

INVESTIGATING OF ORGANIZATIONAL AGILITY COMPONENTS (INNOVATION SPEED, ACCOUNTABILITY, INTEGRATED INFORMATION SYSTEMS, FLEXIBLE AND MULTI-SKILLED EMPLOYEES AND FLEXIBILITY) ON THE ORGANIZATIONAL PERFORMANCE BASED ON THE SATELLITE MODEL (SNOWA COMPANY AS A CASE STUDY)

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Abstract

Nowadays, many theories have been introduced for rescuing the companies from declining and helping them for achieving successfulness. To that end, many changes have been done in the attitudes, goals, work practices, and management and also present works practices have been challenged. With regard to this fact that this subject is a new research field in Iran and there is not any fundamental research in this area in Iran, the present study was aimed to investigate of organizational agility components (flexible and multi-skilled employees, innovation speed, accountability, integrated information systems, and flexibility) on the organizational performance in Isfahan Snowa Company based on satellite model. The results of this study can be used for coordinating and integrating variant movements of the organizations toward promoting agility and performance improvement. This study is a descriptive-survey research. The statistical population of this study includes assistants, senior managers, public managers, and chiefs in Isfahan Snowa Company. This statistical population consists of 202 members. In order to collect the research data, all of the statistical population members have been surveyed. The reason is that the statistical population is not so much large for doing sampling and so all of the statistical population members have been surveyed. Validity of the questionnaire has been examined and confirmed through face validity. Also Cronbachs' Alpha Coefficient has been used for examining reliability of the questionnaire. This coefficient was 0.79 for our questionnaire that confirms its reliability. The research hypotheses have been tested by descriptive and inferential statistics in the SPSS and Amos. The results of this study revealed that there is a significant positive relationship between flexible and multi-skilled employees, innovation speed, accountability, integrated information systems, and flexibility (as dimensions of agile organization) and organizational performance.

Keywords: Agility, Agile Organization, Agile Production, Organizational Performance ,Satellite Model

Introduction

In today's world, the organizations face with several rapid unpredictable changes such as customers' especial and customized orders, total quality, and customers' expectations for receiving high levels of services. This is why that the organizations create different forms for themselves in order to being survive in the competitive world. It is inevitable that the traditional organizations pass the long path for becoming modern organizations. Nowadays, several theories have been presented for rescuing the declining organizations and helping them to be success. For this purpose, different changes have been done in the organizations' attitude, goals, work practices, and management and also their current methods have been challenged. In the beginning of 21th century, the production and services organizations observe many considerable changes in their surrounding environment. Intensity of these changes is so much that the production and services organizations face with several new problems. Also lack of attention to these problems influences the organizations' survive and successfulness considerably. Some of these changes have been indicated in the following section.

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- Globalization of markets and the companies' position in the market
- The customers' need to fully diversified services
- The customers' want for satisfying their needs individually
- The organizations' focus on introducing new services and marketing them
- Having comprehensive domain of the services in most of the services organizations such as banks (Gonaskaran, 1998).

These factors and other similar factors lead that today's production and services organizations act in the environment that the change is their main characteristics. Also it is should be remembered that the agility and achieving organizational agility is not goal but it is considered as a main factor in maintaining competitive position in the market through instability and changes (Jackson and Jahansson, 2003). Agility considered as a main factor in maintaining competitive position in the market through instability and changes. Therefore, the problem that many managers in both production and services organizations think about it is how to achieve agility in the organizations. In order to answer this question, the managers have to achieve sufficient knowledge about their organization's ability and the necessary instruments for creating these abilities (Banihashem et al., 2012: 55-80).

The determination of different systems, methods, and instructions position in the organizations, communicating them with each other, recognizing their strengths and weaknesses, and improving organizational performance are the main challenges that are attended by companies and organizations in today's world. There are several factors influencing organizational performance. For example, development of technological, economic, political, and social conditions, development of the markets, development and integration of the organizations, and new international rules are the main factors that press the organizations to improve their organizational performance.

