader with high emotional management skills looks out for the needs of others over his or her personal needs.

Barling *et al.* (2000) concluded that emotional intelligence is positively related to three components of transformational leadership (idealized influence, inspirational motivation, and individualized consideration). They reported the highest correlations between emotional intelligence and inspirational

motivation, indicating that the emotional intelligence dimension of understanding emotions is particularly important in leadership effectiveness. They suggested that emotional intelligence predisposes leaders to use transformational behaviors.

Palmer *et al.* (2001) observed several significant correlations between transformational leadership and emotional intelligence. The ability to monitor and the ability to manage emotions in oneself and others significantly correlated with the inspirational motivation and individualized consideration. Second, the ability to monitor emotions within oneself and others correlated significantly with the idealized influence.

The level of emotional intelligence of leaders governs their ability to manage the feeling and emotions of the teams and motivate them to meet its goals (Lutzo, 2005). Such leaders inspire their team through positive thoughts and clear vision.

Every leader has the ability to develop the emotional competencies of the team and become a resonant leader. Leaders with high emotional intelligence are self-aware and they understand themselves. They are hopeful, compassionate and mindful. Effective leaders are familiar with their people's feelings and motivate them in a positive direction. This resonance comes naturally to emotionally intelligent leaders and this resonance boosts performance (Goleman *et al.*, 2002).

Sixty-two CEOs and their top management teams were assessed on their energy, enthusiasm and determination levels. The study showed that the more positive the overall moods of people in the top management team, the more cooperative they were and the better the company's business results (Goleman, Boyatzis and McKee, 2002).

Accurately recognizing emotions in others is critical to the capacity of leaders to inspire and build relationships (Caruso *et al.*, 2002).

A leader's ability to stimulate, inspire and lead an individual is thought to be closely connected to the emotional intelligence of the leader (Riggio and Pirozzolo, 2002).

Sivanathan and Fekken (2002) found a significant correlation between EI and TL among 12 university residence hall staff supervisors. Gardner and Stough's (2002) study supported the existence of a strong relationship between transformational leadership and overall emotional

intelligence. The outcomes of leadership (extra effort, effectiveness and satisfaction) were all found to correlate significantly with the components of emotional intelligence as well as with total emotional intelligence. Each outcome of leadership correlated the strongest with the dimension of understanding of emotion external.

Empathetic response was found to be the most consistent antecedent of transformational leadership behaviors. This finding is consistent with the findings of Kellett *et al.* (2002) and Wolff *et al.* (2002) that empathy predicts leader emergence. This shows that leaders with empathy for colleagues are more likely to be transformational in their approach.

Transformational leaders get followers to envisage an attractive future and motivate them to be committed in reaching that future. Such leaders also develop team spirit by role modeling enthusiasm, high moral standards, integrity, optimism, and provide meaning and challenge to the work followers do, and in the process they enhance the self efficacy, meaning, confidence and self determination of followers (Avolio *et al.*, 2004)

Rubin *et al.* (2005) attempted to study if the tendency to be more transformational can be predicted. They narrowed the investigation to two important individual differences namely emotional intelligence and personality traits. The results showed that emotional recognition, positive affectivity and agreeableness were positively linked to TL behavior. Within emotional intelligence, perceiving emotions is specifically important for TL behavior.

Downey *et al.* (2005) studied the relationship between leadership style, intuition, and emotional intelligence in female managers and found that managers displaying transformational leadership behaviors were more likely to display higher levels of EI and intuition. Intuition correlated significantly with emotional recognition and expression, and emotions direct cognition.

Barbuto and Burbach (2006) explored the relationship between EI and TL and found that EI (including all components) shared positive relationships with each subscale of TL. Empathetic response shared significant positive relationships with transformational leadership. Leaders demonstrating empathy also exhibited greater degrees of intellectual stimulation and individualized consideration.

From the above studies it is seen that the ability to manage one’s emotions and the emotions of others is the best predictor of transformational leadership behaviors.

The area of Transformational Leadership and Emotional Intelligence as a measure to improve workplace relationships and productivity, is the focus of this paper.

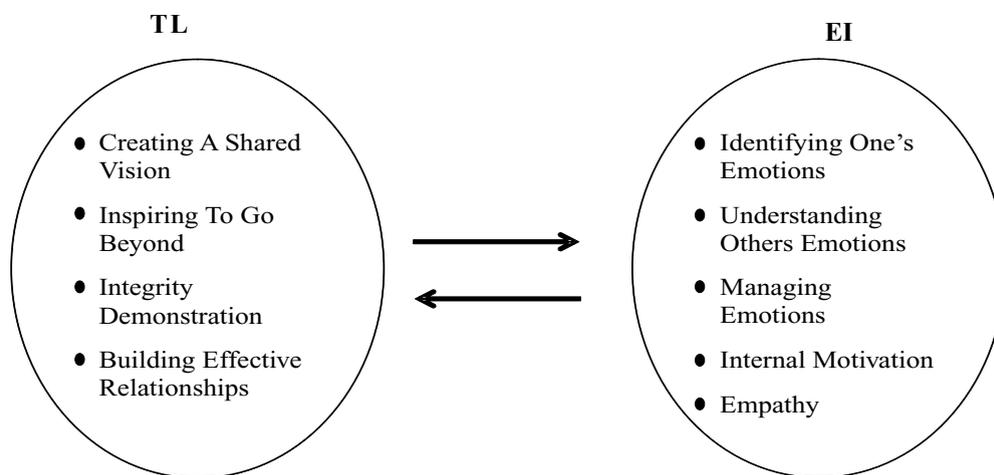
In this paper an attempt is made to do study the relationship between TL and EI and develop a framework connecting the two concepts.

- ◆ From all of the research discussed in this literature review, we begin to see that there is emotional intelligence components in transformational leadership.
- ◆ Transformational leadership and Emotional Intelligence are based on relationships and are thus related to each other.
- ◆ The ability to manage emotions of self and others, is the best predictor of transformational leadership.

- ◆ Empathy is seen as the most consistent antecedent of transformational leadership. A leader’s emotional expression does affect the team.
- ◆ Charisma, influence, intellectual stimulation and individualized attention all intersect with Emotional Intelligence.
- ◆ Transformational leadership and Emotional Intelligence encourage innovative ways of working and solving problems.
- ◆ Trust and supportive relationship with the leader is important. Trust is established to be a major component of transformational leadership style. And trust is an important characteristic of emotional intelligence.

Emotional Intelligence and Transformational Leadership – A Conceptual Framework

Based on the above discussion, a conceptual framework relating Transformational Leadership with Emotional Intelligence is developed and shown below.



The method used to study the relationship between TL and EI

The following section describes the methods used to measure TL and EI and to empirically examine the relationship between them. TL and EI were measured by having the respondents reply to a relatively simple questionnaire having 46 questions around the 4 variables of TL (Creating A Shared Vision, Inspiring To Go Beyond, Integrity Demonstration, Building Effective Relationships) and 5 variables of EI (Identifying One’s Emotions, Understanding Other’s Emotions, Managing Emotions, Internal Motivation, Empathy). The 20 questions for Transformational leadership

were framed after looking into various leadership inventories and rewording them according to the current need. The 26 questions for EI were adapted from the Six Seconds International Emotional Intelligence tool.

The Population Sample Studied: The sample used in the present study to empirically examine the relationship between TL and EI is 300. The results of the 300 participants, who completed the questionnaire, were examined. Based on the nature of study, it was seen necessary to use correlation in analyzing the results. The results of this study are presented below and the objective is to examine the extent to which TL and EI are related.

Table 1: Sample profile

		Count	Percent
Gender	Male	180	60.00%
	Female	120	40.00%
Marital status	Single	98	32.70%
	Married	202	67.30%
Age	26-35 yrs.	169	56.30%
	36-45 yrs.	97	32.30%
	Above 45yrs	34	11.30%
Experience	6-15 yrs.	218	72.70%
	16-25 yrs.	59	19.70%
	Above 25yrs	23	7.70%
Education	Diploma	2	0.70%
	Graduate	120	40.00%
	Post graduate	167	55.70%
	Other	11	3.70%
Team size	Below 10 team members	190	63.30%
	11-20 team members	46	15.30%
	More than 20 team members	64	21.30%

This sample (n=300) included individuals from seven different industries such as Financial services, IT services, Educational Services, Health Services, Hospitality, NGO and Retail. The Sample comprised 60% male and 40% female.

Observations on the profiling: Although majority of the respondents are male at 60%, there is a very close percentage of women at 40%. Two thirds of the sample population are married. More than half the population falls between the age group of 26 to 35 years. Almost a third of the population is between 36 and 45 years of age. Almost three fourths of the population has an experience range of 6 to 15 years.

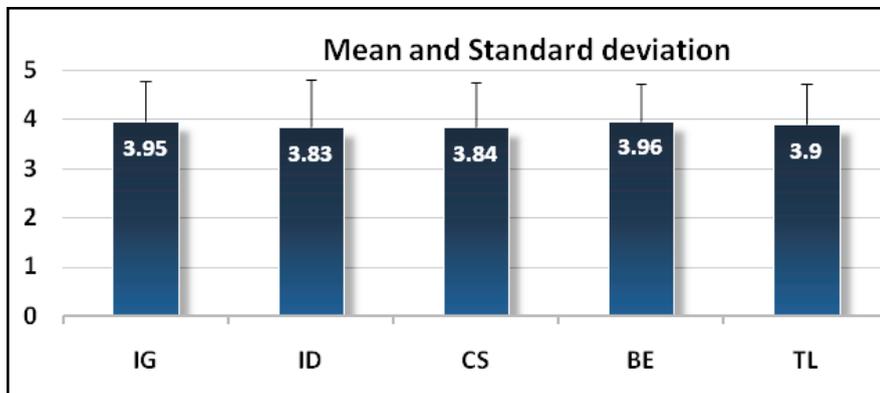
Post Graduates seem to dominate this category followed by the graduates. All of the population handles a team and majority handle a team of under 10 members. Major contribution of responses was from the financial and IT sectors. 59% of responses are from the senior level and 30% from the middle level.

There are clear high points in the demographic categories such as age, education, experience and designation levels that may positively affect the perception and understanding of the various variables discussed in the questionnaire.

Table 2: Mean and Standard Deviation of TL Constructs

	Minimum	Maximum	Mean	Std. Deviation
Inspiring to go beyond (IG)	1.2	5	3.95	0.83
Integrity Demonstration (ID)	1	5	3.83	0.97
Creating a shared Vision (CS)	1	5	3.84	0.92
Building Effective Relationships (BE)	1.33	5	3.96	0.77
Transformational leadership (TL)	1.13	5	3.9	0.82

Graph

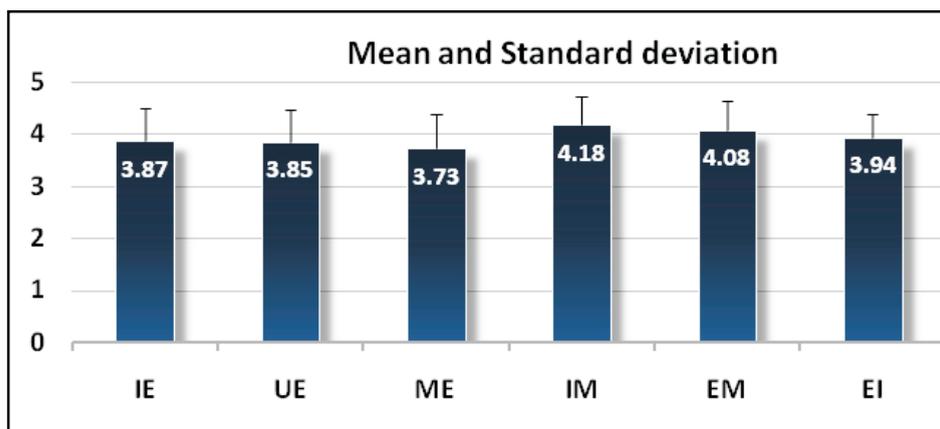


When observing the TL construct, the similarity in the range of values in the TL factors strengthen the validity of the data collected.

Table 3: Mean and Standard Deviation of EI Constructs

	Minimum	Maximum	Mean	Std. Deviation
Identifying Emotions (IE)	1.5	5	3.87	0.63
Understanding emotions (UE)	2	5	3.85	0.61
Managing Emotions (ME)	1.57	5	3.73	0.65
Intrinsic Motivation (IM)	2	5	4.18	0.55
Empathy (EM)	1.4	5	4.08	0.55
Emotional Intelligence (EI)	2.43	5	3.94	0.45

Graph



The mean in each of the EI categories is on the higher score range which shows clarity in the interpretation of the variables under study. The mean and standard deviation values for all the factors are in a close range of variation, which is a positive indication for the study. The similarities in the values go on to strengthen the attributes of the population. The variation in the values between each factor is low which shows the construct is good. Also while comparing the individual standard deviation values, they are not very deviant from their respective means. All this means that the study has good levels of accuracy.

A preliminary comparison of the two constructs (TL and EI) shows similarity in the patterns formed by the Mean and Standard deviation values that could translate to prove the commonality in the attributes. It is to be observed that the standard deviation is slightly higher in the TL construct but that can be attributed to the **transitional quality** of the factors of the two constructs. Leaders with high EI exhibit transformational behaviors and this relationship exists because of the strong emotional relationship that is obvious between the leader and the follower in a transformational

leadership style (Goleman, 1995; Megerian and Sosik, 1996; and Cooper, 1997).

