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EIS Facilitation in Shifting from Virtualization to Cloud

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EIS Facilitation in Shifting from virtualization to Cloud

Valued Reader,

Virtualization is unquestionably not new-fangled. There has been trustworthy expansion of virtualization technology and capabilities for the precedent decade. The resulting crossroads of amplified functionality of virtualization software, enlarged power of computing hardware, and amplified accessibility of network bandwidth has helped virtualization permeate. Fundamentally, virtualization differs from cloud computing for the rationale that virtualization is software that stage-manage hardware, while cloud computing refers to a service that results from that treatment. Thus moral of a story is that virtualization is software which separates physical infrastructures to generate various dedicated resources. It is the fundamental technology that powers cloud computing. Virtualization technology might be driving the cloud computing surroundings, but that's just one of its numerous reimbursements.

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Dr. Subodh Kesharwani,

Founder, Editor-in-Chief

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e-Commerce: A New Mechanism to Assign and Manage the Identity of Online Customers

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Abstract

The security issues of e-Commerce are related to economic loss and privacy leak. The all kind of fraud and crime are mainly due to the anonymity in the world of Internet. These issues can efficiently be controlled by managing the true identity of e-Commerce transaction partners. The true identity of the transaction partners can be used to track and locate the unlawful activities performed by a person. The vulnerability issues in the e-Commerce linked with anonymity can also be handled by the true identity mechanism. The mechanism will not only be suitable for the e-Commerce but also can be used for the overall network security breached by the illegal perpetrator taking the advantage of anonymity on the Internet.

The anonymity is one of the strengths of e-Commerce. Therefore, revealing the identity is a loss in the generic strength of e-Commerce. In this paper, I have proposed a mechanism to manage the true identity of the transaction partners without the loss of anonymity with the help of a trusted third party. The mechanism is based upon cryptographic technique and a trusted third party identity distribution center. The mechanism has strong capability of fraud control over the Internet, taking place due to anonymity.

Keywords: Anonymity, Cryptography, Digital Signature, e-Commerce, Internet Identity, Security

1. Introduction

The Internet provided the opportunity to the common people to become a Netizen. Netizen means a world citizen in the boundary of the Internet. The world wide resources are available for accessing to the netizens through Internet. In the past decade, Internet has grown as a powerful medium of communication and seems to offer great possibilities for social, political, economical, industrial and technological changes. In fact, the Internet has removed the limitation of reach and communication barriers. The exponential growth of Internet has been observed in past years. The Internet has become the life line for business, finance, education, and all. Though, the influence of Internet in the success of each field is prominently visible but it is more than this for business. This is from success to survival. This led the development of electronic commerce (e-Commerce) and it became a revolution for business today[1,9,16,19]. The importance of Internet and development for all purposes is raising the growth rapidly becoming greater in size. This uncontrolled growth is leading the crime rise over the Internet. Nothing is new-fangled. With early stages of its development, security issues such as reliability, integrity, confidentiality, non-repudiation, and authentication[1,9,17] were in focus. All these security issues are common to the Internet and e-Commerce. I outline these issues as follows:

- Reliability: The guaranteed delivery in time. When a transaction has been made it should reach to its destination without any divergence in a reasonably available time.
- Integrity: The uncompromised delivery of message. When a message or information is sent over the Internet, it is not altered by the unauthorized user.
- Confidentiality: Protecting information from unauthorized user. The information is for whom is available to them only.
- Non-repudiation: The ability to ensure the non-denial of online actions. This is related to the action acceptance by the user when performed once on the Internet.
- Authentication: Identifying the identity. This is ensuring the claim of someone representing as is the same.

Among all these issues; non-repudiation and authentication are related to the identity of people on the Internet. The Internet is open to create accounts using false names. This feature of Internet availability has led the breach of non-repudiation and authentication. The e-Commerce merchants face problem of refutation. This is worse for the e-Commerce merchants as purchasing card (credit/debit) issuer sides with the customer due to the lack of legally valid proof [9].

There is one strange behavior of Internet related to security. Security is always opposed by ease of use and anonymity[9].

Anonymity on the Internet is weakness and strength both, so it is supported from both ways. Authors in their research suggest the partial revealing of identity[18]. Some Internet users perform crimes taking the advantage of anonymity while the others seek security by anonymity. What is more important? Both have equal potential but nothing can be picked at the cost of security violation. A negative impact of technology brings distrust. Trust[3,4,8,10,13] is an essential factor of technology adoption and security has a positive impact on trust[7].

The fixed Internet Identity (IID) is important for commercial transactions. There is an equal importance of fixed Internet Identity in nation and society for security. For example, Terrorists are also found have been using the Internet. In brief, a successful crime controlled web service needs a unique actual digital identity of each user on the Internet.

2. Existing Mechanisms

The authentication was identified as one of the security issues in the early days of Internet. Many researchers suggested the various schemes to overcome with the problem of authentication. The most widely used mechanism which helps the authentication and ensures the non-repudiation consists of three algorithms, key generation algorithm, key fetch algorithm and verification algorithm.

- Key Generation Algorithm: This algorithm is capable to select a uniformly random private key from a set of possible keys. Then it produces a corresponding public key.
- Key Fetch Algorithm: This algorithm produces an electronic stamp/signature with the message and the given private key.
- Verification Algorithm: Whatever is produced from key fetch is verified using the public key to check the authenticity.

In this mechanism a private key is crucial. The private key works as an IID. The possession of private key is possession of trusted IID. The mechanism is generally known as digital signature scheme. The above mechanism was used in RSA algorithm[17], Lamport signatures[11], Merkle signatures[15], Rabin signatures[14]. The other digital signature algorithms are DSA, ECDSA, ElGamal Signature Scheme, Schnorr Signature, Pointcheval-Stern Signature Algorithm, and Undeniable Signatures. The digital signatures in its present form are used to authenticate the source of message, to ensure the integrity of the message and to overcome with the non-repudiation. In fact, it restricts the source of message for later denial even when it is blamed to be sent by a fraudster because having mere a public key the signature cannot be copied.

With all these availability and practice do not provide certification of IID to each of the Internet user. The Internet IID has been remaining the focus of not only the technological domain but also of the governments. Many developed country has started the practice of IID on local level. American government has set NSTIC (National Strategy for Trusted Identity in Cyberspace)[12], which promotes the use of IID among the Internet user. The European Union proposed EID (Electronic Identity) and e-Signature in their action plans[6]. The Japanese government implemented e-Japan Strategy and Korean government has implemented the real name system on the Internet[2].

The above mentioned mechanisms and strategies for implementing IID are not in the global perspective. In some of the implementations the anonymity is lost which is a loss in the strength of Internet and specially e-Commerce. Therefore, the field is under an intense research among the public and private sector both to achieve a globally agreeable result.

In this paper, I propose a model to create IID maintaining anonymity over the Internet in global perspective. The proposed IID scheme is equally capable to control the privacy of user and reveal the identity in case of fraud.

2.1 Proposed Mechanism

The mechanism has two phases: Registration and Processing. Registration is a onetime activity for the lifetime Internet use. Processing is after registration activities not limited upon number.

2.1.1 Registration

In this phase there are three participants: The User, a Central Authority (CA) and a National Authority (NA).

Here we need an actual identity of user to use the facilities of Internet so a National Authority is needed. The National Authority may be a government organization having the data record of citizens or nationals. The role of Central Authority is to maintain anonymity and ubiquity. The process flow is depicted by the diagram given in Figure 1;

In this process the user provides personal detail and requests an IID from a CA, the CA requests an NA for the detail of the person. The NA provides the detail to the CA. The CA performs
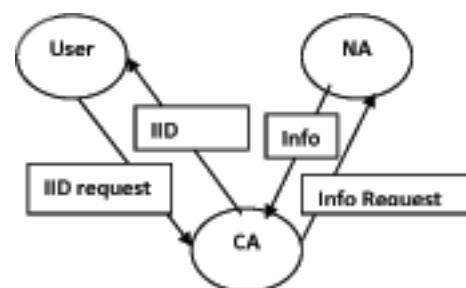
Figure 1. Central Authority (CA) and a National Authority (NA) Linkages.

the validation check and issues an IID to the user on the basis of right validation.

2.1.2 Verification

After acquiring the IID user is allowed to access the Internet and perform communications and transactions using the Internet. This involves three parties the sender (S), the Central Authority (CA) and the receiver (R). The process flow is shown in the diagram given in Figure 2;

In this process the user (S) sends request (SR) for a service to the e-service provider (R). Getting the IID from the user R sends a verification request (VRe) to the Central Authority (CA). The CA sends a verification report (VR). The S sends a Service Granted (SG) or Service Rejected (SRej) on the basis of VR.

3. Derivations and Interpretation

3.1 Preliminaries

Here, I give a brief introduction of the mathematical theory and results which I will be using in this paper.

3.1.1 RSA Cryptology

RSA is a public key cryptography algorithm that is based on the assumption of hardness of factoring the large numbers. RSA works on five parameters (p, q, n, d, e). p and q are two large prime numbers, n is the product of p and q. And $d \equiv e \bmod \phi(n)$ that is d is multiplicative inverse $e \bmod \phi(n)$, where $\phi(n)$ is Euler φ-function and is equal to $(p-1).(q-1)$. Here, (p, q, d) are private while (n, e) are public. The RSA cryptography on a message m can be applied as $C = m^e \bmod n$ for encryption and $m = C^d \bmod n$ for decryption.

3.1.2 Conjugate Elements

If a, b be two elements of a group G, then b is said to be conjugate to a if there exists an element $x \in G$ such that $b = x^{-1}ax$, b is also called the transform of a by x[5].
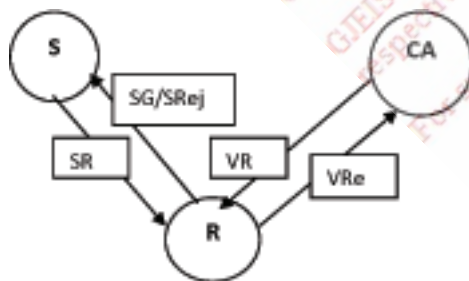
Figure 2. Conjugate Elements.

3.2 The Role of CA

3.2.1 Registration

Step1: Takes the identity of user from National Authority and assigns 'a' the identity, 'a' is initial UIID given by CA.

Step2: Selects two sufficiently large primes p & q.

Step 3: Calculates x and y such that x is multiplicative inverse $y \bmod \phi(n)$.

Step4: Selects z upon H_z, where H_z is a transformation function having x, y and a as parameters, where z is private UIID of user.

Step5: Provides (z, k) and H_u to the user. H_u is a function to encrypt z using private key k. The output of H_u is public and denote it by $H_u(z, k)$, which is public UIID of user.

Step6: Stores (z, a) and the data from NA corresponding to (z, a).

3.2.2 Verification

Takes the UIID and implements H_u^{-1} & H_z^{-1}. The output of H_u^{-1} & H_z^{-1} verifies the validity of UIID.

3.2.3 Description of H_z

$H_z(p, q, n, a)$: Calculate $n = pq$ and $\phi(n) = (p-1)(q-1)$,

Select e as per the RSA specifications and find a suitable $d \ni de \equiv 1 \bmod \phi(n)$.

Calculate $z = ead \bmod \phi(n)$

Lemma 1: $H_z(p, q, n, a)$: returns a unique value.

Proof 1:

Suppose z_1 & z_2 be two productions for two distinct values a_1 & a_2 such that $z_1 = ea_1d \bmod\phi(n)$ and $z_2 = ea_2d \bmod\phi(n)$

If $z_1 = z_2 \Rightarrow ea_1d \bmod\phi(n) = ea_2d \bmod\phi(n)$

Which is possible only when $a_1 = a_2$.

Therefore, each production of $H_z(p, q, n, a)$ is unique.

Lemma 2: For every $H_z(p, q, n, a)$ there exists one $H_z^{-1}(p, q, n, a)$.

Proof 2:

As, $a, d, e \in U_n$, the product under modulo $\phi(n)$ is also an element of U_n. Therefore, $z \in U_n$.

$(dz = ad) \bmod n$

$(dze = a) \bmod n$

$(dze) \bmod n = a$

$a = (dze) \bmod n$

Therefore, $H_z^{-1}(p, q, n, a)$ exists.

3.2.4 The Role of User

Step1: User provides all the details for the registration including National Identity.

Step2: Takes (z, k) and keeps z as IID and k as processing key. Stores H_u.

Step3: provides output of H_u before availing Internet services.

4. Analysis

4.1 Anonymity

The entire process is considered to be anonymous if the actual identity of the user remains unrevealed after using the Internet for all purpose including online shopping. The anonymity is maintained throughout the transaction process in all kind of Internet usage. The Anonymity is strongly supported due to the double layer of physical identity protection in the proposed mechanism. To check the degree of anonymity in my IID scheme consider, $z = H_z^{-1}(p, q, n, a)$, and $u = H_u(z, k)$ where, all the symbols are as defined above. The whole identity creation and exchange mechanism can be interpreted as follows.

1. u is exchanged during all purpose Internet use. u is created by the encryption of z upon the encryption function H_u using the private key k.
2. One a is chosen, if $a \in U_n$ then a UIID, $z = H_z(p, q, n, a)$ is created.
3. z is the UIID derived from IID a against the actual identity kept with the trusted third party.

Therefore, to know the actual identity by any unauthorized party first z then a should be known. To find z the required parameters are (H_u, k). The hardness of finding z can be increased by implementing most secure available hash function having minimum possibility to be scanned through cryptanalysis.

Let us suppose, z is known to the unauthorized party. To get the actual identity; a should be known. To find a, the required parameters are (e, d, n) and n is the product of (p, q). Therefore, the hardness of the problem is dependent upon the size of (p, q)[17].