It is necessary that the organization interacts with internal and external environments and utilize all of the environmental potentials for implementing change and revolution programs in their organizations and improving their organizational performance. The satellite model is one of the methods of organizational performance improvement that its sound implementation can influence organizations' performance improvement. Therefore, this point should be attended that there is not any comprehensive theory for organizational change and revolution. On the other hand, there are several methods for organizational development, reengineering, comprehensive management, and learning organization that offer good suggestions in organizational revolution, handling problems, and utilizing opportunities and threats. On the other hand, it is should be remembered that each of these models have their own strengths and weaknesses.

The management art is changing in today's world rapidly. In such competitive conditions, the managers seek to achieve their dreams. The managers should improve their organizational performance for achieving these dreams and also use efficient and effective methods and models for achieving these development and revolution so precisely that achieve their strategies and also

acquire their short-term and long-term goals. With respect to the low levels of organizational performance in the appliance industry in Iran during past years, the results of this study can be considered as a new and effective step for determining the level of organizational agility and its effects on the organizational performance in Isfahan Snowa Company. Therefore, the authors seek to study of organizational agility dimensions on the organizational performance improvement in Isfahan Snowa Company based on satellite model so that solve many of the organizational problems in this area.

Agility

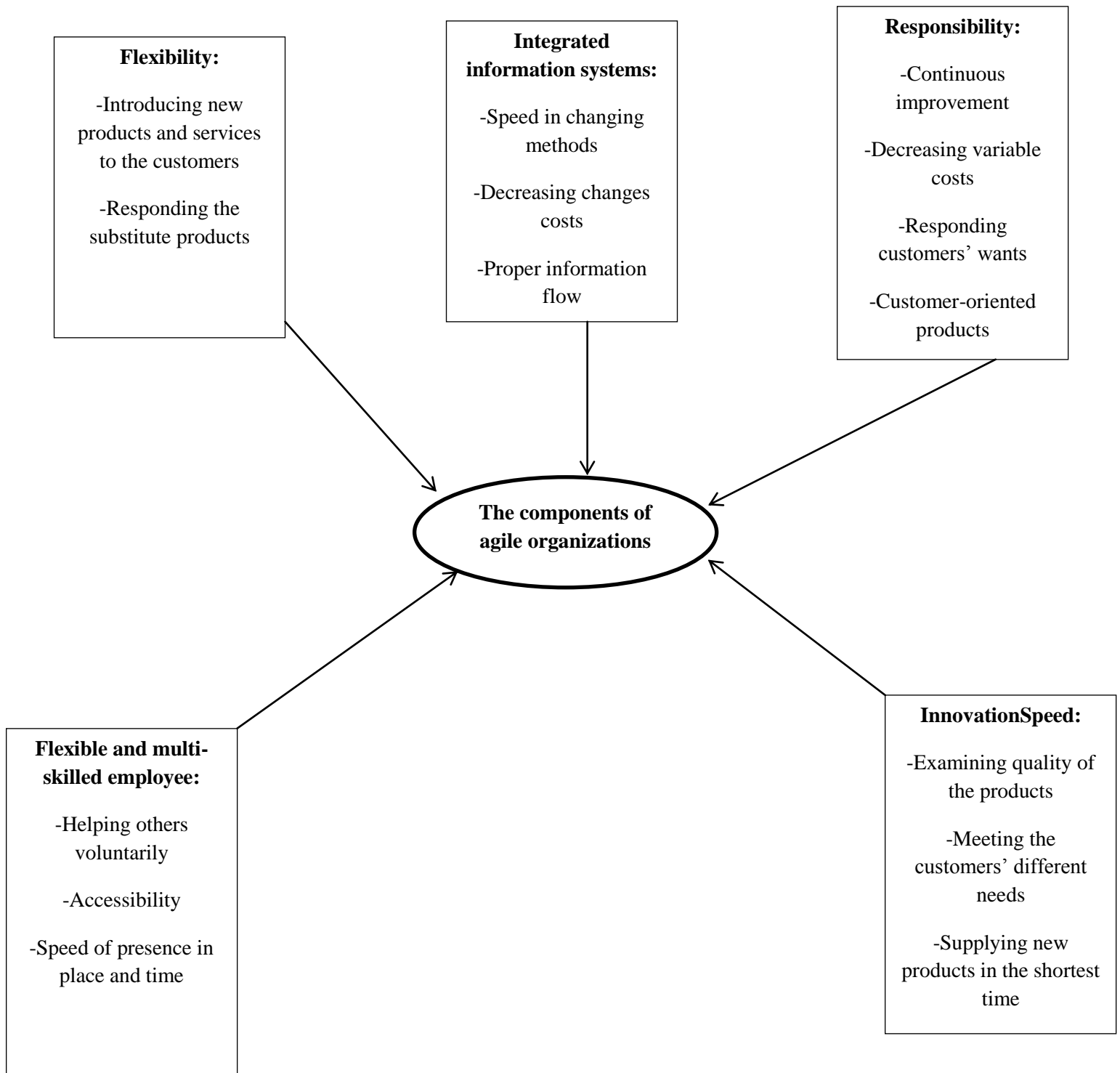
The concept of agility refers to rapid movement, activeness, ability of rapid and easy movement, ability of rapid thinking in an intelligent method (Homby, 2000). The root of agility is derived from agile manufacturing that is presented for reacting business environment changes and exploiting them (as opportunities). In such environment, every organization should have ability of producing several different products simultaneously with short life cycle, redesigning products, changing production methods, and ability of reacting changes effectively. If a company has these characteristics, it will be considered as agile organization. Regardless of this fact that several different definitions have been presented for agility concept, but each of them has not any conflict with each other. Generally, these definitions refer to the idea of speed and change in the business environment. With regard to the new concept of agility in the organizational context, it is necessary to present a comprehensive all friendly definition. As Sharifi and Jang (1999) indicated, agility refers to the ability of every organization in perceiving and predicting the existing changes in the business environment. These organizations should be able to recognize