Management Information Systems and its Relationship with Organizational structure
(Case Study of Rasht city Bank)

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Abstract:
Management Information Systems are considered as one of the influenced factors in improvement the decisions of managers in organizations. Present study is focused on the relationship between management information systems and organizational structure Application in the Rasht city banks. Methods of studying and the present study is from the group of cross-sectional studies and population of this research is formed the experts in the Rasht city banks and a Sample volume Based on equivalent to 435 subjects were selected by cluster sampling. Inventory data collection instrument was consisted of two parts management information systems and organizational structure (complexity - the official and focus), respectively. Questionnaire was determined by using content for management information systems, 93% and for the organizational structure of the questionnaire92% and the final questionnaires by using test - retest and correlation coefficients 93% and 90%, respectively. The result is that the use of MIS in the investigated Banks this research causes the increasing of concentration and decision-making in levels of management, organizational recognition rate and the increasing complexity of horizontal and also reduced the vertical complexity.

Keywords: Management information systems - banks - Administrative structures

Introduction:
Today Due to the high complexity of the issues requirements to statistics, information and numbers in management decision-making is increasingly represents. Probability of wrong decisions with achieving timely and accurate information to managers will be minimal. So now should have different information management requirements of organizations to collect, classify, process and analyze the results are immediately available to managers.

Also in order to gather the required information use computers and Management information systems are more widely used in this regard. Information required by Directors, depending on the type of work and hierarchy and organizational goals are different. In general, higher-level managers pay less attention to the details of the lower-level managers or experts. Therefore, the information placed at the disposal organization should be high-level managers in accordance with their breadth and holism. On the other should be specified on how new management information systems can change the organizational structure and responsibilities of the executive and how the new system can be effective on each employee job(1). Organizational structure the relationship governing on individuals and groups that in order to achieve organizational goals tries and divides into two aspects: structural and content. Structural aspects is represented the organization's internal characteristics and give basis that can measured organizations or compared with each other with those basis. The substantive aspects represent the total organization including: Size - sort of technology - Environmental and goals that affect the structural dimensions(2). The organizational structure designed should be in
such a way that appropriate and timely information is available to managers and management information systems, decision support systems can play such a role. The present study in order to the relationship between the three dimensions of management information systems Application and organizational structure model Robins include: complexity, concentration and recognized. Have been conducted in the Rasht city Bank.

The investigated Methods:

This descriptive cross-sectional study was conducted in relation to the Application of management information systems and organizational structure consists of three variables: Complexity, centralization and formalization was paid. The research community were formed 175 branches and banks supervision experts in the Rasht city to 1245 people. Sample sizes were selected by using Cochran formula and cluster sampling equivalent to 402 people. The data collection instrument, a questionnaire consisting in two parts: determine adoption of the revised standard inventory management information systems and organizational structure Robins, consisting of a 3-variable complexity, formalization and centralization. The questionnaire was consisted of 25 questions on amount of use of management information systems and the revised standard questionnaire used to assess the variables organization the organizational structure had a total of 25 questions that 11 questions related to the concentration measure and 9 questions related to amount of recognition and 5 questions related to amount of the complexity part. Of the 402 questionnaires distributed, 400 cases were analyzable. In order to Grading and a choice of both questionnaires was used of five Likert scale options (1 - very low to 5 - very much). For Validity questionnaires of the judgment of experts were made. Questionnaires, together with an introduction of the 7 patients who were considered and They were asking questions intended to measure the desired variables are valid questions with 5 options perfectly suited, moderately suited, poorly suited to determine.

The questionnaires were analyzed after returned by using statistical methods and finally Questionnaire were determined the use of management information systems level, 85% and organization construct validity 84%. Also reliability test method - retest was assessed with a questionnaire so that the final interval sample of 12 individuals were distributed over two stages during 10 days. Then by using SAS statistical software between the results of the first and second phases were calculated using Spearman's correlation coefficient and finally, determine reliability level management information systems using structured questionnaire organization 94% and 89%, respectively. In order to collect the data, the researchers provided questionnaires pointed out to the members of the research and also to ensure the data accuracy were given the face to face description to the respondents. Then raw data from the statistical software SAS, initially using descriptive statistics (frequency and average) amount of 3-dimensional structure of variables: Formalization, centralization and complexity were calculated the level of management information systems and Then in order to examine the relationship between Application of management information systems with variable structure were used kendall and Spearman correlation tests(4).

Results:

Descriptive statistical analysis of background information of respondents showed that 116 (%29) units of respondents were women and the rest 284 units (%71) were men. The highest percentage of respondents (%30) was in the age group 35-40 years. The highest percentage of respondents (%28) had work experience between 7 to 15 years. 351 (%87.75) units of respondents had licence degree.
With a regard to organizational position, 311 units (%77.75) of respondents were experts and 89 units (%22.25) were M.A. the average of level specification variable of the use of management information system was equal to 59.47, the highest score was equal to 89 and the lowest score was 31 and the highest frequency was centralized in score of 53. Special manner of variable distribution indicated the level of use of management information system and acquired score of %75 of respondents that the level of managers’ use of management information system in the studied banks is not in a relatively high level. It means that managers at all levels do not take advantages of management information systems and its resulted information in making decisions(6).

The average of centralization variable was equal to %31.05, maximum amount was equal to 44 and minimum amount was equal to 16 and the highest frequency belonged to score of 32. According to special manner of distribution of centralization variable, it was observed among the respondents that half of them received a score of 21 and acquired score of %75 of them (scored below 26) showed that they (banks) are not centralized organizations and decisions are made at low levels. It means that studied banks are large enough that senior officials of these banks (organizations) are not able to make all decisions. The average of officialism variable was equal to 23.15, the maximum amount was equal to 34 and the minimum amount was 13 and the highest frequency belonged to score of 22.

