

## Agility reaching in governmental organizations and their achievements

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**Abstract:** Changes will lead the organizations to the new challenges which the lack of attention to them will threaten the survival and success of manufacturing organizations increasingly. Because of this vital situation, most of the organizations have reviewed their business priorities and strategic perspectives and emphasized on the consistency with changes of business environment and the rapid response to the market and client needs through the new methods of cooperation. In order to respond to these challenges of business, the organization have chosen a new approach entitled the agility. Agile manufacturing has been defined as the ability to survive and thrive in a highly competitive environment with continuous and unpredictable changes by a quick and an effective response to the changes and also creating the products and services based on the customer demand. In this article, first the historical trends and circumstances, which have led to the emergence of agile manufacturing, have been studied and then the qualifications and abilities needed for the agility and also the agility providers in the organizations have been described.

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### 1. Introduction

Since 1991, the term agility was applied for the first time in order to describe the capacity needed for a modern production. Agility means the ability to respond and react quickly and successfully to the environmental changes. Like the manufacturers, other organizations and institutions are forced to seek the agility in order to compete in the twenty-first century because modern organizations are facing with a growing pressure for finding new ways of efficient competition in the world dynamic market. Agility improves the ability of organization to supply the high quality products and services and thus is an important factor for the effectiveness of organization. Most of the organizations start using the approaches such as the virtual organization and team in order to improve the organizational agility and develop themselves globally. However, sometimes the agility is seemed as the integration of processes, members, and also the features of organization with advanced technologies.

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### Definitions of agility concept

In the dictionary, the term agile means: fast, active, and active move and the agility means the ability to move fast and easy, and being able to think fast and with a smart way. The root of agility comes from the Agile Manufacturing and the agile manufacturing is a concept, which has become popular in recent years and been accepted as a successful strategy by the manufacturers, who are preparing themselves for increasing the substantial performance. In such an environment, every organization should have the ability to produce different products with short service life simultaneously, redesign the products, change the production methods, and react efficiently to changes. If the manufacturing firm has such capabilities, it will be called an agile organization.

Sharifi and Zhang (1999) believe that the Agility means the ability of each organization to sense, understand and predict the current changes in the workplace. Such an organization should be able to detect the environmental changes and look to them as the factors of growth and prosperity. Moreover, in another text they have defined the agility as the ability to overcome the unexpected challenges in order to face with the unprecedented threats of workplace and gain the advantage and benefit from the changes as the opportunities for growth and advancement. Brian Maskell (2001) defines the agility as the ability of prosperity in an environment with continued and unpredictable changes. For this regard, the organizations should not be afraid of

changes in their workplace and avoid them, but they should imagine the change as an opportunity to gain the competitive advantage in their market environment. Vernadat (1999) believes: the agility can be defined as a closed consistency of organization with the changing business needs in order to gain a competitive advantage. In such an organization, the employees' aim is in consistent with the goals of organization and both each intend to give an appropriate response to the changing customer needs.

Based on the results and outcomes, the agility means the dynamic, status-oriented and bold changes and guarantees the success about the market portion, and access to a high number of customers. In other words, here the agility means the ability of a business unit to grow and survive in a competitive environment, which its changes are constant and unpredictable and requires quick response to the changing markets.

Without any doubt, this can be achieved by creating the value in the products and services required for the customers (Goldman et al, 1995). Thus, the agility may be defined as the ability to response quickly to the market requirements and customer needs.

Kidd (1994) believes that in order to operationalize the paradigm of agility, it can be considered as a combination of numerous institutions which each have several key skills or competencies for common activities and together can ready the organization to react quickly to the changing customer requirements. It is evident that Kidd's main purpose here is the virtual organization.

Kidd cites one of the most comprehensive definitions of organizational agility it as follows:

"An agile organization is a fast, adaptable and informed business which is capable of adapting quickly in response to the unexpected and unforeseen events and developments, market opportunities and customer needs. In such a business, there are processes and structures which facilitate the speed, compliancy and strength, and it has systematic and coordinated organization, which has the ability to achieve the competitive performance in a highly dynamic and unpredictable business environment, however this environment is not disproportionate with the current functions of organization (Kidd, 2000)".

