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Original Article

Impact of Agility Capabilities in the Supply Chain Network

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Abstract

Deep changes and transformations of business world and the new requirements of production and trade in the current era, have provided the area of emergence and incidence the new attitudes that it is necessary to be considered by authorities in the production and trade area. In this regard the new approaches and attitudes are expanded on the subject of supply with the title of supply chain management, so that has provided the area of creating a new approach in the field of supply management. In the current competitive market, businesses and productive firms in addition to pay attention to company and internal resources have required themselves to manage and monitor on resources and associated elements outside the company.Accordingly, activities such as materials procurement, production, storage and warehousing of goods, inventory control, distribution, delivery and providing services to customers that were done previously at the level of company, currently have been transferred to the supply chain level. Among this, integration of supply chain has found a vital role in improving the performance of existence companies in the supply chain as a key factor in creating harmony and cooperation among the various elements of supply chain.The present research has examined the impact of agility capabilities in networking of supply chain. It can be said that the components of "consciousness", "availability", "decisiveness", "flexibility" and "speed" effect on the agility of the supply chain network. Thus, by improving the mentioned components can be expected the improvement in the supply chain agility.

Key words: Agility capabilities, Supply chain, Consciousness, Availability, Decisiveness, Flexibility, Speed

INTRODUCTION

Achieving success requires compatibility with agility and developments in today dynamic work environment in the organization.

Change is one of the main components that ensure the survival of organizations in today competitive area. Organizations specific their places among the competitors and customer with updated and fit changes

On the other hand production also had been always about to change. This change from manual production to mass production, then to lean production and in the current era is changing to agile manufacturing.Agile production has attracted more than before more attention whether from the industrialists. Therefore,to survive in today changing environment must be agile to survive in front of the environmental changes.In fact, agility can be considered as the integrity of the organization, people with high skills and knowledge and advanced technology to achieve innovation and cooperation in response to customer needs.

Therefore the state of agility should be evaluated in different parts of the company, thereby managers can aware of the state of enterprise and be able to make appropriate decisions.Nevertheless, still most of the Iranian companies have not been able to fully take steps to promote and develop their supply networks (Agrell et al., 2013).

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THE THEORETICAL FOUNDATIONS AND DIMENSIONS OF RESEARCH TOPIC

One of the paradigms of increasing the flexibility, speed and quality, is organizational agility. Intheoretical foundations agility deals with this concept which need to improvement never stops; considering that organizations

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continually seek to develop their capabilities in area of industrial competitiveness and among this supply networks play a special role of facilitator. Agility in the supply chain can be defined as:

"The ability of a supply chain for rapid response to existence changes in market and customer needs," according to Mason agile supply is the use of market knowledge and concept of virtual enterprise in line with the proper utilization of profitable opportunities in a volatile market (Mason Jones et al., 2009).

Several studies have been conducted on agility of agile supply chain that can be noted to researches, including Christopher, Toulon, Svensson, Peter Becker and Agroval et al. In most of these studies one aspect of agility has been selected and developed.For example, wing, Wilding and Gunderi have emphasized on virtual groups to create agility. Toulon protects the role of real-time and simultaneous collaboration technologies to allow producers to increase the agility in their supply chain.

Svensson emphasizes on making trust in the network of supply chain collaboration to create agile supply chain. Stratton and Varbvrtn emphasize on the role of inventory and capacity for creating agility and finally, Matthiyas Holog emphasize on the role of sensitivity and respond to existence trends in the market and Patrick Asvaford and colleagues emphasize on the role of flexibility to create agile supply chain. Only domin Pour and Emeric Sohal and Shams Rehman have tried to find the main factors of the success in agile supply chain comprehensively (Azar, 2010).

AGILE PRODUCTION

Agile production was introduced as a strategy in response to the business challenges until companies can improve their productive performance by utilizing it as a competitive strategy in the 1990s. Since then, numerous studies were conducted on agile production, and was tried to provide practical ways to achieve agility of production.

Ren and colleagues have studied the effects of agile production features on competitive priorities by neural network approach, in the nearest research to issue of investigate the effects of agile production capabilities on productive performance, The methodology used in their research, does not recognize cause and effect relations but shows the power of relation among variables of different layers together.

Also relationships have not been considered between the characteristics of agility and precedence and of some than the others, so present study with approach to causal modeling and posteriority effect agility abilities on organizational performance can fill the empty place of field research on the effects of agility abilities on the productive performance of the organization and its causal approach helps to identify the causal relationships between different variables of agility abilities and productive performance (Ren et al., 2003).

