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Editorial Perspective

Big Data: A Pot of Gold

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Abstract

Big Data analysis is crucial for competitiveness and corporate success in contemporary times. Already a significant number of companies have started using Big Data in predicting customer life time value (LTV), customers' likelihood to churn (switch to competitors), etc. Predictive analysis help in determining strategies of the companies to retain their customers, augment sales and enhance overall experience of the buyers/users. Besides, Big Data has also been used effectively in understanding and managing financial risk, credit ratings, bank customer profiling, and money laundering. However, organizations in general have not tapped the immense potential of Big Data especially in the emerging markets. This editorial perspective aims at generating interest in the theme among all the stakeholders for wider application of Big Data which is a proverbial pot of gold –an infinite source of prosperity and success.

Keywords: Data Mining, Data Warehousing, Big Data

Introduction

You are moving your shopping cart towards the billing counter. The bar code of each product in your cart has already been automatically transmitted to one of the billing computer systems. This is your first visit to this departmental store. You are allotted a loyalty card that has a customer ID number and you are asked to fill a short form that asks details like - your age, gender, income, occupation etc. A few days later you receive an email from the store informing you about some good offers on headphones - you had purchased an i-pod among other things in your last visit. You have just added a bit in the Big Data.

Consider this: The Obama Election Campaign 2012 was very successful since it used insights derived from data analytics effectively. The campaign manager created a very novel metrics-driven campaign and hired an analytics team whose strength was five times that of the team which worked on the 2008 Obama campaign (Scherer, 2012). The Obama for America (OFA) team had built detailed multi-variable profiles of 15 Million "persuadable" voters - up to 1,000 variables per voter which included information such as demographics, psychographics, credit card transactions etc. OFA also knew names of all the approximately 69 million Americans who voted for Obama in 2008. Obviously, the election results had to be in favour of Obama thanks to such a comprehensive data management. Credit of course goes to Big Data.

MCI Communications Corporation, the long distance carrier goes through almost one trillion bytes of customer phoning data with a fine-tooth comb to develop new discount calling plans for its different types of customers. Land's End –a retail chain is competent of identifying which of its two million odd customers can be sent exclusive mailers on certain specific clothing items that will go well with their existing wardrobe. These illustrations indicate how Big Data is changing the way businesses connect to the consumers and enrich their overall experience from purchase to after-sales services.

Organizations take enormous advantage of big data through data warehousing –capturing data on a regular basis from various sources and storing it on computers in an organised manner i.e. in the form of virtual warehouses. The sources of data could be retail outlets, market surveys or customer transactions (e.g. in case of banks) and so on. The starting point usually is a customer database which needs to be elaborate in terms of variables such as demographics like age, family size, income etc. However the data needs to be more than a mere mailing list comprising of names and addresses which are to be used to send fliers or maybe billing statements. It needs to be more elaborate in terms of demographics like age, family size, income etc.

Customers leave traces of their purchasing behaviour in store-scanning-data, catalogue purchase records and customer databases. Their actual purchases reflect revealed preferences and could often be more reliable than answers given during market research surveys. For example, people often report preferences for premium brands yet the data shows them actually going in for mass brands. All this is a gold mine of information and much can be learned by analysing this data. Data warehousing and on-line analytical processing (OLAP) are key aspects of decision support which places a different type of need on database technology vis-à-vis traditional on-line transaction processing applications (Chaudhuri & Dayal, 1997).

Data Mining as Precursor of Big Data

Big Data analytics is grounded in data mining and statistical analysis (Chen et al. 2012). Data mining refers to analysing data captured via data warehousing in order to generate useful and meaningful information. This analysis aims at finding patterns –say in terms of products regularly purchased, test hypotheses or build customer profiles in terms of consumption (low, medium, heavy buyers), satisfaction levels etc. This information is then be used for marketing actions like special promotions, loyalty programs etc. These actions are also termed as Customer Relationship Management (CRM) activities of a company. Such initiatives need to be measured and the processes are generally repeated after being refined with feedback.

Data mining originated in the minds of professors and researchers who used their expertise in statistics to develop algorithms that form the foundation for data mining today. Initially these algorithms were custom-coded using programming languages such as FORTRAN. The early applications of data mining were more academic in nature. As this work evolved, different vendors fabricated new levels of tooling to make the application of these data mining algorithms more user friendly. However even today, data mining remains more of a stand-alone activity conducted by a dedicated staff, and its terminology is still quite academically oriented. This has resulted in data mining as being perceived to be a little

mysterious and somewhat distant from the day to day IT projects. When a business problem is encountered, the IT team starts working on it. They develop and understand the data warehouse aspects. The data mining team is usually a different one and they contribute by suggesting some kind of analysis or recommendations that will lead to a certain type of action.

Whether it is finance, healthcare or retail, the traditional focus on data analysis basically rests on one or more analysts becoming very closely acquainted with the data and acting as a bridge between the data and the users (Fayyad et al., 1996). In most organisations, the data lies in silos and does not talk to each other. Take the auto industry and a car manufacturer in India as an example. The manufacturer has very valuable data being generated by the thousands of dealers spread across several cities – in terms of type of cars sold, reason why customer did not purchase despite visits etc. Then you have a number of insights being generated at the Marketing Division from the various market surveys and other marketing research activities round the year. We also have rich transactional information available from the thousands of calls being made by current and potential customers –who are calling into customer care. Now if all this data lies in different places and in different forms, it cannot talk to each other and loses its real value which can be realized only on its integration.

A good number of banks, credit card companies, telecom companies and retail chains among others, are using data mining effectively. These companies have a system in place to capture data from a very large number of customers who use their products and services every day. However there are thousands of companies which have not started leveraging the big data gamble. Indeed, data mining can help execute customer strategy in an organization with the ultimate goals of lower costs, higher revenues and profits. Data mining can actually help the companies augment their profits, proficiency and presence in the following manner:

- Attracting new customers may be done by advertising the product or offer along with a response feature like a contest form or toll free number. The database is built from the responses. Data mining enables the company to sort this database and identify the best prospects. They can then be contacted via phone, snail mail, email etc.
- Retaining old customers, developing best customers or winning back declining or lost customers using already available data by means of effective analytics seems a viable imperative.
- Analyzing complaint and transactions data to identify problems and understanding why customer defect is already happening in a big way. The 3M Company provides easy means like suggestion forms, toll free numbers and e-mail to customers. It claims that nearly two-thirds of its product improvement ideas come from listening to customers.
- Segmenting markets by level of consumption may be done by insights gained from data mining. Heavy users are most vital and a major portion of the marketing budget needs to be focused on them to prevent takeover by competition. Medium buyers need to be communicated with good offers to convert them into heavy buyers. At the same time low users have to be serviced in innovative ways to increase usage.

- Segmenting the customers by satisfaction levels may be accomplished using data mining. The higher the satisfaction the greater is the expected loyalty. Thus, customer loyalty can be tapped significantly.

Financial service sector is using data mining in such areas as forecasting stock market, currency exchange rate, bankruptcies, understanding and managing financial risk, credit ratings, loan management, bank customer profiling, and money laundering analyses. The Government of India has been exploring methods of analysing vast amounts of data with respect to corporate as well as individuals to augment the tax collections by studying different aspects such as spending patterns (Economic Times, 2013).

It is expected that there will be a high growth of hybrid methods in the area of data mining in finance i.e. those that merge diverse models and deliver a better performance vis-à-vis methods involving only individuals. In this integrative approach the individual models work like trained artificial “experts”. Hence their combinations can be oriented in the same manner as consultation by human experts. Also these artificial experts can be successfully pooled with human experts. In times to come, these artificial experts will be configured as autonomous intelligent software agents (Kovalerchuk & Vityaev, 2000).

Data mining is used to arrive at the customer’s value also known as Life Time Value (LTV) which is a useful concept in measuring customer retention. Data mining can also be used to predict the customers’ likelihood to switch to competition. When a company loses an individual customer, the lost profit is equal to the customer’s life time value-that is, the present value of the profit stream that the company would have realized if the customer had not defected prematurely. The LTV represents the customer’s net current value to the seller. The lifetime of the customer could be in terms of product life cycle, age etc. The cost of acquiring a customer is taken as sunk cost. The costs taken into account are those with respect to selling and servicing and the final objective of the supplier is to reach a positive level of profits vs these costs. The LTV of a customer is calculated after making certain assumptions with respect to the time tenure of future relationship and the net value of cash flows (Kotler, 2009). Data mining calculates LTV scores based on revenue and tenure. These scores are then categorized as high, medium and low value based on business rules. The customers with the high scores can be provided due attention and perks in order that they remain loyal to the products/services as long as possible.

Data mining is also used to predict churning (a phenomenon of gaining new customers and then losing some or all of them to the competition). Probability scores for each customer can be calculated based on certain given inputs. e. g. a churn score of 0.75 can be read as ‘has a 75% chance of canceling service’. Having known these scores, consumers can be categorized as say, most likely to stay, less likely to stay and least likely to stay. Customer feedback can be used to prevent the churn rate from going up-the next best thing to bringing it down.

Further, data mining can throw light on hidden trends and patterns. It can help gain valuable consumer insights. These insights may relate to product, price, distribution, advertising, promotion, positioning etc.

