

Evaluation and Ranking of Agility Capabilities in Ghaen Cement Company

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ABSTRACT

Change and uncertainty in the business environment have been a major topic in management researches. This critical situation has caused main reforms in the organization's guideline landscape, business preferences, traditional models revision and even relatively contemporary models. Therefore one of the approaches for responding to organizational changes is agility. In fact, agility is considered as a paradigm for engineering of competitive organizations and agencies. But here is a question which organizations have the ability of achieving organizational agility?. Purpose of this research is evaluation and ranking of these abilities in the Ghaen cement company. Research methodology is a descriptive survey. Results of this research indicate that capabilities and abilities of Ghaen cement company for achieving organizational agility is in the medium level and some more efforts should be done in this field.

KEY WORDS: Agility, Agility Capabilities, Organizational Agility, Flexibility, Responsibility.

INTRODUCTION

Globalization of markets, information technology development, computer networks ... made fundamental changes in organizations public and technical environments which have led to appearing of new ways of economical and social competition and management of emerging organizations (Jafarnejad and Zareei, 2005: 67). Change and uncertainty in business environment entered the studies and researches of organization and management. Nowadays few organizations can be found not to experience a three to six months or even a year period of changes in their environment (Jafarnejad and Shahaei, 2007: 10). Today in organizations and businesses the term "change" refers to various cases which sometimes means external change in technology , customers, competitors, structure , market , or social and political environment. Richard Beckhard as a pioneer in the field of organizational changes says that : " People do not resist against changes but they resist against applying changes" (Sangeh and et al, 2007: 35). However today's changes is increasing faster than ever. Chaos and uncertainty in business environment have become the main reason for failure in the small industries (Small and Downey, 1996: 631). Considering an increasing trend in the business has paved the way for a new kind of business far from the traditional area business like mass production and pure production. This new production paradigm which is called "agility" is suggested as a strategy to make active production companies to maintain their position in the contemporary age by using their competitive advantages (Sharifi and Zhang, 2000: 499). Also this paradigm primarily is related to organization's ability for

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dealing with unexpected changes, eliminating unprecedeted threats of work environment and using of changes as opportunities (Goldman and et al, 1995: 10). But it should be noted that agility and achieving to agility is not a purpose but according to Jackson & Johansson (2003) is an essential tool for maintaining competition in the market through uncertainty and changes .Therefore the problem that has occupied the minds of managers of each organization especially production organizations in private sectors is that how agility can be achieved in organizations. In order to answer this question managers should have adequate knowledge about the amount of their organization ability and tools which creates these abilities. In this research with purpose of helping managers of Ghaen Cement Company we evaluate and rank the abilities in order to be a better guideline for managers in solving organization problems.

1. Background and Review of Literature

1-2 – Agility Concept and Agility Production

From late 1980s to middle of 1990s, following broad political and economical developments all over the world , many efforts and actions were done for recognition of effective factors on new global business principles .United States for the first time who found a considerable record in global business share especial ally in the field of production then this country became the leader of this movement . In 1991 a group of industrial experts observed that amount of increasing changes in the business environment is faster than the ability of traditional governmental agencies for its compatibility (Hormozi, 2001: 136). Therefore for the first time after many meetings of academic and implemental experts of industry ,a new paradigm provided by Iacicca Instituite and introduced to all people as "Manufacturing enterprise strategy in the twenty-first century: industrial experts view". Immediately after that the expression "agility production" was used jointly with releasing of this report to people. The word agility in the dictionary means fast and agile move and quick ability of thinking with a smart approach .Root of organizational agile word is agile production which is introduced for reaction to business environment changes and using those changes as opportunities. Kidd (2000) said that agile production can be considered as a structure in the company which has the ability of product developments and some business methods. Maskell (2001) said that three main components of agile production are customer's growth and flourish, compatibility of individuals and information, cooperation and change ability. Yusuf and et al., (1999) considered agility as successful using of competitive principles (speed, flexibility, innovation, quality, profitability) through integration of reversible sources and best applications in an environment with rich knowledge for providing joint products and services in the variable market environment. Sharifi and Zhang (1999) defined agility as the ability of dealing with unexpected challenges against unprecedeted threats of business environment and achieving advantage and profit resulting from changes as opportunities. According to Gunasekaran (1999) agile production is a new production model resulting from changes in environment which links innovations in production, information technology and communication by fundamental organizational redesigning and new marketing strategies. Torn Lin and et al., (2006) considered changes as the most important stimulation factor of agility and represented this change mainly in customer needs , competitive measures , market , technology , and social components . Despite many definitions of agility word, none of them are opposed or contradictory to each other .These definitions mainly represent the idea of "speed and change in business environment ".

