

Comparative Comparison of Senior IT Managers' Competency Model in Iran with Defining Models of Various Studies

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ABSTRACT

The purpose of this study, at first is to achieve the key competencies of managers of IT in Iran and then study and comparative comparison of these criteria and key factors with identified criteria in other studies of this field. The population of this research include senior IT executives in organizations and companies, both public and NGOs in Iran. The number of required samples for the senior IT managers' society, using Cochran formula was 96 individuals, and was carried out by random sampling. Data collection tool in this study is electronic questionnaire. As a result, six factors were identified that account competencies of senior IT managers in Iran. The six factors are: identifying business opportunities, knowledge management, comprehensive outlook, interpersonal skills, relationship management and change management. In the second step of the study, the six criteria were compared with 10 similar researches that as a result; Interpersonal skills and internal and external relationship management 70%, a comprehensive outlook in business 60%, knowledge management 50%, and finally change management 20%, allocated explained competences to themselves.

KEYWORDS: competence, competence of managers, competence of senior IT managers, the comparative comparison

1. INTRODUCTION

Nowadays the influence of outstanding managers in revenue, profit and success and effectiveness of the organization in many successful organizations, is clear. In today's world there are dramatic changes in the organization environment. Organizations are also affected by these changes. Meanwhile, the role of managers as a critical resource to solve problems in organizations is discussed further. The organizations' need to competent managers is clear and obvious. In fact, the competence has various benefits such as: make the organization effective and manage them, focused on the capacity of individuals, (instead of their jobs), as a way to gain competitive advantage, bring the organizations strengthening the team behavior. Gholamzadeh [1] saw The studies were done on competencies, led that most organizations operate management methods based on competence. Competence approaches in the 1990s, was introduced and quickly used in the literature of human resource management. One study found that among 30 large US companies, 29 companies have applied this approach in the last five years. But what can be referred to the competence is controversial. Different organizations have developed models for themselves. Research in 2001 that was presented in leadership development conference shows that 75% of organizations are using the competency model. The growth of 360 degree feedback approach also reinforces the use of this category. Also 69% of managers develop programs are based on competency model [2]. A special study examined 217 business organization and found that 90% of companies have used competence modeling for performance management, 88% for staffs, 64% for compensation and benefits package, and 62% for training and development. Information technology industry that we know today, there have been about 50 years and is like technology. This industry is constantly changing. In the past, people who were hired in the IT industry, were not necessarily professional and further were considered as providing technical solutions. Researches in this field that are performed to change this insight, have very good process. Such as a study that was begun in 2005 called "Professionalism in IT", and cross partnership of industry. Aimed at the identification and develop competence, ability, in most senior IT managers and other higher officials. Thus, as technology goes forward, the role of chief technology officer as an expert becomes less and more becomes a trading strategies expert, establishing relationship and financial director which relies on a series of other skills. The challenge here is that senior IT managers must acquire new skills. The present research study needed competencies of senior IT managers in Iran and compare them with competencies of senior IT managers in other studies in this area. What are the competences which should be taken into account in the selection, appointment and evaluation of managers? And that these competencies how much overlap with managers competencies in different countries and studies in this field?

1.1. Expressing the issue

It is said that the competence can state inclusively what is required for a successful career. So we can say that, competency model can define a set of competencies with definitions and descriptions of performance and behavior of a particular job or group of jobs. On the other hand today, skills that a senior director of information technology are required to meet them have changed. These skills have changed from knowing just technology, to know the purpose of trade. In fact, senior IT managers today are more strategic leader rather than be a task manager. Robert Badavas asserts: "For a company to be successful, senior IT managers should value business by having accounting information, human resources and other things, each of these data alone is not considered as a value to the organization or the chief executive."