A similarity in the values is significant enough to show that a relationship exists between the two constructs.

The Mean and Standard Deviations of EI and TL construct are similar but not the same. This could be because EI may seem more controllable as it has to do with self primarily, as compared to Leadership where influencing others is critical.

Correlation Analysis Between TL and EI

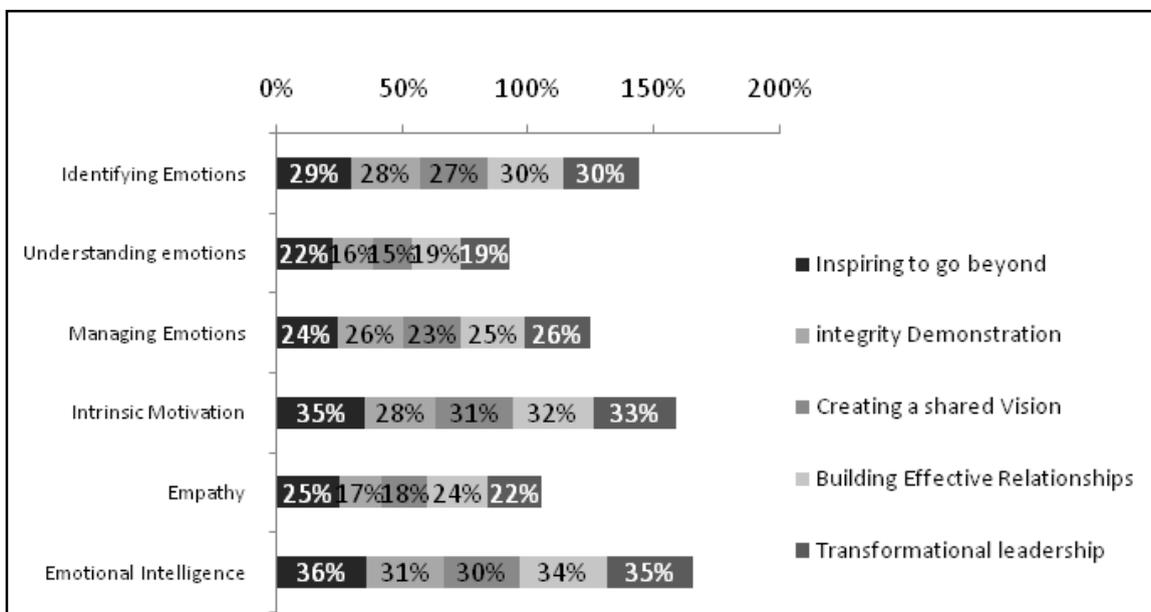
The next step is to examine the relationship between TL and EI. The correlation coefficient is a number between -1 and 1 that indicates the strength of the linear relationship between two variables. The purpose is to measure the closeness of the linear relationship between TL and EI.

The correlation between the 4 TL dimension scores and the 5 EI dimension scores were compared in the sample studied (300 valid cases). The correlation between the total and individual dimension scores of TL and EI indicated a relationship between the two constructs.

Table 4
Correlation matrix between TL and EI

	Inspiring to go beyond	Integrity Demonstration	Creating a shared Vision	Building Effective Relationships	Transformational leadership
Identifying Emotions	.292**	.278**	.268**	.301**	.302**
Understanding emotions	.219**	.163**	.153**	.194**	.192**
Managing Emotions	.238**	.261**	.233**	.248**	.261**
Intrinsic Motivation	.350**	.279**	.307**	.320**	.332**
Empathy	.247**	.170**	.181**	.236**	.219**
Emotional Intelligence	.355**	.307**	.302**	.344**	.346**

Graph



The value of “r” according to the theoretical interpretation guidelines is not very high. However in some fields of study e.g. Social or Behavioral Sciences, a correlation of $r=0.3$ or $r=0.4$ may be called “strong” or even “very strong.” Hence the behavioral nature of this study provides a strong support to the values being low. Keeping the above interpretation in perspective, 0.35 is not weak. Higher values of EI do tend to show higher values of TL, as all ‘r’ values are positive which shows an influencing relationship exists.

The similarity in pattern is rather a highlight compared to the actual numerical value. However the above matrix contains all possible combination of correlation among the two constructs. It is given that there is an existent correlation, which is a positive outcome to the study.

Also, interpreting the numbers, understanding emotions contributes least in creating a shared vision. EI contributes the most in inspiring to go beyond. Comparatively, EI has a significantly high contribution to TL, which establishes the

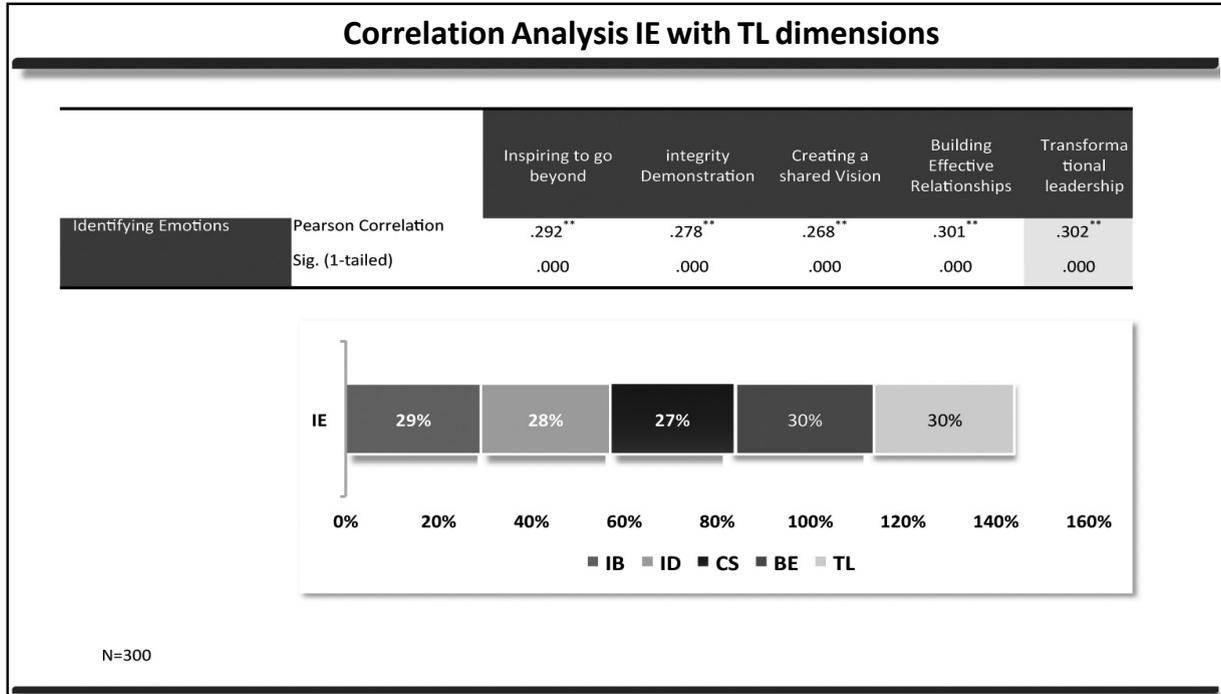
core essence of the study. The significance is 100% in almost all cases except in three dimensions, again the lowest being 99.6%.

Row-wise Correlation Analysis

Here the row wise observations of the factorial influences are considered. It is observed that the range of the values fall under a very similar category. The variation range is a maximum of 7% when all the categories are considered. The factors are similar in values because all factors not only contribute individually to TL factors but also cumulatively to TL.

It is noteworthy to observe the cumulative influence. Cumulative consideration of the factorial influence throws more strength to the objective of the study. Cumulative influence can be considered here due to the similarity in the contributing factors. This similarity in the ranges goes a long way in understanding the objectives of this study.

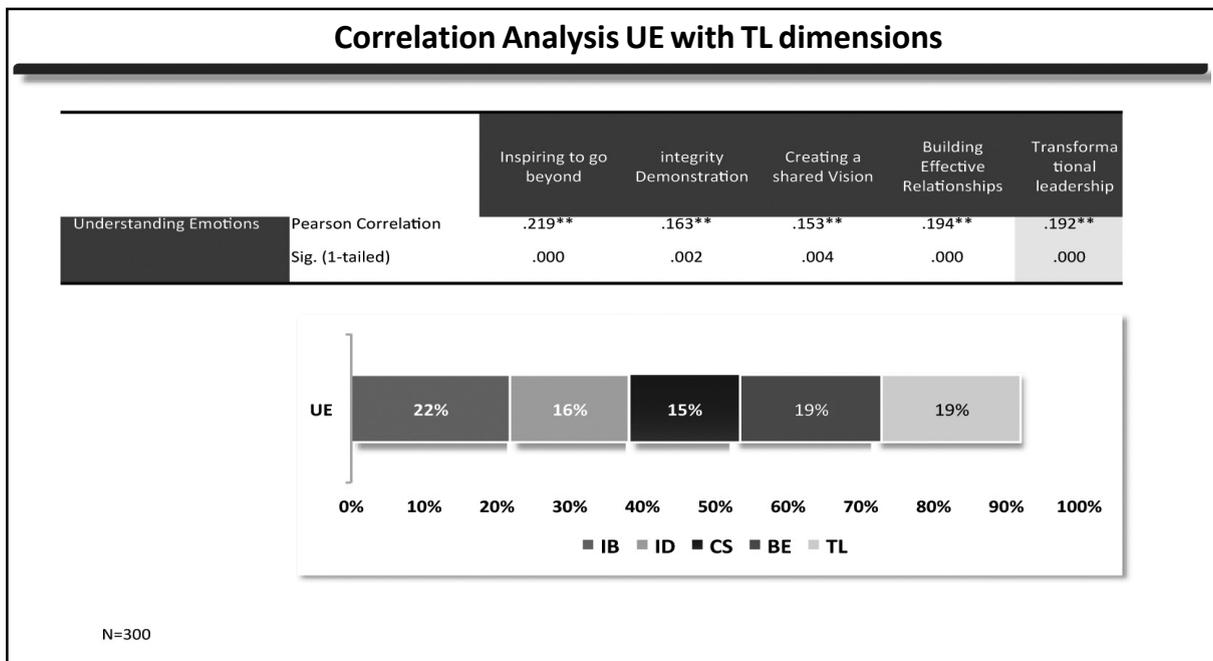
Table 5



Identifying Emotions (IE) produces 27% to 30% effect on the various TL dimensions. The highest contribution of IE is towards Building Effective Relationships and TL. The

cumulative contribution to TL (144%) is observed here which leads to an average contribution of 28.8% from each factor.

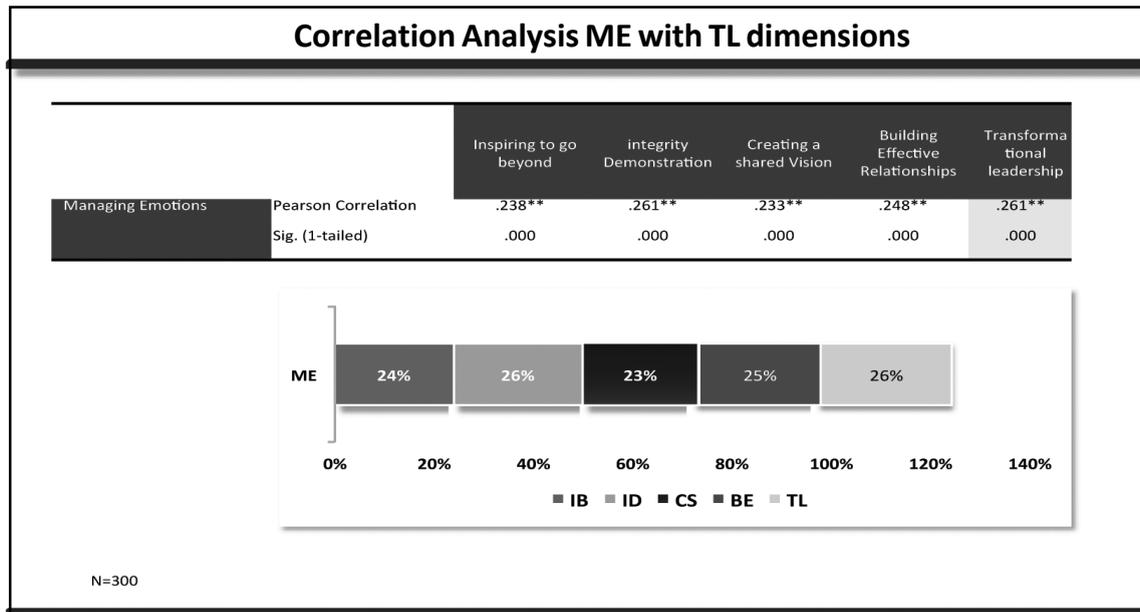
Table 6



The range of Correlation of Understanding Emotions (UE) with TL dimensions is 15% to 22%. Highest contribution of understanding emotions is towards 'Inspiring to go beyond.'