4.2 Authenticity

A person dealing with whom on the Internet, if is identifiable the authenticity is ensured. In this mechanism every transaction over the Internet is guarded by (H_u, k) where k is a private key and does not have any inverse public key. Therefore, it is hard to get k. Impersonation is possible in the case of fortuitous theft of k.

As the entire mechanism is controlled by a trusted third party, so the transaction cannot be denied under any (H_u, k). In any required situation the actual identity can be obtained by using (H_u^{-1}, k^{-1}) and then $H_z^{-1}(p, q, n, a)$.

5. Conclusion

In this paper, a mechanism is proposed to maintain the identity of online customer without revealing it. The basic idea is to ensure the authenticity of the customers with a strong support to the anonymity. This twofold property of the mechanism protects the merchants and the customer both. It prevents the opportunistic traders from exploiting the customers after the market; on the other hand it provides the assurance of authenticity of the customer. The mechanism can be generalized for all purpose Internet handling

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Identification of Barriers to Entrepreneurship of Female Household Heads Covered by Tehran Welfare Organization

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Abstract

One of the important tasks of social helpers is empowerment of vulnerable groups. One of these vulnerable groups is female household heads. One of the practices that can help empowering of them is to encourage female household heads to financial independence. Entrepreneurship is something that can lead to financial independence of female household heads. Moreover, entrepreneurship can lead to better mental and social health of this vulnerable group. The first step in empowering female household heads through entrepreneurship is to identify their obstacles and entrepreneurship problems. Because by identification of these barriers it can be done more appropriate measures in order to empower them.

So, the aim of the present study is to identify entrepreneurship barriers of female household heads covered by Welfare Organization in Tehran. The method of the current study is survey.

The statistical population of this research is all female household heads covered by Welfare Organization in Tehran that 350 of them were selected randomly. In order to collect data in this research, researcher-built questionnaire was used. In this research, the face validity and content aspect of the questionnaire were confirmed and reliability coefficient was obtained 0.81 using Cronbach's alpha indicating desirable reliability of research questionnaire. The questionnaires were completed through self-creativity and then data were analyzed using SPSS software. Among problems that women encountered with them, the first ten ones are respectively the loss of fund to begin a job, existence of strictly official rules, gender discrimination and ignoring the ability of women by the society and responsible organizations, ignoring women in management affairs, over-concern about paying back the loans, emphasis on having personal fund instead of borrowing it from others, loss of pawn in order to get a loan, lack of proper support by government and governmental organizations, few facilities to begin a job by sponsor organizations, and unsuitable behavior of some organizations due to promotion of male-dominating in the society that statistically meaningful difference in prioritizing of these barriers was seen (p<0.05). Considering the findings of the current research, the programs in order to support female household heads economically and special facilities for them can provide their entrepreneurship basis. Also, gender discriminations against women especially female household heads can be decreased through acculturating using media and national media. The findings of the current research can be useful for social helpers, sponsor organizations and policymakers in direction of empowering the female household heads.

Keywords: Entrepreneur, Entrepreneurship, Female Household Heads

1. Introduction

Patronage of family is a responsibility for the man in view point of the constitution. He is actually the breadwinner of the family. For any reason, if a man is not able to fulfill his role, his role has been replaced by a woman in many cases and she in addition to her role as a mother becomes responsible for management of the life particularly from an economic point and as the head of family she must undertake several tasks. Female-household heads can be divided into the following groups:

1. Divorced women
2. Dead –Husband women
3. Women whose husbands are disabled or unemployed
4. Women whose husbands are addicted to drugs and living expenses are their responsibility
5. Women whose husbands are in prison
6. Women whose husbands have migrated for jobs or for any other reason (Mohammadpour et al., 2011).

Conducted studies show that 60 percent of women in the world today are the breadwinner and 37.5% of households all

over the world are headed by women[16]. In Europe 15–20%, in Africa and South Asia 30%, in Yemen 22%, in Sudan 66% of households are headed by women (Welfare Organization, 2010). Stat for female- household heads is rising in the world and the statistical results indicate the growing trend of female- household heads in Iran. The statistical results show the growing trend of female-household heads in the three decades from 50 to 80 in the Iran. During the years 1976, 1986, and 1996, female-headed households comprised 3.1, 4.7, and 7.7% of all Iranian households[5] and this ratio in 2006 was 9.4 percent. Based on statistics in 2008, one million and sixty thousand female-household heads in cities and 479 thousand female-household heads in rural areas and 1211 nomad female-household heads have lived in Iran (Welfare Organization, 2010).

Compared to the previous census, the census in 2011 has been a growing trend. According to general Population and Housing Census in 2011, two million and five hundred and forty thousand female- household heads live in the country. The female-household heads are only provider of income for her own or her family. Hence, the entrepreneurial activities to earn income are first motivation of female household heads (Demartino and Barbato, 2003). However, in developing countries, women have few opportunities for employment and their average participation rate is 50% of that of men[18]. On the other hand, the responsibility for parenting and management of home affairs has led that women haven't access to high-level expertise and knowledge and also it has caused time limitation for the presence of women in their job and occupation.

Thus, unequal conditions of employment for women than for men in aspects of employment, salary, benefits, and possible promotion to higher levels cause to women's employment has some features that according to the cultural, social, economic structure of every community become different. Lower income of female household heads results in their relative poverty than male- household heads so that 29 percent of households in the first economic decile include of families without any administrator or female-household heads[18] (Madani Ghahfarokhi, 2002). Today most countries have found that empowerment is the most effective method to achieve sustainable development that it has been referred in fourth program of the Development Plan of the Islamic Republic of Iran, especially for vulnerable groups[13]. The results of researches showed that the implementation of empowerment programs for female household heads, not only will lead to employment and enhancement of income level and their promotion to higher socio-economic levels in society, but also their dependence on supporting organizations will be decreased using job training and she sees herself such as the other people in the society from socio-economic point of view[13]. Also, in our country limited national measures have been done in the field of women activities. One of the most important measures performed in

order to eliminate poverty of women in recent years is activity of institutions such as Welfare Organization and the Ministry of Labor and Social Affairs that emphasize on issues like entrepreneurship and training of skillfulness to female-household heads. However, these designs are traditional and cannot respond to the needs of female-household heads. One of the topics that can have both supportive and self-supporting aspects for female-household heads is supporting them in direction of entrepreneurship. In supporting agencies, social helpers are one of the key pillars of support that their primary mission is to improve and promote the welfare of human beings. Distinguishing feature of this profession is attention to the individual welfare, structure and basis of his/her social environment. The main aim of contributing is to help the realization of social justice and increasing the quality of life and improving the capacity of each individual of the society and families in resolving various issues. Providing self-reliance fields for help seekers can be one of the main goals of social helping[4]. One of the ways of self-reliance is certainly entrepreneurship of help seekers and identifying these barriers can be a step in direction of providing self-reliance of female-household heads as a group of welfare help seekers. Yet, no research has investigated recognition of barriers to entrepreneurship of female-household heads under Welfare Organization. Hence, this study sought to examine this issue and to identify this point. First, what are the barriers to women and second, how is the rating of barriers to women entrepreneurship?

Certainly, identifying obstacles and difficulties of female-household heads in entrepreneurship can help social helpers, policy makers and planners in direction of better programming and better supporting from this vulnerable community.

2. Research Background

Alam et al. studied the effective factors on women successfulness in southwest area of Malaysia in entrepreneurship. Data were completed through questionnaire and self-creating method. Questionnaires were distributed among research samples via email and they sent questionnaires back after completion. In this study for testing hypotheses, multi-variable regression was used. Findings showed that family support, social relationships, and internal motivations of women are effective on women successfulness in entrepreneurship. In Afsak studies[2], the purpose of women and men in making business and entrepreneurship have been stated as follows:

Tend to be self-boss, job satisfaction, earning financial gain.

But he assigned the reasons such as "self-reliance, job activity control, passing from glass ceiling in employment jobs, need to flexible patterns in order to keep balance in the life" to women. Also, the results of Ortobie's studies (1999) showed that risk-taking rate of entrepreneurial women is moderate in job activities.

They pay attention to their successfulness more than earning money and they don't want to lose their positive face in the society. Also, many women become entrepreneurial because of keeping balance between job and family. Women were encouraged to entrepreneurship than to increase asset due to conditions of family life because they need harmony between job and family. Women become entrepreneurial to achieve security and support their family. Also, women select entrepreneurship by increasing leisure time and dissatisfaction from their previous work. Entrepreneurial women in Germany tend to become entrepreneurial in order to keep balance in their private life and job. Kovalynen and Arrhenius (2006) in Finland showed that women favorite to entrepreneurship are increased when they have children, because taking care of children needs to adjust work hours and this is more possible for an entrepreneurial. Also, coincidence of job responsibilities and family are usually better than wage jobs in entrepreneurship activities.

In the Nordic countries, especially Finland, the welfare of the family and making a better financial situation for the family members increase women's participation in the formation of new businesses[2].

Some researches have investigated the female household heads' psychosocial trauma[7] and some have referred only to the empowerment level of female household heads[6] that these studies have been in a general level and the findings of conducted researches shows the weaknesses and problems of women's entrepreneurship.

3. Theoretical Framework

3.1 Feminization of Poverty Theory

Proponents of the feminization of poverty or vulnerability of female household heads believe that women-headed households not only have been spread all over the world, but also the number of them that are located in low income population are being increased day by day.

This issue is even seen in the countries with the most advanced laws in favor of women. In these countries, despite government assistance to women, the impoverishment of women continues.

Lack of access of this group of women to jobs with prestige is one of the other features in female-headed families.

In other words, either female household heads are often unemployed or have marginal, part time, informal, and low income jobs.

Another problem that increases the vulnerability of these women-even if they are working in jobs with dignity- the problem is adjustment of the time to do housework and work outside the home. This problem is idiomatically called "time poverty" by experts. This means women that work fulltime in the formal network of job market don't have enough time to take care of children and do their own affairs. When the time poverty followed by financial poverty, this group become more vulnerable. The dominated conditions in the life of these families can be summarized as bellow:

1) Lack of access to job opportunities as same as men
2) Lower levels of literacy among women and among their children
3) High percentage of education drop and delinquency of children and teenagers
4) Time poverty problem for women with fulltime jobs (Mohammadi, 2006)

The main reason for beginning of these conditions is the domination of gender discrimination system. This means the system that doesn't allow both gender to utilize identically social opportunities such as job, education, income, and entertainment (Hosseini et al., 2009).

3.2 Structural-functional Theory

Based on this theory, women-headed families are in contrast with natural and traditional form of two parents-families. Indeed, the emersion of this group of families is a kind of deviance. In these families because of absence of the father and lack of common life, children's life chances decrease and lack of father power for organizing family life leads to crisis in the family. This crisis accompanied by entering of women to job market instead of traditional tasks (housekeeping) and finally results in unsuitable training of children, their education drop and delinquency (Chant, 1989).

According to this theory, the "lower floor" is composed of isolated individuals who are resident in unorganized areas. In these areas, the presence of female-headed families is common (Abramovitz, 1992). The difference between this theory and previous one is that in the previous theory, the main reason for vulnerability of women and children is gender discrimination, but in this theory, because of the natural form of family life, i.e. core family has been destroyed, female-headed families are considered as a deviation from the normal form of a family (Hosseini, 2009; 122).

3.3 Empowerment Theory

It is one of the most famous theories of social assistance; Enhancement of the authority and power for a person to select a resource, increasing of self-confidence and capacity in decision-making. Empowerment means the enhancement of the authority and power for a person to select a resource and applying ideas in decisions that affect his/her life. Empowerment leads to increase

the self-confidence and capacity of people in decision making. Empowerment occurs in personal, social, and group levels. An issue that exists in empowerment is that the linking between a person and the society is necessary[19]. It seems that none of mentioned theories can't separately explain and analyze the situation and conditions of female household heads and each of them has described an aspect of the issue.

3.4 Intervention in Crisis Theory

This theory is one the most prominent theories in social helping. People encounter with various crises during their life that these crises result in imbalances in the society. The purpose of this theory is to decrease the damages and rebuild the society[19].

4. Methodology

The method used in this study is a survey. This method is the most common method in quantitative researches. The statistical population in this study is female household heads covered by Welfare Organization in Tehran that 350 of them were randomly selected as the samples. In this research, in order to collect data, the research-built questionnaire including 25 questions designed in two sections was used. First section of the questionnaire was related to demographic variables of study samples (age, marital status, and education).

The second part is related to the barriers of the female-household heads consisting of 22 questions that have been developed based on five-option Likert spectrum (very high, high, to some extent, low, very low) was developed. In order to assess the questionnaire the face validity and content method were used. Thus, after the design of the questionnaire, all of questions were reviewed by several experts in this field to assess the appropriateness of items with measured variable. After investigations were performed, improper and ambiguous items were removed or moderated. The assessment of reliability and reproducibility of the questionnaire items were calculated using Cronbach's alpha. Reliability coefficient for the questionnaire was generally obtained 0.81 indicating acceptable reliability of the questionnaire in the study. The analysis of data in this study was done using SPSS software both in descriptive and inferential levels.

4.1 Findings

This study investigates the identification of barriers to entrepreneurship of female-household heads in Tehran. The age of 50 per cent of female-household heads was between 30 to 40 years, 35% over 40 years and 15% from 20 to 30 years. 45 percent of female-household heads were married, 20 percent have a dead spouse, 15% have been left, 15% were divorced, and 5% were single. The education of 90 percent of female-household heads was diploma

and under diploma and 10% were upper diploma, bachelor's and B.Sc. students.