Usually, executive managers, eager to attract someone who is proficient in the use of technology in the jobs. Increase external data sources, creates a cloud of information against senior IT managers. According to (Boryo) statistical expert, this increase in the mass of information creates more than 200,000 job opportunities until 2016. Mostly has seen in the organizations that good technical techniques are difficult storage conditions and also new generation employees expect more changes in their organizations. For this reason, information jobs are often given to younger people. (Lori Ardal) says: "doing programs like creating senior IT managers circle that will lead to have more scientific work environment, cause higher levels of customer loyalty." One research that has done in Amazon online bookstore shows that most of the books paid more than the C-level to the role of senior IT managers. An agreement which is visible in all texts is that this role is changing. Today, senior IT managers alone are not responsible for overseeing the organizational technology. And ensure that, computers and telecommunications to continue their performance; however, they are encouraged to stimulate innovation and business transformation. Recent articles clearly state these new requirements as "ways for change the company, not just its implementation in the IT sector" and "expanding the role of senior IT managers in promoting business transformation and innovation, competitive advantage and activity as key strategic partners, for the managing director and wider organization." It should be noted that in accepting the new job in the organization, geographic location of job has vital role. And 62% of senior IT managers reported that place of their work in the organization is important. Next Level is salary and 55% of participants in the survey stated that it has the greatest impact on them. Third place in the acceptance of a new job was clear description of duties that 21% of employees had emphasized it and said that this is the most important problem for them. ITNA reports of system partners and quoting by (I.T.P) website, the study has done by (I.D.J Research center), and during it 100 individual of senior IT managers and higher levels have been surveyed and answered about its current role and future post as information technology manager. Based on the results obtained, a large number of managers and senior managers of the organization's information technology organization spent great amount of their time moving forward in this area and 48% of them declared that promotion of information about information technology and operational capability of system is one of the five areas that have focused on it. In the meantime, 47% of individuals stated that the implementation of new systems and architecture have been considered one of the five main targets. Despite growing demand for workspaces, many information technology managers are still in organization business, and 45% of these people have claimed that spend much of their time to adapt to technological innovations with commercial purposes. Based on the results of this survey, IT managers in organizations tend to devote more time to participate in organizational strategies. When the people were asked to allocate more time during the next three to five years 48% responded that they prefer to identify more opportunities to compete in the various areas. In addition, 42% said that they would prefer to be closer cooperation between the IT and business, 41% noted to provide special business initiatives, and 35% also said they want to adapt IT innovation with organizational goals. System partners and quoting by website (Fires Enterprise), predictions that have done about the needs of businesses and companies shows IT professionals the need for network specialists is increasing. In this survey, that have been carried out based on 31% of the IT managers of organizations and companies, about 31% of respondents said that they intend to employ a number of networks experts in 2014. The importance of this study is to show that position of network experts improved in the list of business requirements from eighth to third place. In this survey eight job titles required by companies and organizations are introduced as their most important requirement. 49% of respondents said that they intend to employ experts in software development and programming in 2014. 37% also said that to employ experts will take support desk solutions and technical support. 31% also reported their intention to recruit a network of experts in 2014. Mobile software development and manage mobile devices are needed expertise of 27% of respondents respectively. 27% said they also need project management specialists. Employment in charge of databases is also a priority of 24% of respondents. 21% also said they intend to employ IT security professionals. Expertise relevant to data analysis and business intelligence solutions also required by 18% of respondents. These findings have adjustment with findings of Robert Half International that recently published. In that study, about 55% of the respondents said they employing network operators is the most important requirement of IT enterprise and

organizations. Mokhtari [2, 3] saw Management of databases is other important requirements that are mentioned in the study. Robert Half also company in another study found that IT managers of companies and organizations in the field of experts recruitment are faced with some challenges and difficulties. Experts in network development, database management, desktop support and technical support are those who companies and organizations do not access to them easily [4].

With this introduction we will study the issue that other factors that what are other factors that affects capability of senior director of information technology in advancing company toward using information technology. Through the analysis of these factors, we are able to at first, create model and pattern of senior IT executives' performance in Iran, because, a more comprehensive view of the factors affecting the participation of IT and ultimately provides value to the business, and then compare this model with other models and competencies identified in other studies.

