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An Empirical Analysis of Employee Motivation and the Role of Demographics: the Banking Industry of Pakistan

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Abstract

Purpose - The study aims to investigate differences in the relative importance and availability of various motivational factors to employees in the banking industry of Pakistan. Furthermore, it examines the role of some demographic variables in forming employees' behaviour in ranking the importance of certain motivational factors.

Design/methodology/approach - Data was collected through a questionnaire survey given to 165 bank employees in Pakistan. Wilcoxon rank and Mann-Whitney U tests were used to identify differences in the importance and availability of various motivational factors and examine the impact of demographics on ranking behaviour respectively.

Findings - The findings showed that out of 12 motivational factors, six show significant differences in terms of their importance and availability to employees. Among these six factors, the availability to employees of high salary, seniority-based promotion, and balanced work and family life is low compared to their importance level shown by the rank imposed upon them. However, the three remaining factors, namely personal development, a stable and secure future, and chances to benefit society, have high levels of availability compared to their importance level. Moreover, age, experience, education and gender are found to have significant influence on ranking behaviour of employees in the importance of various motivational factors.

Research limitation/implications - The study was only conducted within the banking industry of an Asian country. The choice of one industry and cultural and socio-economic diversity in Asia may limit generalization of the findings.

Practical implications - It is suggested that managers focus on financial rewards such as high salary to keep their employees motivated. Next, employees' jobs should be formulated in such a way that they are able to achieve a balanced work and family life. Furthermore, managers should formulate customized policies considering different demographics, especially experience and age.

Originality/value - Previous research on employee motivation has focused mainly on advanced countries. Thus, this study contributes to the literature by investigating this topic in an Asian context and offering implications to managers working in the banking industries of developing countries.

Keywords: Employee Motivation, Demographics, Banking Industry, Pakistan

Paper type: Research Paper

Introduction

Employee motivation is one of the most important concepts in the fields of organizational behaviour and human resource management. Employee motivation is the key to organizational effectiveness and is a predictor of performance and job satisfaction (Ghafoor, 2011; Lather and Jain, 2005). Motivated employees are the cornerstones of any organization (Anderfuhrren, et al., 2010) and help organizations to survive (Smith, 1994).
Furthermore, motivated employees possess an awareness of specific goals that must be achieved in particular ways, and they therefore direct their efforts towards achieving such goals (Nel et al., 2001). Oluseyi and Ayo (2009) assert that levels of employee performance rely not only on the employees’ actual skills, but also on the level of motivation they exhibit. Therefore, productivity and retention of employees are considered as functions of employee motivation (Lord, 2002). Motivation sources also exert influence on factors such as employee turnover, as well as job satisfaction and organizational commitment (Mitchell et al., 2001).

Employee motivation is a major issue for any organization. Managers have always tried to motivate their staff to perform tasks and duties to a high standard (Al-Alawi, 2005). All employers want their people to perform to the best of their abilities and so take great pains in ensuring that they provide all the necessary resources and a good working environment to keep their employees motivated. Yet motivation remains a difficult factor to manage because employees’ aspirations and targets do not always match what their employers can provide (Lather and Jain, 2005). According to MacMillan (2007, p. 207), “What motivates an individual is complex, and the biggest mistake we can make is underestimating the magnitude of the human mind”.

An understanding of employee motivation has become even more critical due to the rapidly changing nature of organizations. Organizations are becoming global and are shifting from traditional hierarchical structures to decentralized structures, and adopting the concept of teams (Erez and Den, 2001). These changes, along with the trend of downsizing and a shift away from lifetime employment, have resulted in employees harbouring higher levels of anxiety (Reynolds, 1992). This has a great impact on a workplace and highlights the importance of understanding employee motivation at work today more than ever, particularly because motivation affects almost all major aspects of the organization, including satisfaction, organizational commitment, job design, benefit programmes and job involvement (Vroom and Deci, 1970).

A major function of management is to influence employees to work towards the accomplishment of organizational objectives, and motivation is an important and complex aspect of that function (Islam and Ismail, 2008). This is due, in part, to the fact that what motivates employees changes constantly (Bowen and Radhakrishna, 1991). A manager’s ability to understand what motivates employees may help them to identify and solve many organizational issues (Schaefer, 1977).

Motivating employees is a dynamic process (MacMillan, 2007). Moreover, to get productivity up to an optimal level, it is critical to understand how and why people are motivated to work (Hahn and Kleiner, 2002; Westover, 2008). For this purpose, managers usually spend a considerable amount of time on developing various motivational techniques (Hise, 1993); however, generally speaking, they do not have clear picture of what really motivates their employees (Creech, 1995). This fact can be observed in a longitudinal study conducted by Kovach (1995), who attempted to figure out the changes that took place in the importance of various motivational factors to managers and their subordinates in the private sector over a period of 50 years. He found that managers kept the same ranking of ten motivational factors that they thought kept their employees motivated, while there was an immense change in the priorities of their subordinates during that time period. For example, managers ranked good wages as the most important motivational factor, while employees placed it at number five. This phenomenon is also supported by Wiley (1997), who asserts that although there are certain motivators that employees value over time, their most preferred motivators can change. Managers may build costly compensation packages and incentive programmes around these misconceptions (Jurkiewicz et al., 1998), and therefore it is critical to understand what really motivates employees.

Moreover, individuals at different organization levels, with different earning power, may have different motivational values. Hence, what motivates individuals at one level of the organization may not motivate those at another. These values can be differentiated by income level and other demographic factors when analyzing attitudes for motivational purposes (Islam and Ismail,
2008). This was shown in an empirical study by Islam and Ismail (2008), who noted that demographic factors of respondents, e.g. gender, age and education level, may affect their preference regarding the motivating factors. Khan et al. (2010) also noted the impact of demographics such as gender, marital status, education level, experience and age on people’s behaviour in ranking motivational factors.

Although the subject of employee motivation has been extensively researched, these researches have mainly been conducted in developed countries, and developing countries such as Pakistan have attracted much less attention in this regard. The findings of the previous studies conducted in North America and European countries may not always be applicable to Asian countries due to significant differences in cultural and socio-economic conditions. Therefore, in order to provide managers in such countries with a deep insight about what really motivates their employees, this study investigates the relative importance of different motivational factors (wants) to employees, and the availability of those factors (gets) in their present jobs. Furthermore, the study attempts to examine the impact of demographics on employees’ behaviour in ranking motivational factors in the banking industry of Pakistan. Consequently, this investigation is expected to answer the following research question: “what really motivates bank employees and how they differ in their motivational behaviour due to variations in their demographics?”

