

# The Role of Management Development in the Selection and Transfer of Technology (Case Study: The Central Bank of the Islamic Republic of Iran)

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## ABSTRACT

Organizational development, a necessary component of countries' progress toward all-around social and economic development, necessitates in its own right the existence of developed individuals in organizations; indeed, organizations nowadays see their human resources' knowledge, merit and capabilities – in particular at managerial levels – as a competitive advantage. The present research studies the role of managerial development in the Central Bank of Iran in the selection and transfer of technology; questionnaires with appropriate content and reliability (which proved to be, using Cronbach's alpha method, 0.082 for the questions related to managerial development and 0.087 for the questions relating to the selection and transfer of technology) were used in order to collect data. Sample with a volume of 200 individuals was selected randomly out of the population of Iran's Central Bank managers. SPSS and LISREL software and path analysis tests were used for data analysis. The results obtained a significant correlation between managerial development and the selection and transfer of technology. Furthermore, the results from sideline assumptions also pointed out that managers' knowledge and information, skills, attitudes and professional credit are significantly correlated with the selection and transfer of technology; however, no significant correlation was found between managerial personality characteristics and general credit and the selection and transfer of technology.

**Keywords:** managers' development, the selection and transfer of technology, merit, managerial roles.

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## INTRODUCTION

The selection and appointment of managers is an endeavor toward finding and appointing the best individuals at managerial positions, which obviously needs to be done efficiently at the appropriate time. Nevertheless, the periodical recruitment and substitution of managers – particularly at high-ranking organizational levels – often faces limitations (Abut and Gray, 2002:34). Taking into consideration the fact that universities and institutions of higher education have not had much success toward training distinguished managers, we may conclude this to be because managerial merit does not necessarily result from acquiring professional knowledge and information; it requires overall development in aspects such as skills, personality, evolutions in managers' attitudes, professional credit and general credit (Ghaffarian, 2000:10). Furthermore, academic education may prove to have shortcomings when it comes to practical skills and career requirements as seen by concerned organizations.

The Central Bank of Iran management, the primary decision-makers in the process of selecting and transferring technology, have a significant role; on the other hand, the selection and transfer of technology is a fundamental part of this organization, for technology can enhance its efficiency to a large extent, enabling it to provide its customers with higher quality financial services. The present research endeavors to answer whether managerial development and enhancement can contribute to the improvement of their decisions on the selection and transfer of technology or not; and if it does, what aspects need improvement?

### Theoretical Framework for the Research

Managerial development is a process consisting of elevating the knowledge, skill and information level of managers, thus providing the grounds for the evolution of a series of abilities and potentials (Abtahi, 1996:31). Developing and selecting managers and leaders is the biggest concern of prominent organizations nowadays. What characteristics does a manager require in order to fulfill his duties successfully and achieve organizational goals? (Abraham and Karness, 2001:843). Some believe merits to be managerial characteristics that lead to the emergence of skills and capabilities that can enhance effective performance in a career domain; furthermore, they also indicate the capacity for transferring skills and capabilities from one domain to another. "Superior performance" in this definition means that the individual possesses the certain merits at high levels (Chen, 2004:105).

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The merit approach in managerial development was first designed by a company called Macber in the United States in 1970 in an effort to identify the personal qualities that could bring about effective or superior professional performance. Also, the American Management Organization's involvement in the development of a merit plan for managerial training was in effort to make this endeavor more effective (Draganidis and Mentzas, 2006:52).

Knowledge and information account for the oldest aspect of managerial merit and the point of strength for any organization and/or manager. Knowledge is regarded as the base of aspects of merit and a fundamental way for guiding managers' endeavors; thus, gaining general and expert knowledge is a must for managerial social and also organizational life (Rahmanpour and Tiro, 2000:16). Knowledge is the element that provides high-quality decisions, flexible thoughts and the grounds for making use of one's other potential talents (Spiro, 1998:20).