Magic of Big Data

Big Data has emerged a system of knowledge that is already changing the objects of knowledge, while also having the power to inform how we understand human networks and community (Boyd & Crawford, 2012). It offers 'the capacity to collect and analyse data with an unprecedented breadth and depth and scale' (Lazer, et al. 2009). Thanks to magnitude of data, technologies such as Hadoop, Hbase, CouchDB, etc. are applied to make sense out of Big Data which would otherwise have been difficult if we depended only on human intelligence and traditional methods.

Demchenko et al. (2012) define Big Data in terms of five V's Volume, Velocity, Variety, Veracity, and Value where Volume pertains to vast amounts of data, Velocity applies to the high pace at which new data is generated, Variety pertains to the level of complexity of the data, Veracity measures the genuineness of the data, and Value evaluates how good the quality of the data is in reference to the intended results. Big Data not only refers to very large data sets and the tools and procedures used to manipulate and analyse them, but also to a computational turn in thought and research (Burkholder, 1992). No wonder, magic of Big Data has caught the attention of all –computer scientists, physicists, economists, mathematicians, political scientists, bio-information experts, sociologists –who clamour for access to the massive quantities of information produced by and about people, things, and their interactions (Boyd & Crawford, 2012).

Companies in more developed countries are already in the forefront of using Big Data to leverage their footprints all over the world. For example, Amazon uses data-driven recommendations to augment sales of products among their existing customers. Firms in many traditional industries are exploiting new and existing data resources for competitive advantage by employing data-science teams to bring advanced technologies so that they can increase revenue and decrease costs (Provost & Fawcett, 2013). Organizations expect the value from these emerging techniques to soar, making it possible for data-driven insights to be used at all levels of the firm (for example, GPS-enabled navigation devices can superimpose real-time traffic patterns and alerts on to the navigation maps and suggest the best routes to drivers) (LaValle et al. 2011).

Indeed, potential of Big Data to identify emerging trends, improve business decision-making and develop new revenue making strategies is beyond question (Bollier, 2010). However, increasing use of Big Data by large corporate houses has raised issues of privacy of the citizens, identity theft, civil security and consumer manipulation (Bollier, 2010). It is imperative to look at these issues a bit more seriously before we really go big on Big Data.

Conclusion

Big Data –a popular buzz word of our time has caught the imagination of all the big-wigs in the industry and other domains across the globe. Big data eventually came to be differentiated from small data since it was not generated purely by a firm's internal transaction systems on a large scale. It was externally sourced as well, coming from the internet, sensors of different kinds, public data initiatives such as the human genome project, and repository of audio and video recordings.

Big Data has changed the way analysis is done. Before the Big Data had arrived on the scene, analysts spent much of their time preparing data for analysis and relatively lesser time on the more important part i.e. the analysis itself. Most of the business intelligence activity catered to only what had happened in the past and offered no enlightenments or predictions. However, now almost accurate predictions are possible thanks to Big Data analysis. Some of the corporate success stories based on Big Data include Google, e-Bay, LinkedIn, Amazon, etc.

Companies are likely to ignore data mining at their own peril. It is now or never. In fact predictive analysis based on Big Data will prove to be pot of gold for the organizations –an infinite source of business intelligence for competitiveness and corporate success.

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Entrepreneurial Characteristics for Business Success: A Review of Literature

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Abstract

Entrepreneurial characteristics play an important role in running businesses effectively and efficiently, arranging resources and making enterprises successful. Extant literature on the theme indicates that there are psychological factors such as need to achieve, risk taking, self-confidence, etc. and non-psychological factors such as human capital and social capital as well as personal characteristics such as education, training, motivation which together contribute to business success of new ventures. This paper critically examines various entrepreneurial characteristics/competencies which are likely to boost chances of business success on a wider scale.

Keywords: competency, entrepreneurial characteristics, business success

Introduction

Entrepreneur is a person responsible for the successful performances of the business. His skills, knowledge and attitude required to run and achieve fruitful results from the business is called his competency or entrepreneurial characteristics. Competency as a concept has evolved over the years and in spite of having its roots in McClelland's writings (1973), the concept as we see it today has been refined to hold broader connotations. This paper is a humble effort to understand the concept of entrepreneurial competency and how it works in specific socio-economic and cultural contexts to facilitate or ensure success in business operations.

It is imperative to define the term 'entrepreneur' at the outset. 'Entrepreneur' has its origin in the French term 'enterprendre' which implies 'to do something'. French economist Cantillon (1755) was the first philosopher who described an entrepreneur as a person who tends to buy factor services i.e. land, labour, material, capital etc. at a certain price and produce products with the help of factor services and sell these products in the market to gain profit. Entrepreneur uses his ability to organize a business venture to achieve the goals. Other researchers have visualized entrepreneur as a person who changes raw material into goods by taking risk in the market for profit. This analysis recognizes the fact that an entrepreneur has to be willing to bear risk.

Further, another economist Jean Baptiste Say (1767-1832) defined '*entrepreneur*' as *person who converts lower productive resources into higher productive resources*. Similarly Defoe (1887,2001), Knight (1921, 1942), Weber (1947), Ludwig Von Mises (1949,1996), Leon Walras (1954), Penrose (1959), Kirzner (1973), Drucker (1985), Nelson and Neck (1991), and

Deakins (1996) expounded the term 'entrepreneur' in different ways. Based on their interpretation, an entrepreneur can be said to be a person who converts raw material into finished goods by using his skills, knowledge, and attitude. Entrepreneur operates the business by evaluating the business opportunities in the market with the minimum resources to get the maximum profits (output). Entrepreneur is a risk taker, decision maker, an innovator who develops new products by utilizing the resources effectively to maximize his profit.

According to Baum & Locke (2004), *'Entrepreneurs must also be willing to experiment different strategies in the pursuit of profitable outcome because it is the entrepreneur's energy, creativity & motivation that trigger the production of superior product & services.'* In brief, it can be observed that an entrepreneur should have the ability to experiment willingness to take risk and be energetic, self-motivated and creative.

Schumpeter (1934) has defined 'entrepreneurship' as the process of creating 'new combinations of factors to produce economic growth. Kirzner (1983) defined entrepreneurship as 'the process of perceiving profit opportunities and initiating actions to fill currently unsatisfied market needs or doing more efficiently what is already being done.' Accordingly, an entrepreneur finds the gap in market needs, takes it as an opportunity, fills this gap by providing products or services to the market, and earns profit.

Several other scholars have also tried to explain the concept of 'entrepreneurship' in their own ways. Bheemappa (2003) described entrepreneurship as the creation of innovative response to the environment, which can take place in a variety of fields of social endeavour, business, industry, agriculture, education, social work and it is potent limiting factors in economic development. Reddy (2004) explained entrepreneurship as 'a composite skill, the resultant of a mix of many qualities and traits – these include tangible factors such as imagination, readiness to take risks, ability to bring together and put to use other factors of production, capital, labour, land and intangible factors such as the ability to mobilize scientific and technological advances'.

Entrepreneurship can be viewed as a combination of entrepreneur's skills and innovation, and an entrepreneur as one who builds the organization with a handful of inputs, scans the market, creates the business environment, and makes efforts to achieve the goals. Entrepreneurship is a purposeful behavioural adaptation launched for initiating, promoting and maintaining economic activities for the production and mobilization of monetary resources (Gartner, 1990; Shane and Ventakaraman, 2000; Johnson, 2001; Histrich and Peters, 2002). In the present era, it is being realized that entrepreneurship contributes to development of a country in several ways i.e. assembling the service sectors, bearing the risks, innovating and initiating the techniques of production to reduce the cost and increase the quality of the products, organize and co-ordinate the resources at all levels and serve the economy by offering the products in the market.

Entrepreneurial Competency

David McClelland (1973) proposed the concept of competency. In his study, he challenged the traditional criteria of assessment and level of intelligence for business success. He concluded that self-motivation of a person, result orientation and self-image play an

important role in the performance rather than his intelligence level alone. Further, Boyatzis (1982) defined competency as 'a capacity that exists in a person that leads to behaviour that meets the job demand within the parameters of organizational environment, and that, in turn brings about desired results'. Herein Boyatzis related competency to a person's behaviour, which is required in organizations in order to achieve the desired objectives for which the organization is running.

Further, Spencer and Spencer (1993) defined competency as an underlying characteristics of an individual that is causally related to criterion referenced effective and/or superior performance in a job or situation. This indicates that these are certain identifiable traits that constitute to a person's characteristics and level of performance in a job situation. Underlying characteristic implies that competency is a fairly deep and enduring part of a person's personality and can predict behaviour in a wide variety of situations and job tasks. Causally-related implies that a competency causes or predicts behaviour and performance while criterion-referenced means that the competency actually predicts who does something well or poorly, as measured on a specific criterion or standard.

In the world of management, the term 'Competency' has been used since the last many decades. It is defined as the sum of experiences, knowledge, skills, and attitude, which a person acquires during his lifetime for effective performance of a business task. The term competency has number of definitions, which depend upon the ability characteristics, and personality of individuals who undertake the responsibility of performance of business activities with an aim of achieving full potential.