1.2. The necessity of research implementation

In the past, senior IT managers and network operating systems, and perhaps in response to calculate the research was a priority. But now all systems and main IT performances has an important mission that should be done 24 hours in day, seven days a week. Information technology at the micro level is very important in people occupation. A study in this area show that, in total, more than three-quarters of all IT users say information technology plays a very important and decisive role in their daily work. The current job of 79% of all Information technology users depends on internet and telecommunications. With this introduction we can say that senior IT managers are key people for organizations. These managers always play vital role in the organization. In a research company (Spring Technology), workforce recruitment centers in its last action surveyed 440 volunteers who were working in the field of Information technology. And in addition 160 employers in the field of information technology express their ideas about the role of Information technology in organizations. Among employees, 70% believed that their employer was failed in breaking the barriers for greater compatibility of IT with company business. It was also found that 55% of them believe that the majority of employers don't have knowledge about the impact of role on success of organization". While the IT managers try to create coordination between IT department and business units. The new study was commissioned by the Centre (Red head) shows, there are still barriers that prevent the integration of technology and business. In countries such as Germany, the directors believe that the greatest impact on their company's Information technology, is in flexibility, efficient process design and customer service. While in countries such as Spain and France, the potential of innovative information technology and significant effect on competition in this area is considered. Senior information managers in general are involved with a series of new applications. Most recognize that many of them lack the leadership skills necessary to advance the goals of organizations for the use of information technology. They normally not seen in strategic orientation and has less credibility among their business partners. It can be said that, most of them have lack proper relationships and effective communication skills in their organizations. In this regard, senior managers in the conflict have been unable to effect organizational policies. This means that the organizational issue against information technology can play a basic role of senior information manager. This thought to be as follows: access to "appropriate" person and with experience in this position and appropriate mix of skills and competencies that can solve IT issues. Because of the importance of correct identification of competencies and standards, to use them in IT management divisions, and extent to which these measures are consistent with international standards, review and implementation of senior management competencies in information technology, with other studies in this area, was chosen as the subject of research.

1.3. Research history

1.3.1. Theorithical history

Charles Woodrov has done several researches on managers' competence. He concluded of his researches that the competence applies on the effectiveness of the job.

Since 1970, introducing approaches based on competence in organization's environment, has been initiated, and then on, it has had developed quickly. David Mc. Colland had proved in 1973 that individual and behavioral features has more impacts on job performance rather than talent test determining who has been successful in job performance.

Bouyatsiz was another pioneer researcher who had focused on the importance of managers' competence. He defines the word "competence" similar to Clamp's definition.

Considering Bpouyatsiz and clamp definitions, the competence is the principal feature of an individual, the result of great performance in a job. Bouyatsiz wrote that the efficient performance model exists when the organizational environment factors, job demands, individual competences become balanced.

Gholamzadeh [1] saw David Maccolland (1973), in a paper “test of competence instead of intelligence” “became the pioneer to a movement later called “competence movement”. In his studies variables, he identified variables which instead of intelligence test and other ones, forecasted job performance or success in life. Mac. Colland called these variables “Competence. According to Macolland definition and competence, the feature and principle characteristic is the cause of brilliant performance [4].

1.3.2. Empirical Background

Razzaghi [5] implemented a research as “Norming the manager’s competence scale” “with the objective to measure competence criterions for managers and their leadership power, the improvement in managers’ selection and appointment methods, helping the improvement in directing organizations and finally an appropriate tool to measure the criterions and different levels of managers’ competence. In the mentioned research, 18 factors have been considered as the managers’ competence criterion. 18 factors are:

The recognition and cultural sensitivity, economic management, effective control, help others to improve, cooperation and teamwork, emphasis on efficiency, resources allocation, considering customer needs, risk taking, time management, organizational awareness, the capability of solving problem, executive maturity, crisis management, control and supervision capability, reactivity and innovation, self-confidence, consultancy and guidance.

In Iran, researches like (determining sports managers’ competences model), (the competences of Ministry of Energy managers), (Determining the model of Islamic – Iranian capabilities of the Governmental sector managers), (the codification of procedural model for the competence of human resources managers of Governmental sector emphasizing on general policies of administrative system) and ... have been implemented and in companies, management competences model of Social Security Organization, Capabilities model for managers of Ministry of Energy, Competences model for Mapna company’s managers and competences model for Industrial Development and Renovation Organization of Iran and ... can be mentioned.