#### **Definition and meaning of organization agility**

The word "agile" describes the speed and power of response when exposed to the external and internal events of organization.

Agility is to identify successfully the principles of competition (speed, flexibility, innovation, quality and profitability), integration of

resources, and appropriate actions in the environment of knowledge with rapid changes, by providing the customer-friendly products and services.

#### **Emergence process of the concept "agility"**

From the late 1980s to mid 1990s and after the widespread political and economic developments worldwide, numerous efforts have been done in order to understand the origins and factors affecting new systems in the global business. For the first time, when the United States of America saw the dramatic downturn in the business world, especially in the production area (which had been faced with new competitions from Asia and Europe), became the leader if this movement. In 1991, a group of industry experts observed that the increasing rate of changes in the business environment is faster and more accelerated than the capabilities of traditional manufacturing organizations to adapt and cope with it. These organizations could not benefit from the opportunities, which were offered to them, and this inability to adapt to the changing conditions might lead to their bankruptcy and failure in the long term (Hormozi, 2001). Thus, a new paradigm was provided and released for the first time in the report entitled "the strategy of manufacturing firms in the twenty-first century: industry experts' views" by Iacocca Institute and introduced to the public (Nigel and Dove, 1991). Immediately, the term "Agile Manufacturing" was used jointly by the public with releasing this report (Gunasekaran et al, 2001).

In order complete the above cases, it should be expressed that in 1991, Lehigh University sponsored by the Navy of United States of America and with Iacocca institute, conducted studies on 13 major manufacturers like General Motors, General Electric, IBM, Texas Instruments, etc.

The purpose of this study was to answer the question what features the successful organizations will have in the twenty-first century. Then, over a hundred other organizations were studied and in 1991 these studies were named as the study of manufacturing institutes in the 21st century, then in 1995, the obtained results of this research were published in a book by Steven Goldman, Nigel and Preiss, entitled: agile competitors and virtual organizations. Some of the results of mentioned studies include:

New competitive environments have created numerous developments in the manufacturing systems and organizations.

Organizations, which have competitive advantages in this new environment and are able to produce products according to the customers' needs, are agile and progressive.

Achieving the agility needs the existence of flexible manufacturing system, having a flexible

knowledgeable workforce, encouraging management structure, and team innovation (both within and between the organizations).

### **Principles for designing the agile organizations**

These principles are necessary for any organization, which wants to work better than the rivals in order to respond and predict the changes. These principles are as follows:

1) Sourcing strategy: It contains a series of decisions which defines and integrates the internal and external sources. First, it identifies the services, which should be done in the organization and then assigns the individuals' responsibilities to them.

2) Resource management: It has an effective role in applying the individuals, skills and competencies in the right place and helps the organization to allocate the resources properly.

3) Competencies: It identifies the best organizational practices. During the past, the intelligence traditional agencies focused on the technical skills, but now by moving to the agility, the Competency has been more considered.

4) Leadership: In the agile organizations, the leadership is less focused on the ordering control and it more emphasizes on the preparation, conduction, influencing, delegating the authority, and persuasion.

5) Type of processes: It emphasizes here on the way under which the organizations work.

6) Structure: It more focuses on the organizational structure, and the way under which the components of organization are put together. An agile organization has a flexible structure.

7) Readiness for change: It is the ease of responding to unpredictable changes and demands. Readiness for change enables the organization to achieve the opportunities (in fact, the agility of business) and get rid of the difficulties (in fact, the organizational resilience).

### **Characteristics and features of organizational agility**

Agility is based on three basic dimensions:

1- Performance, 2-Learning, 3- change

In general, the main features of an intelligent and agility system of businesses include:

- Knowledge Management: Having the right knowledge and applying it correctly and timely.

- Ability to answer: Having the competency to deal effectively with the unpredictable changes of any kind and in any field.

- Dynamic integration: Active management of sub-systems and adapting them with changing status of company in order to follow its goals.

- Management of the whole resources: Including the management of resources such as the knowledge, money, materials, machinery and processes, information and so on.

- Management of collective learning: Considering the learning process, value of continuous learning, seeking the new knowledge, collective learning and sharing the knowledge.