Entrepreneurial competency is the knowledge, skills and attitude which are required by the entrepreneur to run the business successfully and produce maximum profit with minimum resources. Bird (1995) maintains that the entrepreneurial competencies are underlying characteristics possessed by a person which result in a new ventures creation, survival, and/or growth. Thus, Entrepreneurial Competency plays an important role for business survival and its success. It is a purposeful behavioural adaptation launched for initiating, promotion and maintaining economic activities for the production and mobilization of monetary benefits.

Entrepreneurial Characteristics

An entrepreneur is a person who possesses certain characteristics such as risk bearing, forward thinking and creativity. Social scientists have studied and enlisted the characteristics of an entrepreneur and broadly defined them as psychological, non-psychological, and personal. Entrepreneur's psychological characteristics are the need to achieve, risk taking, self-efficacy, and locus of control. On the other hand, non-psychological characteristics include human and social capital and opportunity recognition. Personal characteristics include age, education, gender and experience.

Psychological Characteristics: Entrepreneurs are individuals who have unique values, attitudes and needs which help to drive the business successfully. It is based on the assumption that people behave in accordance with their values and behaviour results from attempts to satisfy needs. Brockhaus (1980) reviewed a number of psychological

characteristics and concluded that need for achievement, risk taking, locus of control and a risk-taking tendency as attributes that contributing to the success of new business start-ups.

- **Need to achieve:** Need to achieve drives the entrepreneurs towards willingly completing the work, to achieve the targets and enhance their satisfaction level. Herein skills and experience play an important role. Entrepreneurs with higher need for achievement tend to set higher and difficult standards for themselves while running their business enterprises. Cooper (1986) observed that the need to achieve is related to independence orientation and risk taking. Measuring the orientation of need for achievement in the entrepreneur's personal characteristics is likely help in predicting whether he or she will be successful in the new venture (Shantha Kumar, 1992; Solymossy, 1998).
- **Risk taking:** Risk-taking refers to the tendency to engage in behaviors that have the potential to undertake business activity that may or may not be profitable, at the same time provide the opportunity for some kind of outcome that can be perceived as positive herein profits. Adam Smith (1776) stated that risk taking is important for an entrepreneur. Covin and Slevin (1989) differentiates an entrepreneur from a non-entrepreneur on the concept of risk taking. Bird (1989) described the four types of risks for an entrepreneur. These risks are economic risks, social risks, career development risks, psychological and health risk. Oosterbeek et al. (2008) explained that an entrepreneur can become successful if he has the ability to work in an uncertain environment and take risk and has capacity to bear losses. Further, Caliendo et al. (2008) and Bashie & Mahmood (2008) observed that entrepreneur who is a risk taker, has more chances of survival and success.
- **Locus of control:** It refers to the extent to which individuals believe that they can control events that affect them. Locus of control is entrepreneur's self-confidence about their skills, knowledge, and ability to control the environment of the organization, leading to performance and success of the organization. Levenson (1981) explained locus of control as two aspects i.e. internal and external locus of control. Internal locus of control is personal belief that success and failure happened due to his hard work and efforts. On the other hand, in case of external locus of control, person relates his/her failure and success with the efforts/action of the others and thinks that it depend upon luck and chance. Entrepreneurs with greater internal locus of control are more likely to succeed in their business ventures as compared to those having higher degree of external locus of control.

Non-Psychological Characteristics: Non-psychological characteristics include the human capital, social capital and opportunity recognition. It plays an important role to run the business efficiently.

- **Human capital:** Human capital includes the skills and knowledge which a person gathers in formal and informal learning. Human capital encompasses both abilities, which are influenced by genetic factors (e.g., intelligence, health, personality, attractiveness) as well as acquired skills such as education, job training, tenure, work experience, and interpersonal relationships (Shanahan & Tuma, (1994). Entrepreneurs possessing higher level of human capital are more likely to succeed in their business ventures.
- **Social Capital:** Social capital is the network, trust and shared values that bring to life a human's values, skills, experience, and knowledge. Social capital results from

effective communication. Bruder & Preisdorfer (1998) studied 1700 firms in Germany and found that there is positive relationship between social capital and success of organization. According to Nahapiet and Ghoshal (1998) the concept of social capital can be described in three dimensions of an individual's social capital i.e. structural capital – the structure of the overall network of relations, relational capital – the quality of an actor's personal relations and cognitive capital – the degree to which an individual shares a common code and systems of meaning within a community.

- **Opportunity Recognition:** Entrepreneur who has capacity to recognize the opportunity may succeed in his/her business venture (Christensen et al., 1989). Sambasivan et al. (2009) observed that opportunity recognition for the entrepreneur is necessary for business to survive and for profit making. Kickul and Walters (2002) maintained that opportunity recognition plays an important role in strategic orientation of entrepreneurs.

Personal Characteristics: Personal characteristics include age, gender, education and experience. Age and gender are the trait characteristics while education and experience are the characteristics, which can be attained by the age.

- **Age:** Age is the factor of personal background. Many researchers have conducted studies and all have expressed different opinions. Bosma et al. (2000) related age with knowledge and business success. They found that age is positively related with knowledge rather than business success. They described knowledge leads towards the success of business. Mario, Arminda & Joao (2008) were of the opinion that a person up to age of 24, usually did not feel positive to start his/her own business or become entrepreneur and argue that willing to start own business decreases with increase in age, but opportunity increases with decrease in age.
- **Gender:** Gender plays a significant role to step up business and get success. Arnold & Kendele (1995) studied the abilities of male and female to start and run the successful business and found that both have similar abilities, but female entrepreneur have high satisfaction level. Further, Mario, Armida & Joao (2008) found that most of the women want personal and economic independence, but they have less confidence level and capability to run an organization.
- **Education:** Education enables an entrepreneur to perform better in his/her task. Education has a positive influence on performance and success. Guzman (1994) studied relationship between education and intrinsic motivational factors. He found positive relationship. Michael & Pamela (1995) conducted study on creative education and standardized education. They found that an entrepreneur who has creative education leads to high success and entrepreneur with standardized education leads to low success. Further, Thapa et al. (2008) observed that education helps in making decisions, understanding and adoption of new technology and ability to understand the market better.
- **Experience:** Experience always contributes to success of business. Cooper (1985) described experience as a motivational factor that leads to entrepreneurial success. Michael & Pamela (1995) found that a person who has good experience with a job is not likely to become an entrepreneur. On the other hand, a person who has bitter experience with a job is likely to become an entrepreneur. Brockhaus (1980), Rose et al. (2006), Bosma et. al. (2000) studied the factor of experience and concluded that

experience leads to the success of business of an entrepreneur and contributes to the economy of the country by the way of foreign exchange.

Conclusion

Extant literature conforms that there are certain entrepreneurial characteristics/competencies which lead to greater success of business enterprises. These characteristics have been categorised as psychological, non-psychological and personal. Researchers have found positive correlation between certain psychological characteristics such as higher achievement need orientation, greater risk-taking orientation and internal locus of control and success in new ventures. At the same time, it has been found that non-psychological characteristics such as human capital, social capital and opportunity recognition play a crucial role in ensuring success of entrepreneurial ventures. Personal factors such as age, gender, education and experience also have the potential to determine whether an entrepreneur will succeed or fail in his/her new venture.

However, literature on this theme is scarce. It is imperative that more empirical studies are conducted especially in the developing countries to build substantial cases linking entrepreneurial characteristics with entrepreneurial success. At the moment, it sounds plausible to accept that there already exists such a connection. New evidences based researches in different parts of the world will provide a fillip to training programmes in competency-based entrepreneurship development.

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Impact of Organizational Culture on Employee Commitment: An Empirical Study

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Abstract

This paper examines the influence of organizational culture on enhancing employee commitment. Empirical results of this study indicate a positive association between various aspects of organizational culture such as openness in decision-making, promoting professionalism, organizational goal integration, promoting fun at work, innovation & employees' participation in decision-making process, transparent communication, fair HR practices, effective conflict management mechanism, customer focus, leadership styles, etc. and enhanced employee commitment. It is also observed that appropriate organizational culture induces affective commitment among managers, support staff and workers while the supervisors show higher degree of normative commitment.

Keywords: organizational culture, employee commitment, leadership

Introduction

Organizational culture across the globe has been evolving over a time in sync with fast changing technological, social, economic and business environment. In fact, social, cultural, political, technological and global forces challenge organizations to redefine their strategies (Werner, 2007). A number of positive dimensions of organizational culture such as openness in decision-making, promoting professionalism, organizational goal integration, promoting fun at work, promoting innovation, promoting employees' participation in decision-making process, transparent communication, fair HR practices, effective conflict management mechanism, customer focus, leadership styles, etc. are forming core of workplace ethos at a time when competition is fierce in all sectors. Organizations carefully foster positive culture at the workplace in order to enhance employee commitment which in turn help not only in retaining start performers but also augment overall organizational effectiveness.

Organizational culture is generally unique to the company. That means, while two companies might have similar culture, it may not be alike. As many employees spend over 40 hours at their workplace, their organization's culture affects both their work lives as well as their personal lives. Workplace culture is a very powerful force which is consciously and deliberately cultivated and passed on to employees in manner that they get integrated within the system. Organizational culture refers to the beliefs, ideologies, principles and values that the employees across all levels of share and hold them together. Quality of organizational culture determines competitiveness and success of the companies.