TL receives a high enough influence from this factor. The cumulative contribution to TL (91%) is observed here which leads to an average contribution of 18.2% from each factor.

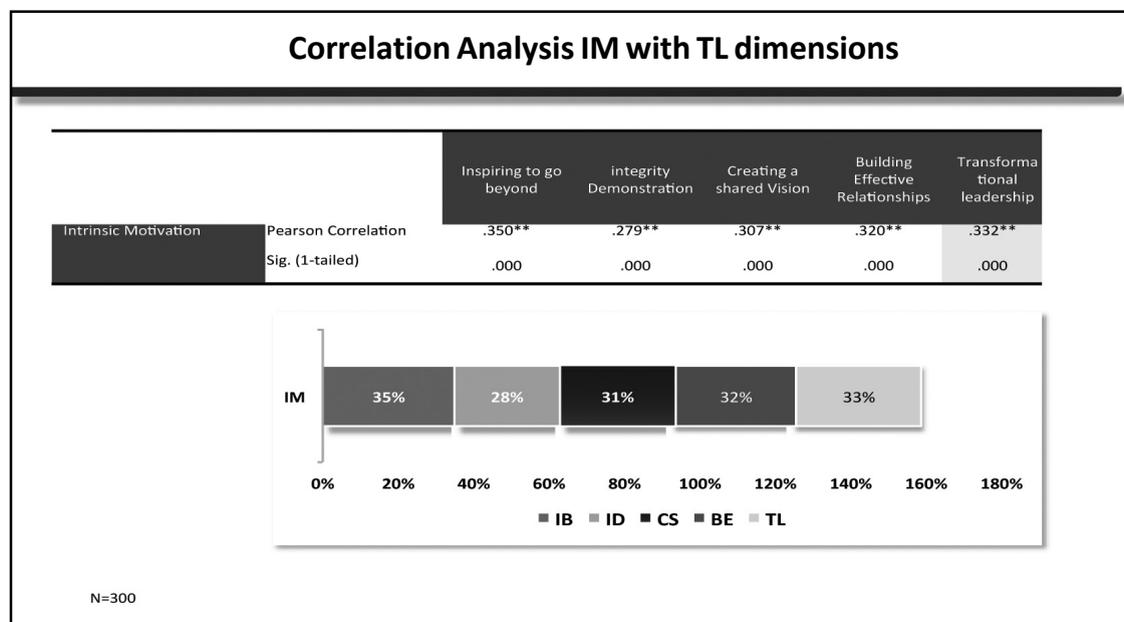
Table 7



The range of correlation of Managing Emotions (ME) with TL dimensions is 23% to 26%. Clearly Integrity demonstration and TL is the highest scorer. The cumulative

contribution to TL (124%) is observed here which leads to an average contribution of 24.8% from each factor.

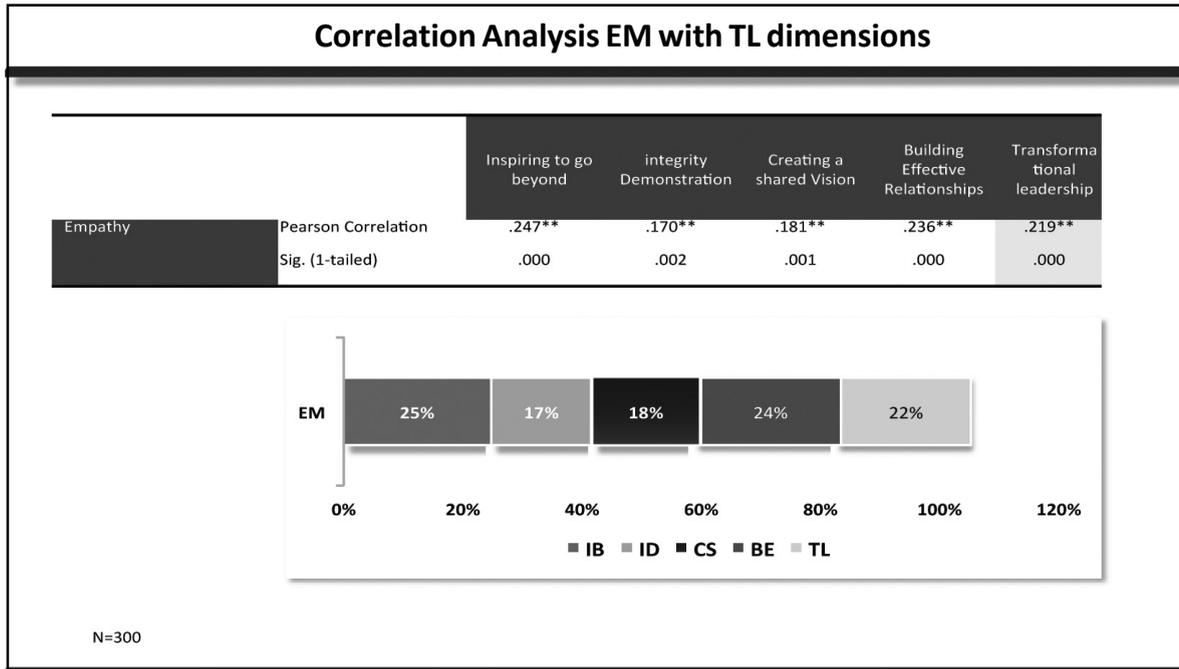
Table 8



Here the Correlation range of Intrinsic Motivation (IM) with TL dimensions is 28% to 35%. Highest being inspiring to go beyond and a very close second highest being TL. The

cumulative contribution to TL (159%) is observed here which leads to an average contribution of 31.8% from each factor.

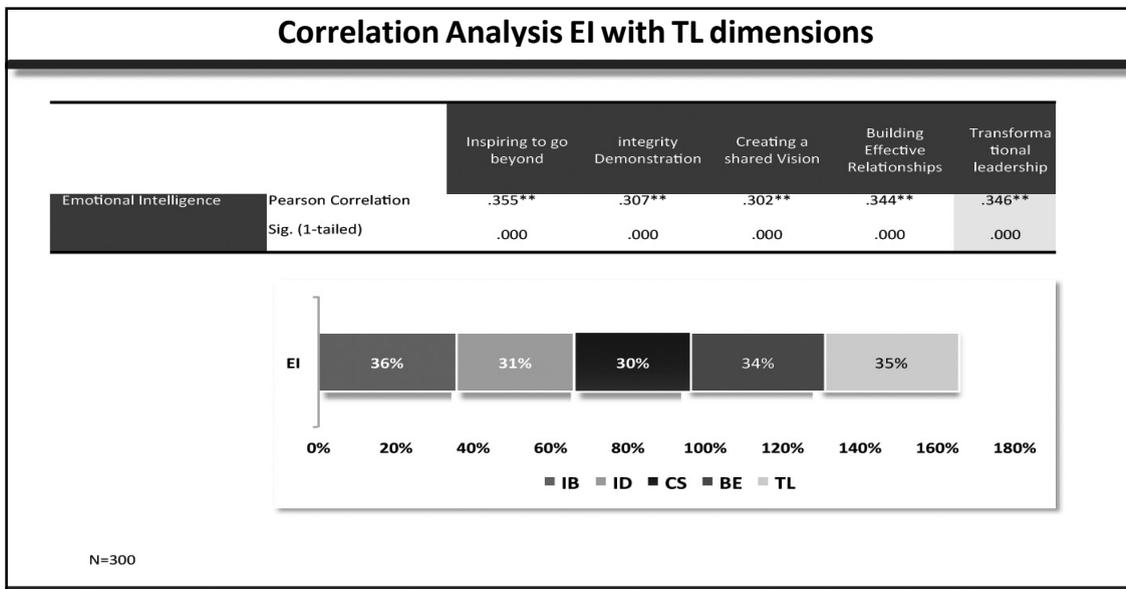
Table 9



Correlation of Empathy (EM) with TL dimensions ranges from 17% to 25%. Inspiring to go beyond getting the most contribution and also the TL getting a significantly high

contribution. The cumulative contribution to TL (106%) is observed here which leads to an average contribution of 21.2% from each factor.

Table 10



The Correlation analysis of the two constructs TL and EI is shown here. The range here is 30% to 36%, highest being inspiring to go beyond. TL stands second highest. The cumulative contribution to TL (166%) is observed here which leads to an average contribution of 33.2% from each factor.

Cumulative consideration of the factorial influence considered here shows that the lowest contribution itself is above 90%, which is a good value in itself considering the factor being 'Understanding Emotions.' Also it is to be noted that the average contribution derived from the cumulative influence is very close to the individual value of TL. This confirms the objective of the study. The cumulatively highest influential factor is EI, which once again goes on to prove the objective of this study.

Conclusion

In this paper we see that Emotional Intelligence does play a role in Transformational Leadership. The major findings and their implications, importance and limitations are summarized below.

First, the results from the study show that *transformational leadership and emotional intelligence are related*. This confirms earlier studies mentioned in review of literature (Goleman, 1995, 2002; Sosik and Mergerian, 1999; Ashkanasy and Tse, 2000; Barling et al., 2000; Palmer et al., 2000; Gardner and Stough, 2002; Barbuto and Burbach, 2006 etc.). This confluence of general findings confirms the relationship between the two constructs.

The ability to be aware of our and others emotions, manage them intelligently, be sufficiently self-motivated and empathetic contribute to a transformational leadership style.

The implications of these findings are that it is possible to create EI roadmaps for guided intervention to enhance TL. Assessment could identify those specific EI factors that need to be strengthened in order to influence a transformational leadership style. The construction and examination of such roadmap requires a great deal of collaborative research in this area. Hopefully, the findings presented in this paper will be applied in the workplace to increase a transformational leadership style.

Limitations of the present study

Although this study has generated interesting findings regarding the relationship between TL and EI and has provided some suggestions for continued research for applying EI in order to enhance transformational leadership

style, the findings need to be replicated on larger and diverse population samples. The overall goal is to help people become more emotionally intelligent and be more effective in the way they lead and to feel better about themselves. To help meet this challenge, future studies should use a wider variety of instruments and methods to examine the relationship between TL and EI. If we use a variety of approaches to collect and evaluate data, we will be better able to learn more about these two important constructs, the relationship between them and how best to develop them.

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Contented Customers: Employees' Role

Neelika Arora, Anish Yousaf, and Anil Gupta

Abstract

Previous researches have explored the importance of employee commitment in retail industry but failed to explore the impact of employee commitment on customer satisfaction. Current study aims at empirically exploring the impact of employee commitment on customer satisfaction in Indian retail industry taking the case study of shopping malls. Focus of the study is also on exploring whether the three dimensions of employee commitment i.e. affective commitment, continuance commitment, and normative commitment are independently related to customer satisfaction or not? Strong empirical evidences were provided supporting the need to establish the linkage between employee commitment and customer satisfaction. Mall managers were advised to increase the continuance commitment among the professionals operating in the organized retailing profession.



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What role do the employees have in an organization? Are employees important to organizational success? Can employee attitudes influence customer reactions (customer satisfaction, service quality etc.)? Both academicians and researchers have over the years, attempted to empirically determine the relationship between employee attitudes/behaviours and organizational effectiveness (Brase, Fiddick, and Harries, 2006). Previously, researches have been done in the area of employee attitudes and customer attitudes (Brase, Fiddick, and Harries, 2006). Employee attitudes can take various forms like job satisfaction, turnover intentions, commitment, and organizational citizenship. Customer reactions can also take various forms, either in the form of customer attitudes like customer satisfaction, customer commitment, perceived service quality, perceived value, price sensitivity or in terms of customer behaviours like recommendations, referrals, repeat purchase, customer loyalty, switching behaviour etc. The general argument is that happy employees have a positive impact on customer satisfaction and over all organizational effectiveness (Brooks, 2000).

The world of work is changing at a very fast pace and global competition has brought new demands on organizations such as the need for flexibility and efficiency as well as customer's attachment with brands (Malar, Krohmer, Hoyer, and Nyffenegger, 2011; Rust, Lemon, and Zeithaml, 2004; Meyer and Allen, 1997). An increase in global and domestic competition and the perception that organizational performance stems partially from employee involvement contributed to continued interest in the relationship of employee attitudes and behaviours to organizational effectiveness (Vandenberg et al., 1999). In addition, increasing competition forced companies to search for new, more efficient ways of doing business and attracting customers by focusing on customer oriented outcomes (Malar, Krohmer, Hoyer, and Nyffenegger, 2011). This uncertain environment brought into question traditional notions of organizational loyalty such as employee commitment, defined as "the strength of individual's identification with an involvement in a particular occupation or organization" (Meyer and Allen, 1997). Many researchers and practitioners have investigated the importance of employee commitment. Simultaneously, with growing interest in customer satisfaction and importance of commitment in work place, industrial / organizational psychologists have begun voicing their concerns about little multilevel research in industrial/organisational psychology (Kozlowski and Klein, 2001).

Despite such importance, little empirical work has been done which has linked employee attitudes to customer outcomes. Lately, there has been a growing research interest specifically on the relationship of employee commitment and customer satisfaction within service firms (Schneider, 1991; Schlesinger and Zornitsky, 1991; Tornow and Wiley, 1991; Wiley, 1991; Rucci, Kirn, and Quinn, 1998; Bernhardt, Donthu, and Kennet, 2000). Brooks (2000) continues by mentioning that companies who give consideration and attach importance to both the employees and customers ultimately show positive results in profit and goodwill. Therefore, viewing the employee – customer relationship as being important to research is paramount to the success of a given business.