10% of female household heads have assessed the problem of "opposition of parents with starting current job" "high" and "very high". 82% of female household heads have assessed this problem "low" and "very low". 22.5% of female household heads have assessed the problem of "opposition of husband with starting current job" "high" and "very high". 71% of female household heads have assessed this problem "low" and "very low". 100% of female household heads have assessed the problem of "opposition of children with starting current job" "very low". 15% of female household heads have assessed the problem of "social insecurities" "high". 77% of female household heads have assessed this problem "low" and "very low". 5% of female household heads have assessed the problem of "believe in men are more successful than women in jobs outside home" "high" and "very high". 95% of female household heads have assessed this problem "low" and "very low". 94% of female household heads have assessed the problem of "believe in own ability for doing jobs outside home" "high" and "very high". 91% of female household heads have assessed the problem of "limitation in taking care of children" "low" and "very low". 90% of female household heads have assessed the problem of "emphasis on having personal fund instead of borrowing it from others" "high" and "very high". 100% of female household heads have assessed the problem of "lack of capital to start a job" "high" and "very high". 97% of female household heads have assessed the problem of "existence of strictly administrative rules" "high" and "very high". 97% of female household heads have assessed the problem of "lack of skillfulness and experience in making balance between the job and the family" low and very low. 94% of female household heads have evaluated the problem of "lack of emotional support of parents, husband, and children" "high" and "very high". 67% of female household heads have assessed the problem of "unsuitable behavior of some organizations due to promotion of male-domination culture in the society" "high" and "very high". 94% of female household heads have assessed the problem of "few facilities provided by sponsor organizations to begin a job" "high" and "very high". 100% of female household heads have assessed the problem of "lack of pawn to get a loan" "high" and "very high". 100% of female household heads have assessed the problem of "improper support by government and governmental organizations" "high" and "very high". 100% of female household heads have assessed the problem of "over-concern about paying back the got loans" "high" and "very high". 100% of female household heads have assessed the problem of "ignoring women in management affairs" "high" and "very high". 98% of female household heads have assessed the problem of "gender discrimination and ignoring abilities of women by the society and responsible organizations" "high" and "very high". 93% of female household heads have assessed the problem of

"lack of physical equipments and environment to begin a job" slightly. 6% have evaluated this problem the low. 90% of female household heads have assessed the problem of "limitation for job travelling outside the living range" "high" and "very high". 10% have evaluated this problem the low.

4.2 How is the ranking of entrepreneurship of female household heads covered by Welfare Organization in Tehran?

As can be seen from Table 1, p-values of all questions in the questionnaire of entrepreneurship problems are lower than 0.05 and consequently the initial assumption is rejected and none of the

questions are not normally distributed. Considering abnormality of distribution of variables, in order to investigate the entrepreneurship barriers of female household heads covered by Welfare Organization in Tehran, Friedman rank test was used.

As can be seen from Table 2, obtained p-value is lower than 0.05 and consequently the initial assumption is rejected. Therefore, ranking of questions is meaningful.

As can be seen in Table 3, first ten barriers between barriers of entrepreneurship of female household heads in Tehran are as follows:

1) Lack of fund to begin a job
2) Existence of strictly official rules

Table 1. Kolmogorov-Smirnov for investigating the distribution of variables

	Number	Average	Standard Deviation	Kolmogorov Statistic	p-value
Opposition of parents with beginning of current job	350	1.58	1.154	6.306	0.000
Opposition of husband with beginning of current job	350	2.02	1.53	5.48	0.000
Opposition of children with beginning of current job	350	1	1.128	5.44	0.000
Social insecurities	350	1.68	1.129	5.962	0.000
Believe in that men are more successful than women in jobs outside the home	350	1.22	0.789	7.318	0.000
Lack of self-belief for doing jobs outside the home	350	4.31	0.752	3.994	0.000
Limitation in taking care of children	350	1.55	0.656	4.837	0.000
Emphasis on having personal fund instead of borrowing it from others	350	4.49	0.665	5.14	0.000
Lack of fund to begin a job	350	4.7	0.459	6.267	0.000
Existence of strictly official rules	350	4.62	0.536	5.741	0.000
Lack of skillfulness and experience in making balance between job and family	350	1.38	0.544	5.794	0.000
Lack of having emotional support by parents, husband and children	350	4.43	0.698	4.424	0.000
Unsuitable behavior of some organizations due to promotion of male-domination in the society	350	3.88	0.806	3.242	0.000
Few facilities to begin a job from sponsor organizations	350	4.44	0.607	4.533	0.000
Lack of pawn for getting a loan	350	4.51	0.501	4.928	0.000
Lack of proper support by government and governmental organizations	350	4.51	0.501	4.928	0.000
Over-concern about paying back the got loans	350	4.52	0.501	4.965	0.000
Ignoring women in management affairs	350	4.6	0.492	5.512	0.000
Gender discrimination and ignoring the abilities of women by society and responsible organizations	350	4.6	0.53	5.58	0.000
Lack of physical equipments and environment to begin a job	350	2.94	0.247	7.619	0.000
Limitation of job travelling out of living range	350	2.9	0.301	7.499	0.000

Table 2. Rank test for the entrepreneurship barriers of female household heads based on Friedman test

Number	350
Chi-square	3016.942
Degree of freedom	20
p-value	0.000

Table 3. Entrepreneurship barriers of female household heads

Entrepreneurship barriers of female household heads	Average rank
Lack of fund to begin a job	16.43
Existence of strictly official rules	16
Gender discrimination and ignoring the abilities of women by society and responsible organizations	15.85
Ignoring women in management affairs	15.81
Over-concern about paying back the got loans	15.36
Emphasis on having personal fund instead of borrowing it from others	15.33
Lack of pawn for getting a loan	15.33
Lack of proper support by government and governmental organizations	15.32
Few facilities to begin a job from sponsor organizations	15.04
Unsuitable behavior of some organizations due to promotion of male-domination in the society	15
Lack of physical equipments and environment to begin a job	14.36
Limitation of job travelling out of living range	12.33
Opposition of husband with beginning of current job	8.14
Social insecurities	8.06
Opposition of parents with beginning of current job	6.61
Lack of self-belief for doing jobs outside the home	5.07
Lack of having emotional support by parents, husband and children	4.98
Limitation in taking care of children	4.72
Lack of skillfulness and experience in making balance between job and family	4.28
Believe in that men are more successful than women in jobs outside the home	3.86
Opposition of children with beginning of current job	3.11

3) Gender discrimination and ignoring the abilities of women by society and responsible organizations
4) Ignoring women in management affairs
5) Over-concern about paying back the got loans
6) Emphasis on having personal fund instead of borrowing it from others
7) Lack of pawn for getting a loan
8) Lack of proper support by government and governmental organizations
9) Few facilities to begin a job from sponsor organizations
10) Unsuitable behavior of some organizations due to promotion of male-domination in the society

5. Discussion and Conclusion

The results of this study showed that the loss of fund to begin a job, existence of strictly official rules, gender discrimination and ignoring the ability of women by the society and responsible organizations, ignoring women in management affairs, over-concern about paying back the loans, emphasis on having personal fund instead of borrowing it from others, loss of pawn in order to get a loan, lack of proper support by government and governmental organizations, few facilities to begin a job by sponsor organizations, and unsuitable behavior of some organizations due to promotion of male-dominating in the society were majority of barriers in entrepreneurship of female household heads in Tehran. It seems that many of these economic problems are solvable for policymakers because the economic problems are clearer in the ten most important problems.

If good supports are provided from funding agencies, many obstacles of women's entrepreneurship will be resolved. This that women have taken the entrepreneurship is an opportunity that policy makers and authorities should utilize it, because the presence of women in places of business to manage small and entrepreneurial organizations has had large effect on employment and business environments around the world. In this study, it was found that most important social problems are resulted from the society vision to women and the promotion of male-domination in the society.

Unsuitable behavior of some organizations due to promotion of male-domination culture is one of ten barriers to women entrepreneurship. The results of Hiseritch and Brusch research[5] also indicated that serious problems are earning validity and overcoming this social belief that women are not as serious as men in work. In the other words, lenders, customers, staff and husbands don not believe in women as same as men. The findings of this study are in accordance with current study findings to some extent. Lack of pawn is one the main problems in order to begin entrepreneurship for women. This point was also stated

by Fonjong. He knew lack of pawn one of the main problems to begin entrepreneurship for women. Rahimian and Gholipour[17] reported that female-household heads do not have opportunity to learn due to having many roles and usually have lower education compared with the other women. This was also found that majority of female-household heads were diploma and under diploma subsistence and economic problems were a barrier for them to continue education. Substantially, for more successfulness of this vulnerable group and due to lower education level than the other society groups, it is better to learn them skillfulness and some trainings in direction of their empowerment. The results of Rahimian and Gholipour research[17] showed that training and self-employment designs cause feeling empowering sense in female-household heads and it has positive effect on the family. Rahimian and Gholipour[17] in a research knew economic problems as main issue of female-household heads. This problem also was stated as the most important barrier of entrepreneurship of female-household heads in this research. These findings are in accordance with the results of current study. Empowering programs for female-household heads lead to employment and enhancement of income level and promotion of them to higher socio-economic class levels of the society. Their dependence on financial agencies is decreased by favor of job trainings and they socio-economically see themselves such as the other people in the society (17, 2011). In this research, female-household heads have positively assessed emotional support of family in this issue. In Arasti's research, consentaneous attitude of close people to entrepreneurship has been stated as the most important factor for women stepping to entrepreneurship. Ketabi and colleagues[11] reported that elimination of discrimination in hob market can help empowerment of female-household heads. The results of Javaheri and Ghozati[8] also showed that gender inequality existed in Iran that has a social and cultural aspect decreases capability of entrepreneurship of women. This issue must be taken into account by policy makers and financial agencies.

That today women believe in themselves and their self-confidence has been increased more than past and they have assessed their own management skillfulness well is an opportunity to provide proper bases for economic prosperity and self-reliance for one of vulnerable layer of the society. This issue needs high will of officials and policy makers to eliminate existing barriers in the field of women entrepreneurship. Unfortunately in Iran, gender discrimination exists in some organizations and this is not deniable. This issue has been stated in various studies frequently[10]. Stereotypical believes and relations dominated on job organizations have been reported as one of the most important barriers of entrepreneurship in Javaheri and Ghozati[10] research that this result is in agreement

with that of the current study. Forouzan and Biglarian[1] showed that lack of equal job opportunity for women compared with men and economic insecurity are two of main problems of female-household heads in the field of employment. This is also in agreement with the result of current study. Khosravi's research results[7] also indicated that main problems of female-household heads are economic problems, loss of readiness for management of economic affairs of the family, social negative attitudes with respect to female-household heads, concern about the future of children and numerous roles. If female-household heads have proper social supports, learn methods of confronting and have internal control source, they will bear the least damage. Alam and colleagues based on their research results reported that family support, social relations, and internal motivations of women are effective on successfulness of women in entrepreneurship. In a study on Indian women, Jothi et al.[9] found that various factors such as social, psychological, and financial factors are effective on women successfulness in entrepreneurship. Shambare[20] also reported family role, social influence, exposure to entrepreneurial activities, support from entrepreneurship, and training as effective factors on entrepreneurship. Considering this point that female-household heads encounter more problems than the other women and on the other hand, they must work to provide subsistence for own selves and their family, providing proper bases for entrepreneurship is very important. A part of this bedding can be provided through financial and economic supports by related organizations such as Welfare Organization and financial agencies.

It seems that a part of annual budget of the country has been considered for empowerment of vulnerable groups, because empowerment of vulnerable groups accompanies by decreasing of social problems. Administrative structure of the country must be changed for realization of implementation of social justice and keeping family structure through high view to the role of entrepreneurial female-household heads in creating social participations and through harmonic economics. Not changing of structure of administrative system means ignoring the role of female-household heads in the family and the society. Financial agencies inside the country must be in relation with vulnerable layers in the society and develop their plans according to requests and interests of vulnerable layers. Providing facilities and services for supplying necessary financial resources for entrepreneurial women through allocating low-interest credits in banking system of country and in financial institutes and providing required basis for investment in high-efficiency businesses and making security in investment through insurance and their products in order to growth in sale and gain indices accompany by Iranian entrepreneurial women and finally growth in performance and more productivity of women, especially female-household

heads. Since economic problems are one of the most important problems of female-household heads, it seems that they have not been taken into account appropriately and related organizations only give them slight monthly wage. This trend won't resolve problems of female-household heads considering economic situation and inflation in the society. Hence, they have to seek a job. Proper bedding for self-employment and entrepreneurship require comprehensive support by related organizations and different groups of the society. It is suggested that this point must be taken into account because by this way, many damages are prevented. According to female-household heads that had said facilities and loans to begin entrepreneurship are few, it is proposed that the government allocate special financial resources to banks to give a loan to female-household heads who want to invest in various fields. Prediction of a given annual budget in the field of empowerment of female-household heads and their entrepreneurship by government and by favor of parliament is suggested. Acculturating and elimination of gender discrimination through media can decrease social problems of women in this area. Hence, it is proposed to program makers and policy makers to provide trainings in this field for community by media and progress in order to promote culture. Acculturating in change of society's attitude towards women's empowerment in economic activities can be achieved through the media, especially the national media and also cultural centers such as municipalities, advertising agencies, and the educational system. Creating proper facilities to provide financial sources for women entrepreneurs through the elimination of irrational collateral and guarantees, reforming the tax rules through exerting tax breaks can reduce these barriers at the women's entrepreneurship.

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Market efficiency in India: A study of Random Walk Hypothesis of Indian Stock Market(BSE)

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Abstract

As long as financial markets are concerned, for many years' economists, statisticians and financial analyst have been interested in developing and testing models of stock price behaviour and their forecast. This study examines whether the Indian stock market is efficient if the stock returns follow a random walk. The study employs daily closing prices of SENSEX (Sensitivity Index of BSE of India) for a time period of 01 July 1997- 03 Dec 2014. The existence of random walk for BSE Index has been examined through autocorrelation, the Box- Ljung test statistics and the run test and finds that the Indian stock market was not efficient in the weak form during the testing period. The results suggest that the stock prices in India do not reflect all the information in the past stock prices and abnormal returns can be achieved by investors exploiting the market inefficiency.