Productive of performance includes the product quality and flexibility based on the revise the articles of Jayaram & et al, Joshi & et al., Devaraj & et al are defined such as:

1) The product quality can be defined compliance of product with desirable characteristics of customer that reflects in two dimensions of construction, according to customer requirements and provide final product with his/her desirable characteristics
2) Flexibility in volume of production, the ability of organization to increase or decrease the volume of production according to customer demand, is without high time-consuming and cost shock (saremi and Ezhdarmi, 2009).

Achieving to the agility in the way of four construction of agile strategy, agile processes, agile links and agile staff have been identified as follows:

1. Agile Strategy: including processes of a firm understanding of its position in the field of activity and conformity with accelerative market, commitment of senior managers to achieve agility and use the all employees in this direction and evaluate it
2. Agile Process: the provision of facilities and required processes to agile function of company
3. Agile links: close collaboration with customers and suppliers and partners and learning from outside the company

Agile People: the development of a multi-skilled and flexible workforce and creating a culture that makes possible the initiative, creativity and support for effort across the organization (Meredith and Francis, 2000).

Supply Chain

Supply chain management

Supply chain includes all activities related to the current and the movement of goods from stage of raw materials to deliver the product y to final consumer and currents of information related to it (Agrell et al., 2013). Supply chain management means the integrating these activities through improving supply chain relationships to achieve sustainable competitive advantage. The main objective of supply chain management activities is to satisfy customer demand, so that can deliver a desired product with the highest quality, lowest price and on time.

In order to optimize processes within the chain in the supply chain, each member shall be coordinated with other members of the chain. Studies show that supply chain management is reliable to achieve competitive advantage through improvements in relations (Bratic, 2011)

Supply chain management aims to improve organizational performance in the following dimensions:

1. Strategic partnership with supplier
2. Relationship with customer
3. The level of information sharing
4. Quality of information sharing
5. Supersedure (Li & et al., 2006).

Strategic partnerships with supplier

Today, organizations have found that if they work together, the total benefits that will accrue to them are over the situation that each one carries out its activity without coordination with relevant organizations.

Strategic partnership of supplier has been defined as long-term relationship between the organization and its suppliers and suppliers to the upstream part of a supply chain which may be builder or assembles and or even have also other suppliers and it is said in order to acquire goods and services to produce goods or provide services to customers of organization or enterprise, cooperate with a total supply chain, (Li & et al., 2006).

Relationship with customer

Today, increasing competitive conditions and new economic conditions have been caused the development the stronger relationships with customers has more importance. Today, customers know that they have right to choose and if they have a bad experience with the service of organization, they use this right and go towards competitors.

In fact, leverages of the power have been passed on to customers of organization. Relationship with customer consists of all the ways that are employed to achieve the purpose of controlling and managing customer complaints, creating long-term relationships with consumers and improve consumer satisfaction.

Also customer relationship management has been used as an important component in methods of supply chain management and is among of the most sustainable benefits. Today, development and expansion the customization and customer expectations cause to create a period that customer relationship management becomes vital to the survival of companies in it vital.

Good relations are needed with members of the supply chain; including customer for successful implementation the programs of supply chain management. Close relationships with customer enable organizations to differentiate their products from the competitors, maintain customer loyalty and preserve this value largely to consumers (Rahmanseresht and Afsar, 2008).

The level of sharing the information

Sharing information refers to the ability of company to share knowledge and information with supply chain partners in effective and efficient manners. Shared Information in conventional system of supply chain includes information between direct partners as well as the entire supply chain network. Information sharing is needed for effective and efficient use by partners. The level of information sharing is closely related with accountability and efficiency.

Sharing information is as one of the identified cornerstones the weakness in the relationships of the main chain. Supply chain partners regularly exchange information with each other is able to work together as a single key. They are able to understand better the need for the ultimate consumer and therefore can respond quickly to market change (Li & et al., 2006).

The quality of sharing information

The information that are shared among supply chain members should be of updated and accurate source and are exchanged in relevant, timely, confidential and credible way.

The important point is that the data are produced at each stage of the supply chain, must be collected and analyzed so that can give correct information with appropriate details, timely, relevant with issue of decision-making, in a suitable format and economically to the relevant decision makers (At every step and decision-making level of the supply chain) and provide necessary support of decision makers. This is while the information is important. Its importance on supply chain management depends on this matter that what information is shared and how and when and with whom, and this would be done (Zhang and Cao, 2011).

Supersedure

It means attempt to delay the activities and performances (providing resources or deliver) to the time away in the service delivery chain. Two examples of principles that should be considered in delay strategy includes: 1. that determine that how many stages should we delay 2. Which steps should we delay?

Postpone should be consistent to the type of product, market demand of a company structure and restrictions on the production and supply systems. Generally, use the delay may be appropriate in the following situations:

New products, products with high monetary density, specific and wide range, the market with feature of long delivery time, low delivery frequency and high uncertain demand, and procurement and productive systems with a law economy rate and no need for special knowledge (Rezai Klidbary, 2014).