2-2 Conceptual approaches of evaluation and development of organizational agility level

Different approaches are provided in order to evaluate and measure production agility by researchers. Sharp and et al., (1999) performed a research for agility of the England superior companies . The basic principle of their suggested model was designed based on working level and pure production. Implemental model of these researchers helps organizations to be always aware of their development amount toward an agile organization. Gunasekaran (1999) based on 4 domains of strategy, technology, stuff and system suggested a conceptual model for designing of agile production systems . He believes

that much of agility literature is concerned with strategies and technologies but there is little attention to integration of these aspects. Bustelo and Avella (2006) provided a new attitude for agile production based on case studies on four production plants in Spain. These researchers were looking for main components of agile production model. Results of this analysis indicated the most factors related to displacement of the old production system with agile production. All efforts aimed at agility improvement based on four main production factors (strategies, technologies, organization, human sources). Hillegersberg and et al., (2005) paid attention to agility concept in service organizations. Notable point in the investigations of this group is that they did not consider companies and organizations as separate entities and each company was considered as a part of working network which influences the agility level of other companies. Ambrose and Morella (2004) in a research work considered designing of agile organization as contribution to balance between order and change in the business environment. These two researchers after performing different case studies investigation among producing companies, service distributor companies, financial service companies, main companies in providing new technology and They considered general principles of designing agile organization as 7 issues (gathering resource allocation strategies, resource management, establishment and enforcement of competence, training and recognition of leaders, central process, structure establishment based on information system, coherence and order in readiness for change). Sharifi and Zhang (1999) provided a conceptual model for agility performance in industry and they also provided a methodology with different supporting tools in order to help production organizations to make strategic decisions for searching about agile production. This model includes 3 main parts: agility stimulations, agility abilities and agility providers.

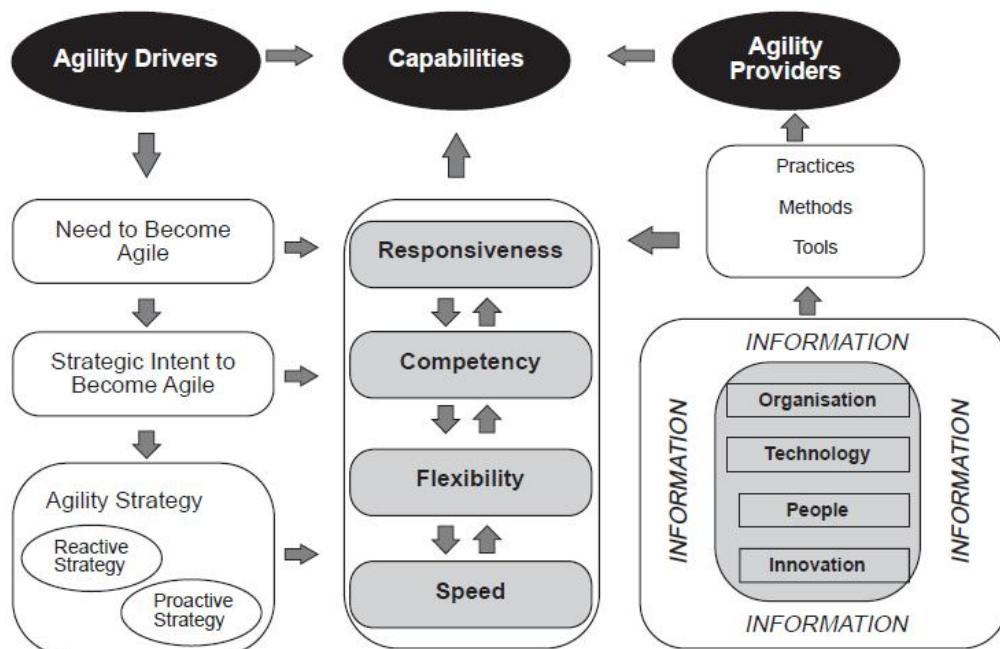


Figure 1: The conceptual model for implementing agility. (Sharifi & Zhang, 2001: 498)