Observation of Peters and Waterman (1999) underlines the importance of corporate culture: 'Without exception, the dominance and coherence of culture proved to be an essential quality of the excellent companies. Moreover the stronger the culture, the more it was directed to the marketplace, the less need was there for policy manuals, organization charts, detailed procedures or rules. In these companies, people way down the line know what they are supposed to do in most situations because the handful of guiding values is crystal clear'.

It goes without saying that organizational culture is pervasive and powerful. For business, it is either a force for change or a definite barrier to it. For employees, it is either the glue that bonds people to an organization or what drives them away. Managers of contemporary organizations are increasingly challenged to make necessary adjustments in organizational culture in order to accommodate aspirations of young employees who are forward looking and appreciate progressive dimensions of workplace values such as transparency, openness and professionalism. Inducing commitment among young employees largely rests on the organizational culture.

Literature Review

Organizational culture is an important topic which is researched and extensively used by sociologists, anthropologists and behavioural scientists at large. A single definition of organizational culture seems to be elusive as it is defined both in terms of its cause and effect. Earlier thinkers have defined organization culture with a focus on distinguishing the levels into strong and weak cultures. According to Herkovitz (1955), culture is the man-made part of environment. Several anthropologists have a different viewpoint of culture as derived in context of organization than for societies (Smircich 1983, Frost 1985, Louise 1985, Moore 1985). Sinha (1990) in his work on 'Social Values and Effective Organizations' indicates that the work culture implies work related activities and meanings attached to such activities in the framework of norms and values regarding work.

Organizational culture consists of values and assumptions shared within an organization (Schein, 1990). In general, organizational culture refers to a system of shared meaning held by members that distinguishes the organizational from other organizations. The research suggests that there are seven primary characteristics that capture the essence of an organizational culture (Robbins, et al., 1995). A degree of innovation and risk taking, attention to details, outcome orientation, people orientation, team orientation, aggressiveness and stability are suggested as seven characteristics of organizational culture.

Organizational culture reflects the values, belief and attitude of its members. Organizational culture evolves slowly over time. Unlike vision and mission statements, they are not usually written down, but are soul of an organization (Hellriegel and Slocum Jr, 2007). Organizational culture exists on several levels, which differ in terms of visibility and resistance to change. The relationship, contribution and impact of organizational culture is well established over performance. Study after study have clearly highlighted that a salutary organizational culture helps organizations to enhance its financial performance. These studies together illustrate how performance-oriented organizational culture is to be created (Champoux, 2000). Within accounting organizations with cultures emphasizing accuracy of

work, predictability, and risk taking, poor performing employees quit at a higher rate than high performing employees.

Culture, at the workplace is a very powerful force, which is consciously and deliberately cultivated and is passed on to the incoming employees. Most theorists agree that organizational culture exists and that it has definite effects, but an explicit definition of its true nature eludes proper academic treatment. Some given definitions of organizational culture are: 'Learned ways of coping with experience' (Gregory, 1983); 'A pattern of basic assumptions invented, discovered and developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid and is therefore taught to new members as the correct way to perceive, think about, and feel in relation to those problems (Schein, 1990).

Ravasi and Schultz (2006) stated that organizational culture is a set of shared mental assumptions that guide interpretation and action in organizations by defining appropriate behaviour for various situations. Although a company may have its 'own unique culture', in larger organizations there are sometimes conflicting cultures that co-exist owing to the characteristics of different management teams. Organizational culture may affect employees' identification with an organization in case of presence of conflicting cultures at the workplace.

Broadly speaking, organizational culture is the behaviour of individuals within an organization and the meaning that people attach to those behaviours. Culture includes the organization's vision, values, norms, systems, symbols, language, assumptions, beliefs, and habits. It is also the pattern of such collective behaviours and assumptions that are taught to new organizational members as a way of perceiving, and even thinking and feeling. Organizational culture affects the way people and groups interact with each other, with clients, and with stakeholders.

Organizational culture influences a major job related attitude and that is employee commitment. The concept of employee commitment has grown in popularity in the literature on industrial and organizational psychology (Cohen, 2003). Early studies on employee commitment viewed the concept as a single dimension, based on an attitudinal perspective, embracing identification, involvement and loyalty. Extant literature on the theme indicates that commitment can be described from an attitudinal, behavioural and motivational perspective. Morrow (1993) describes employee commitment as characterized by attitude and behaviour. Miller (2003) describes attitude as 'evaluative statements or judgments – either favourable or unfavourable – concerning a phenomenon'. Employee commitment as an attitude reflects feelings such as attachment, identification and loyalty to the organization as an object of commitment (Morrow, 1993). Meyer also suggests that employee commitment is an attitude 'characterized by favourable positive cognitive and affective components about the organization'.

Best (1994) indicates that employee commitment as a behaviour is evident when 'committed individuals enact specific behaviours due to the belief that it is morally correct rather than personally beneficial'. Reichers (1985) is of the opinion that 'employee commitment as behaviour is visible when organizational members are committed to existing

groups within the organization'. Therefore, employee commitment is a state of being in which organizational members are bound by their actions and beliefs that sustain their activities and their own involvement in the organization (Miller & Lee 2001).

In terms of the motivational perspective, O'Reilly (1989) states that employee commitment is the 'individual's psychological bond to the organization, including a sense of job involvement, loyalty and belief in the values of the organization'. Employee commitment from this point of view is characterised by employees' acceptance of organizational goals and their willingness to exert effort on behalf of the organization (Miller & Lee 2001). According to Werner (2007), commitment as work-related attitude is closely related to performance and turnover of employees.

Ryan (2000) observes that an employee quits because the current employment proposition is unsatisfactory. Every employment proposition consists of some mixture of tangibles such as pay and benefits and intangibles such as relationships with colleagues, work-life balance, and trust in management. When the current position is not meeting employee's needs and an opportunity to join another organization is available, the employee prefers to quit.

Meyer and Allen (1991) observe that employee commitment 'is a psychological state that characterises the employee's relationship with the organization, and has implications for the decision to continue membership in the organization'. This definition is relevant to the current study as it helps to determine organizational members' feelings of attachment, identification and loyalty to the organization as an object. Meyer and Allen (1997) use the tri-dimensional model to conceptualize employee commitment in three dimensions, namely affective, continuance and normative commitment. These dimensions describe the different ways in which employee commitment develops and the implications for employees' behaviour. Common to the three dimensions of employee commitment is the view that employee commitment is a psychological state that characterizes organizational members' relationship with the organization and has implications for their decision to continue or discontinue membership in the organization (Meyer & Allen 1997).

Werner (2007) specifies that 'an employee who is engaged with the organization is emotionally, cognitively and personally committed to the organization and its goals by exceeding the basic requirements and expectations of the job'. Miller (2003) also states that employee commitment is "a state in which an employee identifies with a particular organization and its goals and wishes to maintain membership in the organization. Organizational commitment is therefore the degree to which an employee is willing to maintain membership due to interest and association with the organization's goals and values.

Objectives of the Study

The current study aims to

- Study the composition of organization culture and employee commitment;
- Analyze the impact of organization culture on the employee commitment.

Hypothesis

H₀- Employee's commitment in relation to various components of organization culture does not vary significantly.

Research Method

Present research is exploratory as well as descriptive in nature. The study is based on primary as well as secondary data. Secondary data was collected from different sources like books, magazine, journals, research paper etc. Primary data was collected by using survey method.

A structured questionnaire was designed covering different dimensions of organizational culture and its relationship with employee commitment. The organization culture was rated on the following variables: individual performance, leadership, customer focus, organization structure, communication, conflict management, human resource management, participation, innovation, decision making, professionalism, organizational goal integration and fun. Employee commitment was measured on the three important components viz. affective component, continuance component and normative component. Constructs related to employee commitment and organizational culture were developed on the basis of review of extant literature. The questionnaire on organizational culture and employee commitment were piloted on a sample of 150 respondents working in the different Micro, Small and Medium Enterprises (MSME) in Dehradun. Almost 125 responses were received and after scrutiny 114 questionnaires were found suitable and taken for the study. Different statistical techniques like, Mean, Standard Deviation, ANOVA were used to analyze the data.

Table 1 below shows the demographic characteristics of respondents. It is evident from the table that three-fourths of the respondents fall in the age group of up to 25 years. Further, 19.3% of the respondents belong in the age group ranging 25-35 years. Thus the sample comprises primarily of the youth who generally have different perspective on the experience at workplace and their relation with peers, supervisors and managers. Besides, the youth are likely to devote time and energy in learning new things and experimenting with new ideas within the boundaries specified by the organization.

It also appears from Table 1 that more than 83% respondents are male. Majority of the male respondents are unmarried. Being unmarried has a bearing on the employee behaviour in terms of staying at work after office hours and engaging in organizational citizenship behaviour. Such indulgences are akin to behaviour often displayed by committed employees.