Keywords: Autocorrelation tests, runs test, random walk hypothesis, Bombay Stock Exchange

1. Introduction

The weak form says that the current prices of stock already fully reflect all the information that is contained in the historical sequence of prices. Therefore, there is no benefit, as far as forecasting the prices/returns behaviour of the capital markets is concerned, in examining the historical sequence of the prices. If a market is efficient, stock price movements should follow a random walk and the price movements in the past should be not related to future price movements. But if the market is not efficient and price movements are not random, some investors can exploit the inefficiency by gaining abnormal returns. They may be able to correctly predict the future price movements by examining the historical price movements. There have been some studies testing the Efficient Market Hypothesis (EMH) in regards to the India stock market but the results have been inconclusive.

This study analyzes the daily index returns from 01 July 1997 to 03 December 2014 by using some commonly used methodologies to determine whether the Indian market is efficient in the weak form. The Bombay Stock Exchange was established in

1875 is one of the largest exchanges in Asia and in the world. More than 5000 companies are listed on BSE making it world's No. 1 exchange in terms of listed members. The companies listed on BSE Ltd command a total market capitalization of USD 1.32 Trillion as of January 2013. It is also one of the world's leading exchanges (3rd largest in December 2012) for Index options trading. BSE is the first exchange in India and second in the world to obtain an ISO 9001:2000 certification. It is also the first Exchange in the country and second in the world to receive Information Security Management System Standard BS 7799-2-2002 certification for its On-Line trading System (BOLT). It operates one of the most respected capital market educational institutes in the country (the BSE Institute Ltd.). BSE also provides depository services through its Central Depository Services Ltd. (CDSL) arm.

2. Literature Review

The concept of market efficiency is based on the arguments put forward by Paul A. Samuelson (1965) that anticipated price of an

asset fluctuate randomly. Prof Eugene Fama[4] presented a formal review of theory and evidence of market efficiency and subsequently revised in 1991. He developed the three forms of market efficiency: weak form, semi-strong form and strong form. Since then many studies have been done to examine whether some markets are efficient in the weak form. For instance, Chan, Gup, and Pan[3] analyzed the weak form hypothesis in Hong Kong, South Korea, Singapore, Taiwan, Japan, and the United States. Their findings indicate that stock prices in these major Asian markets and the United States are efficient in the weak form. Vaidyanathan and Gali (1994) also found that the Indian capital market is weak form efficient using a filter rules test. Ayadi and Pyun[1] acknowledge that the variance ratio test is more appealing than the traditional test for random walk. They also showed that South Korean market does not follow random walk when tested under homoscedastic error term assumption and follows random walk when the test statistic is corrected for heterocsedasticity. Lo and MacKinlay[10] use a variance ratio test to analyze the weekly returns of both the equally weighted and value weighted CRSP indices and find that stock prices do not follow a random walk. Ming, Nor & Guru[12] showed that variance ratio and multiple variance ratio tests reject random walk for Kuala-Lampur stock exchange .

Gu[7] also studied the weak form efficiency of the NASDAQ composite index by using of the variance ratio test from 1971 to 2001. Using daily returns, he finds evidence that the daily returns of the NASDAQ are not weak form efficient. In contrast, Seiler and Rom[14] study the random walk hypothesis by using the Box-Jenkins methodology from 1885 to 1962 and find that historical stock price movements are random.

Several researchers have examined market efficiency in India but got the For example, Gupta and Basu[6] evaluated market efficiency in the Indian stock market from 1991 to 2006. They use the ADF, PP, and KPSS procedures to test for unit roots. Their results indicate that Indian Stock Markets do not follow a random walk. Thomas and Kumar[15] use the runs test and Kolmogorov-Smirnov test and find the same results using daily returns in the Indian Stock Market from 2004 to 2009. Borges[2] tests the existence of the random walk and EMH for European stock markets, namely UK, France, Spain, Germany, etc by using ADF tests, variance ratio and correlation tests for monthly stock prices. In one more study, Khan, Ikram and Mehtab[9] used a runs test to analyze the daily returns from the BSE Sensex, the S&P CNX Nifty and various publications of the Reserve Bank of India from April 2000 to March 2010. The runs test indicated that both the NSE and BSE do not follow a random walk. However in an earlier study Pant and Bishnoi[13] found that the Indian stock market in weak form was efficient when using the Dickey Fuller Test. Another study by Hamid, Suleman, Shah and Akash[8] tested the weak form of efficiency for the case of Asia Pacific Markets which included 14

countries such as India, Pakistan, Japan, Australia, Taiwan among others. Mall, Pradhan, and Mishra[11] use daily data from June 2000 to May 2011 and found that the Indian capital market is weak form efficient.

3. Data

The data used in this study consisted of index returns for the Bombay Stock Exchange. The data is retrieved from BSE official website www.bseindia.com from 01 July 1997 to 03 December 2014. The index returns is then transformed to natural logs with a one period lag. Index closing prices are adjusted to reflect dividends and stock splits. The stock returns are defined as follows:

$$R_t = \text{Log}_{pt} / \text{Log}_{pt-1}$$

Where, R_t is the return at time t on the Bombay Stock Exchange, Log_{pt} is the logarithmic price at time t and Log_{pt-1} is the logarithmic at time, t-1. The reason for transforming time series is to ensure that the data is stationary. Working with non-stationary data can cause model misspecifications. The analysis is done using SPSS 20.0.

4. Methodology

In testing the market efficiency of the Bombay Stock Exchange, autocorrelations and runs test are employed. Applied methods autocorrelations test and run test examine if time series data exhibits randomness. The methodology used in this study is similar to Thomas and Kumar[15] and Khan, Ikkram, and Mehtab[9]. But this study uses the more current daily price data from 01 July 1997 to 03 December 2014. The autocorrelation test is a parametric test that makes assumptions about the normality of data. This study also uses a non-parametric procedure to examine randomness, the runs test. We seek to test the hypothesis that the series of returns are i.i.d. (independently and identically distributed) random variables.

If significant autocorrelations are found in times series data, stock returns do not follow a random walk and the market can be considered as inefficient in the weak form because it would be possible to make accurate predictions about the future price movements based on past price movements. However, if stocks returns do follow a random walk, then investors may not be able to successfully predict future returns because future price movements are related to past price movements.

5. Results

Table 1 illustrates the calculation of a summary of 4306 daily statistics. The returns range from 0.98% to 1.02%, and exhibit more

Table 1. Descriptive Statistics of Bombay Stock Exchange

	Descriptive Statistics											
	N	Min	Max	Sum	Mean		Std. Dev	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BSE 30	4306	.986157	1.01699	4306.21	1.00004	.000027	.001819	.000	-.121	.037	5.606	.037

Table 2a. Autocorrelations

Series: BSE 30					
Lag	Autocorrelation	Std. Error[a]	Box-Ljung Statistic		Sig.[b]
			Value	df	
1	.071	.015	21.697	1	.000
2	-.037	.015	27.738	2	.000
3	.002	.015	27.753	3	.000
4	.018	.015	29.197	4	.000
5	-.023	.015	31.559	5	.000
6	-.051	.015	42.674	6	.000
7	.015	.015	43.588	7	.000
8	.040	.015	50.594	8	.000
9	.047	.015	60.064	9	.000
10	.010	.015	60.482	10	.000
11	-.019	.015	61.980	11	.000
12	-.003	.015	62.031	12	.000
13	-.002	.015	62.054	13	.000
14	.038	.015	68.152	14	.000
15	-.022	.015	70.229	15	.000
16	.000	.015	70.229	16	.000

a. The underlying process assumed is independence (white noise).
b. Based on the asymptotic chi-square approximation.
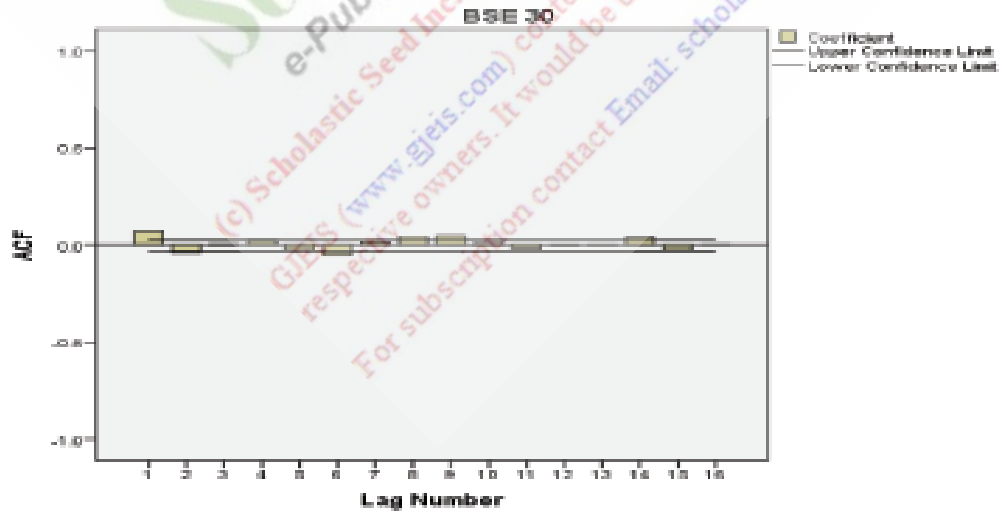
Figure 1a. Autocorrelation.
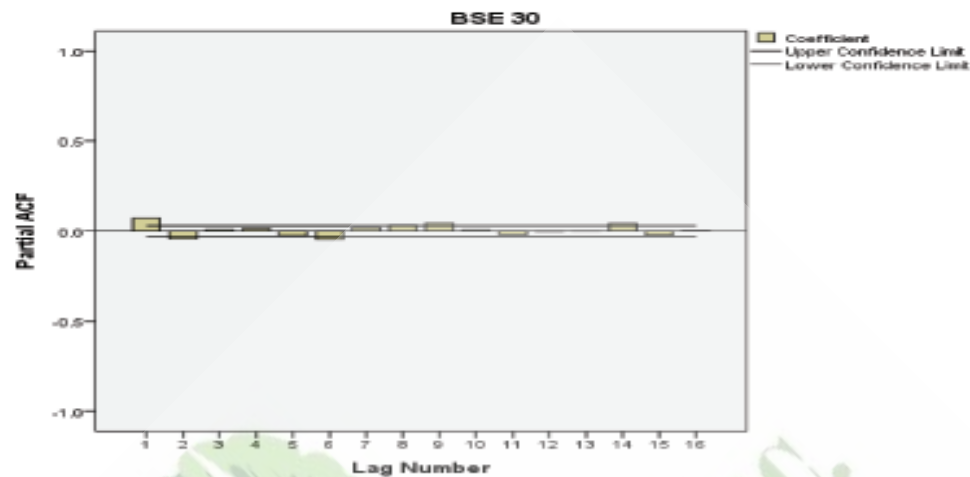
Figure 1b. Partial autocorrelation.

kurtosis than a normal distribution and a sample standard deviation of .18%. The returns have a negative skewness of 0.121 and a reported kurtosis of 5.606. A kurtosis of 3 is considered to be associated with a normal distribution. In this case the kurtosis is 5.606 and indicates probable tail risk. Tail risk is risk that occurs infrequently; however, when tail risk does occur, the returns are often associated with significant volatility. Kurtosis explains where the standard deviation originates.

Table 2 illustrates the results of the autocorrelations test. There are 16 lag periods associated with the autocorrelation test. The first lag depicts an autocorrelation of 0.071, a standard error of 0.015 and a Box-Ljung value of 21.697 and is significant at the 95% confidence level. This indicates that the stock returns of the Indian stock market do not follow a random walk. Lags 2, 5, 6,11,12,13 and 15, all exhibit negative autocorrelations, however, the p value is .000 and is significant again at the 95% confidence level that stock returns on the Indian stock market are not random. The results are consistent with the results by Thomas and Kumar[15]. The implication is that investors may be able to predict future returns by analyzing the past price movements and thus renders the market inefficient in the weak form. The autocorrelations test is a parametric test and assumes that the data is normally distributed. In order to be scientifically sound, a runs test is conducted which is a non-parametric test that does not assume normality in the data.

Table 3 shows the results of the Runs test. This study finds the Z value to be -4.999 and lie outside of the range of 95% confidence level that stock returns follow a random walk. Also, the P value is .000 and is significant at the 95% confidence level. Our results are consistent with the findings by Khan et al.[9]. The findings from the runs test indicate that the Indian stock market does not follow a random walk and the market can be classified as weak form inefficient.

Table 2b. Partial autocorrelations

	Series: BSE 30	
Lag	Partial Autocorrelation	Std. Error
1	.071	.015
2	-.043	.015
3	.008	.015
4	.016	.015
5	-.026	.015
6	-.046	.015
7	.020	.015
8	.034	.015
9	.044	.015
10	.007	.015
11	-.020	.015
12	-.003	.015
13	-.002	.015
14	.043	.015
15	-.024	.015
16	.003	.015

6. Conclusion

Many studies have been done to test the efficiency of Indian market in the weak form but the results have been inconclusive. Some studies find the market efficient in the weak form but others find the market inefficient in the weak form. In this study, we use autocorrelation and runs test to analyze daily index returns of the Bombay Stock Exchange from 01 July 1997 to 03 December 2011.

Table 3. Runs test

Runs test	
	BSE 30
Test Value[a]	1.000109551104
Cases < Test Value	2153
Cases >= Test Value	2153
Total Cases	4306
Number of Runs	1990
Z	-4.999
Asymp. Sig. (2-tailed)	.000

a. Median

The results of the autocorrelation and runs test indicate that the Indian stock market is not efficient in the weak form during our testing period and imply that it is possible to achieve abnormal returns by predicting the future price movements based on past stock price movements.