**Theoretical Framework**

“Human motivation has been problematic since the first hominid wondered why his or her fellow hominids did what they did” (Wren, 1994). Motivation is one of the most studied topics in the social sciences (Manolopoulos, 2007). The word itself is derived from a Latin word movere, which means “to move” (Steers and Porter, 1979). Thus, motivation is what moves a person from boredom to interest. It works as a steering wheel of a vehicle that directs one’s activities (Islam and Ismail, 2008). Motivation represents “those psychological processes that cause the arousal, direction, and persistence of voluntary activities that are goal oriented” (Mitchell, 1982, p. 1). Other theories see motivation as being the efforts of the individual to direct their energy into completing tasks to the absolute best of their ability, so that they can be successful at work (MacMillan, 2007). Bartol and Martin’s (1998) definition of motivation draws attention to the fact that in order to achieve goals, stimulation, energy, focus and commitment over the time are all required. Thus, they refer to motivation as a force that affects behaviour in terms of energizing, giving direction, and encouraging persistence (Islam and Ismail, 2008). Robbins (1993) also recognizes motivation in terms of the effort required to achieve a goal, and states in addition that it is “conditioned by the effort’s ability to satisfy some individual need”. Motivation has also been associated with individual characteristics such as initiative, self-determination, self-efficacy, locus of control, and persistence, and in a work context can be seen as a person’s drive to achieve the highest result possible within the framework required by the organization (Cappelli, 1995).

Motivation can neither be seen, nor measured directly (Ambrose and Kulik, 1999). It is an inner drive or an external inducement to behave in some particular way, typically one that will lead to rewards (Oluseyi and Ayo, 2009). Motivation arises when individuals seek optimal satisfaction of certain needs (Anderfuhren, et al., 2010).

Although the term “motivation” can be used in different ways, in essence it refers to any sort of general drive or inclination to do something (Baumeister and Vohs, 2007). Motivation is categorized as either “extrinsic” (outside) or “intrinsic” (inside) (Mitchell and Daniels, 2003; Sansone and Harackiewicz, 2000). Extrinsic motivation refers to the influence on motivation level of external factors; examples of extrinsic motivation are salary, praise and status. On the other hand, intrinsic motivation refers to motivation that comes from inside the person. Intrinsic motivation reflects the internal desire of a person to satisfy inner needs, and this desire arises
from emotions. Examples of intrinsic motivation include challenging tasks, pride in making
differences or professional growth that may result from performing a particular activity. Intrinsic
motivation is usually considered to be the reason why people do certain things without any
external rewards (Hudy, 1992). Cox and Cooper (1988), in their study of successful women,
observed that intrinsic desire was the major motivator in their case.

This study builds its foundations on Victor Vroom’s expectancy theory (1964), which was
popularized in his book Work and Motivation (Vroom, 1964). This is one of the most well-
known key process theories and is the most common theory that organizations attempt to
implement (Ambrose and Kulik, 1999). According to expectancy theory, employees will exert
effort to achieve organizational goals if they are offered rewards that are valuable to them. This
theory links hard work and high performance with desired rewards. This is in line with the notion
of hedonism and the wish for enjoyment, which in this case is rooted in valued rewards. Expectancy theory argues that humans are capable of making choices and are able to think
rationally. Consequently, they strive to attain rewards that they value (Mitchell, 1973). People
are ready to own organizational goals if the achievement of those goals contributes, directly or
indirectly, to their personal objectives (Simon, 1970).

According to expectancy theory, a person’s performance is rooted in a combination of their
ability and their motivation, or the choice they make to behave in a certain way. Motivators
differ for each individual, but always entail the following: (1) expectancy that their efforts will
lead to a desired level of performance, (2) belief that their performance will lead to valued
outcomes (instrumentality), and (3) value for a given outcome (valence) (Boswell, et al., 2008).
Thus, Motivation = E × I × V, where E is expectancy, I is instrumentality and V is valence (Isaac
et al., 2001). An important feature of expectancy theory relates to the idea that the value of any
reward is in the eyes of the beholder: one person may prefer social status, for instance, while
another may value financial incentive. The value placed on rewards not only varies from person
to person, but can even change over time for the same person (MacMillan, 2007). These
individual differences can make the workplace both an interesting and a frustrating place for
managers (Porter, et al., 2003).

Jurkiewicz et al. (1998) describe expectancy theory in even simpler words. According to them,
people join organizations with certain values and expectations. If their values and expectations
are met, they put forth high levels of effort to achieve organizational goals, and are expected to
remain with the organization for long period of time. On the other hand, if there is a substantial
gap between what employees want from their jobs and what they get, they are not motivated,
resulting in high levels of staff turnover or attempts by staff to find other ways to fulfil their
expectations. As described earlier, people place different levels of importance on different
rewards; therefore, it is important to explore the importance of various rewards (also referred to
as motivational factors) to employees. Jurkiewicz et al. also argue that it is important to
understand how available these factors are to employees. They refer to the factors of importance
as “wants”, while the availability of those factors is referred to as “gets”. A comparison of
employee wants and gets offers human resource managers the chance to find out if there exist
any gaps between the wants and gets. Consequently, managers can develop policies to bridge
this gap in order to keep their employees motivated.

Methodology

Measurements

Data was collected through a questionnaire survey of employees at selected banks in Islamabad.
The questionnaire consisted of 12 motivational factors. Among these, seven factors (high salary,
chance to benefit society, personal development/learning, social status/prestige, opportunity for
advancement, balanced work and family life, a stable and secure future) were taken from
previous research studies (e.g. Jurkiewicz, et al., 1998), while the remaining five factors were
included following consultancy with a group of employees working in the public and private sectors. The seven factors taken from previous research studies can be commonly found in the working environment of every society, while the five additional factors are specifically related to the work environment of Pakistan. This selection of motivational factors makes the study more suited to the work settings of Pakistan. The 12 motivational factors selected are presented in Table 1 below.