According to above model, since organizations face different changes and pressures, their required agility level may be different. Required agility level is a function of different factors such as unrest market environment, competitive environment, company properties and external stimulations like customers expectations, technology and social factors. When, agility level is determined then evaluation and analysis of current organization agility level will be determined. Difference between current level and required level can be considered as basis for future decisions. In the next part for

improvement of organization agility condition the measurement of available capabilities and finding lost abilities should be places on the agenda. It requires identification and classification of changes and organizing environmental pressures and also analysis of the effects of those changes on organization. Final step in this conceptual model is finding agility facilitating factors, their performance and determination of obtained agility level by function evaluation Process and performing corrective actions.

2. Determination of agility abilities and organization capabilities

Agility organizations and institutions are concerned according to changes, uncertainty and unpredictable issues in their business environment. Therefore these institutions require some distinct abilities in order to deal with changes, uncertainty and unpredictable issues in their business environment. (Shahaei, 2008: 17)

These abilities include four main factors which are considered as basis for maintenance and development of agility:

1-2-9-2 –Being Responsive:

It includes ability of recognizing changes and quick reaction and using them. Components of this ability are as following:

- Sensibility , perception , and prediction of changes
- Quick reaction to changes immediately after their influence on system
- Taking advantage and improve through changes

2-2-9-2 –Flexibility:

It includes ability of performing different processes and achieving different goals by using the same facilities. (Shahaei, 2008: 15).

This ability includes following options:

- Flexibility in product volume
- Flexibility in pattern or structure of product
- Structural flexibility and controversial organizational issues

Flexibility can be classified in 3 groups:

1-Product flexibility: which means company capability of providing new product and quick change of available products for satisfying today's variable market requirements.

2-Process flexibility: which means company capability of producing various products, quick and easy change of production from one product to another product, production of new or corrected products and dealing with a broad domain of different primary materials?

3-Infrastructure flexibility: This means company capability in its compatibility and compatibility of organizational structure with changes. (Nouri & Radford, 2005: 121)