Information pertaining to the family size reveals that 43% respondents are having 3-4 members in their family while 38.6% respondents have 5-6 members in their families. Further, 14% of respondents indicated that they are having more than 6 members in their families. Besides, sample is well represented in terms of educational background and income levels. However, It is difficult to say whether family size or income levels play any role in augmenting employee commitment.

Table 1 Demographic Characteristic of Respondents

	<i>Categories</i>	<i>Count</i>	<i>Percentage</i>
Age	Up to 25 Years	86	75.4
	25-35 Years	22	19.3
	35-45 Years	5	4.4
	45 to 55 Years	1	.9
Gender Category	Male	95	83.3
	Female	19	16.7
Marital Status	Married	24	21.1
	Un Married	90	78.9
Family size	Upto 2 Members	5	4.4
	From 3-4 Members	49	43.0
	5-6 Members	44	38.6
	More than 6 members	16	14.0
Education Level	Up to matriculation	1	.9
	Intermediate	1	.9
	Graduation	78	68.4
	Post Graduate	28	24.6
	Professional qualification and others	6	5.3
Income Level	Up to 15,000 Rupees per month	14	12.3
	15,000-25000 Rupees per month	7	6.1
	25000-35,000 Rupees per month	15	13.2
	35-50,000 Rupees per month	25	21.9
	Above Rs50000 per month	53	46.5

Employee commitment is becoming an increasingly important issue in competitive business environment for organizations. Positive outcomes of employee commitment like low turnover rates and absenteeism, improvement in customer satisfaction, higher work motivation, greater organizational citizenship behaviour, higher job performance, and indicator of the effectiveness of an organization have been extensively researched. It has been observed that commitment of an employee is closely associated with their profile in the organisation.

Taking the above view into consideration, an attempt was made to classify the respondent according to their job profile in their respective organisations. Table 2 indicates that majority of respondents belonged to support staff cadre. According to the table below, 56.1% respondents in the sample were support staff in various Micro, Small and Medium Enterprises chosen for the purpose of the current study while 22.8% respondents belonged to junior level class. Senior and middle managerial cadre represented 11.4% and 9.6% respondents respectively.

Table 2. Job Profile in the organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Senior Level	13	11.4	11.4	11.4
Middle Level	11	9.6	9.6	21.1
Junior Level	26	22.8	22.8	43.9
Support Staff	64	56.1	56.1	100.0
Total	114	100.0	100.0	

Table 3. Period of Association with Present Organization

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 3 year	90	78.9	78.9	78.9
3 to 5 years	14	12.3	12.3	91.2
5 to 10 years	6	5.3	5.3	96.5
10-15 years	2	1.8	1.8	98.2
More than 15 years	2	1.8	1.8	100.0
Total	114	100.0	100.0	

The length of time spent in an organization leads to the development of shared understandings and experiences. Studies suggest that increased tenure in an organization is positively related to employee well-being and employee performance. It is therefore reasonable to deduce that employees who remain working for the same organization over a considerable period of time do so because they are happy with the HRM policies and practices. With this in mind, an attempt was directed to know from the employees about the period of association with their present organizations. Information presented in the Table 3 above reveals that majority of the employees (78.9% respondents in the sample) are associated with present organization for 3 years. On the other hand, 12.3% respondents have work experience in the same organization for 3-5 years, 5.3% of them have worked in the organization for 5-10 years, while 1.8% each have worked either for 10-15 years or more than 15 years.

Composition of Organization Culture: A Descriptive Analysis

Descriptive analysis gives summary information about the data. Descriptive statistics are used to present quantitative descriptions in a manageable form. In a research study, we may have lots of measures or we may measure a large number of people on any measure. Descriptive statistics help us to simplify large data in a sensible way. Each descriptive statistic reduces lots of data into a simpler summary. In the present study the researcher has developed the construct on Likert scale from 1 to 5 (strongly disagree to strongly agree) for measuring organizational culture and employee commitment. Employees were asked to rate various dimensions of organizational culture as per their opinion/understanding. These variables were clubbed into thirteen important components of organizational culture. Mean

of each component was calculated using SPSS software. Table 4 reveals that majority of respondents in the sample were of the opinion that leadership in the organization is an important component of organizational culture as it scored highest mean of 4.1754. It was followed by promoting individual performance which scored 4.0965. Customer focus of employees received 4.0789. However open communication between manager and subordinate for building organization culture has scored highest SD which indicates that employees' view on this issue is mixed.

Table 4 Descriptive Statistics

	N	Mean	Std. Deviation
Individual performance	114	4.0965	.65133
Leadership	114	4.1754	.85459
Customer focus	114	4.0789	.77739
Organizational structure	114	3.9693	.52708
Communication	114	3.6316	.86470.
Conflict management	114	3.7456	.79613
Human Resource Management Practices	114	3.6579	.77378
Promotion of Employee's participation	114	3.8509	.71312
Promoting innovation	114	3.5556	.74161
Promotion of Fun Loving Culture at the work place	114	3.9444	.57293
Organizational goal integration	114	3.9123	.62566
Promoting Professionalism	114	3.5585	.67034
Openness in decision-making	114	3.3377	.77430
Valid N (listwise)	114		

Table 5 below reveals that the role of individual performance in building organization culture has scored highest mean of 4.2308 among the employees of managerial cadre while it has scored lowest among supervisors. Similarly, leadership and their role in building organization culture has scored highest (4.4545) in supervisor and lowest among managerial category respondents. A chi square test was carried out to test the association between variable of organizational culture with the different cadres assuming null hypothesis that there is no association between the mean of different factors of organizational culture across employees of different cadres. The calculated value of chi square was found to be 5.520882 which is less than the table value (55.76) at 5% of significance and 36 degree of freedom. Hence null hypothesis is accepted indicating that there is no association between the mean of different factors of organizational culture across employees of different cadres.

Table 5 Mean of different factors of Organizational culture across the Employees of Different Job Profile

	Manager	Supervisor	Others	Worker
Job Profile in the organization				
Individual performance	4.2308	3.9091	4.0385	4.1250
Leadership	4.0000	4.4545	4.0769	4.2031
Customer focus	4.0769	4.3636	3.9615	4.0781
Organizational structure	3.8269	4.0682	3.9423	3.9922
Communication	3.6154	3.6364	3.5385	3.6719
Conflict management	4.0000	4.0000	3.4615	3.7656
Human Resource Management Practices	3.6923	3.9091	3.5000	3.6719
Promotion of Employee's participation	3.4615	4.1818	3.7692	3.9063
Promoting innovation	3.7692	4.1818	3.3590	3.4844
Promotion of Fun Loving Culture at the work place	4.0513	4.1212	3.8590	3.9271
Organizational goal integration	3.5641	4.2121	3.8205	3.9688
Promoting Professionalism	3.4615	3.6364	3.6154	3.5417
Openness in decision-making	3.1538	3.5455	3.2308	3.3828
Chi square Test	5.520882	DF 36		

Table 6 below reveals that the role of individual performance in building organization culture has scored highest mean of 4.4286 among the employees having experience of 3-5 years whereas it has scored lowest among the employees having experience of 5-10 years. Similarly leadership and their role in building organization culture has scored highest (4.3333) among the employees having experience up to 3 years. A chi square test was carried out to test the association between variable of organizational culture with the different level of experience of employees assuming null hypothesis that there is no association between the mean of different factors of organizational culture across employees of different level of experience. The calculated value of chi square was found to be 10.11204 which is less than the table value (67.50) at 5% of significance and 48 degree of freedom. Hence null hypothesis is accepted indicating that there is no association between

the mean of different factors of organizational culture across employees of different experience level.

Table 6 Mean of different factors of Organizational culture across the Employees of Different Years of Experience

Period of Association with Present Organization	Less than 3 year	3 to 5 years	5 to 10 years	10-15 years	More than 15 years
Individual performance	4.0667	4.4286	3.8333	4.0000	4.0000
Leadership	4.3333	3.8571	3.1667	3.5000	3.0000
Customer focus	4.1556	3.6429	4.0000	4.5000	3.5000
Organizational structure	4.0417	3.7679	3.5833	3.8750	3.3750
Communication	3.6333	3.7857	3.1667	4.0000	3.5000
Conflict management	3.7667	3.8571	3.1667	4.0000	3.5000
Human Resource Management Practices	3.7444	3.2143	3.5000	4.0000	3.0000
Promotion of Employee's participation	3.9500	3.5357	3.2500	4.2500	3.0000
Promoting innovation	3.6037	3.1905	3.6667	3.3333	3.8333
Promotion of Fun Loving Culture at the work place	3.9926	3.7143	3.7222	4.1667	3.8333
Organizational goal integration	4.0296	3.4524	3.3889	3.6667	3.6667
Promoting Professionalism	3.6481	3.1905	3.0000	4.0000	3.3333
Openness in decision-making	3.3778	2.9643	3.5833	3.7500	3.0000
Chi Square Test	10.11204	DF=48			

Employee Commitment

Meyer and Allen's (2007) three-component model of commitment was created in line with different psychological states comprising affective commitment, normative commitment and continuance commitment. The various construct related to these three different types of commitment were developed and employees were asked to rate the same on a Likert scale from 1 to 5 and mean was calculated using SPSS software. Table 7 below reveals a strong affective commitment of employee with mean 3.3158 with SD =.60023. It was followed by normative commitment with mean (3.0140) and SD .55413 and continuance commitment with mean (2.9316) and SD .79415.

