The Developmental Role of Managers in Selection and Transfer of Technology

Motahar Ebrahimi Gara Tekan, Haniyeh Fardmanesh, Shahin Soheili, Mehdy Bagheri Heshi

ABSTRACT

Growth and development of organization which is the requisition for nations to reach multilateral socio-economic development, by itself requires the existence of individuals’ development in the organization and in respect to knowledge, competence and its capabilities, especially in the categories of management modern organizations consider its human resources as competitive advantages. Current research examines the developmental manager’s role in Gas Industry in selection & transfer of technology and for the purpose of collecting & gathering research data questionnaire was used which had an appropriate legitimacy and reliability (Cronbach’s alpha of questionnaire for developmental manager’s questionnaire 0.82, and for selection & transfer of technology 0.87). A random sample consists of two hundred (200) were selected from middle managers of National Gas Company of Iran. For the purpose of data analysis, the SPSS & LISREL software and path test analysis were used. The results showed that the developmental manager has a meaningful relation with selection & transfer of technology. Furthermore, the outcome results from sub-assumptions also showed that knowledge & professional information, proficiencies, skills, attitude and professional credibility of managers has meaningful relation with selection and transfer of technology. But, there exist no meaningful relation between personality trait of managers and general credibility of managers with selection & transfer of technology.

Key words: Developmental Managers, Selection & Transfer of Technology, Competence, Managers’ Roles.

Introduction

Selection and appointment of managers is an effort toward obtaining and employing the best individuals in the managerial positions which of course must be fulfilled in desirable manner at the appropriate times. Nevertheless, attraction and alternative replacement of managers especially at the organizations’ high level is always confronted with restriction [1]. The issue becomes more complex when we find out that universities and higher education institutions haven’t had much success in pedagogy and supplying outstanding managers with their customary programs, because that managerial competency couldn’t be obtained merely via acquisition of knowledge and professional information but it does require multilateral development in dimensions of skills, personality, change in attitude of manager, professional & commoncredibility [2]. Furthermore, academic trainings might have failures in relation with applicable skills and occupational requirements of related organizations. The managers of Gas Co. of Iran as main decision makers have significant roles in selection and transfer of technology; on the other hand, selection and transfer of technology in this company has basic role and technology could add to utilization of the company in great extent and causes to present services with higher quality to the customers. Current research in seeking answer to this question which could development and advancement of managers add to enhancement and advancing level of decisions which are taken in regard to selection and transfer of technology? If the answer is positive, then what are these dimensions?

Theoretical Literature:

Developmental General Managers:

Management development is a process which, the level of knowledge, skills and information of various management levels is advanced during the process and brings about means of required setting conditions for evolution of talents and capabilities [3].

Corresponding Author

Haniyeh Fardmanesh, Department of Management, Science and Research Branch, Islamic Azad University, Kerman, Iran.
E-mail fardmanesh_hani@yahoo.com
Pedagogy & selection of managers and leaders is considered as the most significant problem in contemporary progressive companies. What kind of qualifications a manager should have [4] for successful performance of his duties and achieving organizational’ goals (even beyond that)? A definition of qualification is as such: “Qualifications are managerial features which lead to appearance of skills & capabilities that would cause effective performance in an occupational domain; also, incarnates the capacity for transfer of skills & capabilities from one domain to another” [5]. In this definition, the superior performance means the individual has specific qualifications in upper level.

Competency approach in management development designed for the first time by Macber Co. in America such that the personal features which cause effective or superior performance in a profession to be identified. Interference of American Management Organization in development & expansion of a qualification program for managers’ training was for the purpose of being more effective in relation to this approach [6]. On the other side of Atlantic, the company MCI emerged in 1988 for the purpose of performance advancement of English organizations via quality enhancement of its managers. The company identified employers’ expected performance criterions from competent managers in various vocational stages. These criterions which were known as “National Vocational Qualifications (NVQ)”. The first National Acceptable Manifesto to become changed; what is effective managerial performance and what are the level of performance that employers expect? [6].