- Management of adaptive structure: Developing and providing the principles and patterns of interaction in the core business systems and coordinating them with the principles of adaptive systems.

- Management of change skill: Accepting the concepts of change skill in the whole business environment.

- Management of decisive action: Considering the timely decisions.

- Management of competency and talent: Having the proper and timely right for appropriate skills particularly about the quality of decision-making.

Rapid technological developments, increased risks, globalization, and the privatization expectations are the environmental features which the current business organizations are faced with. For being successful in this environment, agility creates a competitive advantage which can be maintained by being known in the innovation and quality. The agile organization makes the processes and individuals in an organization consistent with advanced technology and resolves the customer needs based on its own high quality products and services and in a relatively short period. However, this condition occurs when the agility is considered as an organizational systematic value and a competitive strategy for leaders.

## **2. Organizational agility**

At the beginning of the 1990s, different organizations were widely under pressure from their customers to achieve the greater flexibility, shorter providing time, more varied products and services. Hence, in order to survive and develop they moved in a way to overcome the challenges such as the changing consumer demands, demand for high quality and minimum production cost, and accountability to the customers' specific needs. In response to these challenges, they re-engineered and restructured their businesses and developed a new approach called the organizational agility. In 1991, more than 150 industry executive directors participated in a study. The results of this research were published in a two-volume report entitled "The strategy of manufacturing institutions in the 21st Century" and in which it was described the competition in the manufacturing institutions of the United States of America in the next 15 years. As a result, the "Agile Manufacturing Enterprise Forum" affiliated with the Institute Iacocca at the University

Lehigh was formed and the concepts of agile manufacturing were introduced (Sheridan, 1993; Strobing, 1995; Richards, 1996; Nagel and Dove, 1991).

Proposed paradigm has the concept of one step forward and creating new meanings for better performance and success and practically is a strategic approach with regard to new conditions of business environment. Responding to the changes and considering their advantages through the strategic use of manufacturing, service and directorial tools and methods are the pivotal and basic concepts of agility (Sharifi and Zhang, 1999). "Charles Darwin" explained in his book entitled "The origin of species" that the species were changed over time in order to be proportional to the environment, and the species which remained were not stronger or smarter species, but they are the ones, who responded to changes more and better. The reflection of this theory on the business also allows the organizations to survive if they can adapt themselves to new and changing situations and environments and are ready to be changed.

The agility has nearly denied old ways of doing work, which were appropriate for the traditional static operation. In a competitive and highly changing environment, the organizations and equipment, which have the high flexibility and very high sensitivity towards the changes of environment and market, should be created and developed. Agility is defined as an ability to survive and thrive in a highly competitive environment with continuous and unpredictable changes by seeking to respond quickly and effectively to the changes and also making the products and services based on the customer demands (Crocitto and Youssef, 2003).

Since 1991, several researchers have offered numerous definitions and activities in this regard and the subject of most of them includes: the producer's abilities to react quickly to sudden and unpredictable changes (Noaker, 1994; Goldman et al, 1995; Richards, 1996; Van Assen et al, 2001), Before acting respond to changes (Nagel and Goldman, 1993; Bessant, 2001,113), profitability of environment (Noaker, 1994; Goldman and Nagel, 1993; Goldman et al, 1995), ability to survive and thrive in an environment with continuous and unpredictable changes (Dove, 1999; Maskell, 2001; Richards, 1996; Rigby et al, 2001).

Accordingly, in order to create the agility (or making the organization agile) the capabilities and enablers of agility are so important. Enablers of agility are the elements, concepts and techniques which help the organizations to achieve the desired level of capabilities of Agile. Each organization, which wants to be agile and stand in its place

confidently, should have these capabilities at the desired level. Agility capabilities are provided in different categories and based on different approaches. The most popular categories which have been used in this article include: accountability, Competency, coincidence and Flexibility, and Quickness (Lin et al, 1995, Sharifi and Zhang, 1999).