**Table 1: Motivational factors**

<table>
<thead>
<tr>
<th>Motivational factors</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wants</td>
</tr>
<tr>
<td>1. High salary</td>
<td></td>
</tr>
<tr>
<td>2. Seniority-based promotion</td>
<td></td>
</tr>
<tr>
<td>3. Chance to benefit society</td>
<td></td>
</tr>
<tr>
<td>4. Personal development/learning</td>
<td></td>
</tr>
<tr>
<td>5. A stable and secure future</td>
<td></td>
</tr>
<tr>
<td>6. Balanced work and family life</td>
<td></td>
</tr>
<tr>
<td>7. Physical working environment</td>
<td></td>
</tr>
<tr>
<td>8. Opportunity for advancement</td>
<td></td>
</tr>
<tr>
<td>9. Social status/prestige</td>
<td></td>
</tr>
<tr>
<td>10. Fringe benefits</td>
<td></td>
</tr>
<tr>
<td>11. Relaxed working environment</td>
<td></td>
</tr>
<tr>
<td>12. Benefits after retirement</td>
<td></td>
</tr>
</tbody>
</table>

**Sample and Data Collection**

The study was conducted with reference to the employees of public and private banks situated in the federal area of Islamabad, Pakistan. Presently, there are 39 banks operating in Pakistan, which includes 28 local and 11 multinational banks. Of these 39 banks, only one is public. Out of 14 private banks in Islamabad, three were chosen randomly. 200 questionnaires were distributed to the employees of the one public and three private banks; out of these, 165 correctly filled out questionnaires were received, providing an overall response rate of 82.50%.

Respondents were requested to rank the 12 work-related motivational factors in terms of their importance to them by assigning 1 to the most important, 2 to the second most important, 3 to the third most important and 12 to the least important (see Table 1). As explained above, these are referred to as wants (Jurkiewicz, et al., 1998). The respondents were also requested to rank these factors in terms of their availability in the respondents’ jobs, by assigning 1 to the most available, 2 to the second most available, 3 to the third most available and 12 to the least available. These are referred to as gets (Jurkiewicz, et al., 1998).

Table 2 below presents the demographics of the respondents. It includes gender, education, type of organization, marital status, experience, and age of the respondents.
Table 2: Characteristics of the Sample

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th>Total (n = 165)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (n = 122)</td>
<td>Female (n = 43)</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>58</td>
<td>32</td>
<td>90</td>
</tr>
<tr>
<td>Married</td>
<td>64</td>
<td>11</td>
<td>75</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor</td>
<td>37</td>
<td>10</td>
<td>47</td>
</tr>
<tr>
<td>Master</td>
<td>85</td>
<td>33</td>
<td>118</td>
</tr>
<tr>
<td>Experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>59</td>
<td>26</td>
<td>85</td>
</tr>
<tr>
<td>Between 5 and 10 years</td>
<td>47</td>
<td>15</td>
<td>62</td>
</tr>
<tr>
<td>Between 10 and 15 years</td>
<td>8</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Between 15 and 20 years</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Between 20 and 25 years</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 20</td>
<td>9</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Between 20 and 30</td>
<td>89</td>
<td>39</td>
<td>128</td>
</tr>
<tr>
<td>Between 30 and 40</td>
<td>17</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>Between 40 and 50</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>More than 50</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Analysis and Results
Firstly, the frequency of every factor against each rank was calculated. Then, the frequency of every motivational factor regarding its importance (wants) and availability (gets) was calculated. After calculation of frequencies against each rank for all motivational factors, the mean value of every factor was estimated to determine its relative importance and availability (Chan and Pearson, 2002). The Wilcoxon rank test was applied to compare the relative importance and availability of motivational factors (Neideen and Brasel, 2007). To evaluate the impact of demographic data on the employees’ behaviour in ranking motivational factors, another non-parametric test (Mann-Whitney U) was employed (Nachar, 2008; Okeh, 2009; Prades, et al., 2006).

The results regarding the differences between factors wanted by employees and those available to them are given in Table 3. Out of 12 factors, six show significant differences in terms of their importance and availability, while the other six do not. The factors for which there exist significant differences are (1) high salary (2) seniority-based promotion (3) personal development (4) a stable and secure future (5) balanced work and family life, and (6) chance to benefit society. Among these six factors, high salary, seniority-based promotion, and balanced work and family life are less available to employees than their ranked importance. However, the other three factors, namely personal development, a stable and secure future and a chance to benefit society are more available than their ranked importance.
Table 3: Mean, Standard Deviation, and Ranking Contrast between Importance (Wants) and Available (Gets) Motivational Factors

<table>
<thead>
<tr>
<th>Motivational Factors</th>
<th>Wants (n = 165)</th>
<th>Gets (n = 165)</th>
<th>Mean Contrast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Rank</td>
</tr>
<tr>
<td>High salary</td>
<td>2.491</td>
<td>2.383</td>
<td>1</td>
</tr>
<tr>
<td>Seniority-based promotion</td>
<td>4.794</td>
<td>3.167</td>
<td>2</td>
</tr>
<tr>
<td>Personal development/learning</td>
<td>5.697</td>
<td>3.220</td>
<td>3</td>
</tr>
<tr>
<td>A stable and secure future</td>
<td>5.764</td>
<td>2.992</td>
<td>4</td>
</tr>
<tr>
<td>Balanced work and family life</td>
<td>6.594</td>
<td>2.707</td>
<td>5</td>
</tr>
<tr>
<td>Opportunity for advancement</td>
<td>6.842</td>
<td>2.975</td>
<td>6</td>
</tr>
<tr>
<td>Fringe benefits</td>
<td>7.012</td>
<td>3.418</td>
<td>7</td>
</tr>
<tr>
<td>Relaxed working environment</td>
<td>7.333</td>
<td>3.604</td>
<td>8</td>
</tr>
<tr>
<td>Chance to benefit society</td>
<td>7.424</td>
<td>2.996</td>
<td>9</td>
</tr>
<tr>
<td>Physical working environment</td>
<td>7.527</td>
<td>3.056</td>
<td>10</td>
</tr>
<tr>
<td>Social status/prestige</td>
<td>7.982</td>
<td>3.128</td>
<td>11</td>
</tr>
<tr>
<td>Benefits after retirement</td>
<td>8.448</td>
<td>3.247</td>
<td>12</td>
</tr>
</tbody>
</table>

Notes: W = Wants; G = Gets; n.s. = not significant; * = p < 0.050; ** = p < 0.01; *** = p < 0.001

Next, the impact of employees’ demographics on their ranking behaviour regarding the importance of various motivational factors was investigated using the Mann-Whitney test. It was found that gender made a difference with regards to the importance of only one factor, i.e. seniority-based promotion. The employees’ levels of education equated to a significant difference in the importance of (1) a stable and secure future and (2) opportunity for advancement. Experience variability led employees to place different levels of importance on four factors: high salary, seniority-based promotion, personal development and opportunity for advancement. Finally, the age demographic showed differences in the highest number of motivational factors. These are (1) high salary (2) seniority-based promotion (3) personal development (4) a stable and secure future (5) social status (6) relaxed working environment and (7) benefits after retirement.