Table 7 Descriptive Statistics

	N	Mean	Std. Deviation
Affective commitment	114	3.3158	.60023
Continuance commitment	114	2.9316	.79415
Normative commitment	114	3.0140	.55413
Valid N (list wise)	114		

Table 8 Mean of different factors of Organizational commitment across the Employees of Different Cadre

Job Profile the Organization	Affective Commitment	Continuance Commitment	Normative Commitment
Manager	3.3538	2.8000	2.8615
Supervisor	3.0182	2.8909	3.1091
Support staff	3.5231	3.0615	3.2538
Worker	3.2750	2.9125	2.9156
Total	3.3158	2.9316	3.0053

Table 8 above reveals that the managers workers and support staff has a strong affective commitment as compared to continuance and normative commitment. As compared to this supervisors have got strong normative commitment.

It was hypothesised that mean of different types commitment of employees does not differs significantly across the employees of different profile level in the organisation. To test the hypothesis one way ANOVA was carried out with the help of SPSS software to assess the significance of mean difference of all the commitment among different level of job profile of employees. We see from Table 9 below that the calculated value of F of different types of organizational commitment is less than the table value (2.70) at ($p < 0.05$) level of significance in all the cases except normative commitment. Therefore null hypothesis (H_0) is accepted indicating that there is no significant difference in the mean of different employee commitment with employees of different profile. However null hypothesis is rejected in the case of normative and it is concluded that mean of different organizational commitment differs significantly across employees of different cadres.

On the other hand, Table 10 below indicates that employees have got strong affective commitment ac compared to continuance and normative commitment.

Table 9 One Way ANOVA Across the Job Profile of Employees

		Sum of Squares	DF	Mean Square	F	Sig.
Affective commitment	Between Groups	2.217	3	.739	2.111	.103
	Within Groups	38.495	110	.350		
	Total	40.712	113			
Continuance commitment	Between Groups	.706	3	.235	.367	.777
	Within Groups	70.561	110	.641		
	Total	71.266	113			
Normative commitment	Between Groups	2.763	3	.921	3.173	.027
	Within Groups	31.934	110	.290		
	Total	34.698	113			

Table 10 Mean of different factors of Organizational commitment across the Employees of Different level of organizational Experience

Period of Association with Present Organization	Affective commitment	Continuance commitment	Normative commitment
Less than 3 year	3.2733	2.9222	3.0689
3 to 5 years	3.6714	3.3714	2.6286
5 to 10 years	3.1333	2.4667	3.0667
10-15 years	3.0000	2.1000	2.9000
More than 15 years	3.6000	2.5000	3.2000
Total	3.3158	2.9316	3.0140

It was hypothesised that mean of different types commitment of employees does not differs significantly across the employees of different level of experience in the organization. To test the hypothesis one way ANOVA was carried out with the help of SPSS software to assess the significance of mean difference of all the commitment among different level of experience in the organization. It appears from Table 11 below that the calculated value of F of different types of organizational commitment is less than the table value (2.45) at ($p < 0.05$) level of significance in all the cases. Therefore null hypothesis (H_0) is accepted indicating that there is no significant difference in the mean of different employee commitment with employees of different level of experience.

Table 11 One Way ANOVA Across the Level of Experience of Employees

		Sum of Squares	DF	Mean Square	F	Sig.
Affective commitment	Between Groups	2.494	4	.623	1.778	.138
	Within Groups	38.218	109	.351		
	Total	40.712	113			
Continuance commitment	Between Groups	5.769	4	1.442	2.400	.054
	Within Groups	65.497	109	.601		
	Total	71.266	113			
Normative commitment	Between Groups	2.463	4	.616	2.082	.088
	Within Groups	32.235	109	.296		
	Total	34.698	113			

Conclusion

This study tried to explore an association between various dimensions of organizational culture such as openness in decision-making, promoting professionalism, organizational goal integration, promoting fun at work, promoting innovation, promoting employees’ participation in decision-making process, transparent communication, fair HR practices, effective conflict management mechanism, customer focus, leadership styles, etc. and enhanced employee commitment.

Descriptive analysis was carried out to measure the different dimensions of organizational culture. It was found that majority of respondents in the sample are of the opinion that leadership in the organization are the important component of organizational culture as it scored highest mean of 4.1754. It was followed by promoting individual performance which scored 4.0965. Customer focus of employees received 4.0789. It is observed that managers, workers and support staff have a strong affective commitments compared to continuance and normative commitment.

One way ANOVA was carried out to assess the significance of mean difference of all the commitment types among different level of job profile and level of experience in the organization. The results indicate that there is no significant difference in the mean of different commitment with employees of different level of experience. However differences were measured across the job profile of the employees. Hence differentiated policies are needed to enhance the commitment level for the employees working under different capacities.

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New Capital Framework for Indian Banks: A Critique of Basle III Norms

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Abstract

Basle Committee on Banking Supervision (BCBS) formed by Bank for International Settlements (BIS) found that earlier capital components of international banks were inadequate to absorb the systemic and other losses in periods of economic stress like 2008. This had raised questions on stability and soundness of the banking system. As a result of comprehensive review, BCBS revised the capital adequacy framework, thereby strengthening the quality and level of capital, building up capital buffers and improving the risk coverage. Based on Basle report, Reserve Bank of India (RBI) has introduced revised capital norms for Indian banks which seek to make banks more resilient in periods of stress. The new capital framework envisages banks to provide for Tier 1 capital in the form of more stringent common equity and additional tier 1 and balance as Tier 2 capital to comply with regulatory norms. The capital elements have been made stronger in quality and level so that banks emerge out more resilient in meeting any financial crisis. The new regulations also seek implementation in a phased manner to be fully effective from March 2019. This paper takes a close look on new capital framework and its components to be achieved by the Indian banks.

Keywords: Basle norms, capital adequacy, risk weights, common equity

Introduction

Capital is the most important resource for any business entity. Commercial Banks as repositories of public money and as important instrument of economic activity in countries are required to maintain appropriate capital that can absorb potential losses in an economic downturn. The Banking Regulation Act, 1949 prescribes the minimum capital required for incorporating banking companies. For Public Sector Banks, the minimum capital requirement is governed by Bank Nationalization Act.

Banking assets are risky and subject to losses. The riskiness varies depending on the nature of asset and its holder. In line with the norms prescribed by Basle Committee on Banking Supervision (BCBS), RBI decided in 1992 to introduce a capital to risk asset ratio for banks as a prudent risk management device. It prescribed various risk weights for different categories of assets (including non-funded and off balance sheet exposure) to compute the total risk weighted assets (RWA). Based on this, banks were required to maintain a minimum regulatory capital of 9 % in relation to risk weighted assets, known as Capital Adequacy Ratio (CAR). Over the years, the system of risk weights has been further strengthened by addition of market risk and operational risk to credit risk and also providing for supervisory

review of total risk profile of bank assets. Simultaneously, the capital instruments in regulatory capital have been strengthened to ensure more strong and stable banking system.

Transition in Capital Regulations

The first prescription of regulatory capital was introduced by RBI in 1992. This was based on Basle accord of 1988 issued by the Bank for International Settlement (BIS), also known as Basle I. It was reviewed later, based on fresh Basle Committee report (Basle II) and revised capital adequacy framework was introduced by RBI in March 2008. The capital was structured as Tier 1 capital and Tier 2 capital with prescribed components under each. The risk weight structure was also changed and many assets were risk weighted as per credit rating of respective instruments besides introduction of new approaches like standardized approach, internal rating based approach etc. Tier 1 capital, also known as core capital, a superior quality capital was required to be fully available for absorption of all kinds of losses, whereas Tier 2 capital, also called supplementary capital, was lower in quality and had less loss absorption capacity. The Basle II framework required minimum capital adequacy ratio of 9 % with 6% for Tier 1 capital ratio. However, banks were required to operate well above the minimum regulatory capital depending on review of their overall risk profile.

New Capital Framework

During financial crisis of 2007-08, many international banks suffered losses and did not have adequate capital to meet the contingencies. It was also observed that many earlier capital instruments did not have capacity to absorb losses which eventually led to collapse of many banks in developed countries. The governments had to come forward to recapitalize many banks and stability of banking system was perceived as being under threat. The liquidity of banks was also critical issue as Basle Committee had observed that ‘many banks had not considered the amount of liquidity they might need to satisfy contingent obligations, either contractual or non-contractual, as they viewed funding of these obligations to be highly unlikely’ (BIS, 2008). Pursuant to such situation, Basle Committee conducted a comprehensive review of the capital framework of banks and revised the quality of capital instruments, introduced new risk elements, and at the same time revised risk weights for various assets with the objective to improve the ability of banking system to absorb shocks from economic and financial distress. Based on new Basle norms, RBI issued new guidelines in May, 2012 (RBI, 2012) on capital norms for Indian banks (Basle III). The revised capital norms prescribed by RBI, have been implemented in India from 1 April 2013 in a phased manner and are to be fully implemented as on 31 March 2019 (RBI 2015). To ensure smooth transition, interim arrangements have been laid down.