Among foreign studies, McColland study can be mentioned; among the most important organizational researches done in this regard (M.C.I), English charter and model (Workforce) for Australian Ministries can be mentioned. Cocheran [6] also implemented a research “competence development assessment in Ohio state University: Development of a competence model for development of organization in 21 century”. 14 cases of lever competences which he identified are: communications, frequent learning, providing services to the customers, diversity, flexibility and change, interpersonal relations development knowledge, specialization, Resources management, Leadership and teamwork, Application of Technology and Compatibility with it, thought and solving the issue, understanding others and societies and self-governance.

Edwards [7] have stated that management competences as staff training and increase, communications, solving problem, change management, technical skills and responsibility, forming group, performance management (Authority), interpersonal awareness, integration of views.

Research team of Burgalt *et al.* [9], identified 14 types of competences for managers. To their opinion, political consciousness, tactical and strategic skills, providence and innovation, complexity management, compatibility and frequent learning, leadership, emotional intelligence, Human resources management, knowledge management, using moral values, communications and Negotiation, technical skills, the acceptance of performance management governance, are of managers’ competences.

United Nations has also provided the list of competences regarding managers. In the mentioned list, 14 competences have been stated. The competences, eight lever capability meaning communication abilities, Teamwork, organization and planning, accountability and responsibility, creativity, customer-orientation, commitment for frequent learning, technical knowledge and include six supplementary capabilities meaning; leadership, outlook, others’ empowerment, creating trust, performance management, judgement and decision-making.

1.4. Research Hypothesis

1.4.1. Theoretical research framework

According to the subject of study, multiple sources can be examined in different ways. Some of these resources were published as books or articles, of course, most of these resources have been published abroad. Meanwhile, there are reliable sources with scientific value in the virtual database that researchers have tried to use these resources. In articles and books in the field of IT management, characteristics of top managers have been divided into two categories (skills) and (liabilities). Skills that every IT manager should have. These skills have split into two general categories (management skills) specific (skills related to information technology). So skills of IT managers include:

1. Leadership
2. Understand the nature of the business

3. Social relationships
4. The ability to create and change management
5. Experience of International Affairs
6. Balancing of solution and strategy
7. Having the courage to avoid insight and performance errors of top managers in the IT field
8. Create a balance between research and development, and application
9. Establish a proper relationship with IT consultants
10. Recognition of the strategic rotation (understanding of business strategic rotation and the main developments in the IT industry)
11. Knowledge about how is proper intervention in the process of internal projects (outsourcing)
12. Introduction to rights on Information Technology
13. The performance management skills

In other category skills of senior information managers defined as follows:

 1. Good Fight for the budget!
 2. Quick response when faced with problematic situations
 3. Admiration of Employees
 4. Create a spirit of teamwork
 5. The emphasis on accountability and responsibility
 6. Responsiveness
 7. Deflect the political issues of the working group
 8. Create a good working relationship with top managers
 9. Pay attention to job burnout
 10. Clear definition of projects, tasks and goals

In a study that has done on senior managers of IT in Portugal country's largest companies the activities provided that based on this research they are more commonly found in senior information managers;

Contrast to the senior management team;

 - Strategic decisions;
 - Application development management;
 - Project management;
 - Optimization of business processes;
 - Recruitment, development and management of staff;
 - Interact with vendors and service providers;
 - Crisis Management (elimination of fire);
 - Setting a budget;
 - Interact with customers;
 - Ability to communicate effectively;
 - Thinking and strategic planning;
 - Ability to lead and motivate staff;
 - Understand the trends and business operations;
 - The ability to keep track of technological innovations;
 - Negotiation skills;
 - Technical skills;

The findings show that senior executives of information technology at the largest Portuguese companies spend more time on crisis management, project management and application development and most important skill they need for their careers is the ability to understand business processes and functions. About skills that senior IT managers with need to do their jobs, two more important issues are the ability to understand business functions and the ability to communicate effectively. It is said that, two factors will remove passive and skill-oriented senior IT managers in 2017: One is turbulent economy and other senior managers' impatience that their character is intelligence and familiarity with technology. But at that time, senior executives of information technology must perform the following tasks:

Entrepreneurs

Interface

Monitoring and global talent search

Foresight

Dominate the business measures

Innovation

Economy, the unpredictable factor

In a study that was performed by Joe Peppard, the challenges facing senior information managers were summarized as follows:

1. Leadership
Promote the organization in order to use it
Created a set of value expectations that pervades in all areas of the business
The impact of major shareholders
Growth and development of leadership team
2. Idealism
Dream of ideas and opportunities (both in terms of practical and strategic terms)
Support for new technologies
3. Strategic thinker
Holistic perspective on business
Participate in strategic discussions
4. Manufacturers of relations
Expressing empathy, listening and emotionalism
5. Politician
Working with partners to achieve "win-win"
Social networks across the organization
Creating correct thinking
6. Provider
Achieving business and technical credibility through successful projects and programs
Maintenance services and cost efficient of information technology operations
Risk Management
7. Market commentary
Appropriate use of market goods for sourcing
Business acumen
Understand the risks
External networking with peers

Due to the many competencies have been identified in several studies and evaluation of competence models according to this study, a model and competency framework for senior IT executives could be explained in Iran. Such a way that the concept of merit of these managers is structured in terms of its dimensions; the abilities and skills that a senior director of information technology should have for better performance of their duties, or the knowledge that a manager benefit from to carry out his activities, finally, individual characteristics that senior information manager should have to play better his role in achieving organizational goals. The competency framework is shown in Table 1.

Table 1. List of competencies and dimensions

Competence Dimensions	Components
Strategic outlook	Identification of the alternatives and opportunities – Business orientation advocate to new technologies /innovative – orientation of knowledge management ,and intellectual capitals ,comprehensive outlook of the codification of information and communications technology strategy , the construction of organizational Information Technology and organizational architecture
Communications & Cooperations	Influence on key stakeholders – inter personal skills
Leadership	Leadership team growth and development – effective leadership –leading the team forward in using information technology – establishment of effective communications with the board of directors , sympathy , listening , aspirations and diplomacy
High emotional intelligence	Win- Win relationship between the international and internal affairs management Establishment of network in the organization – development leadership and management – development oriented leader,

	impression
Operational management	Result – orientation – successful project delivery both in technical and organizational dimensions
Deliverer	Cost management and benefits –Technical knowledge (soft) and technical specialties (Hard), budgeting and control- Regulatory (a mechanism) for appropriate and precise performance- Project risk management.
Resources management	Realization of the expectations – Information Technology projects management – Human resources management in Information Technology sector- Value management – Succession planning for senior information manager – Information Technology Governance
Business perception	Strategic Thought- General viewpoint
Viewpoint, Visionary	General business view – Long-term Perspective – Domestic business knowledge (the aid to the codification of organization's strategy) - strategic -alignment of information technology emphasis on customer - Correct Market understanding – foreign business knowledge – Market knowledge (Market risk management – networking with peers)- sellers and suppliers communications management , understanding competition (Correct sourcing – sagacity in the market)- industry outlook Development in;Mangement knowledge – planning capability – organizational impacts assessment
Management soft skills	Thinking Influence Achievement to the objective Self- management

In this research the first step is to measure the effect of independent variable on the dependent variables. And finally, goodness of the model evaluated through fit tests. Thus the questionnaire items, which are displayed in the table components are obvious variables and factors that will identify and are expressed as hidden factors (hidden or structures). In the next step after receiving a model and competency model for senior IT executives in Iran, this competence can be compared with international standards and adapting.

2. MATERIALS AND METHODS

2.1. Research Methodology

This study is descriptive and functional, that has been done in Iran from October till February 2014 in the field of public and private organization and administration, companies, etc. which In terms of subject is placed in managers' competences area. The population of the study that provides the first objective of the research including senior management and senior executive of IT management of organizations and companies including (public and private).