Many of the aforementioned studies have analyzed the relationship between the employee and the customer with specific application to employee commitment and customer satisfaction. Even though research has shown a positive correlation between employee commitment and customer satisfaction (Bernhardt et al., 2000) and even after the seminal

employee – customer relationship researches of Schneider et al. (1980), Schneider and Bowen (1985), and Schlesinger and Zornitsky (1991), still little has been published in the relationship between employee commitment and customer satisfaction (Bernhardt et al., 2000). Currently there is no research that has examined the employee commitment – customer satisfaction relationship in the Indian retailing context with special reference to malls.

Indian retail industry, 90% of which is unorganized and is controlled by small family run outlets, is the largest among all industries contributing to over 14-15% of India's gross domestic product and has been valued at around \$570 billion in 2013 (Deloitte Report, 2014). The current trends of giant convenience stores, shopping malls, and supermarkets are gaining ground, thus, giving immense opportunity to organized retailers for penetrating into this flourishing industry. Corporate houses like Tata, Aditya Birla, Future Groups, ITC, Piramal's, Goenka's have identified this opportunity and are already exploiting this arena (Pradhan, 2014). As a result, studying the effect of employee commitment on customer satisfaction in context of retailing makes sense. Based on this discussion, this study aims to assess the empirical relationship between employee commitment and customer satisfaction in the retail industry context taking the case study of Indian Malls. This study will attempt to answer the following research questions:

1. Is there a cause and effect relation between employee commitment and customer satisfaction?
2. Are the three dimensions of employee commitment i.e. affective commitment, continuance commitment, and normative commitment independently related to customer satisfaction?

Review of Literature

Customer Satisfaction

The concept of customer satisfaction occupies a central position in marketing thought and practice and is recognized as a main ingredient for success in the market. There is growing managerial interest in customer satisfaction as a means of evaluating quality and high customer satisfaction ratings are widely believed to be the best indicator of a company's future profits. Customer satisfaction has come to represent an important cornerstone for customer-oriented business practices across a multitude of companies operating in diverse industries. Firms increasingly use customer

satisfaction as a criterion for diagnosing product or service performance and often tie customer satisfaction ratings to both executive and employee compensations. Customer satisfaction is a mental state, which results from the customer's comparison of a) prior expectations b) performance perceptions (Oliver, 1993; Westbrook 1987; Westbrook and Oliver 1991). Oliver (1993) model of consumer satisfaction demonstrates that satisfaction judgments are influenced by (1) both positive and negative affective (i.e. emotional) responses and (2) cognitive disconfirmation.

Customer satisfaction exists as a result of customers' subjective evaluation between the services they expect and the actual services delivered. As per this definition, customer satisfaction will occur if delivered services exceed customer expectations (Oliver, 1980) and vice-versa. If excellent shopping experience is provided to customers, which they value, their satisfaction is likely to increase. Interestingly, customer satisfaction is not measured on the basis of specific transaction but on the basis of the customer-retailer relationship over a longer period of time (Sivadas and Baker-Prewitt, 2000). Giese and Cote (2000) defined customer satisfaction as "customer satisfaction is identified by a response (cognitive or affective) that pertains to a particular focus (i.e. a purchase experience and/or the associated product) and occurs at a certain time (i.e. post-purchase, post-consumption)." This definition clearly indicates that customer satisfaction of an individual is an outcome of the value which he/she gets by the shopping experience which is mediated by the hedonic and utilitarian shopping benefits (Carpenter and Fairhurst, 2005).

The dominant model of customer satisfaction was defined by Rust and Oliver (1994) as "In brief, customer satisfaction is a summary cognitive and affective reaction to a service incident (or sometimes to a long-term service relationship). Satisfaction (or dissatisfaction) results from experiencing a service quality encounter and comparing that encounter with what was expected (Oliver, 1980)." Customer satisfaction research has developed around two different types of evaluations: transaction - specific satisfaction and cumulative satisfaction. Transaction specific satisfaction is a customer's evaluation of his experience with and reactions to a particular product transaction, episode, or service encounter. Early transaction-specific satisfaction research explored the cognitive-psychological antecedents of satisfaction, while research that is more recent has focused on the effects of positive and negative emotions on

satisfaction (Sivadas and Baker-Prewitt, 2000). Satisfaction is important to individual customer because it reflects a positive outcome from the outlay of scarce resources and/or the fulfilment of unmet needs. As a result, researchers have focused on discussions of the determinants of customer satisfaction. Brown and Lam (2008) also argue that there exist employee attitudes and customer satisfactions are correlated.

Employee Commitment

Employee commitment is an important construct for academicians and practitioners which consist of work commitment, career commitment and organizational commitment (RajendranMuthurveloo and Rose, 2005). Dordevic (2004) also argued in favour of studying this construct since it reflects the degree of employees' involvement with the organization and his/her commitment towards organizational goals or can be used to explore individuals' performance and other behaviour within organization including behaviour towards colleagues and absenteeism. Nawab, Bhatti, and Khuram (2011) recently argued that employee's commitment has a very strong impact on employee job satisfaction and productivity and a lower level of commitment might mean low morale.

Allen and Meyer (1990) is instrumental in understanding commitment as a construct. They delineated the distinctions between three of the more common conceptualizations of 'attitudinal' commitment, developed measures of each, and demonstrated that these measures are differentially linked to variables identified in the literature as antecedents of commitment. Meyer and Allen (1987) state that the three forms of commitment: affective, normative and continuance are three distinct psychological states. It was argued that the three-component model may have the greatest relevance for that conducting commitment research. Meyer, Allen and Smith (1993) in their study test the generalizability of Meyer and Allen (1991) 3-component model of organisational commitment to the domain of occupational commitment. Meyer and Allen (1991) model was discussed in detail and extend the model to occupational commitment. Allen and Meyer (1990) review and evaluate the body of evidence relevant to the construct validity of Affective, Continuance and Normative Commitment. They argue that all the three forms of commitment are conceptually different and can be assessed using three separate measures.

Beck and Wilson (2000) in their study used the cross-sequential design, advocated in the life-span development literature, to examine changes in commitment with tenure and found evidence for a developmental trend in affective organisational commitment. Bishop and Scott (2000) in their paper emphasize that research indicates that commitment in the workplace is a multidimensional phenomenon, and the focus of commitment (i.e., to whom or what an employee is committed) is an important dimension in assessing worker attachment. Allen and Grisaffe (2001) examine the possible

linkages between organisational commitment and its impact on customer reactions which includes customer satisfaction, repeat purchase behaviour. This paper forms the basis for the current research work (refer Figure 1). Allen and Meyer (1990) and Meyer and Allen (1991) also outline the three-component model including these constructs and argued that distinction needs to be made between attitudinal as well as behavioural reactions. They defined attitudinal reactions as “subjective evaluations or assessments made by customers about some aspect of the organisation.”

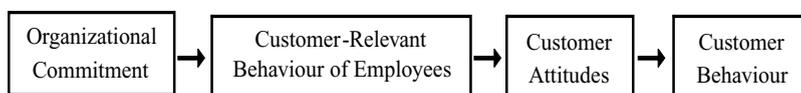


Figure 1: Linkages Between Organizational Commitment and Customer Behaviour
 Source: Taken from Allen & Grisaffe (2001)

However, behavioural reactions are defined as “actions that customers take with respect to some aspect of the organisation.” It was argued that customer satisfaction is the variable which can be studied as the most important customer reaction variable. Some other variables they mention are perceived service quality, perceived variable along with a long list of other variables. Some of behavioural customers’ reactions they mention in their paper are repeat purchases, customer loyalty, word of mouth, and recommendations along with a long list of behavioural variables. They mention that there is little theoretical or empirical work that directly links employee commitment to the organisation and customer reactions.

Both customer satisfaction and employee commitment are interrelated. From time to time researchers have studied the relationship between these two. Wiley (1991) studied the importance of employees for describing customer satisfaction and found that customers perceive those stores as favourable where employees hold positive feelings towards the store which were influenced by the working environment/conditions, management support to achieve workers tasks, cooperative supervisors and co-workers. Similar results were also discussed by Tornow and Wiley (1990). Wangenheim et al. (2007) in their study investigate whether or not the level of customer contact is a determinant of the existence or the intensity of the employee – customer satisfaction link. This study aims at understanding whether employee – customer satisfaction link be confirmed for diverse employee groups. Previous research work strongly

suggests that customer satisfaction and employee commitment are positively related (Krosnick and Petty, 1995).

Homburg and Stock (2004) and Pugh (2001) have used the concept of emotional contagion to explain the link between employee commitment and customer satisfaction. In line with emotional contagion theory and based on empirical findings, employee job satisfaction is expected to influence customer satisfaction via the employees’ display of emotion that produce corresponding changes in the customers’ affective state. The link between employee job satisfactions – customer satisfaction is statistically significant for all type of employees.

Research Hypothesis

This research will analyze two hypotheses. Hypotheses 1 will attempt to measure for the presence of an employee commitment – customer satisfaction relationship. This research helps define the relationship of employee commitment and customer satisfaction within an organised retail market domain with specific reference to malls. On the basis of above mentioned studies, it is expected that a significant positive relationship exists between employee commitment and customer satisfaction.

H₁: There is a positive relationship between employee commitment and customer satisfaction.

Hypotheses 2 will then seek to measure independent directional relationship to each of the separate employee commitment dimensions and overall customer satisfaction.

H₂: The three dimensions of employee commitment are independently related to customer satisfaction.

Research Methodology

Sampling Design

The process of sampling forms a very important part of the research process (Zikmund, 2007). The target population for this study included all the operational/working malls in the cities of Delhi/New Delhi, Noida, Gurgaon, Ludhiana and Chandigarh. In all, out of all the malls operating, 14 malls were selected that were having a minimum area of 75,000 sq.ft.

Sampling Method

At the first level, it was important to select the malls from the total list of malls in each of the cities. At second level, the customers visiting the malls and the employees working within the malls were to be selected. A qualitative research approach was adopted to select the malls for the study. A random sample of 55 individuals in Delhi/New Delhi (25 respondents), Noida (10 respondents), Gurgaon (10 respondents), Ludhiana (5 respondents) and Chandigarh (5 respondents) were selected for Individual in-depth interviews in which they were asked to recall the names of any five shopping malls in their area. A total of 14 malls were finally selected and included as the part of the study based on their unaided recall. After the selection of malls, the next level was the selection of customers visiting the malls and employee working within the mall.

All the individuals visiting the mall during working hours with an objective to transact within the mall premises (or have transacted in the past) were considered to be the customers of that mall. They were treated as customers irrespective of what they buy, when they buy, how much they buy and from where they buy as far as the purchase was made within the mall premises. Further in terms of

employee, all the individuals working within the mall premises were considered to be employees working within the same professional context i.e. organized retailing. All the employees irrespective of the organisation they worked for, tenure in the profession, level at which they were working and their job profile were considered as the target population. In other words, individuals working in the organized retail profession, working in retail formats other than malls were excluded.

A combination of random sampling and cluster sampling techniques were used to select the respondents. For the selection of customers mall-intercept method was used which is considered as an appropriate technique in the retailing context. Individuals within the mall were randomly intercepted and requested to participate in the survey. Due consideration was given to ensure that visitors from all the floors of the mall were included in the sample. For the selection of employees, stratified random sampling strategy was adopted. In each mall, various stores/outlets were categorized under various strata depending upon their floor location and their product category. After the formation of these strata, random sampling was adopted to select the outlets ensuring true representation of all the strata. Employees from the selected outlets were approached and were requested to provide the necessary information.

Sample Size

Zikmund(2007) suggests that a sample size of 1000+ is a typical sample size that can provide reliable results. Table 1 explains how the sample size was calculated for the study. A total of 487 employees working in the organised retail profession across 14 malls have been included. Similarly the customer satisfaction questionnaire has been administered on a total of 1775 respondents spread across these 14 malls out of which a total of usable 1500 responses were finally used for analysis. The demographic profile of the samples is presented in Table 2 and Table 3.

Table 1: Determination of Sample Size

Sampling Issue	Employee Commitment	Customer Satisfaction
1. Precision desired and how to quantify it ? <i>The confidence level desired (Z)</i> ? <i>The size of interval estimate (E)</i>	95% (Z=1.96) 1/10 th of Scale (0.1)	95% (Z=1.96) 1/20 th of Scale (0.05)
2. The expected range in the population for the question used to measure precision ? <i>Range</i> ? <i>Standard Deviation (S) [one – sixth of the range value]</i>	7 – 1 = 6 6 / 6 = 1	7 – 1 = 6 6 / 6 = 1
3. Whether the finite population adjustment should be used	No	No
4. Sample Size Calculation (n)	$n = (ZS/E)^2$	$n = (ZS/E)^2$
5. Calculated Sample Size	n = 384	n = 1536

Table 2: Demographic Break Up of Customer Sample

Variable		Number of Respondents (n=1500)	%age of total
Gender	Male	788	52.53 %
	Female	712	47.47 %
Age	< 20 years	112	7.47 %
	20 – 30 years	544	36.27%
	30 – 40 years	433	28.87 %
	40 – 50 years	325	21.67%
	> 50 years	86	5.73%
Marital Status	Married	1109	73.93%
	Unmarried	391	26.07%
Monthly Household Income	Less than Rs. 25,000	712	47.47%
	Rs. 25,000 – Rs. 40,000	623	41.53%
	Greater than Rs. 40,000	165	11.00%
Frequency of visit	1- 3 times	789	52.60%
	4 – 6 times	510	34.00%
	Greater than 6 times	201	13.40%
Visit When	Weekdays	629	41.02%
	Weekends	925	59.50 %

Questionnaire Design

In this research we deal with two constructs i.e. employee commitment and customer satisfaction. This study involves utilizing two separate measurement instruments i.e. questionnaires to gather primary data samples from employee working in organised retailing and the customers visiting the malls.