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A Review of Globalization of India's Services

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Abstract

Service sector around the world is growing. India has also seen a very positive growth rate in the services. India's services have grown and crossed the national boundary and have become global. The paper tries to analyse the growth of services and its spread in global economy. The growth of services through 2001 to 2012 has been emphasised. It has been observed that all the countries have seen the growth of services but the growth of this industry has been very much favourable in India. The growth of services has contributed to overall growth rate of Indian economy.

1. Introduction

India's services sector expanded quickly with double digit growth in the second half of the 2000s. As the Euro zone crises has worsened, growth has slowed, though the sector is still growing at a much higher rate than the other two sectors of the economy. India's share of services export, in the world export of services, has increased from 0.6% in 1990 to 1.0% in 2000 and further to 3.3% in 2011, has been increasing faster than the share of merchandise export in world export. The growth of the services sector is closely linked to the FDI inflows into the sector and the role of transnational firms.

2. Objective of the study

The study is undertaken to analyse the growth of Indian services through globalization and its impact on Indian economy.

3. Research Methodology

Secondary sources data are used to conduct the study.

3.1 Introduction

The service sector covers a wide array of activities ranging from services provided by the most sophisticated sectors like telecommunication, satellite mapping, and computer software to simple services performed by the barber, carpenter and the plumber; highly capital intensive activities like civil aviation and shipping to employment oriented activities like tourism, real estate and housing; like railways, roadways to social sector related activities like health and education (Table 2).

3.2 International comparison of services

(a) In world GDP of US $ 70.2 trillion in 2011, the share of services was 67.5%. India ranked 9th in overall GDP and 10th in services GDP (Table 1). A comparison of the service performance of the top 15 countries in the 11 year period from 2001 to 2011 shows that the increase in share of services in GDP is the highest for India (8.1 percentage points) followed by Spain.

(b) Country estimate for 2012 shows a deceleration in service growth worldwide. For example, in 2012 it decelerated to 0.5% from 0.9%(in 2011) in the US; 8.5% in 2012 from 9.4% in 2011 in China; for India it was 6.6% in FY 2012-13 from 8.2% in FY 2011-12.

(c) While the share of services in employment for many developed countries is very high and in many cases higher than the share of services in income, the gap between these share is relatively less. Except China and India all other BRICS countries also have a similar pattern. In the Indian and Chinese cases there is a wide gap between the two, while gap being wider for India.

(d) World service export growth that is compound annual growth rate reached a high of 12.6 percentage during 2000-2008, compared to 6.6 % in 1990s. Growth of world exports of services declined to -11.1% due to the global economic crisis of 2008 quickly rebounded in 2010 and grew by 10 percent.

Table 1. Performance of services: International comparison

Country	Rank		Overall GDP (US $ billion)		Share of services (percentage of GDP)			Change in share 2011 over 2001	Service growth rate (percent)			CAGR 2001-11
	Overall GDP	Services GDP	At current Prices 2011	At current Prices 2012	2001	2010	2011		2001	2010	2011	
US	1	1	144991.3	13225.3	77.0	78.3	78.4	1.4	2.9	2.5	5.1	2.1
China	2	3	7203.8	4237.0	40.6	41.9	41.7	1.1	10.4	9.9	8.9	11.1
Japan	3	2	5870.4	4640.1	70.6	69.9	70.5	-0.1	1.8	1.1	0.6	0.4
Germany	4	4	3604.1	3038.7	70.0	70.8	70.0	0.0	2.5	1.0	1.9	1.3
France	5	5	2775.5	2240.5	76.8	79.0	79.2	2.4	1.8	1.9	2.1	1.4
Brazil	6	8	2476.7	1126.4	65.4	66.2	66.5	1.1	1.8	5.0	3.1	3.8
UK	7	6	2429.2	2381.1	74.0	76.4	76.0	2.0	3.8	1.1	1.2	2.3
Italy	8	7	2195.9	1773.1	70.9	73.1	73.1	2.2	2.6	1.4	0.7	0.6
India	9	10	1897.6	1322.7	50.1	56.8	58.2	8.1	7.5	9.4	7.4	9.2
Russia	10	13	1857.8	947.2	56.3	62.4	62.1	5.8	3.3	3.9	3.6	5.5
Canada	11	9	1736.9	1233.5	65.0	69.9	69.7	4.7	3.5	2.6	2.2	2.7
Australia	12	11	1515.5	894.5	67.9	69.0	69.2	1.3	3.9	2.3	3.6	3.3
Spain	13	12	1478.2	1183.8	63.7	69.8	70.0	6.3	3.6	1.2	1.2	2.8
Mexico	14	14	1155.2	956.8	61.4	63.8	64.2	2.8	1.2	5.4	5.0	2.9
South Korea	15	15	1116.2	1056.1	60.5	57.0	56.6	-3.9	4.4	3.9	2.7	3.5
World			70201.9	52667.7	68.2	67.6	67.5	-0.7	2.8	2.9	3.6	2.6

Source: Computed from UN National Accounts Statistics accessed on 4 Jan 2013.

(e) World service sector FDI rebounded in 2011 after falling sharply in 2009 and 2010, to reach around US dollar 570 billion, registering the growth of 15% over the previous year.

3.3 India's Service Sector

The growth of services took off almost at the same level around the world in 2000, that is around 4-5 percent. But over the time our national growth rate of services has been better than other countries. Interestingly, unlike world services growth, this has been moving in tandem with its overall growth with mild see-saw movements over the years. The growth rate of service in India has been consistently above its overall growth in the last decade. So it has been experienced that the sector has been consistently pulling up the growth in Indian economy with a great amount of stability.

All the subsectors of the service sector has seen a positive growth pattern. A brief look at the sub sector growth reveals that, among commercial services, in terms of shares the major services are trade, transport by other means (excluding railways), banking, insurance, real estate ownership of dwelling, and business services besides construction. In the year 2011-12, the countries growth of 'trade' decelerated to 6.5 percent, its share

improved to 16.6 percent. The share of Banking and insurance with marginal improvement in its share to 5.7 percent was the most dynamic sector in 2011-12 with the growth of 13.2 percent in the preceding years. During the same period, Transport experienced a growth of 5.4 percent. Real estate, ownership of dwellings and business services with a share of 10.8 percent, which is marginally higher than the previous year and is at a robust growth of 10.3 percent. Other services with a share of 7.9 percent both in 2010-11 and 2011-12 grew at a slower pace of 6.5 percent in 2011-12. The items included in other services are education, medical health and community services; and personal services. Some of the sectors like coaching centres and membership organisations of community services have experiences a high growth rate. Construction, the borderline service sector, has been the most vulnerable to global events and has consistent share of 8.2 percent during this period.

3.4 Performance of India's Service sector

The performance of the different services based on the different indicators reveals that sectors like telecom, tourism, and railways have performed very well (Table 2). Shipping and ports show poor performance reflecting the effects of the global slowdown.

Table 2. Performance of India's Service Sector

Sector	Indicators	Unit	Period				
			2008-09	2009-10	2010-11	2011-12	2012-13
Aviation	Airline Passengers (Domestic and International)	Million	49.5	54.5	64.5	70.2	67.5
Telecom	Telecom connection (wire line and wireless)	Lack	4295.25	6212.8	8463.2	9513.4	8955.1
Tourism	Foreign tourists arrival	Million	5.28	5.17	5.78	6.31	6.65
	Foreign exchange earnings from tourist arrival	US $ Million	11832	11136	14193	16564	17737
Shipping	Gross tonnage of Indian shipping	Million GT	9.28	9.69	10.45	11.06	1045
	No. of ships	Numbers	925	1003	1071	1122	1158
Ports	Port traffic	Million tonnes	744.02	850.03	885.45	911.68	455.77
Railways	Freight traffic by railways	Million tonnes	833.31	887.99	832.75	969.78	735.32
	Net tonne kilometres of railways	Million	538226	584760	444515	639768	470956
Storage	Storage capacity	Lakh MT	105.25	105.98	102.47	100.85	101.60
	No. of warehouses	Numbers	499	487	479	468	469

Source: Directorate General of Civil Aviation, Telecom Regulatory Authority of India, Ministry of Tourism, Ministry of Shipping, Ministry of Railways and Central Warehousing Corporation (Compiled by Exim Bank of India)

The performance based on estimates and forecast shows a mixed picture of growth for this year.

The important commercial services for India based on their significance in terms of GDP, employment, exports, and future prospects, have shown a positive trend. The report compiles by Exim bank deals in detail about these sectors during 2008-13. The table also shows that the country has to do something for storage as that will be needed with the growth of other sectors.

4. Conclusion

India's growth has been basically a service-led growth pulling up the overall growth of the economy. The growth could be through a business-as-usual approach, a more targeted approach with focus on big-ticket services could lead to exponential gains for the economy. The example has been set by telecom and software services and they are followed by some other services like tourism including medical tourism and shipping and logistics.

Liquidity and Profitability Analysis of Commercial Banks in India – A Comparative Study

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Abstract

Indian economic environment is witnessing path breaking reform measures. The financial sector, of which the banking industry is the largest player, has also been undergoing a metamorphic change. This reform has not only influenced the productivity and efficiency of many of the Indian Banks, but has left everlasting footprints on the working of the banking sector in India. Certain trends like growing competition, product innovation and branding, focus on strengthening risk management systems, emphasis on technology have emerged in the recent past. Today the banking industry is stronger and capable of withstanding the pressures of competition. While internationally accepted prudential norms have been adopted, with higher disclosures and transparency, Indian banking industry is gradually moving towards adopting the best practices in accounting, corporate governance and risk management. The major role of banks is to collect money from the public in the form of deposits and then along with its own funds to serve the demands of the customers quickly, paying interest for the deposits and to meet out the expenses to carry out its activities. For this purpose, banks maintain adequate liquidity and earn profits from its activities. Profit is the main reason for the continued existence of every commercial organization and profitability depicts the relationship of the absolute amount of profit with various other factors. In any case, compared to other business concerns, banks in general have to pay much more attention for balancing profitability and liquidity. Liquidity is required to meet out the prompt demands of customers and profitability is required to meet out the expenses of banks. But both the terms are contradictory in nature. If banks maintain more liquidity, their profitability decrease and if they increase their profitability they will have to reduce their liquidity. In this way, banks act as an engine for a business organization. So in the present study an attempt has been made to evaluate the performance of different categories of banks viz. public, private and foreign bank groups in India. For evaluating the performance, eleven financial ratios have been used. These ratios further have been categorized into two categories viz. liquidity and profitability. The period of study cover the years 2005-06 to 2011-12. From the results, it has been found that during the study period the liquidity and profitability position of public sector bank group declined while it has improved in other two groups.

Keywords: ANOVA, Coefficient of Variation, Liquidity, Profitability, Tukey's Multiple Comparison Test

1. Introduction

The financial sector in India as well as the world over continues to be one of the primary engines of economic growth. One of the key constituents of the financial sector in India is the banking system. The important role played by the banks in the provision of intermediation services and the capital formation process in an emerging economy such as India hardly needs to be emphasized. Since the early 1990s, the structure of banking sector has significantly changed due to deregulation and liberalization, accompanied by divestments of public banks. The developments are expected to have important implications for operating performance and profitability in the banking system. Therefore, from the point of view of both managerial and policy interest, it is extremely important to know the efficiency levels of banking firms and their temporal behavior and which bank group has performed better than others in this period of transition. The present study is an attempt to examine the performance level of different banking groups' viz. public, private and foreign on the basis of various financial indicators which have been divided into four categories namely liquidity, expense, profitability and productivity ratios. 'The period of the study is 2005-06 to 2011-12.

2. An Overview of Indian Banking

The history of formal commercial banking in India can be traced back to the 18th century (Gupta[1]; Roy 2000). Till nationalization all banks continued to be privately owned except. SBI, its associates and RBI. After independence, it was felt that commercial banks credit was flowing mainly to the large and well established business houses, and not so much to sectors such as agriculture and small scale industries. As a result, in 1967, the policy of social control over banks led to the first phase of nationalization in 1969 and second phase in 1980. With the nationalization of banks, a large number of regulatory measures were adopted by RBI to achieve a desired sector allocation of credit. E.g. subsidized lending rates to priority sectors, provision of refinance facilities, rural and semi-urban branching, ceiling on deposit rites and differential lending rates. These measures led to a phenomenal growth of the banking system, especially of PSBs. In fact, during the early 1990s; PSBs owned nearly 90 percent of total business in the banking industry.

However, this rapid growth, owing to excessive focus on quantitative achievements, made many banks inefficient, unprofitable and undercapitalized. Recognizing these problems, the RBI launched the banking sector reforms in 1992. The areas of reform namely deregulation, branch de-licensing, deregulation of interest rates, gradual decrease of the Cash Reserve Ratio and the Statutory Reserve Ratio, setting capital adequacy norms of a minimum 8 percent capital to risk-weighted Asset Ratio (CRAR) and imposition of stringent income recognition and provisioning norms. While these reforms were underway, there were some important developments taking place in the world economy, especially a movement towards global integration of financial services.

The banking sector reforms in India, initiated since 1992 was intended to impart enhanced efficiency, productivity and profitability into the system. Hence, it is important, to weigh the gains against losses incurred by the banking industry over a sufficiently long time horizon. As highlighted in the introduction, this paper intends to study the performance of different bank groups in terms of various financial indicators during 2006 to 2012.

3. Objective of this Paper

The objective of this paper is to measure and compare performance of public, private and foreign banks by using Tukey's Multiple Comparison Test. It is a single multiple comparison procedure and statistical test, generally used in conjunction with ANOVA to find which means are significantly different from one another. The test compares the means of every group with the means of every other group; that is, it applies simultaneously to the set of all pairwise comparisons.