Data collection method of questionnaire is electronic. To check the validity of the questionnaire, the Cronbach alpha was used and its value was calculated as 0/84. Finally, after the confirmation of the validity and reliability of assessment tool, and after removing questions with similar concepts, the electronic questionnaire was prepared based on 36 questions and was sent electronically to over 500 senior information managers, during this three-month period, in February 82 responses were received. The sample size through Cochran formula was estimated 96 individuals. Sampling is done randomly. Method of data analysis is confirmatory factor analysis. In the confirmatory factor analysis, the researchers assumed that each agent is associated with the particular set of indicators. The minimum requirement for this type of analysis is that the researcher already assumes a number of model factors. Finally, after the model was determined, a number of indicators are used to measure the model. But usually to confirm the model, using just three to five index is enough. The sum of these tests answer the question that the model is good and fit for research data. Then the key factors were extracted and interpreted, then were compared with the factors and criteria identified in previous studies.

3. RESULTS

Result of analysis using confirmatory factor analysis showed that some of these variables have no meaningful relationship with each other. Since the confirmatory factor analysis requires repetitive processes, the process of

eliminating the factors that had a significant relationship with each other continue to the point that these factors reach to the least amount possible. Finally, after nine cycles repeat, minimum factors were extracted. As a result, questionnaire items or obvious variables are reduced to six factors and hidden variables were reduced to two factors that had a significant relationship with each other. These six factors, both obvious and hidden are displayed in Figure 1. We can see differences between this model and theoretical model that seen in Table 1 in the research hypothesis. Where the competence dimensions has been reduced to two factors and components were reduced to six factors.

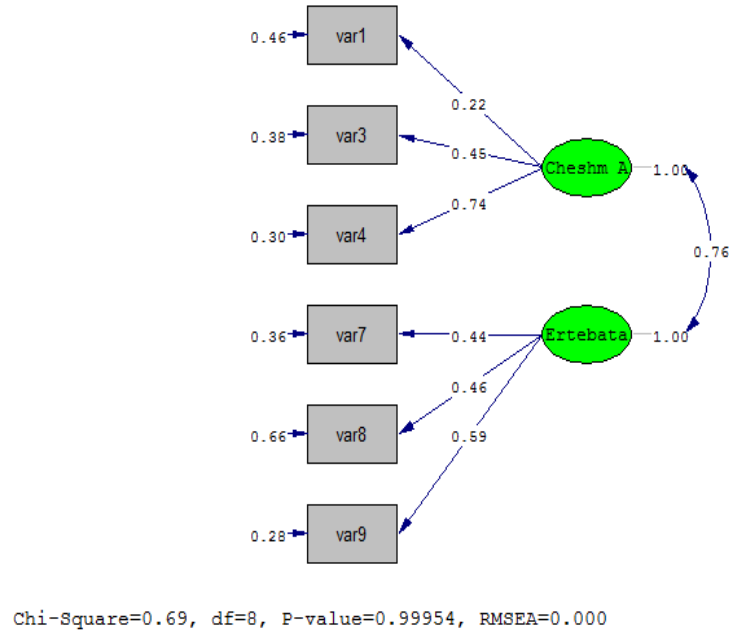


Fig.1. Resulted model of analysis at the status of the impact of each factor

In this model the numbers which in fact indicator of factorial loads and the impact rate of each variable on other, can be observed. Figure No 7 shows the significance of the relationships.