Basle III Capital Norms

The Basle III capital regulations are grounded on three basic pillars: minimum capital requirement, supervisory review of capital adequacy and market discipline. Under the first component, banks are required to compute their capital as percentage of risk weighted assets. The risks weights are assigned to balance sheet assets as well as off balance sheet items for credit risk, market risk and operational risk as per approaches prescribed by RBI. While credit risk is applied on the basis of unwillingness of borrower to meet its obligation as per agreed terms, market risk that applies to trading book refers to risk of loss arising

from movement of market prices. The operational risk, on the other hand, means risk of loss resulting from inadequate or failed internal process, people and system or from external events and includes legal risk, i.e. fines, penalties or punitive damages resulting from supervisory actions as well as private settlements. Based on aggregate risk based assets so computed, banks have to maintain a minimum capital of 9 % of risk weighted assets (RWAs) on an ongoing basis. In terms of supervisory review, banks have been cast with the responsibility of establishing effective risk management systems and their review by supervisory authority. The market discipline enjoins upon banks to show increased transparency through expanded disclosures.

Banks have to comply with capital adequacy ratio (CAR) at group level (by combining all banking and other financial subsidiaries) and standalone level.

The Capital Adequacy Ratio (CAR) is calculated as under:

$$CAR = \frac{\text{Total Capital Funds}}{\text{Risk Weighted Assets}}$$

The focus of this paper is on capital components eligible for computation of capital for calculation of CAR. However, an analysis of risk weighted assets of banks reveals that on an average, it comprises of elements based on risk application as under:

	Credit Risk Amount	Market Risk Amount	Operational Risk Amount
Percentage of total risk weighted assets	80%	15%	5%

It reveals that credit risk component of risk weighted assets constitute most significant element with market risk and operational risk following with much less share. The approaches for computation of these elements also differ quite a lot.

Capital Components under Basle III

Tier 1 Capital: The quality of Tier1 capital has been further improved and more emphasis is paid on common equity. “Greater common requirement will also encourage investors and other banks to trust banks’ reported capital ratios” (Swamy, 2013). Tier1 capital has now been subdivided into Common Equity Tier1 capital and Additional Tier1 capital.

Common Equity Tier 1: It consists of following:

- Paid up equity capital issued by the bank
- Share premium resulting from issue of common equity
- Statutory Reserve - representing transfer of 20% from net profit every year as per provisions of Banking Regulation Act
- Capital Reserve – representing surplus arising from sale proceeds of asset
- Other disclosed free reserves, if any
- Balance in Profit and Loss account at the end of previous financial year

Additional Tier 1: Basle III has separated Tier 1 into Common Equity and Additional Tier 1. The latter will consist of following:

- Perpetual Non- cumulative Preference Shares (PNCPS)
- Share premium resulting from instruments under Additional Tier 1 capital
- Perpetual Debt Instruments (PDIs)
- Any other instrument notified by RBI in this regard

The PNCPS and PDIs (Bonds and Debentures) to be eligible for reckoning as Additional Tier 1 capital, have to be perpetual in nature, but call option is permissible after 5 year with RBI approval. No put option is allowed. Further, they must have loss absorption features which include conversion into equity and writing down at specified trigger points. On exercise of call option, these have to be replaced with equal quality capital without any dilution in capital ratios. Bank's investments, if any, in own shares have to be deducted from the capital. Goodwill and other intangible assets are also deducted from common equity.

The amount of PNCPS and PDIs, to be included in Additional Tier 1 cannot exceed 1.5 % of the total risk weighted assets. Both have been allowed to be issued to retail investors.

Tier 2 Capital: It consists of the following:

- General provision and loss reserve
- Debt capital instruments issued by Banks
- Preference shares - other than PNCPS
- Share premium resulting from issue of instruments in Tier 2 capital
- Revaluation reserves (computed at 55 % discount)
- Any other instrument notified by RBI for this purpose

The first item, general provision and loss reserve, will be eligible for inclusion if it is held against future unidentified losses, which are freely available to meet losses. Accordingly, general provisions on standard assets, floating provisions, incremental provisions in respect of unhedged foreign currency exposures, provisions held for country exposures, investment reserve account, excess provisions which arise on account of sale of NPAs and 'countercyclical provisioning buffer' will qualify for inclusion in Tier 2 capital. Further, these items together are admitted up to 1.25% of total credit risk weighted assets.

The Preference shares under Tier 2 capital can be issued with minimum maturity of 5 years and call option is allowed after 5 years with prior approval of RBI. They can be either redeemable non-cumulative/cumulative or perpetual cumulative issued by the banks. Further, they are to be valued at progressive discount in remaining maturity of 5 years. In case of exercise of call option, they like PNCPS, have to be replaced by equal quality capital. Similarly, debt capital under Tier 2 is required to be issued as unsecured bonds or debentures with minimum initial maturity of 5 years and carry progressive discount and call option on terms akin to Preference shares. Their loss absorption capacity has to bear same feature as for Tier1 instruments. These can also be issued to retail investors.

Capital Conservation Buffer (CCB)

Basle III has introduced macro prudential measures in the form of capital buffers. The first buffer is designated as Capital Conservation Buffer (CCB) that is to be maintained by banks

in addition to Tier1 capital. Banks are required to build up CCB, in the form of common equity Tier 1, during normal periods, by conserving earnings, which can be used to meet losses during stressed times. If so used during a period of systemic stress, banks have to rebuild the same by reducing dividend, staff bonuses etc. A minimum buffer of 2.5 % of risk weighted assets is required to be maintained –to be built as 0.625 % per year from January 2016. The objective of this measure is to avoid breaches of minimum capital requirements.

Countercyclical Capital Buffer

In addition to Capital Conservation Buffer (CCB), banks will also be required to maintain another buffer, known as Countercyclical Capital Buffer. This buffer will be created by banks in good times, in the range of 0- 2.5 % of Risk Weighted Assets in the form of Common Equity Tier 1. Its purpose is to protect the banking sector from periods of excess aggregate credit growth that may result into system wide build-up of risk. The effective date of implementation of this measure will be announced by RBI in due course. A report points out on this aspect- ‘regulator will also be able to call on banks to build an additional countercyclical buffer if they think risks are on the increase and credit growth is too strong’ (Samuels, 2012).

Leverage Ratio

A significant cause of economic crises that started in 2007-08 was build-up of excessive leverage both in balance sheet and off balance sheet positions. The deleveraging required in the wake of heightened crisis resulted in downside in asset prices, fall in capital levels and credit contraction. To avoid such situation in future, a transparent, supplementary measure of non-risk based ratio, known as Leveraged Ratio, has been introduced in addition to risk based capital ratios. This ratio represents capital (equal to Tier 1 capital in risk based system) to total exposure proportion of the bank. Its purpose is to constrain build-up of excessive leverage and subsequent deleveraging. While this ratio will be implemented from 2018, RBI will monitor trial runs on this ratio over Indian banks against an indicative leverage ratio of 4.5%. Banks are, however, required to disclose their leverage ratio from April, 2015.

Regulatory Capital Limits

Under the new framework prescribed by RBI, the capital ratios as percentage of Risk Weighted Assets, on full implementation, will be as under:

Table I: Capital ratios prescribed under new Basle III

Regulatory Capital Component	Capital ratio required (as % of RWA)
Minimum Common Equity Tier 1 ratio	5.5 %
Capital Conservation Buffer (CCB)	2.5 %
Additional Tier 1 capital	1.5 %
Minimum Tier 1 capital ratio	7.0 %
Tier 2 capital ratio	2.0 %
Minimum Total capital ratio	9.0 %
Minimum Total capital ratio + CCB	11.5 %
Leverage ratio	4.5%

These limits, however, are required to be achieved by banks in a phased manner as prescribed by RBI and full ratios are to be complied from 2019. It needs to be mentioned that RBI norms on minimum regulatory capital are slightly stiffer than those prescribed by the Basle Committee. But India is not the only country to do that and many other well-known economies have adopted higher capital norms in the interest of sound banking system.