The most background Knowledge & information is considered as the most records’ dimensions of managerial competency & strength of every manager and organization. The foundation knowledge of other competency dimensions is considered as one of the principle ways of managers’ effort guidance; thus, having specialized information (meaning, having specific information about specific profession) and general knowledge (general familiarity with affairs which does not have special relation with organizational duties), is part of necessities of social and organizational life of managers [7]. The knowledge is the same element that causes the quality decision making, intellectual flexibility and base maker to employ other potential talents [8].

To have skill “is special capacity for performing physical tasks and implementation ability of science to practice” [9] gives credibility to managers performance and outweighs achievement of organizational objectives.

Mobilization of managers with requires skills gives them this possibility to perform their duties and prophetic mission in the best possible manner. Some scholars have known that the development of management skills is the only life condition of organizations in complex environments [10]. With adding up various categories, the required managerial general skills of managers - separate from managerial levels, organization type, economic and environment is presents as follows:

1- Technical Skills: Technical skills consists of utilization ability of approaches, techniques and knowledge in a specialized field.

2- Human Skills: Human skills consists of: comprehension of individuals, ability to work and develop motivation in them.

3- Perceptual Skills: Perceptual (essential) skills means the sentiment and comprehension of organization as a whole and comprehension of situations related to that as integrated & in one piece [11].

[12] in his research, the personality constituent “personality term which is applied to distinguisher of traits, features and personal qualities of an individual from others” [13] considered it to be a necessity for manager and have stated that the personality of managers has direct impressions on managers’ performance.

Occupational life of managers is full of destiny making decisions. The analysis of decision making shows that one of the main functions is in form of decision making, attitudinal standards of decision maker has indication to “attitude in organization to cognitive capabilities for conducting duties and occupational roles” [14] and on the other hand, decision making is considered as the most obvious effective aspect in performance quality of organization.[2]

With Attentiveness to importance in type of community, there are different attitudes to two dimensions of professional & general credibility in activities of managers, in other words the selection criterions of managers in world’s political systems is somehow distinct in a way that in past and in the less developed countries the selection of managers were conducted based on nationality, race or religion. In aforesaid systems there is no sign of intellectuality seen in the selection of managers.[15]

Gradually along with progress, human evolution and change in world political systems this method and trend changed to some other type.

Of course, currently in some countries with traditional and kingly regimes (like Saudi Arabia, Afghanistan, Libya and Laos) is observed that internal solidarity relies on basis of tradition, custom, heredity and religion. In these countries managerial, technical & scientific specialty is descending [16]. In developed countries the managerial role more or less is based on their past successes and achievements. Bureaucracy holds high degree of specialty and qualification & competency is considered in lieu of a standard for Bureaucratic employment.

The adopting methods of decisions and selection of managers is very intellectual, worldly and non-personal and the position of traditional intellectsis...
unstable. In the Federal Republic of Germany achieving to policy making positions is only possible for those who have university degree [17]. In the government employment process in Britain it is observed that they preferably consider Canadians with general ability to serve based on their considered job. In the country’ employment in Britain, there is preference seen for employing candidates with general capability to serve. University education is preferred in Britain and traditionally Cambridge and Oxford graduates are more successful. In the United State of America, initially the priority selection for personnel & managers has been through their special capabilities; nevertheless, in Japan in addition to ability and education, advancement to managerial positions is conducted based on seniority work background [18].