Customer Satisfaction Questionnaire

This study developed a reliable and validated 27 – item scale for measuring customer satisfaction in the context of shopping mall (Table 2) using Lindquist (1974) and Anselmsson (2006). The scale was modified to add new items on the basis of information generated through the qualitative method and the context of the study. Before the final administration of the questionnaire, it was pre-tested to identify any ambiguity and error. These questions relate to a total of 9 dimensions i.e. Atmosphere, Convenience, Employee, Location, Merchandise, Promotion, Refreshments, Security, and Selection have been included. The remaining 8 questions were multiple categories close ended questions that generated information related to demographic profile of the respondents. The final questionnaire that was administered included 54 questions in all. All the questions were close – ended structured questions. Out of 54 questions, 46 questions used 7 point Likert scale with only polar categories being labelled as 1 – Strongly Disagree and 7 – Strongly agree so as to ensure the generation of metric data.

Employee Commitment Questionnaire

The second set of questionnaire was targeted at the employees working in various malls seeking information related to their commitment to their occupation. Therefore, Affective Commitment, Normative Commitment, and Continuance Commitment to the organization were measured using a reliable 18-item scale developed by Meyer, Allen and Smith (1993). Irving, Coleman and Copper (1997) suggest that the Meyer et al. (1993) scale can be used in variety of occupations and has strong construct validity. The final questionnaire that was administered included 25 questions in all. All the questions were close ended structured questions. Out of 25 questions, 18 questions used 7-point Likert scale with only polar categories being labeled as 1 – Strongly Disagree and 7 – Strongly Agree so as to ensure the generation of metric data. The remaining 7 questions were multiple categories close ended questions generated information related to job profile and demographic characteristics. The relevancy of both the questionnaires were ensured by screening each of the questions. Further the accuracy (i.e. reliability and validity) of both the questionnaires was ensured by using existing validated and reliable scales selected from literature.

Demographic Break Up of Customer and Employee Sample

In the current study, data was collected from two different types of respondents (employees and customers). As a result, Table 3 and Table 4 were constructed to highlight the demographic profile of respondents as shown below:

Table 3: Demographic Break Up of Employee Sample

Variable		Number of Respondents (n=487)	%age of total
Gender	Male	332	68.17%
	Female	155	31.83%
Age	< 20 years	27	5.54%
	20 – 30 years	287	58.93%
	30 – 40 years	103	21.15%
	40 – 50 years	60	12.32%
	> 50 years	10	2.05%
Tenure	Less than 1 year	118	24.23%
	1 – 2 years	211	43.33%
	2- 3 years	105	21.56%
	3- 5 years	38	7.80%
	More than 5 years	15	3.08%
Qualification	Undergraduate	139	28.54%
	Graduate	272	55.85%
	Post Graduate	76	15.61%
Designation	Store Managers	54	11.09%
	Floor Managers	98	20.12%
	Customer Service Executive / Associates	335	68.79%

Data Analysis and Results

In order to assess the impact of employee commitment on customer satisfaction, a regression model was run taking customer satisfaction as the dependent variable and overall employee commitment as the predictor/independent variable. Mathematically the regression model 1 (eq. 1) was written as:

$$\text{Customer Satisfaction} = f(\text{Employee Commitment}) + \text{Error..... (eq. 1)}$$

To test this model the average customer satisfaction scores were calculated by averaging the scores for each respondent across all the nine dimensions for each mall. Similarly the overall employee commitment scores were also averaged for each mall. The findings i.e. regression coefficients are presented below in Table 4.

Table 4: Regression Coefficients of Regression Model

Variable	Beta Value (β)	t-value
Constant	1.488	1.498
Employee Commitment	0.716	3.556

The findings suggest that Employee Commitment is positively related to customer satisfaction. The β value of 0.716 is significant at 5 percent level of significance indicating a positive relationship. The overall model summary

is presented in Table 5. The value of adjusted R square (0.472) reflects that approximately 48% of the variance in customer satisfaction is captured by employee commitment.

Table 5: Regression Model Summary

Table 5: Regression Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.716	.513	.472	.277

As the regression results suggest that there is a positive relationship between employee commitment and customer satisfaction in the context of malls, we can safely say that employee commitment influences customer satisfaction. Accordingly, hypothesis 1 is vindicated and accepted.

The second regression model was performed to test the second hypothesis i.e. all the three dimensions of employee commitment viz. affective commitment, continuance commitment and normative commitment are independently related to customer satisfaction. In this model the average customer satisfaction score was considered as the dependent variable and the average scores of affective commitment, normative commitment and continuance commitment has been considered as independent variable or predictor variable. Mathematically the regression model is written as:

$$\text{Customer Satisfaction} = f(\text{AC, NC, CC}) + \text{Error} \dots \dots (\text{eq. 2})$$

The findings i.e. regression coefficients are presented below in Table 6. The findings suggest affective commitment and normative commitment are positively and significantly related to customer satisfaction. The β value of affective commitment is 0.538 and normative commitment is 0.692 and both are statistically significant at 5 percent level of significance. It was also explored that Continuance commitment is negatively related to customer satisfaction as suggested by the negative β value. The overall model summary is presented in Table 7. The findings suggest that 65.9% of the total variance in the customer satisfaction is explained by the three dimensions of employee commitment as suggested by adjusted R square value. The findings suggest that the second hypothesis is also accepted i.e. all the three dimensions of employee commitment are independently related to customer satisfaction.

Table 6: Regression Coefficients of Regression Model

Variable	Beta Value (β)	t-value
Constant	2.492	2.862
Affective Commitment (AC)	0.538	2.998
Normative Commitment (NC)	0.692	3.120
Continuance Commitment (CC)	-0.375	-1.740

Table 7: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.859	.737	.659	.22290

Discussion and Suggestions

This study focuses on the impact of employee commitment towards customer satisfaction in retail. Results of regression analysis of model 1 suggests that employee commitment has a positive impact on customer satisfaction as well as all the three dimensions of employee commitment are significantly related to customer satisfaction. This objective

was achieved by calculating the aggregate scores of employee commitment using all three dimensions i.e. affective commitment, normative commitment and continuance commitment and subjecting the aggregate mean score to regression analysis with mean customer satisfaction scores as the dependent variable. A positive evaluation of these dimensions can have a significant effect on the levels of customer satisfaction. To examine how these three

dimensions are related to customer satisfaction, the aggregate mean scores of these three dimensions were subjected to multiple regression analysis with mean customer satisfaction scores as the dependent variable. The regression analysis results suggest that all these three dimensions are independently related to customer satisfaction.

The findings suggest that there is a positive relationship between employee commitment and customer satisfaction. In other words, degree of employee commitment can have a strong influence on customer satisfaction. This is one of the important findings and contributions of present research. This study provides a strong empirical evidence to the suggestions made by Allen and Grisaffe (2001) that there is a need to establish the linkage between employee commitment and customer satisfaction. Of the three dimensions, normative commitment has the highest influence on customer satisfaction followed by affective and continuance commitment whereas continuance commitment is negatively related to customer satisfaction that suggests that employees who are working in this occupation because of lack of alternatives or any other such factor will be unable to deliver satisfactory service.

The findings of the study have direct implications for HR practitioners in retail industry. The HR practitioners should try to enhance the overall image of the profession and sensitize the workforce that there is a strong connection between employee attitude and customer reactions. Employees will feel proud of working in this profession, if their success or positive attitudes are publicly exhibited or promoted through media. For instance Café Coffee Day and many retailers now publish an in-house newsletter targeted at customers which applaud the star performers of the organization. Since the retailing profession is relatively new and that the employees have not spent enough time in this profession, the scores of continuance commitment suggest that employees do not perceive high cost in terms of switching their professions.

Conclusion

The finding of this study reflects the real complexity that practitioners face in their daily work. One of the key findings of this study is establishing the relationship between employee commitment and customer satisfaction. This is an important finding keeping in view the increased importance

of customer satisfaction in the organized retailing context. This study provides strong evidence that employee commitment does matter and is one of the important determinants of customer satisfaction. This study provides a strong empirical evidence to the suggestions made by Allen and Grisaffe (2001) that there is a need to establish the linkage between employee commitment and customer satisfaction. Further the research provides empirical evidence that all the three dimensions of employee commitment i.e. affective commitment, continuance commitment and normative commitment are independently related to customer satisfaction. This finding basically suggests that all three dimensions should be considered equally important by the HR managers. There is a strong need to increase the continuance commitment among the professionals operating in the organized retailing profession.

Limitations and Future Research

Use of real organizational data is the greatest strength of this research. A major contribution of this research is that it provides empirical evidence for a complex link between employee commitment and customer satisfaction at the aggregate level. Along with strengths, the study suffers minor limitations. One of the limitations of this study is that it has been confined to northern part of the country and not been able to incorporate data from other regions of the country. Future research can explore if there are regional effects and provide additional empirical evidence to the relationship between employee commitment and customer satisfaction. Further future research can explore if there is any mediating variable between employee commitment and customer satisfaction that can possibly further strengthen the relationship between employee commitment and customer satisfaction. Future research can also establish the relationship between employee commitment and customer satisfaction at micro level or outlet level and can even explore to test the relationship in a non-mall context or other formats of organized retailing.

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Performance Evaluation: Banking Funds

Aravazhi Irisappane and Vijayalakshmi Sundar

Abstract

Mutual Funds (MFs) play a crucial role in the economic development of the country. The active involvement of MFs in the economic development can be seen by their dominant presence in the money and capital markets. The role of the MFs in the form of financial intermediation, by way of resource mobilization, allocation of resources, and development of capital markets and growth of corporate sector, is very conspicuous. This study evaluated the performance of selected banking funds in India using emerging market data. The performance is evaluated in terms of superior returns and diversification benefits. The study shows that ICICI has posted superior performance among all other funds followed by Reliance Fund. Also Sundaram Finance posted highest R^2 value which indicates high diversification of portfolio.

Keywords: Mutual Funds, Performance Evaluation, Banking Funds

Acronyms: Net Asset Value (NAV), Asset Management Company (AMC), Association of Mutual funds in India (AMFI)

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“And I think the more money you put in people’s hands, the more they will spend. And if they don’t spend it, they invest it. And investing it is another way of creating jobs. It puts money into Mutual Funds or other kinds of banks that can go out and make loans, and we need to do that.” Michael Bloomberg (n.d.) Web site-<http://www.brainyquote.com/quotes/quotes/m/michaelblo413944.html>

Mutual Funds emanated in the Indian capital market in 1964 with a view to providing the small and first time investors the benefit of diversification of risk, assured returns, professional management, liquidity, transparency, and tax benefits. The various kinds of Mutual Fund schemes as categorized according to the type of investments are Equity funds, Debt Funds, Diversified funds, Gilt funds, Money Market funds, Sector Specific funds, and Index funds. Some funds in the market focus on stocks within a certain business or industry are known as sector funds and various sectors as per Indian perspective are Banking and Finance, Pharmaceuticals, FMCG, and Information Technology. The Mutual Fund industry India is fully regulated by SEBI (Securities Exchange Board of India) and the industry functions within

the comprehensive SEBI Mutual Funds Regulations 1993 that aims to protect the investor interest (C.B. Bhavne 2008-09). Term sector in relation to business is defined as a sector, a slice of the market that is focused on the same line of business. Though these funds may give greater returns, they are more risky compared to diversified funds. A financial system or banking sector functions as an intermediary and enables the flow of funds from the parts of surplus to the extents of deficit. A Financial System is a composition of several institutions, markets, regulations and laws, practices, money manager, analysts, transactions, and claims and liabilities.

Developing countries like India, still has a vast number of people who do not have entry to banking services due to dispersed and disjointed locations. But if we talk about people who are availing banking services, their expectations are raising as the level of services are increasing due to the emergence of Information Technology and competition. Since, foreign banks are playing in Indian market, the number of services offered has increased and banks have laid emphasis on meeting the customer expectations. Now, the existing situation has created various challenges for Indian Commercial Banks. In order to encounter the general scenario of banking industry we need to understand the challenges lying with banking industry of India. Indian banks, the leading financial intermediaries in India, have made good progress over the last five years, as is evident from several parameters, including annual credit growth, profitability, and trend in gross non-performing assets (NPAs). Good internal capital generation, reasonably active capital markets, and governmental support ensured good capitalisation for most banks during the period under study, with overall capital adequacy touching 14% as on March 31, 2011. At the same time, high levels of public deposit ensured most banks had a comfortable liquidity profile (Batra, Vibha, Srinivasan Karthik, and Maheshwari, Puneet (2011).