Transitional Phases in Basle III

New Basle guidelines have introduced stringent capital norms for banks with stiffer eligibility criteria for inclusion in capital elements. Knowing these difficulties, the implementation of new framework has been allowed in phases. The Capital Conservation Buffer measure comes into effect from third year and is to be gradually inflated. While minimum total capital adequacy ratio has been maintained at 9% throughout, phased implementation is envisaged in other elements as cushion for banks. Some relaxations have been allowed subsequently and now full implementation is slated to be achieved by March 2019 in a phased interval as under:

Table II: Transitional arrangement in regulatory capital (as % of RWA)

Sl. No.	Minimum capital ratio	March 2015	March 2017	March 2017	March 2018	March 2019
1.	Minimum Common Equity Tier 1 (CET 1)	5.5	5.5	5.5	5.5	5.5
2.	Capital Conservation Buffer (CCB)	-	0.625	1.25	1.875	2.5
3.	Minimum CET 1 + CCB	5.5	6.125	6.75	7.375	8
4.	Minimum Tier 1 Capital	7	7	7	7	7
5.	Minimum Total Capital	9	9	9	9	9
6.	Minimum Total Capital + CCB	9	9.625	10.25	10.875	11.5

Improvements in Basle III

It may be observed that under new guidelines of Basle III, there are both enhancements in the level and quality of capital. The Tier 1 capital now predominantly consists of Common Equity. While minimum total capital remains at 9 %, minimum Tier 1 capital is higher at 7 % (from 6%) out of which minimum common Tier1 equity capital will be 5.5 %. Earlier there were no separate capital ratios for common equity and additional Tier 1. The maximum Tier 2 capital ratio, within the total capital, has been reduced from 3 % to 2 %. The qualifying criteria for inclusion into capital components have been further strengthened. There is also provision of additional cushion in the form of Capital Conservation Buffer and Countercyclical Capital Buffer. The risk based capital ratios are supplemented with a non-risk based liquidity ratio. In addition, banks are required to make full disclosure of details of capital components, reconciled to audited balance sheet. Main features of capital instruments and method of computation of capital ratios are also needed to be disclosed by banks. The comparative picture of capital ratios under previous and new capital framework is represented in following table:

Table III: Comparison of Basle II and Basle III

Particular	RBI Prescription under	
	Basle II	Basle III (in March 2019)
Minimum Total Capital	9 %	9 %
Minimum Tier 1	6 %	7 %
of which Minimum common equity Tier1	3.6 %	5.5%
Maximum Tier 2 capital (within Total capital)	3 %	2 %
Capital Conservation Buffer (CCB)	-	2.5 %
Minimum total capital + CCB	-	11.5 %
Leverage ratio	-	4.5 %

Implications of Basle III

What implications these tighter capital norms of Basle III, as enforced by RBI, will have for Indian banks. To accelerate growth in the country, not only economic reforms have to be fast propagated, it will also require enhanced credit growth. At the same time, implementation of tighter capital norms will put pressure on banks to improve both quantum and quality of capital which has the potential to hamper requisite credit growth. However, expert view is that tighter capital and risk management measures will lead to overall more sound and safe banks with less loss probabilities and will generate impetus to credit flow.

At the same time, banks will have to shore up their capital for financing credit growth by garnering capital in requisite form by tapping capital market or from other measures. The capital to be raised must satisfy the prescribed criteria, including loss absorption measures, for eligibility to be reckoned as that component of capital. The new Basle norms provide a variety of options to banks to enhance regulatory capital. The boards of banks will have to devise appropriate strategies in this regard in the light of their balance sheet positions.

Capital adequacy of Banks under Basle III

Pursuant to implementation of new capital regulations from April, 2013, Indian banks have completed two years of operations. During this period, banks had to absorb all the nuances of new capital regulations and have devised appropriate strategies to comply with new norms as per phased program of RBI. Let us take a look at the capital ratios of a sample of banks for last two years vis a vis the norms prescribed by RBI.

All the public sector banks have been able to comply with the total capital adequacy ratio of 9% both in 2014 and in 2015 though it is not significantly higher than the benchmark prescribed. Common Equity Tier 1 and total Tier 1 capital have been above the required 5.5% and 7% respectively in all the banks of public sector group, in a small range of 6.55% - 9.35%. However, there is fall in total CAR in more number of banks (7 out of 11) which shows the capital strain being faced by banks particularly due to tightening of capital norms in the new framework. If banks have to enhance credit growth in coming years, they will have to look for augmentation of their capital through Government equity or market access.

As pointed by Kishore (2014) this may affect business expansion and solvency of banks in future in the absence of steps taken to enhance capital base of these banks.

(a) Public Sector Banks

Table IV: Capital ratios of Public Sector Banks under Basle III

Sl. No.	Bank	2015				2014
		Common Equity Tier 1 (%)	Total Tier 1 (%)	Tier 2 (%)	CAR (%)	CAR (%)
1	State Bank of India		9.6	2.4	12	12.23
2	Bank of Baroda	9.35	9.87	2.73	12.60	12.23
3	Canara Bank	7.37	8.02	2.54	10.56	10.63
4	Central Bank of India	7.86	8.05	2.85	10.90	9.87
5	Dena bank	7.33	7.67	3.26	10.93	11.14
6	Oriental Bank of Commerce	8.09	8.73	2.68	11.41	11.01
7	UCO Bank	8.94	9.05	3.12	12.17	12.68
8	Union Bank	7.24	7.50	2.72	10.22	10.88
9	Corporation bank	7.34	8.05	3.04	11.09	11.65
10	Allahabad bank	7.57	7.71	2.74	10.45	9.96
11	Indian Overseas Bank	6.55	7.30	2.81	10.11	10.78

Source: Annual reports of Public Sector Banks (2014, 2015)

(b) Private Sector Banks

Table V: Capital ratios of Private Sector Banks under Basle III

Sl. No.	Bank	(2015)				(2014)
		Common Equity Tier 1 (%)	Total Tier 1 (%)	Tier 2 (%)	CAR (%)	CAR (%)
1	ICICI Bank	12.78	12.78	4.25	17.02	18.34
2	HDFC Bank	13.66	13.66	3.13	16.79	16.07
3	Axis Bank	12.07	12.07	3.02	15.09	16.30
4	Yes Bank	11.00	11.5	4.10	15.60	14.40
5	Kotak Mahindra Bank	16.18	16.18	0.99	17.17	18.83
6	DCB Bank	14.21	14.21	0.74	14.95	13.71

Source: Annual reports of Private Sector Banks (2014, 2015)

All new private sector banks have total capital ratio well above the regulatory norm of 9% (range 13.71- 18.83%). The common equity Tier 1 ratio in these banks has been in the range of 11- 16.18%, which is relatively higher than public sector group. They have thus been able to manage their capital needs in much better and professional way as compared to their public sector counterparts by devising appropriate strategies.

Variation in Total Capital

It is interesting to examine the variance in the amount of total regulatory capital of banks during first two years of implementation of Basle III. Whether banks have been able to enhance their total capital during this period on they have been facing strain. The capital disclosures of a sample of banks reveal following position:

(a) Public Sector Banks

Table VI: Total capital variation in public sector banks

Sr no	Bank	2014	2015	% increase in Total capital
		Total capital (Rs. mn)	Total capital (Rs. mn)	
1	State Bank of India	1,825,605	1,947,790	6.69
2	Bank of Baroda	442,925	517,669	16.88
3	Central Bank of India	182,750	216,364	18.39
4	UCO Bank	147,845	153,763	4.00
5	Oriental Bank of Commerce	16,280	18,120	11.30
6	Dena Bank	8,804	9,256	5.13
7	Union Bank	250,186	259,861	3.87
8	Canara Bank	336,100	365,719	8.81
9	Allahabad Bank	144,018	159,590	10.81
10	Indian Overseas Bank	19,988	19,644	-1.72

Source: Annual Reports of respective banks (2014, 2015)

Most of public sector banks have enhanced their total capital in the range of 3.87 % to 18.39 %. Only one bank has faced marginal depletion in capital. The average increase in the sample is 8.42 % which is just reasonable for the size of operations of public sector banks. The bank management will be required to devise strategies to shore up their capital to meet growing business needs.

(a) Private Sector Banks

As against public sector banks, the private sector banks have been more professional and prudent in taking measures to enhance their capital in the last two years. Their strategies appear to be more rationale in meeting the challenge of Basle III enabling them to provide for better business expansion. Except one bank, the capital growth has been in double digit and significantly higher than Government banks. The average increase in capital is 24.27% which is extremely good and extends sufficient capital cushion to banks. In two banks, capital growth has been as high as 46% and 35%, showing substantial capital expansion.

Table VII: Total capital variation in new private sector banks

		2014	2015	
Sl. No.	Bank	Total capital (Rs. mn)	Total capital (Rs. mn)	% increase in Total capital
1	ICICI Bank	1,000,149	1,032,881	3.27
2	HDFC Bank	575,763	747,179	29.77
3	Axis Bank	469,042	536,547	14.39
4	Yes Bank	109,991	161,513	46.84
5	Kotak Mahindra Bank	189,174	218,554	15.53
6	DCB Bank	11,667	15,847	35.83

Source: Annual Reports of respective banks (2014, 2015)

Conclusion

Even though the new capital framework provides tighter norms for banks, there are options available to banks in Tier 1 and Tier 2 components to shore up their capital. However, with separate prescription of capital ratio for common equity and additional Tier 1, the options have been somewhat squeezed. Banks can accordingly choose necessary components as per their strategic decisions. In the coming years, Indian banks will need enormous capital funds, to fully comply with new framework and the capital components have to bear the requisite strength and quality. A recent paper has commented that 'transition from Basle II to Basle III, which has introduced stringent measures for capital elements, has put a strain on Indian banks, both in public and private sector, in maintaining their capital ratios at earlier levels in Basle II. There is some cushion available in the sense that full implementation of Basle III is being made in phased basis though during this period some more tightening will take place in the form of capital buffer and leverage ratio' (Kishore, 2014). In case of public sector banks, Central Government, as principal shareholder, has to come forward to assist them in managing this task. This will ultimately improve the overall quality of bank capital with adequate loss absorption capacity leading to more stable and robust banking system. The challenge before the banks to manage their capital needs in terms of new Basle norms, in any case, will persist.

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