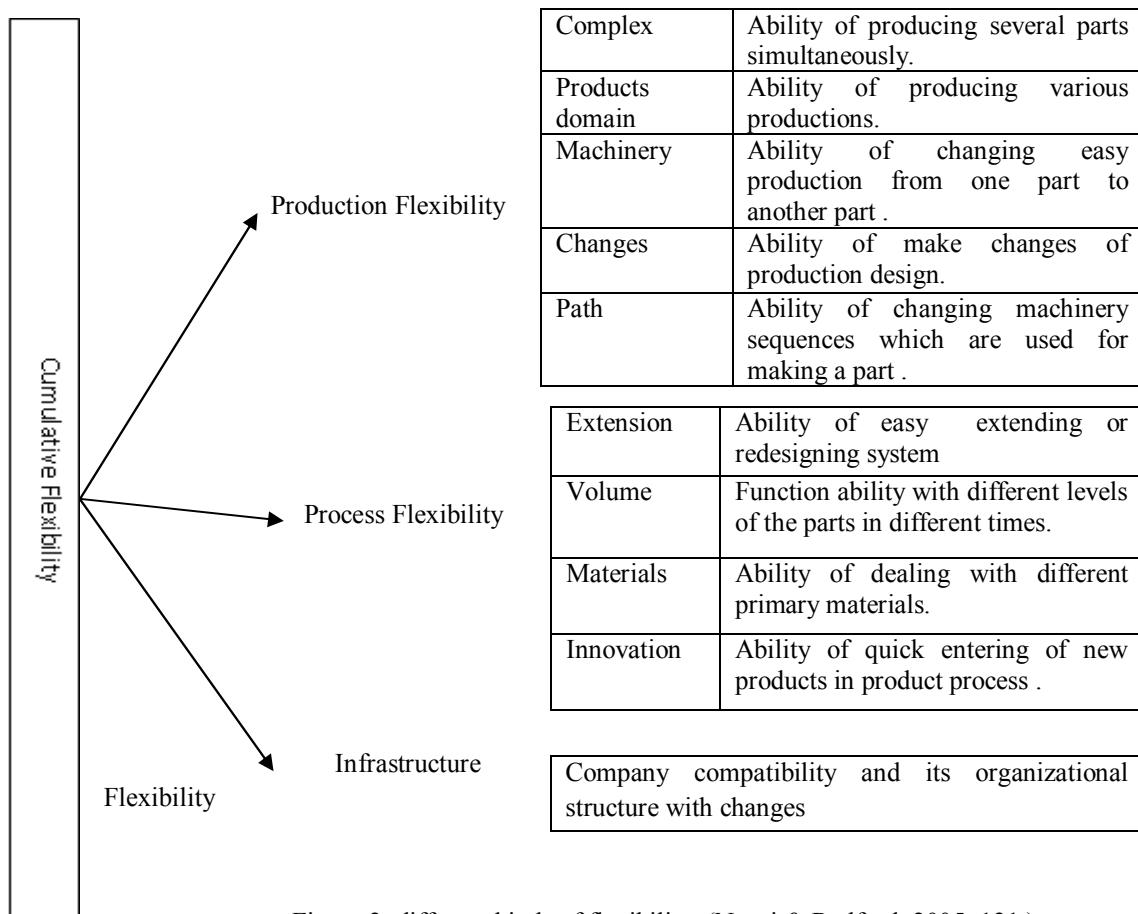


Figure 2: different kinds of flexibility. (Nouri & Radford, 2005: 121)

These 3 groups of flexibility together make aggregate flexibility of a company (cumulative flexibility) which are necessary for instant response of company to environmental uncertainty. (Nouri & Radford, 2005: 122).

3-2-9-2 – Speed:

It includes ability of doing activities in the least possible time (Shahaei, 2008: 15).

Following points form structure of this ability:

- Strategic Landscape
- Proper technology (Hardware and Software)or adequate technological ability
- Quality of productions and services
- Effectiveness in terms of cost
- High coefficient of introducing new products
- Management of changes
- Having knowledgeable , competent and able staffs
- Efficiency and effectiveness of operations (Being pure)
- Integration and Cohesion

MATERIALS AND METHODS

4-Methodology

In this research in order to determine agility abilities we have used operational models of Chaboki Sharifi and Zhang. This model is the most important model and the best methodology for making agility in private organizations and all other agility models are suggested based on this model. The best method of beginning a research work is to mention the research design as a question. In this question the researcher tries to understand better everything he wants to know and represent it in the most exact way in statement of an initial question (Kivi and Campenhood, 2009: 101). Therefore the main question of research is introduced as following: "How dose the current condition of Ghaen Cement Company work in terms of Agility ability?" .Method of performing this research is descriptive survey because researcher does not want to manipulate variables or does not want to provide conditions for events occurrence (Best, 2005: 125). Researcher in this research for gathering information uses two methods of library studies, for gathering documents related to topic and background of the research, and field methods. Next for evaluation of agility abilities, two questionnaires with total number of 24 questions were designed. Following table shows separation of questionnaires:

Table 1: Separation of research questionnaires.

Questionnaire Number	Measurement Criteria	Question number
1:Extraorganizational evaluation of agile Capabilities	Responsibility ,flexibility ,speed, competence	10
2:Intraorganizational evaluation of agile Capabilities	Responsibility ,flexibility ,speed, competence	14

After confirmation of questionnaire and necessary expressions by the associate and assistant professors, its validity and reliability will be evaluated. Validity coefficient by using Cronbach's alpha and SPSS software calculated that its description is in the following table:

Table 2: Validity coefficient of the questionnaire

Questionnaire Number	Cronbach's alpha Coefficient
Questionnaire Number 1	0.729
Questionnaire Number 2	0.854

Next the researcher for gathering questionnaires has used random sampling method. Total number of all obtained analyzable questionnaires was 76 that in the following table sampling population is represented for each questionnaire.