4. A Brief Review of Literature

In recent years a number of studies have been conducted to know the liquidity, profitability and performance of players in financial system. There exists rich literature pertaining to developed countries, on assessing bank performance using various methodologies arriving at different conclusions. There also exist many good surveys of the efficiency and productivity literature related to banking. In India, various research studies on performance and efficiency of Indian banking industry were conducted by applying different techniques like taxonomic method, multi comparison test, DEA analysis, zero sum method etc. Notable among these were Koeva[2], Bhaumik and Dimova[3], Kumbhakar and Sarkar[4], Sensarma[5], Rizvi[6], Singla[7] and Ahmed[8].

Koeva[2] examined a variety of financial indicators of banks and concluded that ownership has a significant effect on some of the performance indicators and deregulation has led to lower intermediation cost and profitability.

Bhaumik and Dimova[3] studied performance in terms of return on assets of all banks and concluded that by 2000, competition had helped public banks to reduce the gap in performance that existed between them and private banks.

Kumbhakar and Sarkar[4] estimated efficiency of public and private sector banks using a stochastic cost frontier with data from 1986 to 2000. They found that cost efficiency has declined over time but the rate of decline slowed down after the reforms. They also found that private sector banks are more efficient than PSBs but there is no significant difference in the impact of deregulation on the two bank groups.

Sensarma[5] uses the stochastic frontier analysis to estimate bank-specific cost and profit efficiency during 1986 to 2003. He found that while cost efficiency of the banking industry increased during the period, profit efficiency underwent a decline as the economy is undergoing a process of deregulation. In terms of bank groups, domestic banks appear to be more efficient than foreign banks.

Rizvi[6] in his paper briefly discuss the reforms, liberalization and future trend of banking sector. They concluded that financial system is no longer viewed as a passive mobilize of funds. Reforms led to increase in terms and sustainable growth.

Singla[7] examined the profitability of sixteen banks for the period 2001 to 2007. The study reveals that overall profitability and the position of selected banks in terms of return on investment is moderate.

Ahmed[8] studied the causes and consequences of NPA's on the banking sector. They concluded that NPAs have negative impact on the productivity and credibility of the banking system. The study further concluded that the fresh incidence of NPAs should be avoided but not at the cost of fresh deployment of credit.

Goel[9] studied the performance of 62 Scheduled Commercial Banks in India, comprising of 26 Public Sector Banks (PSBs), 17 Private Banks (PBs), and 19 Foreign Banks (FBs) for period (1999-00 to 2008-09). The study reveals that profitability, capital adequacy, and assets quality of commercial banks in India improved while their liquidity and off-balance sheet strength declined. Although financial performance of commercial banks in India has improved as a result of various reforms introduced by RBI, yet the FBs are at the top on various aspects of financial performance such as profitability, liquidity, capital adequacy, assets quality, and overall financial performance.

Gupta and Sikarwar[10] studied the profitability management of Punjab National Bank and HDFC Bank. A comparative study is made by taking the data of eleven years i.e. from 2000 to 2011. On the basis of study of profitability management, based on the parameters like Total Income, Total Expenditure, Net Profits and Operating Expenses, the study concluded very safely that for the last eleven years i.e. from 2000 to 2011 HDFC Bank has performed much better than Punjab National Bank and all the banks must refer the suggestions provided in the study in order to improve their efficiency.

Alrabei[11] examined the profitability of the State Bank of India (SBI) and Cairo Amman Bank (CAB), Jordan for the period 2006-07 to 2010-11. The study reveals that the State Bank of India should try to control the cost of services rendered to increase the gross profit, and the Cairo Amman Bank should try to increase the number of branches at global level also.

5. Methodology

As mentioned earlier that main objective of this paper is to evaluate the performance of different banking groups on the basis of various financial ratios. To evaluate the performance of these groups, following statistical tools have been applied.

5.1 Mean

A tool which show a common characteristic to concentrate at certain values usually somewhere in the centre of distribution.

5.2 Analysis of Variance

A method of splitting the total variation of data into meaningful components that measures different sources of variation.

5.3 Tukey's Multi-Comparison Test

Also known as Tukey's honestly significant difference (HSD). It is a single multiple comparison procedure and statistical test, generally used in conjunction with ANOVA to find which means are significantly different from one another. The test compares the means of every group with the means of every other group; that is, it applies simultaneously to the set of all pairwise comparisons.

The formula for Tukey's test is qs: $\dfrac{Y_A - Y_B}{SE}$

Where, Y_A is the larger of the two means being compared, Y_B is the smaller of the two means being compared and SE is the standard error of the data in question.

This qs value is then compared to the q value from the studentized range distribution. If the qs value is larger than the q critical value obtained from the distribution., then two means are said to be significantly different and vice-versa.

For evaluating the performance of different banking groups twenty-four financial ratios have been used. The above mentioned statistical tools have been applied to these ratios. These ratios are further categorized into four groups viz. Liquidity, Expenditure, Profitability and Productivity. All these ratios are measured in terms of percentages and rupees in lakh. The data on these ratios is taken from RBI website www.rbi.org.in. The period of reference 2005-06 to 2011-12.

6. Empirical Results

The efficiency measures calculated in this study are relative in nature. The performance of different banking groups is measured on the basis of various liquidity and profitability measures.

Table 1 reveals the liquidity ratios of various bank groups. For evaluating the liquidity position of banks, three ratios namely, Cash-Deposit, Credit-Deposit and Investment-Deposit Ratio have been used. Cash-deposit ratio of all the bank groups declined during the period except foreign banks which show an increasing trend after 2008-09. The highest decline was observed in public sector banks from 6.33 percent (2006) to 5.91 percent (2012). The credit-deposit ratio of all the bank groups showed in increasing trend. The credit-deposit ratio was highest in case of foreign banks followed by public and private sector bank groups in 2011-12. The Investment-Deposit Ratio of all the bank groups declined except foreign banks. The highest value was observed incase of foreign banks (79.08 percent) as compared to public sector banks (30.47 percent) and private sector banks (36.49 percent) in 2011-12.

Further the table depicts that there exist minor variations in the public and private sector bank groups, but in case of foreign banks there were marked variations in all the three ratios. Similarly the mean difference was insignificant among public and private, but it was significant in case of public and foreign, private, but it was significant in case of public and foreign, private and foreign bank groups in most of the years.

Table 1. Multiple comparison test for liquidity ratios

Ratio	Year	Mean (%)			CV			Tukey's Multiple Comparison Test			ANOVA	
		Pub. B	Pvt. B	For. B	Pub. B	Pvt. B	For. B	Pub. and Pvt.	Pub. and For.	Pvt. and For.	F-Ratio	Sig. Level
Cash Deposit Ratio	2005–06	6.330	5.819	8.741	0.309	0.388	0.490	0.511	2.410*	2.921*	4.892	0.011
	2008–09	7.411	6.986	7.648	0.243	0.158	0.356	0.425	0.237	0.662	0.471	0.627
	2011–12	5.907	5.798	9.025	0.155	0.180	0.500	0.109	3.118*	3.227*	9.253	0.000
Credit Deposit Ratio	2005–06	70.090	63.998	66.308	0.396	0.145	0.701	6.092	3.782	2.310	0.208	0.813
	2008–09	71.861	67.418	80.345	0.079	0.151	0.686	4.444	8.484	12.927	0.805	0.452
	2011–12	76.207	75.792	105.423	0.054	0.135	0.669	0.405	29.226*	29.631	3.596	0.034
Investment Deposit Ratio	2005–06	47.061	36.495	60.577	0.372	0.178	0.587	10.566	13.517	24.082*	4.679	0.013
	2008–09	31.820	34.839	58.589	0.123	0.180	0.679	3.019	26.768*	23.749*	8.567	0.001
	2011–12	30.473	36.494	79.077	0.113	0.249	0.653	6.021	48.605*	42.584*	16.730	0.000

Table 2. Multiple comparison test for profitability ratios

Ratio	Year	Mean (%)			CV			Tukey's Multiple Comparison Test			ANOVA	
		Pub. B	Pvt. B	For. B	Pub. B	Pvt. B	For. B	Pub. and Pvt.	Pub. and For.	Pvt. and For.	F-Ratio	Sig. Level
Net-Interest Margin to Total Assets	2005-06	3.654	3.131	2.669	0.459	0.233	0.498	0.523	0.985	0.463	2.499	0.092
	2008-09	2.310	2.914	3.459	0.223	0.283	0.498	0.604	1.149*	0.545	5.986	0.004
	2011-12	2.652	3.642	3.563	0.173	0.520	0.411	0.990*	0.911	0.079	3.898	0.026
Return on Assets	2005-06	0.852	0.576	1.773	0.432	1.701	1.438	0.276	0.921	1.196	3.075	0.054
	2008-09	0.980	1.193	1.277	0.323	0.343	2.099	0.212	0.296	0.084	.245	0.783
	2011-12	0.852	1.196	1.961	0.301	0.565	0.796	0.344	1.108*	0.764	7.441	0.001
Return on Equity	2005-06	14.963	11.528	8.233	0.421	0.604	1.031	3.435	6.729*	3.295	4.371	0.017
	2008-09	18.108	14.820	9.895	0.294	0.297	1.125	3.278	8.202*	4.925	6.326	0.003
	2011-12	14.887	13.694	9.223	0.295	0.696	0.632	1.193	5.664*	4.472	3.655	0.032
Return on Advances	2005-06	8.217	9.235	8.443	0.056	0.082	0.445	1.018	0.227	0.792	1.348	0.268
	2008-09	10.371	11.940	11.065	0.060	0.092	0.284	1.576*	0.694	0.883	4.020	0.024
	2011-12	10.663	12.039	9.703	0.074	0.081	0.242	1.376*	0.959	2.335*	10.873	0.000
Return on Investments	2005-06	7.954	7.450	7.455	0.135	0.136	0.288	0.504	0.499	0.005	.881	0.420
	2008-09	7.072	6.907	7.739	0.075	0.104	0.164	0.165	0.667*	0.832*	4.458	0.016
	2011-12	7.422	7.417	7.709	0.052	0.091	0.111	0.005	0.287	0.292	1.187	0.313
Adjusted Return on Advances	2005-06	3.621	4.813	3.691	0.134	0.320	1.067	1.192	0.070	1.122	1.638	0.204
	2008-09	4.115	5.203	5.459	0.114	0.202	0.983	1.087	1.344	0.257	1.349	0.268
	2011-12	4.280	5.007	5.281	0.120	0.134	0.694	0.729	1.001	0.272	1.481	0.236
Adjusted Return on Investments	2005-06	3.358	3.028	2.703	0.386	0.572	0.695	0.330	0.656	0.325	0.828	0.442
	2008-09	0.816	0.165	2.133	0.599	5.746	1.938	0.651	1.317	1.968*	3.264	0.046
	2011-12	1.042	0.388	3.285	0.740	2.784	0.682	0.653	2.243*	2.897*	19.157	0.000
Operating Profit to Total Assets	2005-06	2.037	1.955	3.478	0.214	0.433	1.055	0.082	1.441	1.523	3.179	0.050
	2008-09	1.866	2.291	3.540	0.260	0.302	0.716	0.424	1.671*	1.246*	7.084	0.002
	2011-12	1.923	2.022	3.569	0.203	0.454	0.513	0.098	1.645*	1.546*	12.227	0.000

The overall analysis shows that foreign banking group was performing much better during the whole period in case of all the liquidity ratios followed by private and public bank groups.

Table 2 compares the performance of different banking groups on the basis of eight profitability ratios viz. net-interest margin to total assets, return on equity, return on assets, return on advances, return on investments, and adjusted return on advances, adjusted return on investments and operating profits to total assets. An examination of this table brings forth the fact that profitability of private sector banks and foreign banks exhibits an increasing trend in almost all the profitability ratios except in case of Return on Investment which shows a slight decrease. Where as the profitability of public sector bank group declined in most of the ratios except in Return on Advances which shows a slight increase.

Further the table exhibits that profitability position of public sector banks seems to be more stable and consistent as it is subject to least variations followed by private and foreign banks. The most unstable group was foreign bank group because largest fluctuations were recorded in it with respect to almost all the ratios except in case of Return on Investment.

Further the table extends that the mean difference was insignificant among public and private sector banks at 5 percent significance level except in case of net-interest margin to total assets (2012) and return on advances (2009, 2012). In contrast the mean difference was significant among public and foreign banks in most of the ratios (except return on advances and adjusted return on advances).

Similarly it was significant among private and foreign banks with respect to almost all the profitability ratios (except net-interest margin to total assets, return on assets, return on equity, adjusted return on advances).

The overall analyses shows that foreign banks possess highest values in most of the profitability ratios except in case of return on equity and return on advances where public sector bank group occupies a better position. Along with it the public sector banks much stable and consistent position as compared to its counterparts.

7. Conclusion

This study presents the performance evaluation of different categories of banks viz. public, private and foreign bank groups in India. For evaluating the performance, eleven financial ratios have been used. These ratios further have been categorized into two categories viz. liquidity and profitability. The period of study cover the years 2005-06 to 2011-12. From the results, it has been found that during the study period the liquidity and profitability position of public sector bank group declined while it has improved in other two groups.

Further the results indicated that in most of the financial indicators foreign banks recorded the highest mean values. But as far as stability and consistency is concerned, it was negligible in foreign banks and highest in public sector banks.

It is also found that mean difference was negligible among public and private sector banks but it is significant when compared with foreign bank group. It depicts that public sector banks need to improve their performance in order to compete with private and foreign banks groups.