Possessing skill is "a special capacity to physically carry out tasks and the capability to implement science in practice" (Schermerhorn, 1994:18), which gives managerial performance credit and affects the achievement of organizational goals. Equipping managers with the skills they require will make them able to fulfill their professional duties in the best possible way. Some thinkers have regarded the development of management skills as the only condition for the survival of organizations in complex media (Hamlin, Keep & Ash, 2001: 151). Various categorizations present the general skills needed by managers – regardless of their managerial level, type of organization and environmental requirements – as:

1. Technical skills: the capability to use methods, techniques and knowledge in an expert field
2. Human skills: understanding people and the ability to work with others and also motivate them to work
3. Cognitive skills: a cognitive (basic) skill means the feeling and cognition of an organization as a whole and also recognizing related situations altogether (Gordon, 1993:33).

In his study, Ghaffarian (1998) has regarded the human component – "the term personality consists of qualities, features and characteristics specifying and distinguishing an individual from others" (Alavi, 1995:166) – as essential to managers, stating that managers' personalities have direct effects upon their performances.

Managers' careers abound in make-or-break decisions. An analysis of the process of decision-making shows that the basic outlook of the decision-maker as one of the most important components in the form of decision-making. "In organizations, attitudes refer to cognitive capabilities needed for fulfilling duties and career roles." (Abbaszadegan and Turkzadeh, 2002:102). Decision-making is, on the other hand, the most evident and the most influential aspect affecting organizations' performances (Ghaffarian, 2000:78). Managers' decision-making methods are highly intellectual, material and non-subjective, and traditional geniuses have little opportunity in such a world. In the Federal Republic of Germany, gaining positions in which policies are made is only possible for holders of academic degrees (Kakabadese&Wang). In recruitment systems in Britain, preferences aim toward candidates with general capabilities to serve based on the job concerned. Academic studies are preferred in Britain, and graduates of Oxford and Cambridge are traditionally more successful. In the United States also, the priorities in selecting employees and managers have always gone for special capabilities; nevertheless, in Japan, apart from capabilities and education, promotion to managerial positions occurs based upon superiority and experience (Boyatzis, 2008:8).

In developed countries, managerial roles are mostly based upon their previous accomplishments. Bureaucracy requires high levels of expertise, and merit is regarded as a standard for bureaucratic recruitment.

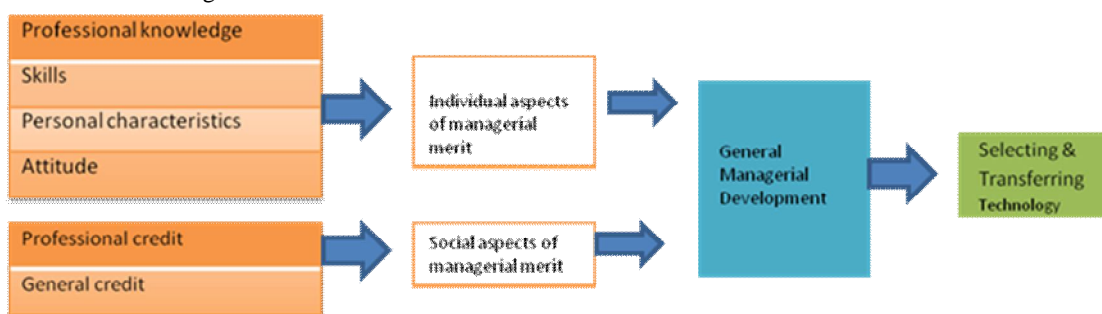
### **The Selection and Transfer of Technology**