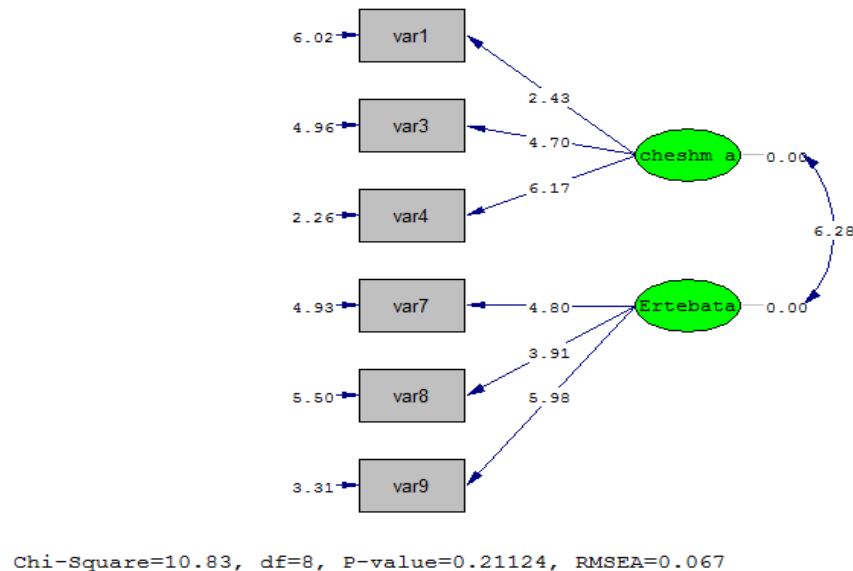


Fig.2. The results of the analysis in a meaningful relationship between agents

In the case of (T Value), while the amount of factor loadings, none of factor loadings were not displayed in red. This means that all the relationships in the model are significant. In other words these factors affect each other, and these effect all are significant. Dependent and independent variables have a significant relationship with each other. In the next step after determining the goodness fit test was performed on the model to determine that the obtained model to what extent are appropriate and fit to research data. Goodness of fit test data are presented in Table 2.

Table 2. The comparison of Goodness fit test with the results of the research

Raw	Test name	Main criterion	Good ness of fit	Acceptable fit	The results of goodness fit model of this research
1	RMR	Remaianig Variance and Co variance	Whatever closer to zero.		0.040
2	GFI	The assessment of relative variance and covariance	It should be equal or greater than 0.9.	$0.9 \leq \text{AGFI} \leq 0.95$	0.96
3	AGFI	Squares average instead of Square total in the above model	$0.9 \leq \text{AGFI} \leq 1$	$0.85 \leq \text{AGFI} \leq 0.9$	0.88
4	RMSEA	The error of total average Squares	$0 \leq \text{RMSEA} \leq 0.05$	$0.05 \leq \text{RMSEA} \leq 0.08$	0.0
5	NFI	The comparison of considered model without its relations	It should be greater than 0.9.		0.90
6	CFI	The comparison of considered model with the model without its relations	$0.9 \leq \text{AGFI} \leq 0.95$	More than 95 percent	1.00

Considering that the goodness fit test was evaluated good for model. The model can be interpreted and the final factors can be extracted and described.

4. DISCUSSION

The results is that :

Strategic vision: which is stated in research hypothesis is the first dimension of competence dimensions, which includes:

- Identify the options, opportunities and business orientation: the name identifying business opportunities
- knowledge management and intellectual capital: named knowledge Management
- Broad vision in business

Relations and cooperation: was stated at research hypothesis as the second dimension of competence dimensions which include:

- Interpersonal skills
- Manage internal, external and international relationships: as internal and external relationship management
- Management and change leadership: as change management

Since in the first step of this study key competencies of senior IT managers were identified in six factors, in the second step, which is the main objective of this research, these factors are compared with the identified competences in other countries. Which are summarized in Table 3:

Table 3. Comparison of extracted key factors in this study with research done in this area

Row	Factors Identified	Identification of business opportunities	Knowledge management	A comprehensive outlook on business	Interpersonal skills	Manage internal and external relationships	Change management
1	General and specific skills	-	-	Understanding the nature of the business	Social relationships	International experience	Change management
2	Other senior executives of IT skills	-	-	-	-	-	-
3	skills that were identified in large Portuguese companies	-	The ability to keep track of technological innovations	Thinking and strategic planning	Ability to communicate effectively	Negotiation skills	-
4	skills that senior managers need to have in the future	Monitoring and global talent search	innovation	Foresight	-	Connector	-
5	Joe Peppard studies to identify the challenges facing managers	Business acumen	Support of new technologies	Holistic perspective on business	Expressing empathy, listening and emotionalism Manufacturers relations	*Work with colleagues to achieve "win-win" *The creation of social networks across the organization *international networking with peers	-
6	Research of Cochrane (2009)	-	Development of knowledge	-	Interpersonal relationships	Communication	-
7	Research by Edwards (2009)	-	-	-	Interpersonal awareness	communication	Change management
8	Borgalt Research Group (2006)	-	Development of knowledge	foreseeing	-	Communication and negotiation	-
9	United Nations	-	-	Viewpoint	Communication abilities	-	-
10	Razzaghi Research (2007)	-	-	-	Cooperation and teamwork	-	-
11	Frequency in researches	2 items	5 items	6 items	7 items	7 items	2 items
12	Frequency percent	%20	%50	%60	%70	%70	%20