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Emerging Trends in Cyber-Crimes

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Abstract

Unless and until our society recognizes cyber bullying for what it is, the suffering of thousands of silent victims will continue. 1Cyber crime is the most concerning issue for all countries, because it harms governmental confidential data as well as people in daily life transactions.Lack of proper training and education, the low level of awareness of the Indian society about the cybercrime has resulted into a spurt of cybercrimes. At times, even the law enforcement officers do not have proper training and other requisite expertise for tackling cybercrime. There are a huge number of cyber threats and their behavior is difficult to early understanding hence difficult to restrict in the early phases of the cyber attacks. They have serious impacts over the society in the form of economical disrupt, psychological disorder, threat to National defense etc. Cybercrime plays directly upon the greed and gullibility of people both naïve and otherwise worldly. India may succeed in combating the problem of cybercrimes by adopting a synergetic approach wherein technological measures and proper legislative framework with a properly trained human resource in a tech-savvy society.

1. Introduction

Everybody should want to make sure that we have the cyber tools necessary to investigate cyber crimes and to be prepared to defend against them and to bring people to justice who commit it. Janet Reno[2]

In 1960s internet was developed for better communication and research. With advancement of technology of internet everything becomes easy to access but also provides pathway to commit crimes easily without any effort. Although there exist firewalls, antivirus software, and other technological solutions for safeguarding the data and networks, some human minds of criminal nature use internet as a tool of crime which is now known as cyber crime committed in cyber space. [3]Cyber crime is now the burning issue for all countries to handle because most of data is transferred online even governmental data also. Even most of the seasoned users of IT tools may not be aware of cyber victimization.

Along with the advancements in technology it is equally important to be aware of disadvantages as the cybersafety depends on the knowledge of the technology and the care taken while using internet and that of the preventive measures adopted by user and servers systems. It is well said that the problems created cannot be solved with the same level of awareness that created them. Cyber crime mainly consists of unauthorized access to Data and data alteration, data destruction, theft of funds or intellectual property. Due to these online criminal activities cyberspace is most unsafe place to do business. Word cyber space was first used by William Gibson, in his book, Necromancer, written in 1984. Cyberspace can be defined as a virtual world of computers where internet is involved, where individuals can interact, conduct business, do transactions, develop graphics. Hence there is need to enhance awareness about thecybercrime. Bhushan[4]has revealed that awareness of cybernetics in India is abysmally low and thus has gained a reputation as a country where foreign investors can do business in cybersecurity and have been investing heavily in cybersecurity, stressing need for a centralized management to control Internet, telecom and power sectors. Pandey[5]concluded that lack of awareness about internet and low level of internet security is fast making Indore aheaven for cybercriminals.

According to Dalal[6]one area that requires special attention is the 'cyberlaw awareness' in India.Nappinai[7] found that cybercrime prosecution is not resorted in many instances due to lack of awareness amongst both the victimsand the enforcement authorities about the applicability of general laws to cybercrimes.

Saxena etal[8]have concluded that proactive actions on the part of Government and enhanced participation of education system in the cybersecurity awareness approach may lead to a strongly secured nation. Jamil and Khan[9]while comparing the data protection act in India with that of European countries have concluded that the Indian cyber laws are very poor and it is very necessary to actually bring in the appropriate cyber law and awareness about them.

Seth[10] has noticed that with increasing awareness and provision of training on the subject of cybercrime, enhanced technological and legislative steps being taken to further strengthen the IT laws and enforcement framework, India will effectively succeed in combating the problem of cybercrimes.

2. Current Trends of Cyber Crime

While the vast majority of hackers may be disinclined towards violence, it would only take a few to turn cyber terrorism into reality- Dorothy Denning[11]

Locard's principle of exchange, that anyone or anything entering a crime scene takes something of the scene away and leaves something of themselves behind does not apply generally to the cyber world.

It might apply in some circumstances, but especially is it the case that most computer security systems currently used does not track, trace and generate legally admissible evidence through the systems designed into computers.

2.1 Stalking

Cyber stalking, is one of the most common, is use of the Internet or other electronic means to stalk someone. This term is used interchangeably with online harassment and online abuse. [12]

First stalking case registered in India:

The Delhi Police registered India's First Case of Cyber stalking. One Mrs. RituKohli complained to the police against a person who was using her identity to chat over the Internet at the website www.mirc.com, mostly in the Delhi channel for four consecutive days.Mrs. Kohlifurther complained that the person was chatting on the Net, using her name and giving her address and was talking obscene language. The same person was also deliberately giving her telephone number to other chatters encouraging them to call RituKohli at odd hours.

Consequently, MrsKohli received almost 40 calls in three days mostly at odd hours from as far away as Kuwait, Cochin, Bombay and Ahmadabad. The said calls created havoc in the personal life and mental peace of RituKohli who decided to report the matter.[13]

2.2 Hacking

"Hacking" is a crime, which entails cracking systems and gaining unauthorized access to the data stored in them. Case related to hacking reported:

MUMBAI: Cyber criminals hacked into the Mumbai-based current account of the RPG Group of companies and shifted Rs 2.4 crore. The bank has blocked the accounts of the illegal beneficiaries, but the hackers have already managed to withdraw some funds from them, sources said.[14]

2.3 Phishing

Phishing is just one type of the many frauds on the Internet, trying to fool people into parting with their money.

Case related to phishing: HYDERABAD:

An email allegedly from India's central bank, asking to secure their bank account details with the RBI is fake, and an attempt by new-age fraudsters to con people into giving away bank account details and lose hard-earned money, security experts said.

The email says RBI has launched a new security system, asking users to click on a link to open a page with list of banks in place. Once anyone chooses a particular bank, it asks for all net banking details, including card numbers and the secret three digit CVV number, among others.[15]

2.4 Squatting

Cyber squatting is the act of registering a famous domain name and then selling it for a fortune. This is an issue that has not been tackled in IT act 2000. [16]

2.5 Bot Networks

A cyber crime called 'Bot Networks', where spamsters and other perpetrators of cyber crimes remotely take control of computers without the users realizing the fact that their system is being in use by some fake user.

2.6 Cross Site Scripting (XSS) and Vishing[17]

Cross site scripting Cross-site scripting (XSS) is a type of computer security threat in which malicious users insert some harmful code into the WebPages of trusted web sites viewed by other users.

These were some types discussed but there are many more sides of cyber crimes which falls under IT act 2000[18] and IPC like obscene publication, obtaining license of digital signature by providing false information, breach of privacy, offence against public

servant, forgery, criminal breach of trust and many more. Some noteworthy amendments in the definition sections include:

The replacement of the word "Digital" with the word "Electronic", which makes the IT Act more technology neutral and expands its applicability beyond just the digital medium.

1. Inclusion of cell phones, personal digital assistants and other such devices in the definition of "Communication Devices" broadens the scope of the statute.
2. The modified definition of "Intermediary" includes all service providers in respect of electronic records again broadens the applicability while inclusion of Cyber cafes in the definition of Intermediaries removes the need to interpret the statute.

The extensive definition of "cyber security" as including protection of both data and the equipment from unauthorized access, use, disclosure etc., is another vital inclusion that impacts the new Data Protection provisions included under the ITA, 2008. The relevance of these definitions, where applicable are set out below.

3. Conclusion and Impact

Lunda Wright, a legal researcher specializing in digital forensic law at Rhodes University, has an interesting research finding on a blog posted in October 2005. It states that there has been an increased rate of prosecutions of cyber-criminals. There has been an increased clamping down on cyber-piracy related to the film and music works. There are novel lawsuits and strategies for litigation. [19]Police departments across the nation validate that they have received an increasing number of such crimes reported in recent years. This is in sync with the national trend resulting from increased computer use, online business, and geeky sophisticated criminals.

In the year 2004, cyber-crime generated a higher payback than drug trafficking, and it is set to grow further as the use of technology expands in developing countries.

3.1 Potential Economic Impact

The 2011 Norton Cyber crime disclosed that over 74 million people in the United States were victims of cyber crime in 2010. These criminal acts resulted in $32 billion in direct financial losses. Many people have the attitude that cyber crime is a fact of doing business online![20]

As today's consumer has become increasingly dependent on computers, networks, and the information these are used to store and preserve, the risk of being subjected to cyber-crime is high.

Some of the surveys conducted in the past have indicated as many as 80% of the companies surveyed acknowledged financial losses due to computer breaches. The approximate number impacted was $450 million. Almost 10% reported financial fraud. [21]As the economy increases its reliance on the internet; it is exposed to all the threats posed by cyber-criminals. Stocks are traded via internet, bank transactions are performed via internet, purchases are made using credit card via internet. All instances of fraud in such transactions impact the financial state of the affected company and hence the economy. Productivity is also at risk. These types of consumer trust issues could have serious repercussions and bear going into more detail.

3.2 Impact on Consumer Trust

Since cyber-attackers intrude into others' space and try and break the logic of the page, the end customer visiting the concerned page will be frustrated and discouraged to use the said site on a long term basis. The site in question is termed as the fraudulent, while the criminal masterminding the hidden attack is not recognized as the root cause. This makes the customer lose confidence in the said site and in the internet and its strengths.

According to reports sponsored by the Better Business Bureau Online, over 80% of online shoppers cited security as a primary worry when conducting business over the Internet[22]. About 75% of online shoppers terminate an online transaction when asked for the credit card information.

The perception that the Internet is rife with credit card fraud and security hazards is growing. This has been a serious problem for e-commerce.

Complicating the matter, concern over the credibility of an e-business in terms of being unsafe or cluttered makes a shopper reluctant to transact business.

3.3 Areas Ripe for Exploitation: National Security

Cyber attacks are not what make the cool war 'cool'. As a strategic matter, they do not differ fundamentally from older tools of espionage and sabotage -Noah Feldman[23]

Modern military of most of the countries depends heavily on advanced computers. Information Warfare, or IW, including network attack, exploitation, and defense, isn't a new national security challenge, but since 9/11 it has gained some additional importance. IW appeals because it can be low-cost, highly effective and provide deniability to the attacker. It can easily spread malware, causing networks to crash and spread misinformation.[24] The Internet has 90 percent junk and 10 percent good security systems. When intruders find systems that are easy to break

into, they simply hack into the system. Terrorists and criminals use information technology to plan and execute their criminal activities. Cyber war takes place largely in secret, unknown to the general public on both sides. The increase in international inter-action and the wide spread usage of IT has facilitated the growth of crime and terrorism.

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Book Review

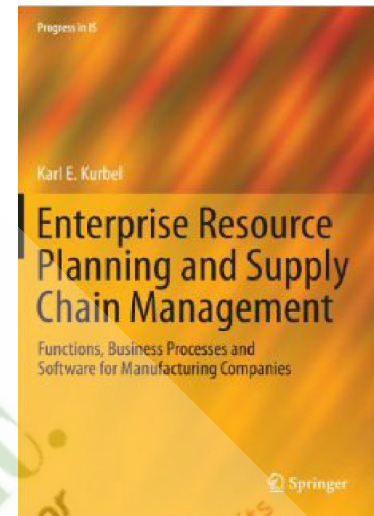*Dr. Subodh Kesharwani*

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Enterprise Resource Planning and Supply Chain Management— Functions, Business Processes and Software for Manufacturing Companies

Karl E. Kurbel

Citation

Review

Learning Objectives of the Book

The book entitled "Enterprise Resource Planning and Supply Chain Management - Functions, Business Processes and Software for Manufacturing Companies" is all about running modern industrial enterprises with the assistance of information systems and exclusively meant for the graduates/postgraduates who had an ERP/SCM in their syllabi of the programme they are pursuing.

Nonetheless the book possesses following framework and objectives:

- Be acquainted with about optimization methods and heuristics implemented in advanced planning and scheduling systems.
- Comprehend the integration needs between different information systems.
- Comprehend the value added by cooperation and collaboration in supply networks.
- Distinguish why customization is a major issue in the implementation of an ERP system in an organization.
- Identify with the basic functionalities of an enterprise resource planning system.
- Know the foremost approaches to material requirements planning, manufacturing resource planning, enterprise resource planning and supply chain management.

Book with Eleven Chapters

Enterprise Resource Planning (ERP) is business management software - more often than not a matching set of integrated applications - that a company can exercise to gather, mount up, handle and construe data from many business activities. The book throws a light on a mixture of aspects of ERP in general and Supply Chain Management (SCM) in particular. On the other hand SCM is a wide-ranging shift towards to administer trust interactions with the organizations that supply goods and services. It also embraces the movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of utilization. The SCM solutions can facilitate in building resiliency and flexibility into the supply network - for receptive planning, improved collaboration, and flawless execution. The chapter wise review is mention below:

The very basic chapter introduces the general topic, including concepts of business processes and important planning and control tasks of an industrial enterprise. Production and planning of goals was also taken to interlinked with IS.

Chapter 1. Business Information Systems

The very basic chapter introduces the general topic, including concepts of business processes and important planning and control tasks of an industrial enterprise. Production and planning of goals was also taken to interlink with IS.

Chapter 2. MRP: Material Requirements Planning

This chapter two on a theme "MRP" just focuses on the planning of end-product demand and material requirements to satisfy this demand. This section also focuses on how to deal with anonymous data and dealing with missing Data.

Chapter 3. MRP II: Manufacturing Resource Planning

This part "MRP II" deals with the temporal side of production: scheduling manufacturing orders while taking the production capacities into relation.

Chapter 4. ERP: Enterprise Resource Planning

Present chapter explains enterprise resource planning and ERP systems from underneath to pinnacle

Chapter 5. Case SAP-ERP

This chapter shows how the general concepts are implemented with the help of a particular ERP system - SAP ERP. SAP Stands for "System, Application and Product" is a German vendor which initially focuses on Fortune 500 Companies later on concentrates on Small and Medium Size Enterprise. The present chapter provides a glimpse about the same.