**Selection & Transfer of Technology:**

The selection & transfer of technology is connected chain of goal-oriented activities which during that aset of technology constituents (Information-ware, Technique-ware, Human-ware and organization-ware) in a place except initial place, is being widely utilized in technology in pedagogy and attraction and also in development, evolution and in economic applications [19]. The selection & transfer of technology includes: stages of; Section, Conformity & Attraction, Development and Production. Selection of proper technology is impressed from economic, social, political and cultural factors and is the technological capability of society and it would be necessary in any special case of obtaining or purchasing technology general standard to be considered which is impressed from aforesaid factors. [20]. If the selection of technology is not performed with patience & special care and attention to these factors, then the probable success will be low. Conformity and attraction of technology with conditions and special features in any country is an important affair in usage of imported technology and if there is negligence in this affair, then would result a lot of damages in the flow of technology transfer and this conformity must be performed before design and establishment of industrial units as well as after building and utilization from it and with resulted experiences [21]. In the event that the research and development activities followed up in parallel and coordinated at the beginning of technology entrance and the stages of obtaining, purchasing, conformity and attraction to be performed well and required substructure to get formed, then in the development and production stage with conducting small and large changes and with innovation could resort to make an imported sample technology better then the original [22].

Developmental manager lead to their responsibility acceptance and this affair helps the organization such that the organization become predictable and environmental factors regardless of internal or external, direct or indirect would make more effective connection with organization [23]. Because, when an organization is unpredictable then the environmental factors regardless of customers, competitors, suppliers, shareholders fall into ambiguous situation that can not make effective connection with organization. Therefore, it could be said that developmental managers leads to predictability of organization and ultimately more effective impression on environment such as technological factors and process of transfer and its development [6].

With respect to stated essentials could say that the organizational management in current technological environment requires accurate awareness from external changes along with ability to facilitate for internal change. The planners and decision makers can not assume the environment in which they work will remain constant but they must predict the innovations and show reaction to it and for the purpose of implementing new technology expand the internal processes. Meanwhile the developmental managers leads to their responsibility acceptance in the this subject; this would contributes to the organization such that the organization becomes predictable and environmental factors regardless of internal or external, direct or indirect make more effective connection with organization. Developmental managers leads to predictability of organization and ultimately more effective impression on environment such as technological factors and process of transfer and its development [24].

With respect to past researches up to now, no model in connection with relation between developmental managers and selection & transfer of technology have not been subject of discussion. With respect to Foundation of subject of discussion and addressed relations the following conceptual model is introduced as conceptual model of research.

**Research Approach:**

This research in terms of data collection is of descriptive & correlative type which has performed through measurement approach. Also this research from objective point of view is applicable because the results could be utilized by managers, planners and decision makers. Also In this study for the library and field search have used the purpose of data collection. For the purpose of data & information collection for analysis collection questionnaire have used.

The required validity of the questionnaire' content have approved via guiding scholars, consultants and few informed individuals. For the purpose of admissibility determination the initial
samples including 30 questionnaires pre-tested and then by using obtained data from questionnaires and SPSS software the confidence factor computed by CronBakh approach which for the developmental managers the number 0.82 and for questions of selection & transfer of technology the number 0.87 is obtained. These numbers are an indication that the used questionnaires has final required reliability.

The current statistical universe of study are middle managers of Gas company of Iran which consists of 360 individuals. The volume of research estimated to be 186 which for data collection assurance of proper rate of sample, 210 questionnaires distributed and ultimately 200 questionnaires collected. The sampling approach in this study is simple random.

In information analysis, the two approaches of descriptive and inferential statistics used (independent t test, factorial approval analysis, trend analysis) and ultimately for the purpose of research testing model the structural equations were used.

Research Findings:

The obtained results from descriptive statistics of demography data showed that the individuals under study in the research in terms of gender have been 68% man and 32% woman. In terms of education level, 22% are upper diploma, 46% Bachelor of science, 28% Master of science and % PhD.

Also 14% of individuals have work background under 5 years, 24% between 5-10 years, 36% between 10-15 years and 27% more than 15 years.