Sometimes different researchers have offered various features for the agile and moving organizations in line with the agility with combining the agile enablers and capabilities. These characteristics act as the leaders of agility way, and illuminate the way of making the manufacturing and service organizations agile for more survive and competitiveness. For example, the existing literature in the field of agility has divided the agility provider tool into four different categories based on the nature and scope: strategies, technologies, systems and human resources (Sherehiy et al, 2007; Youssef et al. Bustelo and Avella, 2006). Also, the existing literature about each set is divided into several subsets, which aim to provide some of the key components of agility in each set and subset transparently and significantly. In order to respond effectively to the changing needs, there should be the agility in all functional areas of organization. Therefore, gaining the agility requires the flexibility and sensitivity in the strategies, technologies, systems and human resources (Byrd et al, 2001; Bharadwaj, 2000, Yusuf et al, 1999).

#### **Environmental changes, the main factor for needing the agility**

It seems that the change is one of the main characteristics of organizations in the new competitive era. Most of the organizations have experienced a change in their own environment for example in a period of three to six months or one year. According to the context, which is dominating the business world of organizations now, the organizations have no choice but to change the expected attitudes, knowledge, approaches, procedures, and results. By vast studies, Sharifi and Zhang (1999) have classified the areas, faced with the changes in the business environment, as follows:

- Market inconstancy and instability which are due to the development of small part of market, providing large number of new products, and decline of product lifetime.
- Severe competition which is due to quick changing market, increased cost pressure, increasing competitiveness, and short term developing of new products.
- Changes in customer needs which occur due to the custom demands, increased expectations of quality, and faster delivery time.



- Acceleration of technological changes which occur due to the introduction of new and efficient manufacturing facilities, and integration of hardware and software systems.

- Changes in the social factors which are emerged for protecting the environment, workforce expectations, and legal and juridical pressures.

However, the reason for changes in the business world can be outlined as follows: increasing access to the technology, intense competition for the technological development, globalization of markets and business competition, quick access to the technology, changes in the salary and wage levels and job skills, environmental responsibilities, resource limitations, and most importantly increasing the customer expectations (S. T. John et al, 2001).

### Conceptual model of agility

A comprehensive model for achieving the agility is provided by Mr.Sharifi and Zhang(1999). This model, which is based on analyzing the conceptual literature of agility, is shown in Figure 1.

The first sector is the agility drivers, which in fact are the changes occurring in the business environment, and they can lead the institution to the new positions and gaining the competitive advantages.

The second sector is the agility capability which provides the power necessary for responding to the changes.

The third sector is the agility providers which in fact are the tools through

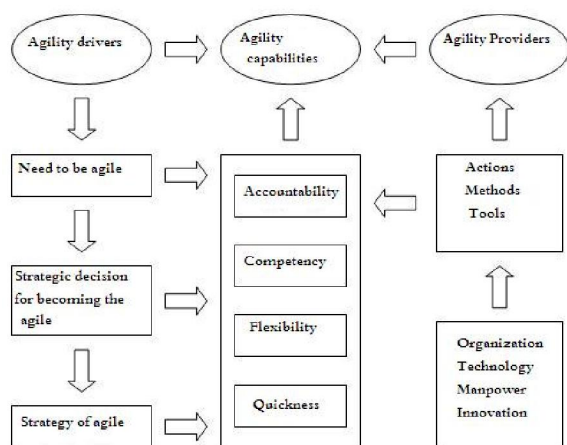


Figure 1: Conceptual model of agility

### Why we should be agile?

#### Customer satisfaction

Customer satisfaction is one of the most important achievements for making the organization agile because in the agile environments, the customer satisfaction will be the main criteria for measuring

the success of organization. Customer satisfaction will be achieved through his increased and almost every day interactions with the development team. In the agile environments, the customer is largely valued.

In the agile environments, different methods and measures have been predicted for customer satisfaction, some of them that include:

- Acceptance and reception of changing customer needs
- Delivering the operant Software, often every few weeks
- Constant interactions between the customer and development team

#### Quality Improvement

Another principle of becoming agile is providing the high quality products, so that this quality can be fully measured. As was mentioned for the previous case, our highest priority is the customer satisfaction; customer satisfaction creates the client's desired products for business. Providing the client's desired software will be one of factors for making high quality products, but by interactions of development team with the customer the innovations will be created which make much higher quality and more customer friendly products.