The selection and transfer of technology is a series of related, objective activities during which a collection of technological components (informational, technical, human and organizational tools) somewhere other than their original location in order to provide training, recruitment, and also for the reason of development, evolution and economic purposes (Wang &Chen, 2002:421). The selection and transfer of technology consists of the selection stage, adaption and compatibility stage and the development and publication stage. The selection of suitable technology is affected by economic, social, political, and cultural factors as well as the society's technological capabilities, and general rules influenced by these factors must be taken into account in any case of purchasing or selling technology (Haoland and Tjora, 2006:995). If the selection of technology does not taken place with careful attention to such factors, it will have very little chance for success. The selection of technology and making it compatible with the specific characteristics of the country is an important issue in the use of imported technology, and any shortcoming will lead to a great deal of damage to the flow of technological transfer; the process of creating compatibility must be carried out prior to the design and construction of industrial units and also after creating and using them in order to make use of experiences (Boutet et al, 2000:15). It research and development activities are carried out in harmony and parallel to the entrance of technology and if the phases of purchase, sales, adaptation and creating compatibility are done well, and if the required infrastructures are formed, we can made samples of the imported technology or even superior forms of by making small and large changes and creating innovations and improvements it in the development and publication stage (Haolin and Rosenski, 1985:71).

Studies show that managers' development leads to their accountability, which helps make the organization predictable, so that environmental factors – internal or external, directly or indirectly – can create better correlations with the organization (Poikela, 2004:270); an unpredictable organization leaves its peripheral factors – customers, competitors, providers, and shareholders – unable to decide, and thus incapable of setting effective correlations with the organization. Thus, it can be stated that managerial development leads to the predictability of the organization, and eventually more influential effectiveness upon the environment, including technological factors and the process of transferring them (Draganidis and Mentzas, 2006:58).

Considering the fundamentals discussed, it can be stated that organizational development in technological media necessitates accurate knowledge of external changes along with the capability of facilitating internal changes. Planners and decision-makers cannot assume that the media they work in will never undergo change; they are to predict innovations and react to them, developing internal processes in order to implement new technologies. In this process, managers' development leads to their higher accountability, which will help the organization become predictable, so that environmental factors – internal or external, directly or indirectly – can create better correlations with it. Managerial development leads to the predictability of the organization, and eventually more influential effectiveness upon the environment, including technological factors and the process of transferring them (Autio and Laamanen, 1995:653).

Prior research shows that no pattern has been presented on the correlation between managerial development and the selection and transfer of technology. Considering the fundamentals of the topic and the correlations discussed, the following conceptual model can be presented as the conceptual model of this research as below Figure 1:



### RESEARCH METHODOLOGY

Regarding data collection, this research falls into the descriptive kind, of the coefficient correlation branch, and has been done as a survey. Furthermore, this research is practical in its goals, for its findings can be used by managers, decision-makers and planners. In this research, library studies and field surveying has been used in order to collect data. Also, questionnaires were devised for the collection and the analysis of the data.

The content credit of the questionnaire was approved by knowledgeable experts and scholars. In order to determine narrative credit, 3- preliminary questionnaires were pre-tested, the data obtained from which were subsequently subjected to SPSS software to calculate the amount of the reliability coefficient, which proved to be, using Cronbach's alpha method, 0.082 for the questions related to managerial development and 0.087 for the questions relating to the selection and transfer of technology. These figures indicate that the questionnaire devised for this research had the required reliability – in other words, consistency.

The statistical population included in the present research consisted of the Iran Central Bank management, 360 individuals. The research volume sample was set as 186; in order to ensure suitable data, 210 questionnaires were distributed, and 200 questionnaires were eventually collected. Sampling in this research was done in the simple, random fashion.

For data analysis, descriptive and deductive statistics (T-tests, conformational factor analyses and path analyses) were used; eventually, structural equations modeling were used to test the research model.

The results obtained from the descriptive statistics of the demographical data showed that the individuals in the study were 68 percent male and 32 percent female. As for their education, 22 percent had associate degrees, 46 held bachelor's degrees, 28 percent master's degrees and 6 percent held PhDs. Moreover, 14 percent of them had less than five years of work experience, 24 percent had 5 to 10 years, 36 percent had 10 to 15 years, and 27 percent had over 15 years of service.