Economic theory supported by empirical evidence suggests that, in general, increases in technology investment will raise productivity, lower costs, and allow firms to operate more efficiently. Information technologies and the innovations they enable are strategic tools, since they reduce the costs of financial transactions, improve the allocation of financial resources and increase the competitiveness and efficiency of financial institutions. Technological innovation not only enables a broader reach for consumer banking and financial services, but also enhances its capacity for continued and inclusive growth.

Going forward, a move towards higher capital requirements and the need for meaningful financial inclusion are the primary challenges before banks. The convergence to International Financial Reporting Standards (IFRS) is also likely to pose demands on banks' resources. The slippage in asset quality needs to be contained and the risks posed by global factors need to be addressed carefully.

Statement of a Problem

Mutual Funds set a higher target for mobilization of savings from the investor by launching new schemes and expanding investor base. The agents or distributor of Mutual Funds are more governed by commissions and incentives they get for selling the schemes and not by the requirements of the investors and quality of the products. They share commissions with the investors and don't explain the risk factors to them. This research work intends to know whether the Mutual Funds in India performing well even when industry is facing these problems.

Vidhya Bala (2013) states most of the sector funds lagged behind their diversified, actively managed equity funds. Due to this, their risk-reward ratio is expected to be higher than diversified equity funds. It is generally believed that "sectors such as banking, pharma or FMCG (Fast Moving Consumer Goods) will always see healthy growth, and it is expected to give better return, but post 2007 with the outlook for these growth sectors looking bleak, the return was not as it was before and the same trend continued till now. Hence the researcher made an attempt to concentrate on the performance of sector based funds. Also the World Economy is passing through the era of bankruptcy of banking and financial institutions and debt crisis in major economies of the world. The scenario has become very uncertain causing recession in major economies like US and Europe. This poses some serious questions about the survival, growth and maintenance of the sustainable development.

Cumby and Glen (1990) evaluated the performance of 15 U.S. based internationally diversified Mutual Funds and found that the fund managers failed to provide investors with performance that beats the broad international equity index over the sample period. The study of Noulas et al. (2005) measured the performance of 23 Greek equity funds and they reported that there were big differences among the equity Mutual Funds with respect to risk and return.

Muthappan and Damodharan (2006) employed Sharpe, Treynor, Jensen, Sharpe differential measure and Fama's components of performance measures and indicated that

the risk and return of Mutual Funds schemes were not in conformity with their investment objectives. Further, the stock selectivity skills and market timing ability were assessed in the study by Jayadev (1996), Deb et al. (2007) reported lack of market timing abilities and presence of stock selection abilities among the fund managers.

Objective of the Study

- To analyse the investment performance of banking sector funds in India, and
- To examine whether the banking funds offer the benefit of diversification to the investors.

Hypotheses

H_0^1 = The sample funds are not invested in a well-diversified portfolio of securities.

H_0^2 = There is no significant relationship between performance and Systematic Risk and Total Variability of funds.

Data and Methodology of the Study

The study is based on the secondary data. For evaluating the performance the requisite daily NAV (Net Asset Value) was obtained from Bloomberg database. The daily Bombay

Stock Exchange (BSE) Sensex benchmark return was collected from prowest database provided by Centre for Monitoring Indian Economy (CMIE). In this study the yield on the 91-day treasury bills of Government of India has been used as surrogate for riskless return. The weekly published data of T-Bill rate is taken from RBI source and converted in daily average risk free rate. The present study covers a period of four years spanning from 1st April 2009 to 31st March 2013. For the purpose of analysis, benchmark portfolio and other macro-economic factors were collected for the same period. The data for the Banking sector funds collected for the period are subject to limitations such as continuous operation for the years under study and hence final sample restricted to six banking sector funds.

Sampling Design

Multi-stage sampling technique is used for the study. The total of 21 Equity banking sector funds are reduced to 19, since funds come under Dividend categories are ignored. Among the 19 funds since 11 funds are launched recently after 2012 are also ignored. Final sample constitutes 6 actively traded funds with availability of complete data required for the study for the period. Our final six sample funds are mentioned as below:

Table 1: Sample Banking Sector Funds

Sl.No	Fund	Launch
1	ICICI Pru Banking & Financial Services	7-Aug-08
2	Reliance Banking Fund	22-May-03
3	Religare Invesco Banking	17-Jun-08
4	Sahara Banking and Financial Services	26-Aug-08
5	Sundaram Financial Services Opportunities	16-May-08
6	UTI-Banking Sector	7-Apr-04

Research Implication

Descriptive statistics such as mean, median, standard deviation, skewness, kurtosis, Jarque Bera test of normality, Correlation co-efficient is extensively used to study one-to-one relationship between the variables.

Daily NAV values of the sample schemes for the study period were used for analysis. BSE sensex index was considered as a benchmark and the yield on the 91-day treasury bills of

Government of India has been used as surrogate for riskless return. Eviews 6 analysis package is used for estimations.

Appropriate ratios as stated below are used to measure the performance:

- a. Jensen's Alpha (JA)
- b. Sharpe Ratio (SR)
- c. Treynor Ratio (TR).

The Concept of Return

The performance evaluation in the context of the Mutual Funds means comparing the expected return with the actual return. Therefore, one needs to begin the performance measurement exercise by carefully understanding the objectives of the fund and then compare the actual performance against these objectives. The most vital statistics in measuring the performance of a Mutual Fund is the rate of return. Rate of return has many possible definitions and there is no single definition, which can be applied to all the purposes. There is one possible definition for each purpose. So it is important to know the purposes for which the performance is to be measured to employ the appropriate technique to measure the return. The daily returns for the fund (R_p) and the benchmark index (R_m) are computed as the continuously compounded daily percentage change in the price as shown below:

$$R_p = \ln\left(\frac{NAV_t}{NAV_{t-1}}\right) * 100$$

$$R_m = \ln\left(\frac{I_t}{I_{t-1}}\right) * 100$$

Where, NAV_t and NAV_{t-1} are the NAV of the fund at time t and $t-1$ respectively. Similarly, I_t and I_{t-1} are the values of the BSE sensex index at time t and $t-1$ respectively. The average daily returns, R are calculated using the following formula:

$$\overline{R_m} = \frac{\sum_{t=1}^n R_m}{N}$$

$$\overline{R_p} = \frac{\sum_{t=1}^n R_p}{N}$$

Where, N represents the number of observations.

Standard Deviation

Standard deviation is a measure of portfolio risk. The daily annualised standard deviation for the sample funds σ_p and the market portfolio σ_m is calculated using the following formulae as follows :

$$\sigma_p = \sqrt{\frac{\sum_{i=1}^n (R_p - \overline{R_p})^2}{N}}$$

$$\sigma_m = \sqrt{\frac{\sum_{i=1}^n (R_m - \overline{R_m})^2}{N}}$$

Risk – Free Rate of Return

The risk – free rate is the return on a portfolio of securities that is free from default risk and is uncorrelated with returns from anything else in the economy. In this study the yield on the 91-day treasury bills of Government of India has been used as surrogate for riskless return. The weekly published data of T-Bill rate is taken from RBI source and converted in daily average risk free rate.

Significance of the Study

Mutual Funds play a crucial role in the economic development of the country. The active involvement of Mutual Funds in the economic development can be seen by their dominant presence in the money and capital markets. The role of the Mutual Funds in the form of financial intermediation, by way of resource mobilization, allocation of resources, and development of capital markets and growth of corporate sector is very conspicuous. In case of banking, this sector already has a huge weightage in the main indices like Nifty and Sensex even during the global downturn of credit crisis of 2008.

As a result investors started focuses on the banking sector, the present study assesses the growth of banking sector funds in India to examine whether the investors are satisfied in terms of returns, and the portfolio manager performance is evaluated on their stock selectivity and market timing abilities.

Limitations of the Study

- The study is based only on secondary data which were collected from CMIE Prowess Package, Bloomberg. The quality of the study depends purely upon the accuracy, reliability and quality of secondary data.
- The funds chosen for the study are restricted to 6 due to the facts like non-availability of data and less period of operation of funds.

Results and Findings

Descriptive Statistics of Average Daily Returns (\bar{R})

Table 2 depicts the descriptive statistics of average daily returns for the sample funds and the benchmark index. It can be seen that ICICI and Reliance fund have provided

highest positive average daily returns in comparison with the other funds as well as the market proxy during the study period under consideration. Sundaram Finance has posted compounded average daily returns of 0.091% which is least as against the other funds and the market portfolio.

Table 2: Descriptive Statistics of Average Daily Returns \bar{R}

Statistic	ICICI	Reliance	Religare	Sahara Fund	Sundaram Finance	UTI	BSE Sensex-Excess RM
Mean	0.114	0.108	0.094	0.105	0.091	0.1	0.049
Median	0.143	0.125	0.113	0.094	0.093	0.111	0.028
Maximum	18.285	21.202	17.895	22.173	23.868	19.418	16.106
Minimum	-6.782	-6.811	-7.471	-6.851	-8.029	-7.75	-6.017
Std. Dev.	1.531	1.584	1.526	1.608	1.69	1.666	1.328
Skewness	1.599	2.27	1.504	2.522	2.672	1.509	1.879
Kurtosis	22.912	34.542	21.807	38.608	42.555	21.28	25.068
Jarque-Bera	16709.5	41720.1	14902.7	53136.34	65453.63	14102.6	20587.66
Observations	986	986	986	986	986	986	986

Source: Eviews 6 output

The Table 2 also shows that the sample funds are less risky than the market portfolio. A higher standard deviation more than the market portfolio indicates that, the sample funds are more volatile as against their market proxy. However, an inter-comparison of the fund's risk suggests that Sundaram Finance is more prone to fluctuations in daily returns. Religare has the lowest standard deviation followed by ICICI and Reliance. The statistics show that return series are positively skewed. As the value of the kurtosis is greater than 3, can be inferred that has a heavier tail than the standard normal distribution. Further, the significant Jarque- Bera statistics of return series indicate a departure from normality through rejecting the hypothesis of symmetric distribution.

Jensen's Alpha (JA)

Jensen (1968) developed a return – generated model for evaluating the performance of managed portfolios relative to a benchmark. JA is popularly known as 'alpha.' The measure is based on CAPM and reflects the difference between the return actually earned on a portfolio and the return the portfolio was supposed to earn, given its systematic risk (beta). The specification of the JA is given by the following equation:

$$\bar{R}_p - \bar{R}_f = \alpha_p + \beta_p (\bar{R}_m - \bar{R}_f) + \varepsilon_p$$

Alpha measures the portfolio manager's performance relative to benchmark while beta measures its systematic risk. A positive alpha shows that the fund has performed better and has outperformed the market; while a negative alpha suggests that the fund has underperformed as compared to the market. An alpha estimate of zero indicates that the fund has just performed what it is expected to. The results obtained from above regression equation are corrected for heteroscedasticity an autocorrelation using the White's (1980) correction.

Table 3 presents the results of JA for the whole period of study from 2009-2013. The analysis of Table 3 reveals that ICICI has posted highest positive alpha as a whole, followed by Reliance. It indicates that these two funds have outperformed the market for the period 2009-13. All other funds also recorded positive alpha value during the study period. As mentioned earlier a positive and statistically alpha estimate of two funds shows that these funds have earned average premium above expected market return at the same level of risk of the fund. There is no Negative alpha value for any of the banking Fund. It indicates that there is no such poor performance shown as a whole for period 2009-13 in banking funds.

As all the funds which have positive alpha have performed better and have outperformed the market, it is evident from the results of the Table 3. Hence it is proved that the sample

Banking funds provide superior returns as against BSE sensex during the study period 2009-13.

Table 3: Results of JA for the period 2009-13

Sl.No	Fund	Alpha	Std.Error	t-Statistic	Probability
1	ICICI Pru Banking & Financial Services	0.0499	0.0219	2.2787	0.0229
2	Reliance Banking Fund	0.0429	0.0239	1.7897	0.0738
3	Religare Invesco Banking	0.0305	0.0221	1.3832	0.1669
4	Sahara Banking and Financial Services	0.0388	0.0231	1.677	0.0938
5	Sundaram Financial Services Opportunities	0.0209	0.0237	0.8849	0.3764
6	UTI-Banking Sector	0.0316	0.0244	1.2991	0.1942

Coefficient of Determination

The term 'Ex- Mark' coined by John C. Bogle defines the extent to which a return of a Mutual Fund is explained by a particular financial market. This concept is designated in statistics as R – Squared. R – Squared is alternatively referred to as Coefficient of Determination. The coefficient of determination is the ratio of the explained variation to the total variation. The expression $0 < R^2 < 1$, denotes the strength of the linear association between x and y. For example, if $r = 0.922$, then $R^2 = 0.850$, which means that 85% of the total variation in y can be explained by the linear relationship between x and y, the other 15% of the total variation in y remains unexplained. Diversification helps reduce the risk associated with the investments. Whether the fund manager has exploited the diversification strategy in forming his portfolio or not can be examined with the help of coefficient of determination. It measures the extent to

which market index has been able to explain the variation in Mutual Fund. The high value of R^2 indicates higher degree of diversification of portfolio. The analysis of Table 4 shows that Sundaram Finance has the highest R^2 value followed by ICICI. Reliance has posted a least estimate of 0.774. It can be concluded that all the sample Banking funds have exploited reasonable diversification strategy to a moderate extent in forming their portfolio. Since, Banking funds are expected to invest in shares of Banking companies, the fund manager's of these schemes confine their investment in Banking stocks only. The moderate value of R^2 indicates that the market explains reasonable part of variation in the return. The Coefficient of determination given in the table also reveals the fact whether the fund manager has exploited the diversification strategy in forming their portfolio or not. It is evident from the results that which display positive R-squared values.