5. Conclusions

This research aims initially acquiring key competencies senior IT managers in Iran and then comparative study of these criteria and key factors with identified criteria in other studies of this field. In research hypothesis 36 variables were taken into account that after analysis, finally six-factors were extracted including: "identify business opportunities", "knowledge management", "comprehensive outlook on the business", "interpersonal skills", "internal and external relationship management", and "Change Management". After the implementation of the six key competencies with competencies in multiple studies related to identify the merits of senior IT managers were taken; it was found that:

In the first category of studies that have expressed skills in two general and specific categories, comprehensive perspective in business, understanding the nature of the business, interpersonal skills and social relations manage internal and external relationships with experience in international affairs and the management of change overlap and match with each other. Compared with the second study, in which the skills and capabilities are stated differently, as had been the same no merit and ability. There was no same merit and ability. Compared with the study, Portuguese companies have ability to track technological innovation with manage knowledge relative compliance and the ability to communicate effectively matches with interpersonal skills, negotiation skills with internal and external relationship management. Compared with the skills identified in the future senior IT managers, scout and search for global talent by identifying business opportunities with a comprehensive outlook on future business and interface with internal and external relationship management, explain the same competence. In comparison with Joe Peppard researches, commercial acumen by identifying business opportunities, holistic view of business with a comprehensive perspective on business, sympathy, hearing and emotionalism, creators of relationships with interpersonal skills, collaborate with colleagues to achieve a "win-win", also create social networks all over the organization and external networking with peers by internal and external relationships

management are considered as similar. Compared with the Cochran research (2009), the common factors with research, communications, as managing internal and external relations, interpersonal relationships, as interpersonal skills, development of knowledge, as knowledge management. Common factors with Edwards' research [8], communication as the internal and external relationship management, change management, interpersonal awareness as interpersonal skills, were extracted in this study. Foresight as comprehensive perspective in business, knowledge management, communication and negotiation with the management of internal and external relations are common factors of this study with Borgalt research group [9]. Communication abilities factors as interpersonal skills, perspective as comprehensive perspective on business are considered in this study and merit list of the United Nations. Compared with research of Razzaghi [5], cooperation and teamwork as interpersonal skills were extracted. So it can be concluded that "interpersonal skills" and "internal and external relationship management" in 70% of researches, "comprehensive perspective on business" in 60% of studies, "knowledge management" in 50% of researches and "identify business opportunities" "Change Management" at 20% of research expressed and considered as common and key criteria for the selection, appointment or evaluation of senior IT managers. At the end, it should be noted that differences in the result of this research compared to other studies, can be stated as different population and sample, research methodology, data analysis, different measurement tools, and even different cultures of countries.

5.1. Suggestions

1. This study compared and implement the merits of managers in information technology. It is recommended that competence of senior managers be compared and discussed with competency models (comprehensively) mentioned in the literature review.
2. If this research be done in other ranks of management or IT sector employees, the results can be compared with the results of this research.
3. In factor analysis, a sample size follow the more, the better regulation, it is suggested that more researches be conducted again on great sample size to add other competencies to the findings of study.
4. In studies that were compared, measures were titled that are highly efficient and can actually open the door to senior IT managers in their field, but in the final model of the study weren't observed as key criteria between senior IT managers in Iran. It is recommended that these criteria directly enter in case of research, and each of them be examined independently. Hope that it can improve skills, considering criteria that play a vital role in advance goals of the organization, and finally do a better job in the IT sector managers.

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