In the performed test the obtained results in case of existence or non-existence of individual dimensions of managerial competency in four dimensions: Knowledge and professional knowledge, skills, personal features, attitude and social managerial competency in two dimensions of professional credibility and general credibility are as follows:
- Knowledge & professional knowledge are in appropriate level of Gas industry.
- Skills are in very appropriate level of Gas industry.
- Personal features are in medium level of Gas industry.
- Attitude is in appropriate level of Gas industry.
Professional credibility is in appropriate level of Gas industry.
General credibility is in very appropriate level of Gas industry.

The following structural model is indicator of relation between research variables in structural model which shows that the entire research relations except personal features and general credibility are approvable with selection and transfer of technology. The structural model shows that they has appropriate fit (ratio of $\chi^2$ to df is under 3, therefore this ratio of $\chi^2$ is low and appropriate rate; The rate of RMSEA=0.035 also shows the appropriate fit of structural model). In other words, the observed data to higher extent conforming on conceptual model. The entire indexes of the fitted model are indicators of high fit of the model.

The diagram 1- the constrictive model in the state of standard estimation

The diagram 2- the structural model in the state of meaningful number.

The entire indexes of fitted models are all indicators of high fit value of the model.

Comparative Fit Index (CFI) = 0.89
Relative Fit Index (RFI) = 0.88
Goodness of Fit Index (GFI) = 0.91

Non-Normed Fit Index (NNFI) = 0.90

Chi-Square=351.62, df=168, P-value=0.00000, RMSEA=0.035
Adjusted Goodness of Fit Index (AGFI) = 0.90

For testing the relation between developmental managers and selection & transfer of technology,

The structural equations and regression analysis have been used. The structural model is the indicator of having a positive and meaningful relation between developmental managers and selection & transfer of technology. The coefficient of developmental managers and selection & transfer of technology is 0.81 and also structural equations model is indicator that the fitted model is appropriate for examining the relations (ratio of $\chi^2$ to df is under 3, therefore this ratio of $\chi^2$ is low and appropriate rate; secondly, RMSEA=0.051 also indicator of appropriateness fit of structural model).

The diagram 3- the constrictive model in the state of standard estimation

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

The diagram 4- the structural model in the state of meaningful number.

Chi-Square=225.93, df=64, p-value=0.00000, RMSEA=0.051
The entire indexes of fitted models are all indicator of high fit value of 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

Discussion of results and recommendations:

In comparison with research of [6, 25] this research obtained similar results. In their studies of developmental managers were caused effectiveness in selection & transfer of technology in private institutions. But this study were differentiated with study of [26]. Therefore the researchers reached to conclusion that organizational structure & organizational strategy have high effect on selection & transfer of technology and managers are under impression of these two factors.

In respect to aforesaid results and collected data; some recommendation have presented in the following statements which hope the Gas company reap the benefit themwith their application.

- It is recommended that selection and usage from new technology must be appropriate with selection and pedagogy of individuals, development of useful working groups and increase of achievement to organizations’ goals. The management of technological innovations in organization will be required more attention to the needs and values of organization’s members and social environment which new technology enters to that.
- For the purpose of elevating competency of managerial level, it is recommended that for this purpose the company corrects its system of employment recruitment in such a way to select most competent individuals for employment and toward this, to increase competency on managers through long term design and planning & strategic management
- To develop training courses for advancement of managers’ skills in their specialty domain is also another mechanism which could add more competency to their managers.
- It is recommended to individuals in charge in the Gas company of Iran that along the current trend of attracting educated managers in the field of management for tenure of office in staff management of sections, to give special values to individuals in addition to specialty knowledge to skills, personal features, attitude and other managerial capabilities of individuals.

For achieving this important issues, make use of compiled objective criterions and testing local standards is certainly suggested.

- In respect to findings of this study which are outcome views of Gas company’ staff section, this company sets in its agenda for management improvement and it is worthy that the company officials by getting inspiration from this study compile and announce the required policies.
- In regard to vital importance of management in performance of sound system and since many of current employed managers in various level of this system lack management education, therefore it is recommended that short term training courses in terms of basic managerial skills to be designed and arranged for them.

References