Once it was confirmed that employees with different demographics rank the importance of motivational factors differently, a post hoc test (Mann-Whitney U) was applied to further explore those differences for all groups within each demographic variable. The results are reported only for those groups which differ significantly from each other. With regards to gender, the results showed that male employees placed higher importance on seniority-based promotion than female employees (p = 0.016). The employees with bachelor degrees ranked both factors of difference (a stable and secure future and opportunity for advancement) higher than those with masters degrees (p = 0.038 and p = 0.047).
Table 4: Relative Importance of Motivational Factors (Wants) across Gender, Education, Experience, and Age

<table>
<thead>
<tr>
<th>Motivation Factors</th>
<th>Gender</th>
<th>Education</th>
<th>Experience</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Z</td>
<td>Sig.</td>
<td>Z</td>
<td>Sig.</td>
</tr>
<tr>
<td>High salary</td>
<td>-0.061</td>
<td>0.952</td>
<td>-1.201</td>
<td>0.23</td>
</tr>
<tr>
<td>Seniority-based promotion</td>
<td>-2.415</td>
<td><strong>0.016</strong></td>
<td>-0.073</td>
<td>0.941</td>
</tr>
<tr>
<td>Chance to benefit society</td>
<td>-0.750</td>
<td>0.453</td>
<td>-0.74</td>
<td>0.459</td>
</tr>
<tr>
<td>Personal development</td>
<td>-0.373</td>
<td>0.709</td>
<td>-1.89</td>
<td>0.059</td>
</tr>
<tr>
<td>A stable and secure future</td>
<td>-0.377</td>
<td>0.706</td>
<td>-2.078</td>
<td><strong>0.038</strong></td>
</tr>
<tr>
<td>Balanced work and family life</td>
<td>-1.599</td>
<td>0.110</td>
<td>-0.309</td>
<td>0.757</td>
</tr>
<tr>
<td>Physical working environment</td>
<td>-0.546</td>
<td>0.585</td>
<td>-0.440</td>
<td>0.660</td>
</tr>
<tr>
<td>Opportunity for advancement</td>
<td>-0.800</td>
<td>0.423</td>
<td>-1.983</td>
<td><strong>0.047</strong></td>
</tr>
<tr>
<td>Social status</td>
<td>-0.254</td>
<td>0.799</td>
<td>-0.231</td>
<td>0.817</td>
</tr>
<tr>
<td>Fringe benefits</td>
<td>-0.537</td>
<td>0.591</td>
<td>-0.64</td>
<td>0.522</td>
</tr>
<tr>
<td>Relaxed working environment</td>
<td>-0.422</td>
<td>0.673</td>
<td>-0.747</td>
<td>0.455</td>
</tr>
<tr>
<td>Benefits after retirement</td>
<td>-0.788</td>
<td>0.431</td>
<td>-0.23</td>
<td>0.818</td>
</tr>
</tbody>
</table>

The employees with less than 5 and between 5-10 years’ experience ranked “high salary” as more important compared to those with between 15-20 years’ experience (p = 0.001 and p = 0.002 respectively). The second factor that was influenced by experience was “seniority-based promotion”. The employees with less than 5 years’ and between 5-10 years’ experience ranked seniority-based promotion higher than employees with experience of between 20-25 years (p = 0.027 and p = 0.008 respectively). Three groups of employees, namely, with less than 5 years’, between 5-10 years’ and between 10-15 years’ experience, ranked the importance of personal development higher than the group of employees with between 20-25 years’ experience (p = 0.002, p = 0.004 and p = 0.05 respectively). The final factor whose importance differed across groups of employees with varying experience was “opportunity for advancement”. The employees with less than 5 years’ experience placed higher importance on this factor than those with between 5 and 10 years’ experience (p = 0.002). However, the group of employees with between 10 and 15 years’ experience gave this factor greater importance than those with between 5 and 10 years’ experience (p = 0.032).

The motivational factors for which the importance level differed across different age groups were (1) high salary (2) seniority-based promotion (3) personal development (4) a stable and secure future (5) social status (6) relaxed working environment, and (7) benefits after retirement. The employees between 20-30 years of age placed higher importance on “high salary” compared to those groups aged between 30-40, and 40-50 (p = 0.027 and p = .000 respectively). The employees aged between 20-30 and 30-40 years preferred “seniority-based promotion” compared to employees aged between 40-50 years (p = 0.003 and p = 0.007 respectively). The employees younger than 20 placed more importance on “personal development” than the employee groups aged 20-30, 30-40 and 40-50 (p = 0.021, p = 0.006 and p = 0.01 respectively). Moreover, employees in age brackets 20-30 and 30-40 ranked “personal development” higher.
than employees aged 40-50 years (p = 0.004 and p = 0.014 respectively). The employees in age
groups 20-30 and 30-40 placed higher importance on “a stable and secure future” than those
aged between 40-50 years (p = 0.024 and p = 0.039 respectively). The employees within the 40-50
age bracket placed a higher preference on “social status” compared to employees within the
20-30 and 30-40 age groups (p = 0.002 and 0.012 respectively). Similarly, employees in the 40-50
age bracket placed higher importance on “relaxed working environment” than employees in
age groups younger than 20, 20-30 and 30-40 (p = 0.004, p = 0.005 and p = 0.004 respectively).
Finally, the employees aged between 40-50 ranked “benefits after retirement” higher than those
employees in age groups younger than 20, 20-30 and 30-40 (p = 0.035, p = 0.003 and p = 0.002
respectively).