Chapter 6. ERP System Implementation

Current chapter chat about the ERP implementation process. Since an ERP system believes is "Out-of-box" which made for a wide spectrum of businesses. The chapter emphasize on how to make it tailor-made and industry specific

Chapter 7. Manufacturing Systems

This chapter highlights the IT environment of enterprise resource planning in the factory: manufacturing execution systems (MES), complementing enterprise resource planning with planning and scheming functionality for the shop floor, and engineering information systems. It in reality a hard core chapter which completely deals in manufacturing system. It also throws a glow on PDA, MDA, and TDA. The various aspects of Quality management were also explained.

Chapter 8. SCM: Supply Chain Management

Throws Light on how the motivation for SCM and the foremost issues of coordination and cooperation. A common modelling technique for intercompany business processes, the SCOR model (supply chain operations reference model), is presented in a very well manner , and major tasks of supply chain management on the strategic, planning, and execution levels are also discussed.

Chapter 9. SCM Data Structures and Advanced Planning

Mention about SCM data structures and advanced planning approaches. It also explains how SCM requires additional data structures, beyond those known from enterprise resource planning. APS (advanced planning and scheduling) solutions to typical SCM planning problems are explained.

Chapter 10. Case: SAP-SCM

Talks about a practical solution supporting supply chain management, SAP SCM is outlined. A figure of screenshots from SAP SCM have been included that exemplify selected problems and solutions compute by the APO.

Chapter 11. Current and Future Trends

This concluding chapter delineate current and future trends that are predictable to have an impact on future ERP and SCM systems, such as software-as-a service (SaaS), cloud computing, and ERP on demand. At the most recent Open-Source ERP and RFID were also explained.

At the bottom of a book Appendix related to Data Models, references and index is also enclosed.

This book covers typical business processes and shows how these processes are implemented. Examples are presented using the leading systems on the market – SAP ERP and SAP SCM. In this manner, the reader can comprehend how business processes are in point of fact carried out "in the real world".

Critical Thought

Since ERP and SCM all together a different ball game, though they are the part of a same coin the former talks about integration and latter believes in execution. What am I thinking in a reviewer perspective of a book, that if these two topics are written independently it would really would be more helpful to learners with a reason that, ERP and SCM are a full fledge papers at different places and in different curriculum. By and large this book is not merely the author's accomplishment but in real sense helpful to corporate and academia.

Useful to the Readers

As ERP software is a multi-billion industry that produces components that support a variety of business functions. The Book provides a basic thought on how IT investments in Logistics have become the largest category of capital expenditure in corporate

businesses over the past decade. Thus being a contemporary text book of its kind it will definitely provide a reader specially a student an edge to mug-up the thought and placed themselves in a corporate world with it's pragmatic style of writing.

USP of the Book

- It is in real sense a single book which talks in balance mode about ERP and SCM in a joint manner.
- Examples and exercises throughout the book are based on the various ERP vendors including SAP.
- Book in true way provide how reader can recognize business processes essentially carried out "in the real world".
- The basic goal of using an ERP/SCM philosophy in a book is to provide an integration flavour for the entire

central repository for all information which is very well taken care and explained.

- It is about running modern industrial enterprises with the help of computer-based information systems, which none other than had explained with this particular theme.

 Karl E. Kurbel has succeeded in writing a book that collects a wealth of information on ERP and SCM. This book is constructive for software developers, first generation entrepreneurs and managers who need an updated in IT. It provides a wide-ranging view of the spectrum of application software and is a good reference for a corporate especially to ERP and SCM users on software engineering and information systems. It is highly fruitful for students who are pursuing their BBA, BCA, MCA, MBA, M.Sc., and M.Tech.

Book Review

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Attitudes And Skills: The Magic Bullet, 2/e

Allan R. Baylis

Citation

http://www.vivagroupindia.com/frmBookDetail.aspx?BookId=11541&Status=F
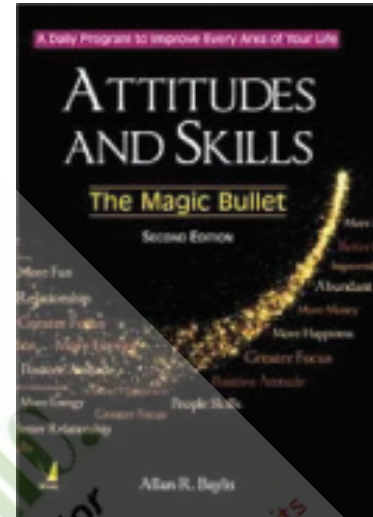
Review

Attitudes and Skills: The Magic Bullet is a 21-day action plan that will improve all areas in your life. Have you ever wondered why so few take action with their ideas only to see others pass them by? Attitudes and Skills: The Magic Bullet will show you how to be one of the 5% who put thoughts into action. This action-oriented book focuses on implementation. Since implementation happens through daily application, Allan Baylis has designed an action plan that the reader must commit to for 21 consecutive days. The first part of the book delineates ten important attitudes and an MDA (method of daily application) for the user. Baylis argues that there has been an overemphasis on drilling for relevant skills and little emphasis on developing a positive learning attitude. The author believes that the 10 attitudes presented in the book, implemented on a daily basis, will have a positive effect on attitudinal growth. When you change an attitude you change everything. After exploring the 10 attitudes, Baylis presents people skills, the most important skill of all. Different personalities process information in different ways. When you learn how other personalities process information, you become more flexible. The skills section shows the reader how to read and adjust to other personalities to improve communication skills. An improved attitude coupled with improved people skills is what Attitudes and Skills: The Magic Bullet is all about.

Biographical Note of the Luminary in an Area of IS

A. K. Saini- A Great Thinker and Facilitator in Synchronizing Technology with Management

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Teaching/Research Experience

Before joining USMS, he was holding a senior academic position at FMS, University of Delhi. He carries with him blend of industrial and academic experience of more than 28 years out of which six years in the industry in responsible capacities. Dr. Saini has to his credit six published books and over sixty papers in national and international journals/conferences. He has travelled extensively abroad and has visited Europe under Teacher-Exchange Programme for teaching courses abroad. Dr. Saini is also the Director of Industry Interaction Cell of the University. He has been pro-actively involved with professional associations and is Senior Life member of Computer Society of India (CSI), Fellow of Institution of Electronics and Telecommunication Engineers (IETE), Life Member of AIMA, Operational Research Society of India (ORSI). Dr. Saini has served as Chairman of CSI Delhi and IETE Delhi Centre and Governing Council member of IETE. He has been elected as a Member of the National Nomination Committee of Computer Society of India for the year 2013-14. Dr. Saini is a member of the Board of Studies of AIMA and Jamia Millia Islamia University since 2011. Dr. Saini is guiding eight Ph.D. scholars and has produced six Ph.D. students. His major interests include: Computer Applications, Information Systems, Databases, Technology and Innovation Management, Knowledge Management and Healthcare systems.

Great Enterprise Contribution to Society in Information System Perspectives

Innovating the Future

Suchin Jain

Co-founder and Director

A Technical, Management, Marketing Consulting & Services Company

IT, Marine, Solar, Infrastructure, Real Estate, Social Enterprise, Policies & Reforms

An IIT-IIM alumni venture

Website: www.inoviea.com

Market Need

Today's market place has become highly specialized with emphasis on core-competencies. On one hand it has resulted in excellent results in creating brand value, whereas on other hand it has also created gaps in cross discipline integration and loss in revenue for companies due to non-holistic approach in non-core domain functions.

In addition to providing consulting and services in core competency areas, Inoviea has created a platform for providing holistic approach in technical, management and marketing functions to advise clients and provide value added services to enhance the bottom-line for companies looking for turnaround and out-of-box approaches.

Inoviea has created an eco-system of enterprises, partnerships, consultants, academia and institutions to deliver value and remove bottlenecks from businesses at break-neck speeds. We also handle the issues affecting industry in policy domain and create approaches for their faster resolutions. (www.inoviea.com)

Our Present Work

We have helped IT companies market their products to newer clients in ERP, Web, mobile, retail, education domains.

We have devised offerings for shipbuilding industry to turnaround their profitability and enhance capabilities. We have started sale of ship structural design software, first time in the country and providing associated design and consulting services.

We are helping solar industry overcome land acquisition/infrastructure/financing challenges and providing end to end solutions in establishing solar power plants across India. We are also establishing distribution channel for a Dubai based company in solar thermal segment.

We are evolving ethical eco-system for real-estate deals through our portal (www.rightpropertydeal.com)

We have also created a niche platform for revolutionizing policy reforms in the country through our social enterprise initiative called India Reforms (www.indiareforms.wix.com/indiareforms).

The concept was also pilot tested at CIIE, IIMA and received great support and acceptance from the participants.

About the Co-founder and Director

Mr. Suchin Jain is a naval architect from Cochin University, a post graduate from IIT, Delhi and has completed Business Management program from IIM, Ahmedabad. Suchin took premature retirement as Commander from Indian Navy, where he served for over 26 years. He has been the first person in South Asia to undertake FEM structural analysis of complete hull girder of India's first indigenous aircraft carrier. He was also posted at world's largest, Sevmash shipyard at Russia for modernization of

INS Vikramaditya. He has contributed to design and construction of other premier indigenous ship and submarine programs. He served in senior capacity of Indian Navy's most modern ship repair facility on west coast. Suchin Jain is an innovator and entrepreneur who has founded and brought up the vertical domains of Inoviea.

Our Clients and Associates

Cybernet India, Genus Power and Infrastructure, L and T Shipyard, Archetype, CCCL Infrastructure, PBS Foods, Minda-Kyoraku (Japan), White-Canvas, DRS Technologies (USA), Kaltech Energy (Dubai), Greenship technologies, First Green Consulting, Bankfin Consulting Group.

Invitation for Association

Inoviea is a multi-domain people's company and is ever looking to form fruitful alliances, associations and partnerships. Presently, we have another Co-founder and Director Mr. Akash Bansal, a graduate from Duke University, USA and MBA from IIMA. Mr. Akash has helped the company evolve into a structured entity and is a source of constant strength. We invite Delhi based talented individuals with purpose in life to join us as co-founders and vertical heads on partnership and profit sharing basis respectively. We also invite domain expert companies for forming alliance and expanding horizon for mutual growth.

Great Enterprise Contribution to Society in Information System Perspectives

VAJJA TECHNOLOGIES PVT LTD ISO 9001:2008

In Tandem With Technology

Venkata Ramana Vajja,

Managing Director

http://www.vajjatechnologies.com

Venkata Ramana Vajja, a Technocrat has over 27yrs of experience in ELECTRONICS and Telecommunications field. Started his career in Space Applications Center, Indian Space Research Organization (I.S.R.O) Ahmadabad, India, worked in Indian Airlines, Bombay India and in Kuwait Airways, Kuwait on various critical systems like Integration of Master Control Facility, Radar Systems and Traffic Collision Avoidance Systems (TCAS).

Vajja Technologies Private Ltd. is an ITES company incorporated in 2004. It is a software solutions and services company with proven methodologies aiming for customer satisfaction. Vajja Technologies is promoted and led by the most enthusiastic technocrats Mr. Venkata Ramana Vajja and Mrs. Rajasree Vajja who got international exposure. Vajja Technologies is one among very few companies who got OSP (Other Service Provider) license from DOT (Department Of Telecommunication, Govt. of India) for 20years for its International ITES Operations.

Vajja Technologies with Executive Director Mrs. Rajasree is honored with "Indian Achievers Award for Corporate Leadership" from All India Achievers Foundation in August 2008 and was nominated for "Bharat Gavrav" award from International Achievers Conference. Vajja technologies has got ISO 9001:2008 QMS Certification for its process and procedures that are of International standards and was also Nominated for "Indian Achievers Award for Industrial Development" from Indian Economic Development & Research Association.

Vajja Technologies Private Limited has got recognition for its commendable CSR activities in the Small & Medium Enterprises Category in the year 2009-2010, from the "Businessworld-FICCI-SEDF", which is sponsored by "Adithya Birla Group" and Vajja Technologies is proud to receive the award from "Mrs. Rajashree Birla".

Inauguration of GJEIS and Souvenir Release at IIT Delhi Auditorium

About I2SES, 2014

[www.i2ses.org]

In today's global economy, countries aim for economic competitiveness and technological advancement to accelerate social and economic transformation. Developed and developing countries increasingly recognize the value of technology and innovation as drivers of change in agriculture, land administration, education, ICT, health, energy and environment, water, transport and other sectors.

The challenge for many is how to transform ideas to solutions that promote sustainable and inclusive growth. The international Summit on "Innovation, Sustainability & Entrepreneurship" aims to cover the whole spectrum of innovation and entrepreneurship from knowledge development, transfer to commercialization and utilization. It will deliberate on building public, private and social sector capacity to invest in innovative initiatives and technological advancements to maximize the growth potential. The Summit will also address the issue of promoting and diffusing Grass root innovations. Also, Innovation & Entrepreneur of the year Awards 2014 will be conferred on individuals, teams and organizations that have

made significant contribution to economic, environmental, and social well-being through innovations and practical application of technological solutions.

GJEIS Inauguration of Volume-6 Issue-2, Apr-June, 2014 at IIT Delhi Auditorium

- Prof. Sushil, Department of Management Studies, Indian Institute of Technology (IIT),Delhi (Left)
- Dr. Subodh K. Kesharwani, Founder Editor-in-Chief GJEIS www.gjeis.org (Middle)
- Mr. Pavan Duggal is an advocate specialized in the field of Cyberlaw, E-Commerce law (Right)
- Mr. Ajay Arora, Founder Member, KRDWG (Center Back)

International Innovation, Sustainability & Entrepreneurship Summit, 2014 held at SEPTEMBER 26, 2014 at IIT DELHI Auditorium in collaboration with An initiative of Foundation for Innovation & Technology Transfer (FITT), IIT Delhi, IIT Delhi Alumni Association Knowledge Resource Development & Welfare Group, India, PHD Chamber of Commerce and Industry and Global Journal of Enterprise Information System.