environmental changes and see them as development and growth factors. They also pointed out that agility is the ability of coping with unexpected challenges for dominating unpredictable threats in the business environment and acquiring competitive advantage and profit as growth and development opportunities. Maskell (2001) refers to agility as the ability of growth and development in the ever-changing and unpredictable environment. Therefore, the organizations should not interest about environmental changes and should not avoid them. Also they must utilize every change as the opportunity of achieving competitive advantage in the market environment. Wernadat (1999) believed that agility can be defined as the organization's closeness to variable job needs for achieving competitive advantage. In such organizations, the employees' goals are consistent with organizational goals and hereby the organization and its employees seek to satisfy the employees' variable needs. Petrohilo (2004) pointed out that agility of the organization includes its ability and capability for doing profitable efforts in the competitive environment with continuous, variable, and unpredictable opportunities. Hormozi (2001) indicates that the agile organizations have enough flexibility and speed for reacting variables environment conditions. According to Brown and Bessant (2003), agility requires rapidly reacting to the market needs (Jafarnejhad et al., 2007: 32).

Characteristics of agile organizations: The goals of the agile organizations include enriching and valuing the customers and employees. The organizations have several capabilities for reacting environmental changes in order to achieve these goals. Therefore, the most important factor of motivation in the agility is change. Also it should be remembered that today's revolutions are happening rapidly than past times. The uncertainty and chaos in the business environment is considered as one of the main failure factors in different industries. Several institutes with different characteristics experience different exclusive changes. The agile organizations think beyond than compatibility with changes and tend to utilize potential opportunities in the variable environment and achieve a consolidated successfulness through their innovations and capabilities. Also the agile organizations think about satisfying customers' needs in different manners. They not only sale their products, but also present the mechanisms for meeting the customers' actual needs (Cristio et al., 2003). Kodish et al. (2005) pointed out that agility requires the organizations to act in terms of integrating employee and management technology with communicational infrastructures so rapidly that response the customers' variable needs in the market with continuous and unpredictable changes (Yaghobi et al., 2012: 134-137). Coffman and Harder (1998) pointed out that the main characteristics of the agile organizations include learning culture, innovation speed, communications in the actual time, adaptable organizations, and employees' participation. Agility (as a production philosophy) also welcomes companies that are competing in the economic sections.