In the agile environments, different methods have been provided for improving the quality of product; some of them include:

- Face to face and constant communication of development team members with the customer in order to create the innovation
- Continuous attention to the technical preference and good design
- Maintaining the simplicity principle at all stages of product development
- Ongoing review of development team at each stage of development

#### Increasing the productivity

Increasing the productivity of manpower is one of the criteria for developing the team in agile environments. This increased productivity will be from 50% to 90%. The manpower is the most expensive element and developing the software is the basic element of each organization, thus the low productivity of this resource can be a disadvantage for the organization.

In the agile organizations, the methods, which motivate the workforce such as the following methods, are used in order to maximize the productivity:

- Self-organizing the manpower
- Creating the trust between the individuals
- Creating the self-confidence in the people

In order to conclude the discussion why we should be agile, it can be said: Each organization has

defined the strategies for its own success, so it will be able to meet each of these strategies with the minimal cost.

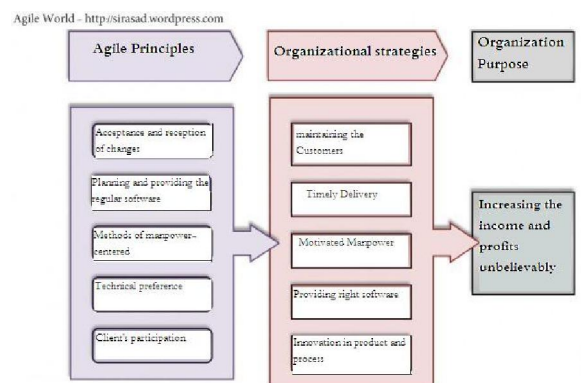


Figure 2: Chart of agility reasons

As you can see in the figure above, the organization has a series of strategies and the Agile for each strategy has a certain program, and by implementing this program of organization, the organization will be able to achieve this strategy; and achieving each strategy will lead to a close way and achievement of excellent purpose of an organization or higher profit and income.

#### What is needed for being agile?

Agile can be applied in the following environments and conditions easier and better:

- Quick delivery: In some cases, when the software is developing, the software should be delivered to the client more quickly otherwise the customer's work will be Gummed up. In the other words, at the same time the software will be developed and used by the customer.
- Lack of information and requirements of project or product during the start up time or initiate phase of project
- Constant availability of customer
- Adaptable manpower
- The manpower are deployed in one place
- A real and efficient team

The obstacles while implementing the Agile include:

- Lack of knowledge for Agile
- Very large teams
- Distributed and vast development beyond the local areas
- Closed contracts (based on the price and scope of project)
- Not-experienced or new workforce and new emerging teams
- Quick movement

Numerous conditions can be involved in making the organization agile or not; some of them are mentioned above, but the most important

principle for becoming the agile is evaluating the ability of organization and determining the ready time to become an agile. Evaluating the organization is the most important thing which should be done for the necessary requirements of organization. For evaluating the organization by the workforce of that organization and without necessity for professionals from elsewhere, you can use the software, which has been prepared for this case.

### 3. Core Values of Agile Organization

According to the whole presented discussions, four basic values can be considered for the Agile Organizations. These four features are as follows:

- Personnel and their relationships have more value than the operating tools and procedures.
- Using the software and office automation has more value than the physical documentation.
- Customer satisfaction has more value than the exact enforcement of previous contracts.

Quick respond to the changes has more value than following the previous plans.

Advantages of improved and increased organizational agility level can be summarized in the following cases:

- 1-Quick promotion of organization towards the predetermined objectives;
- 2-better service, lower prices, and stable organization;
- 3-Getting the value for investing in the field of information technology;
- 4-Reduced volume of funding for in the field of information technology (IT);
- 5- Establishing the necessary coordination between the service providers of information technology (IT);
- 6- Ability of organization to change the processes and improve the business operations;
- 7- Quicker response of organization to the customer needs;
- 8-Increased employees' satisfaction;
- 9- Appropriate respond to the changes;
- 10- Significant development of staff skills;
- 11-Increased business and operational values;
- 12-Focus and emphasis on controlling the organization;
- 13-Developed structure of organizational processes;
- 14-Improved costs controlling and increased efficiency of organization because of controlling and reducing the costs.

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