Discussion and Implications
The findings of the study show that employees ranked high salary as the most important
motivational factor. This is somewhat in contradiction with existing literature (Kovach, 1995),
where other motivational factors have been ranked highest. This could be due to recent high
inflation rate, increased routine expenditures and growing demand for a prosperous and
luxurious life. Moreover, money has become a critical factor in a society where people strive to
achieve and maintain high social status and exhibit a characteristic of uncertainty avoidance.
Therefore, it is suggested that managers pay special attention to the financial aspect to keep their
employees motivated, for instance in the form of increased salary, annual or biannual bonuses or
the offer of company shares.
The next important factor to employees is seniority-based promotion. Particular characteristics of
society are reflected in the fact that people generally obtain a specific degree/skill once in their
life and do not have the ambition to learn more, or do not have access to the resources required
to learn and develop themselves, despite high levels of desire. In a seniority-based system, the
only criterion for getting promoted is job duration. This type of promotion does not require hard
work, a desire to excel, learn or equip oneself with new skills, or show efficiency and
effectiveness; if employees are not promoted on a seniority basis, then only competitive and
capable people will progress. Thus, employees like seniority-based promotion as their promotion
should be ensured no matter how good or poor their performance is. However, it is
recommended that managers do not use this method, and instead try to introduce a culture of
performance-based promotion. Also, they should make it clear to employees that there is no
space for poor performers in the organization, and that those who do not contribute to the
objectives of the organization will not progress.
The third most important factor to employees is balanced work and family life. The reasons for
employees’ desire for this factor could be due to several things: in Pakistan, there is only one
non-workday a week in the public sector, compared to developed countries where employees
enjoy two non-workdays per week. It is true that office hours in Pakistan are comparatively short
in public offices, but due to long commutes and insufficient transportation, a person’s whole day
is taken up by their job. The private sector in Pakistan, on the other hand, offers two non-
workdays a week, but the routine office hours are very long. Employees usually reach the office
at 9am, and there is no fixed time at which to leave. Sometimes, employees must work a large
number of extra hours without any extra payment or benefit, in order to complete their tasks.
Besides these issues, there are many others related to the social and cultural setup in Pakistan
that will take time to resolve. Consequently, people do not find much time for their families and
leisure activities. Managers may help employees to lead a balanced work and family life by
allowing them to leave the office at fixed hours and providing pick-up and drop-off facilities to
enable them to avoid transportation hassles. At times when employees must stay in the office for
long hours in order to meet deadlines, they should be compensated appropriately, so that they do
not feel that their jobs are exhausting or are a disturbance to their life. Due to financial burdens,
employees may sometimes willingly sacrifice their work-life balance for extra money, and still remain motivated.

Regarding the impact of demographic characteristics on the ranking behaviour of employees, the findings revealed that employees with bachelor degrees rank two factors, namely a stable and secure future and opportunities for advancement, higher than those with masters degrees. This could be due to their lower qualification level, unemployment conditions and growing competition in the market. Consequently, they want job security while at the same looking for further opportunities to advance in their fields. Managers may motivate and ensure job security to such employees by offering career paths within the organization on the condition of improved qualification and performance.

The results show that the employees with less than 10 years’ experience placed more importance on high salary than those with 15-20 years’ experience. The explanation of this difference seems to be very apparent, i.e. that the employees in the 15-20 years’ experience bracket draw handsome salaries due to their long job duration, while employees with few years of experience do not enjoy this privilege. Similarly, employees with 20-25 years’ experience placed less importance on seniority-based promotion than those with less than 10 years’ experience. The employees with high levels of experience often have already secured senior positions or are at the end of their career, which is why they do not have much interest in this factor, while employees with less experience still wish to grow within their profession. Employees with experience of less than 15 years showed a high desire for personal development compared to those with between 20-25 years’ experience. Again, this is due to the length of time they have been in their job. As employees with more than 20 years’ experience have already learned what they had to and have reached the peak of their profession, they show less motivation for personal development. On the contrary, employees with comparatively lower experience may have aspirations to excel in their jobs and find better opportunities, and thus they consider personal development to be an important element in their jobs. Lastly, employees with less than 5 years’ experience place more importance on opportunities for advancement than those with between 5-10 years’ experience. Also, employees with 5-10 years’ experience rank this factor higher compared to employees with 10-15 years’ experience. This means that employees with less experience place higher importance on this factor compared to those with more experience, as they are at the start or middle of their career paths. It is interesting to note that employees with low experience levels follow one pattern, while employees with high experience levels are consistent in following another regarding the differences in the importance they place on the motivational factors.

Regarding the differing importance levels of motivational factors within various age groups, the findings show that employees within the 20-30 age group placed more importance on high salary than employees aged over 30 years. This may be due to the fact that employees over 30 have usually gained several years’ experience already, and so enjoy higher salaries than those below 30 years of age who are at the start of their career. The employees in age groups lower than 40 placed high importance on seniority-based promotion, personal development/learning, and a stable and secure future compared to those in the 40-50 year age bracket. These differences in importance may be due to the fact that older employees have already secured senior positions, carried out a major portion of their service and are secure enough in their jobs. However, younger employees are at the start or middle of their careers and have to progress in their professions. Moreover, comparatively young employees have to grow and excel in a more competitive environment today, and so want to equip themselves with advanced knowledge and professional experience. Finally, the employees in the 40-50 year age bracket placed high importance on social status, relaxed working environment and benefits after retirement compared to employees aged less than 40 years. The reasons for these preferences seem to be very obvious: employees aged over 40 have high levels of experience, earn high salaries, are stable in their
career and are comparatively near to retirement. Thus, their desires relate more to social status, relaxed working environment, and benefits after retirement. Managers may formulate customized policies for employees with various levels of experience and age, keeping in view their ranked importance for various motivational factors. For example, young employees have placed high importance on good salary, so managers may offer them increased packages by enriching their jobs with additional responsibilities and paying for overtime. This action will not only fulfill employees’ desire for more money, but will also provide opportunities for personal development, which is another preferred motivational factor. Managers may conduct skills development workshops for employees aged less than 40 years and with experience of less than 15 years, with the condition that they serve the organization for a specific period of time. This will be a win-win situation for both parties: the organizations will benefit from skilled and motivated employees, and employees will have the opportunity to polish their professional skills, which may lead to a higher position later on.

Conclusion
This study extends our understanding of employee motivation by examining the differences between the importance and availability of various motivational factors to the employees in the banking industry of Pakistan. The study also analyzed the impact of different demographic characteristics on the ranking behaviour of the employees. The study contributes to the body of literature by applying a customized set of motivational factors in an understudied but important sector (i.e. the banking sector). Furthermore, it provides the managers with deeper insights about the motivational behaviour of employees in the context of emerging Asia, which may help them in formulating appropriate motivational policies.