Key capabilities of the agile organizations: the agile organizations and institutes interest about change, uncertainty, and unpredictability of the business environment. They need several differentiated capabilities for examining change, uncertainty, and unpredictability in their workplaces (Shahaei and Rajabzadeh, 2005). These include four components that are considered as the basis for maintaining and developing agility:

1. Responsibility: this refers to the ability of recognizing changes, reacting and exploiting them rapidly.
2. Competency: this refers to the ability of achieving organizational goals and purposes.
3. Flexibility and adaptability: this refers to the ability of flowing different processes and achieving different goals through equal facilities and equipment.
4. Speed and quickness: this includes ability of doing works in the shortest possible time (McGuffey, 1999), (Macaulay, 1996).

Any organization should consider its abilities and capabilities for following agility. Undoubtedly, achieving agility needs ability of responding the work strategies, technologies, processes, and facilities. There are other capabilities that should be considered in agility such as work teams, participation, quality, and costs. The agility model of this study has been presented in the following section.



Organizational performance

Performance is one of the fundamental concepts in the management, because most of the managerial functions are formed based on the performance. In other words, organizational success can be observed in their performance (Ovli et al., 2010). It is very important to explain the concept of performance. The reason is that it is not possible to manage the organizations without defining their performance precisely. Bates and Holton (1995) defined performance as a single-dimensional structure that its variables depend on different factors.. They also indicated that definition of the evaluation goals is more important than performance and behavior evaluation. Armstrong (2006) pointed out that the performance is the actual job that is done for securing organizational goals achievement. Also performance can be defined as method of organizations' achievement to its defined mission (Lonkden, 2000). With regard to the increase in the competitiveness among organizations and their change and revolution, every organization seeks to achieve effective performance. This is the main reason that the researcher and authors of social sciences especially organizational and industrial psychologists study this subject. Understanding organizational problems and issues help them in more influencing (Currie, Dingwall, Kithcner, and Waring, 2012). Organizational performance is one of these issues. Organizational performance is a complex phenomenon that its simplest interpretation is set of the organizational activities for achieving organizational goals. Performance and goals can be studied from different perspectives (Khavandkar et al., 2009: 308).

Generally, the measures of organizational performance can be divided into two different groups including subjective and objective measures. The objective measures refer to the indexes that can be measured based on the objective data actually. For example, profitability indexes are the main objective measures such as return on assets and return on equity. The subjective measures include the indexes that formed based on the judgment of stakeholder groups. For example, customer satisfaction, employee satisfaction, and success in introducing new products refer to the subjective measures (Abzari et al., 2009: 28).

The satellite model of organizational performance has been focused in this study. This model has been introduced by Alenyelsi. This has been described in the following section.

Satellite model of organizational performance: this model has been presented in fig 1. It is should be remembered that organizational productivity is outcome of different factors that are introduced in the frame of satellite model of organizational performance. There are several important factors in this model that have been indicated in the following section.

1. Organizational structure
2. Knowledge
3. Non-human resources
4. Strategic position
5. Human process

These factors have been described in the following sections.

- It is necessary to consider structures type, different management systems, informational systems, and organizational flexibility in examining organizational structure.
- The necessary knowledge for organizational productivity includes technical, administrative, human process, and system knowledge.
- It is necessary to examine equipment, workshops, workplace, technology type, investment, and liquidity in studying non-human resources.
- The organizations' strategic position and its human resources can be formed through its activities and the markets.

- The human process refers to the dominant values on individuals, groups, attitudes, norms, and their interactions.

It is not only necessary to integrate these factors for achieving the organization's current goals and social needs, but also the change process is necessary to achieve organization's future goals and needs.