Table 4: Results of Coefficient of Determination for the period 2009-13

Sl. No	Fund	R-squared
1	ICICI Pru Banking & Financial Services	0.799
2	Reliance Banking Fund	0.774
3	Religare Invesco Banking	0.794
4	Sahara Banking and Financial Services	0.796
5	Sundaram Financial Services Opportunities	0.806
6	UTI-Banking Sector	0.789

Source: SPSS

Testing of Hypothesis

It is evident from the results (Table 4) that the sample schemes display positive R squared value and the funds

are well diversified. Hence H_0^1 , "The sample funds are not invested in a well-diversified portfolio of securities" is rejected.

Treynor Ratio (TR)

The relationship between risk and return is considered as a pivotal for any evaluation of capital market in the investment process. Stocks that undertake additional volatility, or risk, should compensate investors with higher returns. Jack Treynor had this relationship in mind when he established the formula that became known as the TR. The formula is written as follows:

$$T_p = \frac{\overline{R_p} - R_f}{\beta_p}$$

Where,

T_p = Treynor Performance Measure

R_p = Portfolio Returns

R_f = Risk Free Rate

β_p = Market Risk of R_p

Sharpe Ratio (SR)

The relationship between risk and return is an essential concept in finance, which argues that riskier investments should compensate investors with higher returns and safer investments should not experience exorbitant price fluctuations. When comparing the performance of two securities, funds or portfolios, investors must consider risk-adjusted returns to know whether they are being adequately compensated for the risk they are assuming. The goal is to achieve the largest return per unit of risk. William Sharpe devised the SR in 1966 to understand this risk/return relationship, and it has been one of the most-used investment ratios ever since. SR gives a single value to be used for the performance ranking of various funds or portfolios. It measures the risk premium of the portfolio relative to the total amount of risk in the portfolio. This risk premium is the difference between the portfolio's average rate of return and the riskless rate of return. Much of the ratio's fame is attributable to its simplicity, as it comprises only three components.

The formula is as follows:

$$S_p = \frac{\overline{R_p} - R_f}{\sigma_p}$$

Where,

S_p = Sharpe Performance Measure

R_p = Average returns of Portfolio p

R_f = Risk Free Rate

σ_p = Total Risk of R_p

Table 5 collects the components of the TR for the sample banking funds. The average return shown in Table 6 is a historical average based on the returns from 2009 through year-to-date 2013, a period of almost four years. The yield on the 91-day treasury bills of Government of India has been used as surrogate for riskless return. For the risk-free rate average of daily return of Treasury bills over a year period of time from 2009-2013 and the beta is calculated using the BSE Sensex index as the underlying benchmark.

As per the table ICICI has a higher average return over the past four years than other funds. The result shows ICICI is in first position with 9.34% return per unit of risk with the beta of 1.029 means that it is about 102.98% as volatile as the BSE Sensex. Here the table shows beta for all the funds of greater than one which indicates that the security's price will be more volatile than the market. In case of ICICI with beta of 1.029 indicates it is 2.9% more volatile than the market.

Reliance and Sundaram fund are in second and third position with 8.58% and 8.11% return per unit of risk respectively and the beta for these funds are 104.94% and 107.98% respectively. Religare and UTI fund were the average performer with stable return of 7.4% and 7.36% return per unit of risk respectively. And the Sundaram Finance fund was the lead performer during the period of four years from 01 April, 2009 to 31 March, 2013. Sundaram finance fund only provided a 6.37% return per unit of risk with the beta of 1.1138 which means that it is about 113.8% as volatile as the BSE sensex. The TR actually identifies ICICI as the highest generating fund with a better risk-adjusted return. However, the TRs are close enough that investors choosing between these companies should base their decisions on their personal risk tolerance level. The top ranked fund as per SRs for the whole period from 2009-2013 is ICICI (0.0628), followed by Reliance (0.0569), Sundaram funds (0.0544), and UTI (0.0501). The overall ranking as per SRs as well as TR seems to be the same for the years as a whole from 2009-2013.

Table 5 : TR and SRs of Sample Banking Fund for 2009-13

Sl.No	Fund	Average Return	Risk-Free Rate	Beta	Std Deviation	TR	SR
1	ICICI Pru Banking & Financial Services	0.1142	0.01803	1.0298	1.5313	0.0934	0.0628
2	Reliance Banking Fund	0.1081	0.01803	1.0494	1.5844	0.0858	0.0569
3	Religare Invesco Banking	0.0944	0.01803	1.0235	1.5259	0.0747	0.0501
4	Sahara Banking and Financial Services	0.1055	0.01803	1.0798	1.6082	0.0811	0.0544
5	Sundaram Financial Services Opportunities	0.0907	0.01803	1.1417	1.6896	0.0637	0.0431
6	UTI-Banking Sector	0.1001	0.01803	1.1138	1.6657	0.0736	0.0492

Source: SPSS

Testing of Hypothesis

Testing of correlation between systematic risk and total variability of sample Mutual Fund Schemes results displayed positive significant relation to their total variability and the

systematic risk under SR and TRs and this is proved from the p-values at 1% significance level (Table 6). Hence H_0^2 "There is no significant relationship between Investment Performance of the Sample Schemes and Systematic Risk and Total Variability" is rejected.

Table 6: Correlation between Systematic Risk and Total Variability of Sample Equity MF Schemes

Variables	No. of Observations	Pearson Correlation	Significance
TR	6	0.999	0
SR	6	0.999	0

**. Correlation is significant at the 0.01 level (2-tailed)

Findings of the Study

1. Descriptive statistics shows that ICICI and Reliance have provided highest daily returns in comparison with the other funds as well as the market proxy during the study period.
2. It is clear from the analysis that sample schemes performed better than their respective benchmarks during the study period.
3. There is no negative alpha value for any of the banking fund. It indicates that there is no such poor performance shown as a whole for the period during 2009-2013 in the banking sector funds.
4. The highest R^2 values are found in Sahara Fund followed by ICICI which indicates high diversification of portfolio.
5. From the ranking orders of sample schemes, it was found that schemes were not equal under both TR and SR. The reason for such conflict was due to the fact that Sharpe Ratio considered the total risk whereas the TR considered only the systematic risk.
6. Testing of correlation between systematic risk and total variability of sample Mutual Fund Schemes shows significant relationship between performance and Systematic Risk and Total Variability of funds.

Suggestions of the Study

On the basis of the findings of the study, the following suggestions are given to the Investor and Mutual Fund Companies and Regulators.

1. The study found that the entire sample fund performed better under all measures during the study period. However investing in ICICI is most preferable as most of the ratios show ICICI was the best performer among all the funds for entire 4 year period.
2. The Mutual Fund Companies are the financial intermediary between the public and the financial market. Regulators like SEBI and AMFI should watch every movement of the Mutual Fund Company and Fund performance and regulate these companies. It is important that wherever Mutual Fund Companies offer new funds, Regulators should check the Fund allocations, nature of the Fund and stock selection provisions.
3. The Fund Management is a difficult task and it requires lot of skills, expertise and professional training. Therefore, it is suggested that Regulators check and study the educational qualifications and working experience of Directors, Trustees and Employees of Mutual Funds Companies.
4. SEBI should carefully study each Trustee of Mutual Funds and file regularly the details of his transactions in respect of dealing in securities. The Mutual Fund Companies must provide proper communication regarding the investments and redemption by the AMC, Sponsor or any Associate of the Sponsor in any of the schemes and inter schemes investments.

Conclusion

Indian Mutual Funds have emerged as strong financial intermediaries and they play a significant role in bringing stability into the financial system and efficiency in resource allocation. The present study discussed the different phases of development of Mutual Funds also banking sector in specific since the inception to the present scenario. It encompasses an analysis of the performance of selected sample banking Funds. The performance of six banking funds were examined in terms of providing superior returns to the investors, offering the benefits of diversification, studying

the stock selectivity abilities and examining the manager's market timing abilities. The study found that ICICI has posted superior performance followed by Reliance. All other funds also recorded negligible but positive alpha value during the study period. There is no negative alpha value for any of the banking Fund. It indicates that there is no such poor performance shown as a whole for period 2009-13 in banking funds. Hence it is proved that the sample Banking funds provide superior returns as against BSE Sensex during the study period 2009-13.

All the sample banking funds have exploited reasonable diversification strategy to a moderate extent in forming their portfolio. The highest values of R^2 were found in Sundaram Finance followed by ICICI which indicates high diversification of portfolio. But the testing of correlation between diversification and performance shows that the variables are negatively correlated.

The investors who invest in growth or equity schemes consider it as an alternative to stock market investing and the investors who invest in debt schemes expect higher returns on their investments than returns on nationalized banks' fixed deposits. The investors expect higher returns and get dissatisfied when they don't receive the expected returns. The Mutual Funds are bound to invest the funds as per their investment objectives of each scheme published in the offer document. After the issue is over, it becomes the mandate and the Mutual Funds have no choice to invest the funds in other securities, which can provide higher returns. The greater transparency, increased innovations, better services to the investors, liquidity and higher returns will make Mutual Fund schemes more popular and investors friendly.

Scope for Future Study

The study with similar objectives could be made with reference to other type of MF Schemes like Income MF Schemes, Different Sector MF Schemes and Debt MF Schemes. The study may be conducted with comparative analysis of different types of MF Schemes and also be made with comparative analysis of Indian and foreign MFs performance, covering economic factors like inflation rate, currency exchange rate and GDP for analysis. Similar type of study can be attempted with increasing the study period with similar objectives including entry and exit load of MFs Schemes.

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Scale Development : Validation

Anamika Sinha and Tanvi Paras Kothari

A b s t r a c t

To cope with dynamic market demands, the people strategy in organizations also has to change dynamically. A unique HR model has to be designed to engage with strategy and accordingly HR processes and jobs have to be operationalized. This has demanded for a new role for HR practitioners where they have to upgrade themselves to be the partner in the strategy formulation and not just be the strategy implementer. New set of competencies are expected from HR professionals for which the very step of clarifying the role of HR professionals in the organization is required. Prof Dave Ulrich has identified four roles in which HR could be anchored in an organization. They are administrative expert, change agent, employee advocate and strategic partner. The present paper attempts to design a diagnostic instrument for the purposes of identifying the role of HR professionals in organization based on this theoretical framework. The developed scale has been validated among IT/ITES professionals.

Key Words : HR framework, scale development, reliability, validity



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The highly competitive environment of today's business organizations underlines the importance of developing an efficient and productive work force and then retaining it. Research has identified various factors affecting employee-retention and employee-commitment, which have emerged as a significant contributor towards an employee's decision to stay or leave an organization. Human Resource Management Practices of an organization is an important post-entry variable that can affect the commitment of the employees towards their organization. The evidence in the literature suggests that it was not the human resource practices *per se* but the perceptions of the employees regarding those practices that actually affected their commitment to their workplace. This mandates for an increased responsibility of not just managing the HR processes, but along with manage the perceptions of employees about how they perceive the role of HR department.

The basic and underlying notion of Human Resource Management (HRM) is to attain a sustained competitive

advantage through effective utilization of available human resources. Most traditional resources such as capital, equipment and location are less significant, as they can be acquired by anyone at a price, whereas the acquisition of a ready pool of highly qualified and highly motivated personnel is rather difficult, if not impossible. A committed and dedicated work force is a valuable asset that can hardly be duplicated or imitated by the competitors.

Due to these reasons in recent days, role of HR practitioners has shifted gradually from only 'maintain the administrative activities' to 'become the business partner', and is involved in the strategic formulation decision of the organizations. This shift in role will demand the new competencies from HR professionals. Hence, it is very much clear that role of human resource function is also dramatically changing (Ulrich, 1993, Walker, 1992).

Literature Review

Literature review has been divided into three parts: history of human resource management, its emergence and role, and competences of human resource professionals.

History of Human Resource Management

Friedman (1991) in his report mentioned that HR has its roots in industry almost seven decade ago when industry started to have separate personnel department. This department carried out various functions such as recruitment, selection, record keeping, training, time keeping, time and motion studies, union management, employee welfare and many other functions (Miles and Snow, 1984). Among all these functions, union relation had been considered as more powerful function (Conner and Ulrich, 1997).

Due to high level of business needs, this personnel department also started to focus on various sophisticated functions such as training, staffing to name a few (Conner and Ulrich, 1997). In the era of 50's Corporate HR department was formulated and organization started to ask for more support from HR department as a consultant (Miles and Snow, 1984). This newly formed department wanted specialist knowledge on labour relations, compensation and benefits design as well administrative activities. Slowly, these functions moved towards reward system, succession planning, training and development, recruitment and selection functions (Freedman, 1991).