Overall, the findings suggest that, except for the three motivational factors of high salary, seniority-based promotion, and balanced work and family life, all others are available to employees according to their ranked importance. As far as the role of employees’ demographics is concerned with regards to ranking behaviour, it was found that employees with different age groups differed significantly from each other in the way in which they ranked the importance of high salary, seniority-based promotion, personal development, a stable and secure future, social status, relaxed working environment, and benefits after retirement. Employees with different experience levels differed in the importance placed on high salary, seniority-based promotion, personal development, and opportunity for advancement. Finally, employees with different education levels varied from each other in terms of the importance of a stable and secure future, and opportunity for advancement, while male and female employees placed different importance on seniority-based promotion.

At the same time, this study bears certain limitations, which should be kept in mind while using the findings. Firstly, it has been conducted in a developing country in Asia, and thus entails a specific cultural and socio-economic environment that may limit the potential level of generalization. Future studies in other countries, specifically those in Asia, may replicate the study with particular adjustments to match the specific work setting. Secondly, the data was collected only from employees in the banking industry. It could be fruitful for future researchers to study employees’ behaviour regarding motivational factors in other industries as well.

References


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Intellectual Capital and New Product Development Performance in Production Firms: A Case Study of Kermanshah Production Firms

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Abstract
Purpose - This survey explores the influence of different elements of intellectual capital (relational, human and structural capitals) on the performance of new product development based on Hui-Hsu and Wenchang-Fang model in foodstuffs firms of Iran.

Design/methodology/approach - This is a descriptive and application survey based on the structural equations model. 131 out of 400 experts of these firms were selected using Cochrane formula. Research tool was a questionnaire composed of three parts including: intellectual capital, organizational learning capability and the new product’s performance development.

Findings - Path analysis results revealed that there was a positive significance relationship between intellectual capital and new product development performance. On the other hand, the absorptive capability had a negative significant relationship and transformative capability had a positive significant relationship on new product development performance. The structural capital had a negative significant relationship with learning capability and absorptive capability had a positive relationship with transformative capability.

Keywords: Intellectual Capital, Human Capital, Structural Capital, Relational Capital, Learning Capability, New Product Development Performance

Paper type: Research Paper - Case Study

Introduction
It seems that a dynamic environment, in which there are active organizations, includes many new management techniques which encourage the managers to find a way to improve their business performance. Some techniques such as rightsizing of organizations, downsizing and reengineering are regarded as the ways to improve the business performance and their goal is to find the best way to use organizational resources. Today, knowledge has been regarded as the main resource for organizations to compete. Managers prefer to invest on it more than financial capitals and physical resources.

In this regard, firms follow the fulfillment of learning organization, the promotion of team-building and the presentation of self-enabling. Intellectual Capital aims to reach to some knowledge-based advantages for an organization (Bontis, 2001). Intellectual capital is one of the main factors related to the performance and long-term profitability of knowledge-based economy.
Many organizations relate their main liabilities to intangible assets rather than tangible ones (Huu and Fang, 2008). Nonaka and Takuchi believe that the future society is a knowledge-based society whose knowledge-achievement and use is a base for capital growth. In these societies, industry relies not only on the traditional production factors. Besides, industry manages the knowledge and the integrity of various industries plays the main role in the societies. This procedure emphasizes on the importance of organizational learning capability and the way by which the management and the intellectual evaluation have been appeared. Knowledge and knowledge management are some parts of intellectual capital. In short, intellectual capital refers to a set of intangible assets by which the organizational goals are achieved.

Intellectual capital helps the organization to use intangible assets perfectly. On the other hand, the new meanings and technologies enable the organization to create and save knowledge and share it among the shareholders and the clients (Hragreaves, 2001). Basically, product development refers to the fulfillment of the strategies through which the company tries to increase its sale degree by improving available products and services (David, 1999). Usually, product improvement involves much expenses, research and development. Although intellectual capital and organizational learning plays the main role in the development of a company, there are a little research in the field of the relationship between these factors and their influences on the new product development. Due to a research by Griffin, about %34.2 of companies’ sale are resulted from the new products market (David, 1999).

New products development is necessary to maintain the competitive advantages of the companies. These variables have been examined by various researchers (Wen-min et al., 2010). It should be mentioned that the organization and its learning capability are regarded as the main affecting factors. Product development of a company is a factor by which the organization is preserved. The needed performance is achieved by innovation of the products. This performance includes the product market performance, financial performance and client-oriented performance which preserves the organization (Huu and Fang, 2008). Through their research about the intellectual capital and its performance in medicine industry, Abdul Aziz and Bentis have confirmed the hypotheses.

Another research by Hui-Hsu et al. revealed that structural capital has a negative effect on performance. Moreover, with regard to the results of the survey it is clear that intellectual capital criterions have presented different and opposite (negative or positive) results in the organizations. Therefore, in this survey the researchers examine the intellectual capital in companies of Kermanshah using Ya-Hui-Hsu and We-chang-Fang model. On the other hand, the relationship between intellectual capitals (including human capital, structural capital and relational capital) and learning capability will be discussed in this research too. Finally the affects of intellectual capital and organizational learning capability on the performance of new product development will be examined by use of suitable statistical techniques.

**Research Background and Theoretical Basis**

The term ‘intellectual capital’ has been used in different texts, but its meaning has not been completely customized. Intellectual capital presents new resources through which an organization can compete. Most of discussions related to the intellectual capital are resulted from a financial and accounting process (Bontis, 2001). These research studies follow a way to answer following questions:

1) What does promote the values of the companies more than their clerical value?
2) What are the intangible assets of a company?

Authorities have differently presented some definitions for intellectual capital, but its dynamic identity has rendered difficult its main definition and the intellectual capital and intangible assets are synonymously used in many definitions. It seems that it is nearly synonym to knowledge.
management and organizational learning. Many research studies have revealed that intellectual capital plays a main role in creating a comparative advantage and promoting business values (Bontis, 1996; Bontis, 2001). From the viewpoints of the researchers, intellectual capital is defined as follows:

**Intellectual Capital: Viewpoint**

The term “intellectual capital” has been presented for a long time, but it has not been used in the business world. According to the evidences, the traditional financial accounting related to the assets of a company is now unpredictable and managers try to evaluate non-financial assets (Carrell, 2010; Low, 2000). From the viewpoints of the employers, the intellectual capital could be differently defined. They have mentioned several classifications related to the intellectual capital.