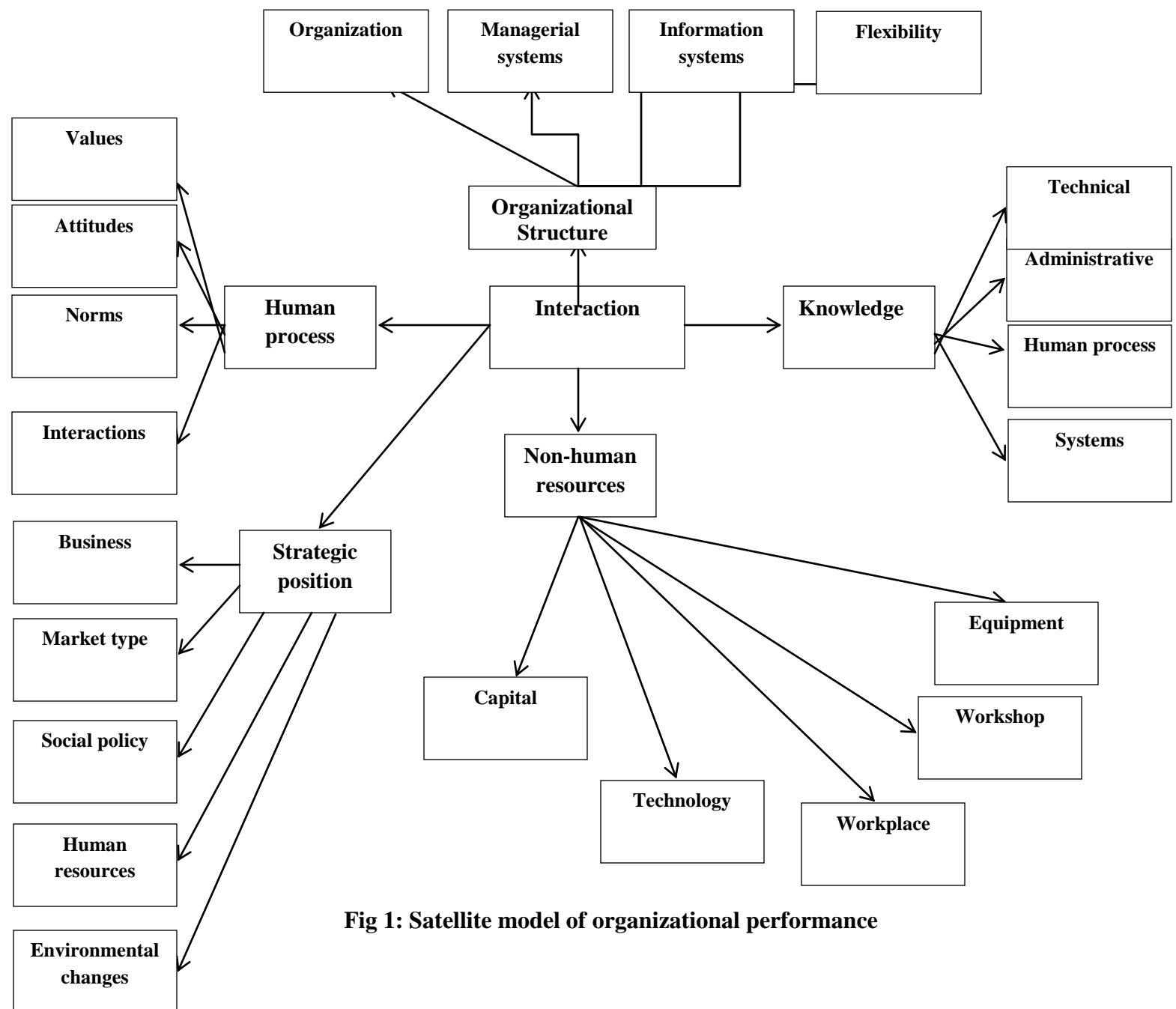
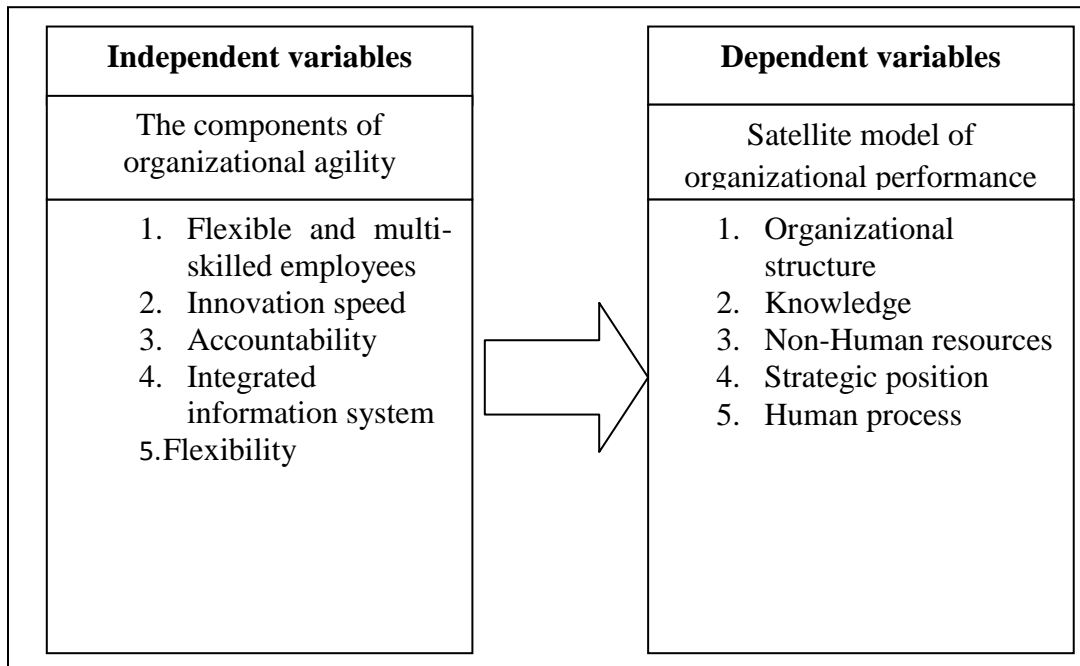