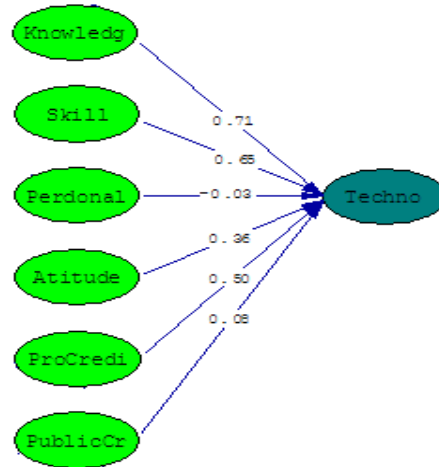
In the test conducted on the existence or lack of individual managerial merit aspects, four aspects – professional knowledge and information, skills, personal characteristics, and attitudes – and as for social managerial merit aspects, two – professional credit and general credit – showed results as follows:

- There is an appropriate amount of professional knowledge existent in the banking industry.
- Skills are at a highly appropriate level for the banking industry.

- There is a moderate amount of personal characteristics in the banking industry.
- Attitudes showed an appropriate level in the banking industry.
- Professional credit exists at a highly appropriate level for the banking industry.
- General credit exists at a mediocre level for the banking industry.

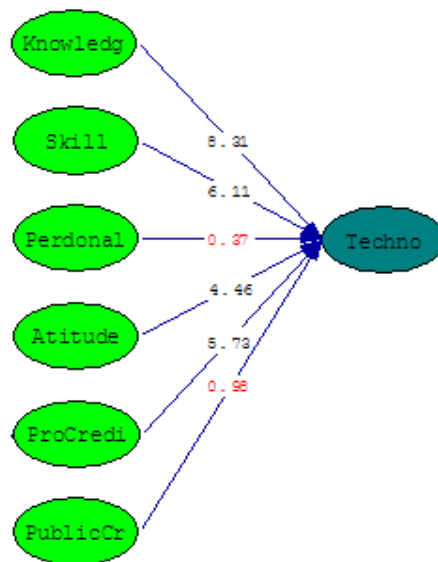
The following structural model displays the correlation between the research parameters in the structural model; as indicated, all correlations of the research – except the correlation between personal characteristics and general credit and the selection and transfer of technology – are confirmed. The structural equations model shows a suitable fitting for the structural model (the  $\chi^2$  to df ratio is less than 3, so  $\chi^2$  is low enough and suitable; secondly, the amount RMSEA=0.051 also points to suitable fitting in the structural model). In other words, the data observed are to a large extent compatible with the conceptual model.

Figure 2. The structural model in the standard estimate case



Chi-Square=351.62, df=168, P-value=0.00000, RMSEA=0.035

Figure 3. The structural model in the significant number case



Chi-Square=351.62, df=168, P-value=0.00000, RMSEA=0.035

All fitting characteristics for the model, as shown below, point out a high degree of fitting for the model.