Intellectual capital prepares a new tool to perceive the hidden values of an organization. Roos states that the meaning of intellectual capital could not be perceived and she also points to the implied values of an organization (Po-Yang et al., 2006). In 1997, Stewart defined the intellectual capital as a mental capital which had been empowered to make money by creating valuable assets (Abdol Aziz and Bontis, 2010). According to John Kenneth Galberith, intellectual capital refers to the difference between market value and clerical value of an organization (Huu and Fang, 2008). Antonio Karemona states that intellectual capital is referred to a knowledge resource by which an organization achieves its goals and it is related to the ability of innovation in an organization (Carmona et al., 2010; Youdet et al., 2004). Martin Toors believes that intellectual capital is the intangible assets of an organization which has not been recorded in a financial list, but it may create more than 80% of an organization’s market and it includes human capital, structural capital and relational capital (Martinez, 2006). The main part of intellectual capital is evaluation (Muhiuddin et al., 2006). The importance of intellectual capital is related to its formation. Noonaka believes that learning organization is an organization which trains its staff (Martinez, 2006). For a learning organization, making value is mentioned as the key element related to intellectual capital. It includes intangible assets and created values of an organization. It also refers to the final revenue of an organization which appropriates an accounting title to itself (wen-min et al., 2010). Ahmad Seleim et al. (2006) divide the intellectual capital into three categories: human capital, structural capital and relational capital. Human Capital refers to the staffs and the knowledge of an organization which improves the ability of it to present some procedures on behalf of the personnel. Based on the Bontise’s viewpoint, human capital includes a combination of skills, abilities and theoretical knowledge of the staffs.

Therefore, intellectual capital is generally defined as the combination of capabilities, knowledges, strategies, processes, intellectual procedures and relational networks of an organization which causes creating values, comparative advantages and achieving organizational goals (Huu and Fang, 2008).

Most of researchers perform classification of intellectual capital based on their research goals, but all of performed researches follow a special framework presented by Bontise and Johnson. Intellectual capital includes three main categories: human capital, structural capital and relational capital.

**Human Capital**

Human capital has been known as a resource which could not be replaced by the equipments and machines of an organization. It includes knowledge; prefered ability, motivation and management of an organization (Po-Yang et al., 2006). In fact, human capital is the main part of intellectual capital and one of the most important resources related to the industries such as software development, management consultation and financial services. For example, Mekinsey
believes that the main resource of his company will be human capital composed of the talented, opportunist and clever staff (Ahmed seleim et al., 2006). Human resource is a factor which causes the strategic innovation of the organization and includes all characteristics of human resources such as training, knowledge and capabilities relative to the work of the staffs (Bozzolan et al., 2003). People, organizations and different societies believe that organizations require a high degree of skills and experiences. The knowledge achieved by training is used to produce products or services. Today, it is clear that there is a relationship between the elements of intellectual capital and economic development. Although the economic value of intellectual capital could not be ignored, the researchers are worried about the kind and the degree of human resources in order to make a comparative advantage in organizations and companies (Po-Yang et al., 2006; Ahmed seleim et al., 2006).

**Relational Capital**
Relational capital is referred to the relation with the clients and the value of relationship between suppliers, shareholders and clients (Huu and Fang, 2008; Carrell, 2010). Based on the Meritum project, the activities and intangible resources of a company are divided in to three categories named human capital, structural capital and relational capital (Chaminé et al., 2003). Recognition of market channels, the relationship between supplier and client and the correct conception of the influence of the relationship with the governmental and industrial institutions are regarded as the main issues of a firm’s relational capital (Bontis, 1991; Bozzolan et al., 2003). Relational capital presents the intangible assets of a firm and it could not be easily developed because it differs with the main core of the organization (Bontis, 1991). Some other researchers concluded that firms’ ability of innovation is based on the relationship between the staffs, groups and the organizations. The organizational basics include the rules by which all activities of an organization are coordinated and the needed information is collected.

In order to develop their relationships, organizations and industries relay on the ability of data gathering. In these firms, the effective relationship between the shareholders is mentioned as a basic issue. The relational channels will be regarded as the main resources to develop the organization (Bontis, 1991). At all, the client capital which relates the elements of intellectual capital to each other is regarded as a main factor related to the change of intellectual capital, organizational evaluation and improvement of organizational performance (Po-Yang et al., 2006; Chen et al., 2004).

**Structural Capital**
Structural capital is referred to the shared-knowledge of a company. In fact, the structural capital of a company includes its way of activity, systems, culture and so on. From the legal perspective, some of these factors may belong to a special firm or organization (Chaminé et al., 2003). In this regard, Savrio et al believe that internal capital or structural capital of a company includes intellectual capital and infrastructural capital from which the first one is related to the legal aspect of a company, and the second one refers to the intellectual capital created in the company. It also may be achieved from the outside of the company. The culture of a company, the management processes, information system and network systems are regarded as the intellectual capitals of a company (Bozzolan et al., 2003). Suitable technology is mentioned as a basis for creating relational, human and structural capitals in organizations (Nazary et al., 2010).

Structural capital is related to the organizational mechanisms and structures by which the employees could achieve the intellectual capital. Therefore, the value of structural capital is more than the value of business (Bontis, 1991; Roos and Roos, 1997; Nonaka et al., 1995). The organization which uses weak systems and procedures to employ its staffs could not achieve its main potential. On the other hand, an organization which has a powerful structure could help its staffs to achieve their goals using supportive culture (Bontis, 1991).
Organizational Learning Capability

The available literature related to the organizational learning is very confusing. Basically, there are many differences between organizational learning and learning organization on one hand, between academic procedures and normative procedures on the other hand and at last between individual learning and organizational learning (Swee, 2005). The meaning of organizational learning capability emphasizes on the importance of facilitating factors (Alegre and Chiva, 2008). The literature related to this issue helps some factors such as decision-making and creating effective ideas by use of practical researches, systematic improvement, available experiences and joint decisions (Swee, 2005). There are many surveys related to the evaluation of organizational learning capability. Due to his survey, Chiva presents multi aspect factors in order to define the capability of organizational learning. They believe that the organizational learning capability includes some aspects such as experience, correlation with external environment, two-sided decision making and cooperation. In other words, these aspects are regarded as the main aspects of improvement of organizational learning (Alegre and Chiva, 2008). Moreover, the organizational learning capability is referred to the organizational and management characteristics by which the organizational learning becomes easier (Alegre and Chiva, 2009). Some researchers believe that organizational learning capability is a two-aspect phenomenon. The organizational learning capability is referred to the procedures, attractiveness and transformative capability of an organization. It is referred to the ability of a company in order to achieve the needed knowledge (Alegre and Chiva, 2009; Bontis, 2001). Therefore, by creating a learning organization and developing the organizational learning capability, the leaders aim to prepare internal conditions in order to improve learning. The improving factors of this procedure should be necessarily presented in order to facilitate the organizational learning (Swee, 2005; Alegre and Chiva, 2008).