Fig 1: Satellite model of organizational performance

The Satellite model of organizational performance has been used for measuring organizational performance. The hypotheses have been indicated in the following section



The main hypothesis of this study claims that there is a significant relationship between organizational agility components and organizational performance.

Secondary hypotheses

- 1- There is a significant relationship between flexible and multi-skilled employees and organizational performance.
- 2- There is a significant relationship between innovation speed and organizational performance.
- 3- There is a significant relationship between accountability and organizational performance.
- 4- There is a significant relationship between integrated information systems and organizational performance.
- 5- There is a significant relationship between flexibility and organizational performance .

Research methodology

As indicated in the previous sections, the purpose of this study is to examine the effects of organizational agility on the organizational performance based on the satellite model in Isfahan Snowa Company. This study is considered as a practical research from purpose view and is a descriptive-survey one from research methodological perspective. The statistical population includes all of the employees of Isfahan Snowa Company. This population consists of 202 members. A self-administrated questionnaire has been used for collecting data. In order to examine and confirm reliability of the questionnaire, Cronbachs' Alpha Coefficient has been used. This coefficient was 0.79 for our questionnaire that confirms its reliability. All of the 220

respondents were asked to answer the questionnaires that 184 of them indicated it. Cronbachs' Alpha Coefficients have been indicated in table 1 for each of the questionnaire individually. In order to analyze the data and test the hypotheses, SPSS18 and Amos18 have been used.

Table 1: Cronbachs' Alpha Coefficients for each of the questionnaire

Factors	Cronbachs' Alpha Coefficients
Flexible and multi-skilled employees	0.81
Innovation speed	0.80
Accountability	0.74
Integrated information system	0.83
Flexibility	0.76
Organizational performance	0.84
Total coefficient	0.79

Data analysis

The demographic characteristics of the sample members have been presented in table 2.