Non-Normed Fit Index (NNFI) = 0.90

Comparative Fit Index (CFI) = 0.89

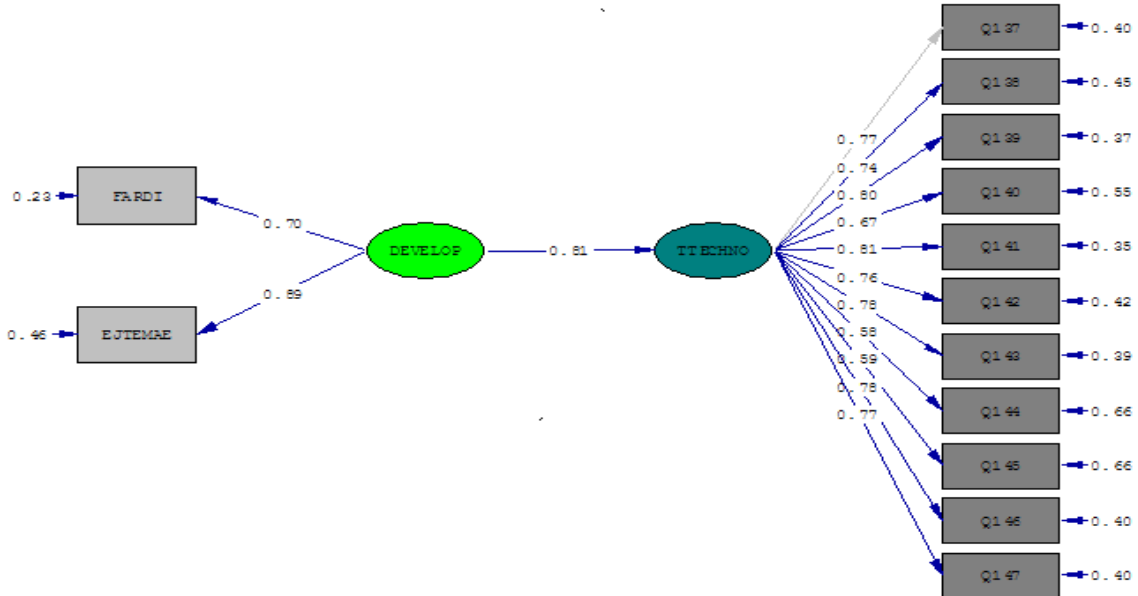
Relative Fit Index (RFI) = 0.88

Goodness of Fit Index (GFI) = 0.91

Adjusted Goodness of Fit Index (AGFI) = 0.90

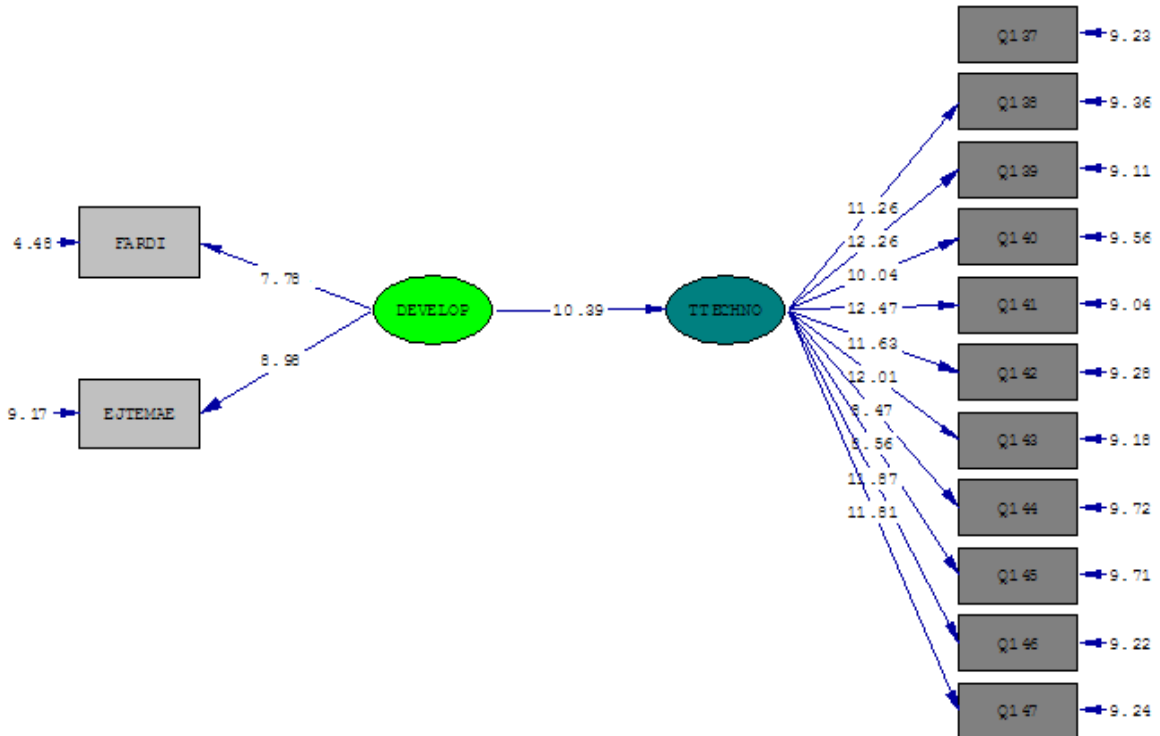
Structural equation modeling and regression analysis were used to test the correlation between managerial development and the selection and transfer of technology. The structural model pointed out a positive, significant correlation between managerial development and the selection and transfer of technology. The path coefficient for managerial development and the selection and transfer of technology proved to be 0.81. Furthermore, the structural equation models show good fitting for the correlation study (the  $\chi^2$  to df ratio is less than 3, so  $\chi^2$  is low enough and suitable; secondly, the amount RMSEA=0.051 also points to suitable fitting in the structural model).