The performance of new products development procedure in business is a multi-aspect concept which could not be easily measured. It is used to estimate the financial ratios (Isabel et al., 2009). Researchers have presented various definitions about the performance of new products. These definitions are based on the product, producer, consumer and product’s expiration time (Bontis, 2001). In fact, the various criteria can be used in order to determine the financial and functional success of a company. But, business performance is expanded and the learning capability has no impact on the performance by financial evaluation. This impact is based on the interaction between learning and organization. These interactions will be suitable when the organizational goals are performed by learning capability. Therefore, the capability of organizational learning should be estimated in order to evaluate the total financial and non-financial performances of the companies. Today, in order to determine the performance of a business, shareholders or companies emphasize mainly on some factors such as clients, staffs and societies (Isabel, 2010). Based on many researches, there are some key factors related to success and improvement of the performance of new product development. These factors are as follows:

1) A company should have high performance process to develop products and design new products due to its clients’ needs.
2) Companies should be able to define strategies of new product development. These strategies include procedures, goals and strategic emphasize.
3) Managers should prepare the needed resources in order to develop new products.
4) An organization should have an innovative space. On the other hand, coopet al believes that development of new products could be influenced by human capital, structural capital and organizational learning. In other words, according to the literature, learning capability could be mentioned as an arbitrator and could affect on the organization performance (Bontis, 2001). Therefore, with regard to different divisions, the performance of new products includes market performance, financial performance, clients’ performance and product’s performance.
Research Methodology
With regard to this issue that the current survey is aimed to determine the relationship between the elements of intellectual capital, learning capability and the performance of new products of foodstuffs production companies, it is a correlative one which uses structural equation modeling and path analysis. Comprehensive statistics are used to examine the relationship between variables and test the hypotheses. The relationship between variables examined using Lisrel software in order to analyze dependent and independent variables regarding each other. Since the relationship between two variables is examined, the path analysis model used to test the hypotheses and the relationship between variables. The population of this research was 400 general managers, production managers and financial managers of 190 companies in Kermanshah province. Using Cochran formula, 131 persons were randomly selected. 140 questionnaires were distributed among the respondents from which 133 ones were collected and analyzed.

Research Goals
This survey is aimed to achieve following goals:

Main Goal: examining the relationship between intellectual capital and performance of new product development based on Hui-Hsu and Wenchang Fang model.

Detailed Goals:
1) Examining the relationship between some of the elements of intellectual capital (relational capital and structural capital) and dimensions of organizational learning capability.
2) Examining the relationship between dimensions of organizational learning capability and new product development performance.
3) Presenting a model about the relation between intellectual capital and new product development performance in examined companies.

Conceptual Model
Regarding performed researches which are mainly based on the viewpoints of Bentiss and Hui-Hsu and Wenchang Fang, Figure 1 illustrates the relationship between the elements of intellectual capital (human, structural and relational capitals), the organizational learning capability and the performance of new products development.

![Figure 1: Conceptual Framework](image-url)
Research Hypotheses

1) There is a significant relationship between human capital and New Product Development Performance.
2) There is a significant relationship between structural capital and New Product Development Performance.
3) There is a significant relationship between relational capital and New Product Development Performance.
4) There is a significant relationship between relational capital and absorptive capability.
5) There is a significant relationship between structural capital and absorptive capability.
6) There is a significant relationship between structural capital and transformative capability.
7) There is a significant relationship between absorptive capability and the New Product Development Performance.
8) There is a significant relationship between transformative capability and the New Product Development Performance.
9) There is a significant relationship between absorptive capability and the transformative capability.

Data Gathering

Data was gathered by library and filed study methods. The tools used in this research included a fich or index card for collecting suitable information and a questionnaire for collecting field data. The questionnaire was composed of four parts:

- Part 1: examines the demographic information of the respondents.
- Part 2: includes 15 questions relative to the intellectual capital variable.
- Part 3: includes 7 questions relative to the organizational learning capability variable.
- Part 4: includes 15 questions relative to the performance of new products development.

The variables of this questionnaire are like Bontis’ criteria used by Hui-Hsu and wen-chang-Fang. Therefore, this questionnaire is valid because it has been used by other researchers. It has also been confirmed by five managers and experts too. Cronbach’s alpha has been used to examine its reliability. The resulted coefficients for intellectual capital, organizational learning and the performance of new products development are respectively 0.862, 0.92 and 0.968. The cronbach’s alpha coefficient of total questionnaire is 0.896.

Findings

Before the examination of hypotheses, it needs to examine the reliability of this model. Therefore, we first use path analysis model.

Standard Estimation

In order to compare the effects of available variables by use of Lisrel 8.5 software, the relationship between the variables should be determined as the following model.
$\chi^2 = 2.88$, due to the Lisrel software. Results of $\chi^2$ test show the suitability of this model. Based on the criteria presented below (Table 1), this model is a suitable model.

Table 1: Goodness of Fit Index

<table>
<thead>
<tr>
<th>Model-fit measure</th>
<th>Model-fit measure research model</th>
<th>Acceptable Range</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>RMSEA</td>
<td>0.000</td>
<td>&lt;0.09</td>
<td>Model is confirmed</td>
</tr>
<tr>
<td>$\chi^2$/df &lt;2</td>
<td>0.96</td>
<td>&lt;2</td>
<td>Model is confirmed</td>
</tr>
<tr>
<td>NNFI</td>
<td>1</td>
<td>&gt;0.9</td>
<td>Model is confirmed</td>
</tr>
<tr>
<td>IFI</td>
<td>1</td>
<td>&gt;0.9</td>
<td>Model is confirmed</td>
</tr>
<tr>
<td>NFI</td>
<td>0.99</td>
<td>&gt;0.9</td>
<td>Model is confirmed</td>
</tr>
<tr>
<td>CFI</td>
<td>1</td>
<td>&gt;0.9</td>
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</tr>
<tr>
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<td>&gt;0.9</td>
<td>Model is confirmed</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.96</td>
<td>&gt;0.9</td>
<td>Model is confirmed</td>
</tr>
</tbody>
</table>

**Examining the Relationship between Variables**

In order to examine the factors affecting on the performance of the new product development, some variables are used. With regard to this issue that the survey examines the variables, the path analysis has been used. Based on the figure below, the needed parameters relative to the suitability of the model were analyzed.