Table 3: Questionnaire Population

Questionnaire Number	Questionnaire Population
Questionnaire Number 1	Material sellers in the city
Questionnaire Number 2	All staffs of company

RESULTS

4-Data Analysis

After determination of research problem and research procedures, the researcher went through determination of proper tools of data collection and their application and now it is time to analyze collected data (Sekaran, 2002: 165). SPSS software has been used in this research for data processing. Obtained information of the research analysis, as shown in the following figure, indicates that Ghaen Cement Company gained 60.35% of organizational agile capability score. Frequency chart data obtained from agility abilities.

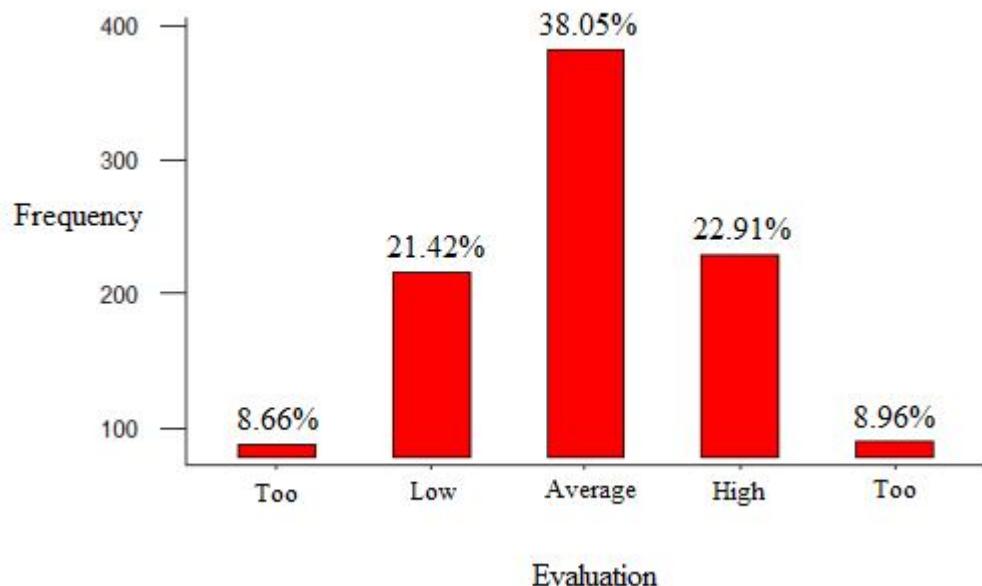


Figure 3: Frequency of agility capabilities. (Source: Research result)

Obtained scores of each one the agile ability is as following:

Table 4: Agile capabilities Scores. (Source: Research result)

Agile Capabilities	Percent of Obtained Scores
Responsibility	50.35%
Flexibility	66.20%
Speed	62.14%
Competence	59.64%

We can understand from the percentage of obtained score of each agility abilities that ranking of agility ability based on scores includes: Flexibility, speed, competence and responsibility.

DISCUSSION

6 – Conclusion and Suggestions

In this research we wanted to evaluate and rank agility abilities of Ghaen Cement Company. To do so, we performed a methodology and an evaluation method that finally selected the operational model of Dr.Hossein Sharifi and professor Zhang after reviewing all opinions of scientists in this area. Then after designing of questionnaire and its distribution and we started data analysis .Therefore we can conclude that agility abilities in Ghaen Cement Company are in a medium level and managers should pay more attention for improvement of these abilities. For improvement of agility abilities, the researcher provides following suggestions for managers of these companies in order to be a better guideline for solving organization problems.

- 1- Organization management should use ideas and opinions given by staff and customers.
- 2- Organization management should spend more time for investigation of customers and staff demands.
- 3- Organization should increase its speed and efficiency in response to changes around the organization.
- 4- Organization should do more efforts in order to make a balance between knowledge and skill of staff in the work of productions.
- 5- Organization should make more efforts for improvement of its relations with customers .

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