Figure 4. The structural model in the standard estimate case



Chi-Square=225.93, df=64, P-value=0.00000, RMSEA=0.051

Figure 5. The structural model in the significant number case



Chi-Square=225.93, df=64, P-value=0.00000, RMSEA=0.051

All fitting characteristics for the model, as shown below, point out a high degree of fitting for the model.

Normed Fit Index (NFI) = 0.88  
 Non-Normed Fit Index (NNFI) = 0.85  
 Comparative Fit Index (CFI) = 0.93  
 Relative Fit Index (RFI) = 0.91  
 Goodness of Fit Index (GFI) = 0.91  
 Adjusted Goodness of Fit Index (AGFI) = 0.90

## RESULTS OF RESEARCH

The results of the present study prove to be similar to those obtained by Draganidis and Mentzas (2006), and also Hofstede and Mangold (2005), whose research points out that managerial development brings about effectiveness in the selection and transfer of technology in private institutions. However, this study differed from that of Boyatzis (2008), for the researchers concluded that organizational structure and strategy has a profound effect upon the selection and transfer of technology, and managers are also influenced by these two factors.

Based on the results displayed and the gathered data, the following recommendations are offered in an effort to help enhance the efficiency of the Islamic Republic of Iran's Central Bank and as a result, the whole country's banking system.

- It is recommended that the selection and use of new technologies be proportionate with the processes for selecting and training individuals, developing useful work groups and enhancing the achievement of organizational goals. The management of technological advances calls for more attention toward the inner needs and values of the organization and the social media the technology is to be used in.
- In order to elevate merit in managerial levels, it is suggested that the Central Bank make modifications in its recruitment system so that, through strategic and long-term planning, employees with merit be recruited, and talent management and developing suitable successors for managers can be enhanced.
- Offering training courses aiming to enhance managers' skills in their specialist fields is another mechanism capable of increasing managerial merits.
- It is recommended that the Iran Central Bank officials, apart from continuing their present process of recruiting educated managers trained in management for filling managerial positions in their main offices, also take individuals' skills, personal qualities, attitudes and other managerial capabilities into consideration. To achieve this important goal, using concretely compiled criteria and standard local tests are strongly advised.
- Since the findings of this research has originated from the views expressed by the managers at the Central Bank of Iran, an organization which has improving management and efficient and effective supervision of the whole country's banking system on its agenda, it is appropriate that the Central Bank's officials compile and issue their policies based on this research.
- Considering the crucial importance of management in the performance of the health care system, and since many of the presently employed managers in this system have no academic education in management fields, it is suggested that very short, practical training courses in basic management skills (appropriate for various managerial levels) by designed and offered for such managers.

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