Table 2: respondents' demographics

Demographics	Groups	%	Demographics	Groups	%
Gender	Male	100	Age	20-30	43.5
	Female	0		31-40	38.6
Job experiences	Less than 5 years	52.7		41-50	14.1
	5-10 years	24.5		51-60	2.2
	11-15 years	9.8		More than 61	1.6
	More than 15 years	13	Educational levels	High school	5.6
Organizational position	Chairman	76.1		Diploma	14.1
	Manager	17.4		Bachelor	59.8
	CEO	3.3		M.A.	19.6
	Assistants	3.3		Ph.D.	5

As the results of table 2 shows, 100% of the respondents were male. From educational level perspective, 5% of the respondents had Ph.D. degree, 19.6% of them had M.A. degree, 59.8% of them had bachelor degree, 14.1% had diploma degree, and finally 5.6% had high school degree. Also the results show that 43.5% of the respondents had 20-30 years old.

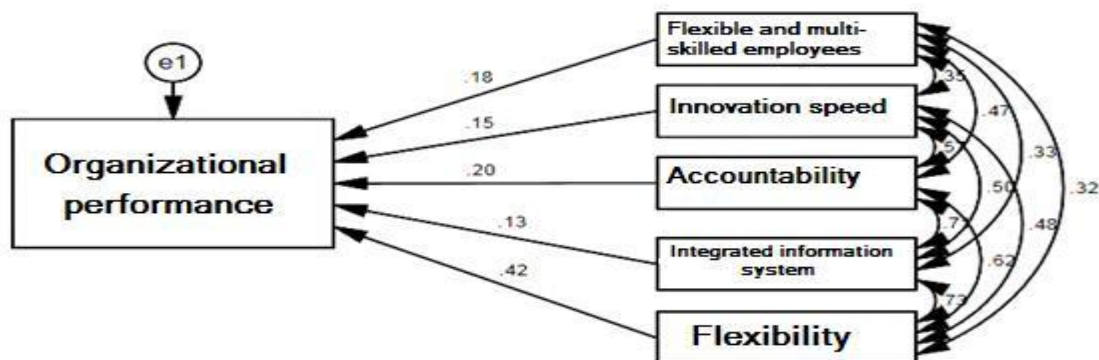
Table 3: the average and standard deviation of the respondents

	Variables	Average	Standard deviation
Components of agile organizations	Flexible and multi-skilled employees	3.103	1.300
	Innovation speed	2.939	1.149
	Accountability	2.682	0.822
	Integrated information system	2.696	0.787
	Flexibility	2.931	0.803
Organizational performance	Organizational structure	3.093	0.780
	Human processes	3.026	0.841
	Strategic position	3	0.809
	Non-human resources	3.408	0.577
	Knowledge	3.703	0.640

As indicated in table 3, Flexible and multi-skilled employees has the most average (3.103) among components of agile organizations and knowledge has the most average (3.703) among components of Organizational performance.

Testing the research model

In order to test the research model, path analysis method has been used in Amos18. There are more than one internal variable in path analysis method. Every internal variable can play the role of dependent or independent variable simultaneously (Ghasemi, 2010). In this study, organizational performance is a dependent variables and flexible and multi-skilled employees, innovation speed, accountability, integrated information system, and flexibility are independent variables. The structural equation model of this study has been presented in fig 3.

**Fig 3: structural equation modeling**

In order to examine goodness of model fit, the goodness of model fit indexes have been presented in table 4.

Table 4: goodness indexes of model fit

Goodness indexes	Indexes	Values
	NPAR	21
	df	0
	P	---
Absolute indexes	CMIN	0
	AGFI	---
	GFI	1
Relatives indexes	TLI	---
	NFI	1
	CFI	1
Economic indexes	PNFI	0
	PCFI	0
	RMSEA	0.079
	CMIN/df	---

These indexes show that the model has favorable goodness of fit. The results of table 4 indicate that the model is a desirable model for our purpose. The CR is the main index in Amos by which we can decide about confirmation or rejection of hypotheses.