According to the frequency distribution, scores of %75 of respondents (scores above 21) showed that officialism rate is high in studied banks. The average of complexity variable questions was equal to 12.27, the maximum amount was equal to 19 and the minimum amount was equal to 4 and the highest frequency was centralized in the score of 10. According to the frequency of scores of respondents, it is observed that %75 of them (scores above 16) believe that there is too much complexity in their organizations, it means that the amount of horizontal and vertical separation between the units is high according to the amount of dispersion of units and manpower and according to geographical organization. According to the above statistical results, the average of organizational structure variable was 66.47.

The maximum amount was equal to score of 97 and its minimum amount was equal to score of 33. On the subject of specification of relationship between the use of management information systems and amount of concentration in decision-making with the regard that correlation coefficients of Kendall and Spearman with confidence coefficient of %95 (α=0.05) were calculated 0.511 and 0.412 respectively and significant level of both tests was obtained P<0.001. Thus, there was a significant and direct linear relationship between two variables of management information system and centralization(3).

The relationship between management information systems and officialism: regarding that correlation coefficients of Kendall and Spearman with confidence coefficient of %95 (α=0.05) were calculated -0.417 and -0.341 respectively. So, there was a significant and inverse linear relationship between two variable of the use of management information system and officialism. There was a significant and direct linear relationship between two variables of the use of management information system and amount of complexity with correlation coefficients of Kendall and Spearman resulted in 0.551 and 0.473 respectively with confidence coefficient of %95 (α=0.05). to determine the relationship between variables of management information systems, organizational structure and background variables of age and work experience, log-linear analysis was used to determine the independence or lack of independence between variables that with the use of X2 test, the final true ratio of presence or absence of a significant relationship between three variables were determined and the following results were obtained: there was a significant and direct relationship between two variables of the use of management information systems and the amount of organizational centralization in the levels of age and work experience that by increasing age and work experience, the amount of correlation between two main variables increased as well.
There was a significant and inverse relationship between variables of officialism and the use of management information systems in the levels of age and work experience, separately. In other words, although by increasing age and work experience the amount of correlation between two main variables decreased, still there was a significant and inverse relationship between level of the use of management information systems and the amount of officialism. A significant and positive relationship was observed between management information systems and complexity in levels of age and work experience that by increasing age and work experience, the amount of correlation between two main variables increased as well(5).

It is found in this study that by increasing the use of management information system and providing required information for manager’s special decision-making has caused concentration in making decisions. Decision makers’ managers of higher levels have the ability to make decisions faster and therefore reduced the need to consult and hold meetings about decision-making, so will be followed in increased concentration because managers are less like to make decisions and communicate face to face at meetings that this matter caused a change in the attitude of the staff and users of information systems in concentration of decision-making.

Finally, based on previous studies and results obtained in this study with the development of information systems and communication networks such as senior managers of organization with the help of management information systems, they are more close to each other, have more power scope in the range of observation and more control and speed in recognition of problems and facility in making decisions, so concentration on decisions and manipulation of senior managers in organizational decisions will be higher(8).

Nault in his article “information technology and organization’s design: locating decisions and information” concluded that management information system provides required information for decision makers by the use of information technology, while organization’s design leads areas of decision-making towards its related information. Therefore, management information system is accompanied by concentration on decision-making and organization’s design has been faced by some forms of decentralization in decision-making. Gurbaxani, in his article “the impact of information systems on organizations and markets” found because of that information technology promotes the quality and the speed of decision-making process of management in high levels; it causes concentration and integration in decision-making in organizations.

The results about officialism variable showed that as the level of the use of management information system will be higher, officialism will be less in the organization. In the study of Spanos and his colleagues, officialism reduction was the result of greater use of types of information and communication technologies. In the case of complexity variables, the results suggest that as the use of utilization level of management information systems will be higher, the complexity of organizational structure will be greater.

The results of this hypothesis were paralleled to the results of Wigand study about the impact of information technology, especially e-mail, on breaking hierarchical boundaries between executive and middle levels of development of horizontal communications and increasing horizontal complexity. Spanos and his colleagues approved a significant relationship between the use of information and communication technologies and hierarchical reduction and vertical organizational complexity in a part of the results of their study. Therefore, as illustrated, the amount of the use of information systems is directly related to the complexity of organizational structure and leads to flatting the structure and increasing the horizontal complexity of the organization(7).

Development of management information systems and rapid and great progress of information in organization has led to change some jobs’ content and this was due to change in the nature of some activities of organizations that caused activities to be redesigned and after that, some jobs’ content will be changed and organization’s structure goes from mechanical form towards organic one.
This structure requires an organic organization that unskilled staff will be replaced by skilled and specialized people. Rapid and great progress of information in management information systems also causes that organizational structure of different areas has a great overlap through close communication of capable and qualified people. Proper and effective use of information system extends the scope of supervision of managers and causes increase in complexity. Reducing the vertical levels of organization has changes some jobs’ content and the basis for employment of staff with high skills and some new posts related to information systems will be increased and the chance will be provided for optimal growth and development of jobs.

Conclusions:

This study and previous studies as well have approved the relationship between information technology and information systems with organizational structure and also confirm its importance in the design of organizational structure. The use of management information systems in studied organization causes increase in the amount of concentration in making decisions in levels of management and increase of horizontal complexity, decrease of hierarchy and amount of officialism in organization.
References