Chalofsky(1989) noted development of HRD field as another trend which influenced the evolution of the human resource function in organization. This field was focused on training, and organization development intervention, which emerged as a role of training and OD consultants. The main function of this consultation was to increase individual and organizational effectiveness. Hence, the focus shifted from personnel function to HRD field specialist (Conner and Ulrich, 1997).

In the late 60s and early 70s due to rise of public sector, human relation movement in the western part of the world helped to change the face of personnel function. In 1980s human resource professionals' role broadened as it was then, considered to be a development era where focus was on aspirations, human values, dignity etc. Hence, a new role of change agent, integrator, trainer as well as educator was added. (Rao, 2007). These trends captured the attention of HR professionals and also stressed on building organizational capabilities. (Trichy et al., 1984; Nobel 1994; Schuler, 1990 and Ulrich, 1996).

Emerging trends of human Resource functions

Until recently, human resource function and related practices focused on transactional issues (Ulrich, 1993, 1994, 1996), in nineties, trends were shifted to look at human resource functions and its practices from strategic perspectives. Ulrich worked on this changing role of HR at various fronts. At university of Michigan, Ulrich et al. (1993) conducted survey of various organizations to observe the shifts in human resource functions of the organization. Result of their study was that the role of human resource was shifted, as in 1988 focus was more on operational role of HR which shifted to strategic role in 1991. This strategic role started to gain frontier of HR at one end and on other hand eliminated/automated or reduced operational work (Ulrich, 1994).

Mohrman et al. (1995) supported this finding. They argued that HR now spent more time on strategic issues rather than on auditing and time keeping, but Fisher (1989) argued that most HR professional perform traditional works only while strategic functions take place at corporate levels.

HR roles and required competencies

Author	HR roles	Focus
Walker (1994)	Support Service Consulting Leadership	Most prominent support and service while companies want to emphasize on consulting and leadership role
Schuler (1990, 1994)	Business person Shaper of change Consultant to organization Strategy formulator and implementer Talent manager Assets manager and cost controller	Link HR strategy and business strategy Become more customer focused
Wiley (1992)	Consultant, accessor, diagnostician, business partner, change agent	Focus of all these roles is on strategic process
	Auditor, consultant, conciliators, controller	Focus is on legal aspects
	Fire fighter, employee advocate, facilitator, policy formulator	Focus is on operational aspects

Ulrich (1993) proposes conceptual model about HR role that adds values in an increasing complex environment. Prof.

Dave Ulrich in his book “HR Champion” highlighted the four roles of HR.

Figure: 1. 1.1 Dave Ulrich’s Four HR Role Framework



(Source: <http://myhrm.wikispaces.com/> (Accessed on 30th December 2012 at 10:35 pm))

Strategic Partner: It is about alignment of Human resource activities and initiative with business strategy. Human resource role is to provide consulting to internal client. It needs lot of efforts from Human Resources.

Change Agent: It is a very important area of the Ulrich's HR Model. Change agent is about supporting the change and transition of the business in the area of the human capital in the organization. The role of Human Resources is to create support for change activities in the change effort area and ensuring the capacity for the changes.

Employee Champion: The role of the employee champion is one of the **hardest HR Roles** defined by *Dave Ulrich*. The **employee champion** knows the interests of the employees and the plans of the organization and help to find the suitable win-win solution for them.

Administrative expert: This role changes over the period of time. In the beginning, it was just about ensuring the maximum possible quality of delivered services, but nowadays the stress is put on the possibility to provide quality service at the lowest possible costs to the organization.

Guzman, Lim and Briones (2010) surveyed that Asian managers perceive their HR professionals as unable to perform strategic and operational roles simultaneously. Using David Ulrich's four HR roles model, they showed to establish the theory that rather than performing multiple roles universally, Asian managers tend to view the HR function as traditionally administrative in nature, and not strategic or transformational.

Yusoff (2012) studied with the purpose to provide preliminary information needed to begin theoretical or framework development and to initiate more rigorous research on human resource role. He found that identifying the former, current and future role of HR professional made it easy to understand practices of human resources.

Ulrich (1997) talked about difficulty in measuring HR processes, practices and performances. He emphasised that as a discipline, we in HR have a need to measure our impact, our tools to quantify it, our steps to make it happen, and our actions that link work with business results. And, we have the data to prove it.

Objectives of Study

Objective of this study is to develop a scale to understand the role of HR practitioners. Role clarity will be helpful in

setting clear expectations and value added activities to focus on.

Research Methodology

Item Generation

Items were generated by keeping Dave Ulrich's HR framework as theoretical base. Five point Likert scale (1=strongly disagree to 5= strongly agree) was used to get responses.

Samples:

Mainly middle level IT professionals (n=100) from various IT/ITES firms were contacted to fill the questionnaire. Convenience sampling (non-probability sampling) was used to collect the responses. Survey was conducted using online version of the questionnaire which was hosted on google.doc. Around 500 respondents were contacted through mail from which 100 filled questionnaire without any missing items were returns, which resulted into 20% of response rate.

Results:

To measure the internal consistency Cronbach's alpha coefficient was calculated. Computed value of Cronbach alpha was 0.808 suggesting high degree of internal consistency which indicated the reliability of the scale.

Table 1: Demographic profile of respondents

Male	72
Female	28
HR professionals	20
Others	80
Age (in years)	
21-30	79
31-40	18
41-50	3
Work Experience (in years)	
0-5	73
6-10	20
11-15	7

The face validity of instruments was conducted by taking an opinion of HR framework developer, Dave Ulrich along with other experts. Prof Ulrich was contacted through email. He gave feedback on the content and items of the instruments identified by the researcher.

Table 2: Mean and Standard Deviation of each Role

Role	Mean	SD	Min	Max
Administrative Expert	13.65	3.34	6	25
Employee Champion	15.02	3.66	6	25
Change Agent	14.78	3.90	5	30
Strategic Partner	14.30	3.98	6	25

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.616
Bartlett's Test of Sphericity	Approx. Chi-Square	772.374
	df	190
	Sig.	.000

As table shows KMO for sampling adequacy is 0.616 which is suitable for factor analysis as well as Bartlett's sphericity test is also significant.

Factor analysis has been used for content validity. 20 items are statically organized into common groups. Using factor analysis, 20 items were grouped into four interpretable factors, from which item 15 has been dropped as it did not have loading of 0.4 or more on any of the factor.

Factor I reflected the administrative role of HR and 7 items loaded on that with loading of 0.4 or more. Factor I explained 25.22 per cent of total variances. Factor I has been given a theoretical construct name :HR as an administrative and support functions."

Factor II reflected the strategic partner role of HR and 5 items with loading of 0.4 or more has been loaded on it.

11.52 per cent of total variance has been explained by factor II. Theoretically it has been called as "HR as a Strategic Partner".

Factor III is the factor on which 4 items were loaded with loading of 0.4 or more and also explained 8.80 per cent of total variance. Theoretically has been given a name of "HR as a Change Agent."

Factor IV is the factor on which 3 items were loaded with loading of 0.4 or more and it also explained 7.28 per cent of total variance. It has been theoretically given a name: "HR as an Employee Champion."

Four factors were explained total 52.83 per cent of variance. Factors with related item loading has been explained in Table – 4. This analysis reflect four roles hypothesized by Ulrich in his HR Framework.

Table 4: Factor Analysis

Sr. No.		Component				
		I	II	III	IV	
1	In your organization, HR* makes sure that the required routine work in the company is done well i.e. they work as rule-making policy police	.621				HR as an administrative and Support functions
2	HR professional in your organizations are well versed with technology	.411				
3	In your organization, HRM practices streamline the organization's systems and procedures and deliver flawless administrative services.	.637				
4	HR, in your organization is a centre of expertise who gather, coordinate and disseminate vital information about market trends, organizational processes.	.679				
5	In your organization, HR measures cost efficiency and quality effectiveness	.566				
6	In your organization, HR professionals are held accountable for ensuring that employees are engaged i.e. employees committed to the organization and contribute fully	.697				
7	HR, in your organization takes responsibility for orienting and training line management about the importance of high employee morale and how to achieve it	.625				
8	In your organization, HR is the employees voice in management discussion				.547	HR as Employee Advocates
9	HR, in your organization, creates balance between demand and resources				.801	
10	In your organization, HR offers employees opportunities for personal and professional growth				.643	

11	In your organization, HR is responsible for building the organization's capacity to embrace and capitalize on change			.705		HR as a Change Agent
12	HR, in your organization, make sure that broad vision statement get transformed into specific behaviour of employees			.587		
13	In your organization, HR is capable of replacing resistance with resolve, planning with results and fear of change with excitement			.693		
14	HR, in your organization, institutionalizes change capabilities within the organization			.702		
16	HR professionals, in your organization, are a member of strategy execution committee			.605		HR as a Strategic Partner
17	In your organization, HR is accountable for defining an organizational design			.685		
18	In your organization, HR manager is assigned to take the lead in proposing, creating and debating best practices			.727		
19	HR, in your organization, is accountable for conducting organizational audit			.731		
20	In your organization, HR is accountable for identifying methods for renovating the parts of the organizational architecture			.758		

Conclusion

From the data analysis it has been concluded that items generated based on theoretical framework and literature review measure the construct for which scale has been developed.

Future Scope of Research

Scale can also be validated by applying the same to other industrial sector as well as at different managerial levels.

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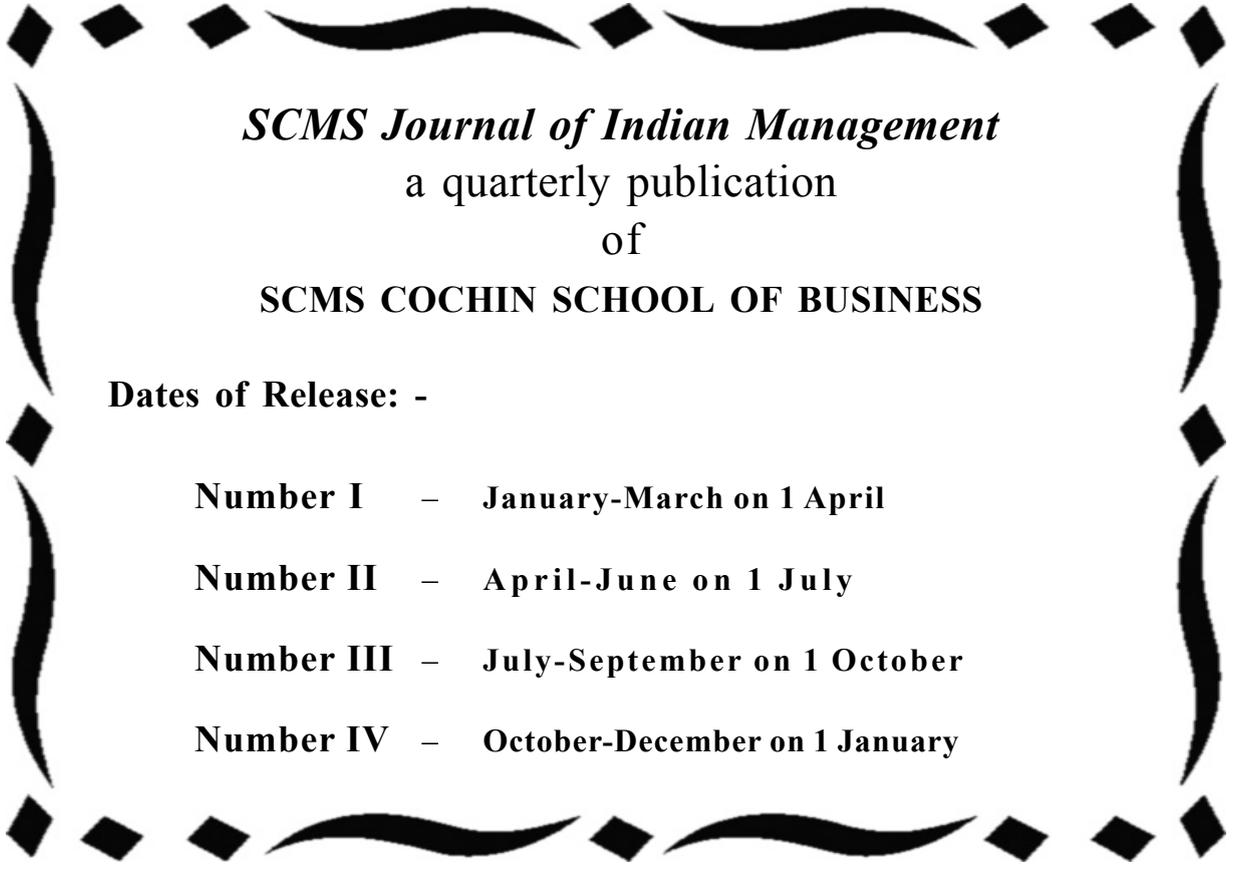
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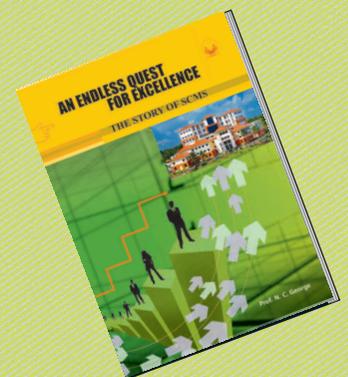
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