Table 5: the coefficients of path for model

The predicted paths	Standard coefficient	Standard error (CE)	Critical rate (CR)	Hypothesis result
Flexible and multi-skilled employees and organizational performance	0.529	0.336	3.452	Confirmed
Innovation speed and organizational performance	0.518	0.120	6.440	Confirmed
Accountability and organizational performance	0.583	0.321	3.985	Confirmed
Integrated information systems and organizational performance	0.688	0.111	8.566	Confirmed
Flexibility and organizational performance	0.768	0.071	11.478	Confirmed

The results of table 5 show that Flexible and multi-skilled employees, Innovation speed , Accountability , Integrated information systems and Flexibility influence dependent variable (organizational performance) significantly ($p \leq 0.05$). Therefore, it can be concluded that all of the hypotheses of this study are confirmed.

Discussion and conclusion

The results of hypotheses analysis have been indicated in this section.

It was claimed in the first hypothesis that there is a significant relationship between flexible and multi-skilled employees and organizational performance in Snowa Company. The results of data analysis show that this hypothesis is confirmed. Therefore it can be concluded that there is significant positive relationship between flexible and multi-skilled employees and organizational performance (Beta= 0.125).

The second hypothesis indicates that there is a significant relationship between innovation speed and organizational performance in Snowa Company. The results of data analysis show that this hypothesis is confirmed. Therefore it can be concluded that there is significant positive relationship between innovation and organizational performance (Beta= 0.120).

The third hypothesis claims that there is a significant relationship between accountability and organizational performance in Snowa Company. The results of data analysis show that this hypothesis is confirmed. Therefore it can be concluded that there is significant positive relationship between accountability and organizational performance (Beta= 0.129).

The fourth hypothesis indicates that there is a significant relationship between integrated information systems and organizational performance in Snowa Company. The results of data analysis show that this hypothesis is confirmed. Therefore it can be concluded that there is significant positive relationship between integrated information system and organizational performance (Beta= 0.129).

Finally, the fifth hypothesis indicates that there is a significant relationship between flexibility and organizational performance in Snowa Company. The results of data analysis show that this hypothesis is confirmed. Therefore it can be concluded that there is significant positive relationship between flexibility and organizational performance (Beta= 0.357).

Comparing the results of this study with similar studies

The results of our study in terms of the effects of organizational agility components on the organizational performance are in consistency with the results of following studies.

- ✓ The results of the study that has been done by Khoshshima (2010) showed that the agility influences competitive advantage and organizational performance positively. The latent variables in his study include customer satisfaction, domination on the changes and uncertainty, cooperation in increasing competitiveness, and leveraging the information effects and individuals. The results of structural equation modeling showed that there is a significant positive relationship between agility with competitive advantage and organizational performance. Also the results of his study indicated that there is significant positive relationship between competitive advantage and organizational performance. Another part of the results revealed that there is a significant indirect relationship between agility and organizational performance (through competitive advantage). Also the results showed that customer services, organizational change, and integrated information systems are the main independent variables that have direct relationship with organizational performance.
- ✓ The results of the study that has been done by Roberts et al. (2011) revealed that the coordination and accountability feeling (as the customers' agility measures) influences organizational performance. The accountability was considered as the customers' agility measure that has significant positive relationship with organizational performance.
- ✓ The results of the study that has been done by Khoshshima (2006) revealed that there is a significant relationship between agility components (including cooperation in increasing

competitiveness, customer satisfaction, domination on the changes and uncertainty, and leveraging the information effects and individuals) and the components of strategic performance (market performance and financial performance).

- ✓ The results of the study that has been done by Khoshsima (2006) revealed that there is a significant relationship between agility components (including cooperation in increasing competitiveness, customer satisfaction, domination on the changes and uncertainty, and leveraging the information effects and individuals) and the components of strategic performance (market performance and financial performance).
- ✓ The results of the present study indicate that there is significant positive relationship between innovation speed, accountability, integrated information systems, Flexible and multi-skilled employees and flexibility with organizational performance. In other words, it should be remembered that the managers must pay attention to the components of organizational agility for promoting organizational performance.

The limitations of study

1. Some managers of different organizational departments did not participate in this study.
2. There are several official problems in terms of questionnaire responding.
3. There are some problems in terms of questionnaires delivering.

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