Agility Role in the Supply Chain

Created changes in customer demands, market environment and technological innovation; have encountered the companies with increasing competition. These critical situations have been led to revise the business priorities and strategic vision, as well as reducing the reliability to the models that are available.

In such a competitive market, is need to create and improve flexibility and responsiveness and attention to agility is a necessity for survival. In this way, companies in order to stay ahead of competitors in world markets, must be unite with suppliers and customers and advance the operations and activities accompanied with each other in order to achieve a level of agility in the supply chain.

An agile supply chain is the set of companies that are distinct from each other, at the same time are dependent on each other in terms of the business side. These companies are associated with each other by the forward flow of materials and flow of feedback information.

Agile supply chain emphasizes on increasing adaptability and flexibility and has the ability to respond and react quickly and effectively to market changes. Agile supply chain has been proposed as supply paradigm in the twenty-first century and is considered as a winning strategy for companies that want market leader in the national and international level

Existing approaches in relation to the agility of supply chain, usually examine the ways to improve internal agility characteristics of firms by using supply and demand of the network end. These approaches, try to fit the network in physical way with requirements of the market and competition, reshaping the production processes in the supply chain and, provide and analyzing behavior and communication between members of the supply chain (Jafarnejad, 2010).

Agility Capabilities in the Supply Chain

Consciousness

Consciousness has been defined as the ability to quickly identify the changes, opportunities and threats from kinds of fields in basic military and social sciences, as well as business.

In exercise science, Shepard and Yang (2006), describe consciousness as a general and quick movement in whole body with change in speed or direction in response to triggers, but Farrow et al. (2005), define agility as the basic movements that are required the player does to run the sudden changes in the body.The ability of the player in the execution of agility duties consider as factors such as visual scanning techniques, speed of visual scanning, visual processing, perception and expectation for dependent future events.

These factors appear in the field agility of player. It has been suggested that elite differ from normal players in terms of their abilities in the expectation the opponent's movements. Some agility tests show that players of high-performance sports create a change in the direction of an opponent before the ball is released, due to the expectation of their opponent's movement.

Visual search and expected search have also shown that skilled athletes are able to successfully predict the action of opponent before to be taken. National protocol also refers to the role of consciousness for evaluating the performance of agility in athletes of team sports and suggests that the ability of athletes in the successful application of agile maneuvers depends on factors such as visual processing, timing, reaction time, perception and expectation in the actual game.

Various conceptualization until now has been introduced of consciousness in military science. Decker (1999) looks at the agility as the ability to perceive a leading threat and quick respond quickly, but American Army, define agility simply for as the ability of the powers of friend to act faster than the enemy.

It has been suggested that creating an agile military force, requires acceleration the so-called ring of OODA (observation, orientation, decision making and act). The concept of a ring of OODA is presented by USAF military strategist, Colonel John Boyd and, originally it is used in the operational and strategic levels in combat operations.

Consciousness dimension of the agility is placed in the observation stages and orientation of this ring and it is considered as a prerequisite for an agile response. Some scholars of military sciences look at the capacity of consciousness as awareness level of situation and introduce it according to time and place, as understanding of environmental components

They know the speed of identify environmental components very sensitive. Military forces must be aware of the leading threats in the scene of the battle. Identify faster changes and give them faster response.

The consciousness dimension has been in the center of focus of agility researches of business. Sharifi and Zhang (1999) have concluded that agile organizations need to have a basic agility that consists of feel, get up, and expectation of change in the environment of having business.

Zhang and Sharifi (2000) divide the capacities of agility into four main categories: responsiveness (ability to identify, respond and recover from changes at high speed, in passive or active form), competence (the ability to run effectively and efficiently the goals of trading corporate), flexibility (the ability to run various processes and use different features in order to achieve the same objectives) and speed.

Although some possible aspects describe the agility, but conceptualization by Zhang and Sharifi (2000) is problematic. One of the limitations of this conceptualization is the lack of distinction between the ability to detect changes and the ability to respond to changes. These two distinctive capacities are considered under a bunch as accountability.

In other researches, extends the research of Zhang and Sharifi (2000) considers the consciousness as a different dimension of agility.The other articles have also found the role of consciousness in the design of agile manufacturing systems.

The role of consciousness in achieving the desired level of agility is emphasized also in the information systems and researches of area of information systems development. Sarker and Sarker (2009) believe that agility is defined in an environmental scan and giving meaning processes to expect the events and to identify possible and imminent crises, but other researchers have emphasized on the important role of sensing the opportunities and market threats.

Christopher (2000) was the first person that confirmed that a supply chain must have the ability to read and respond to actual demand if we want to be agile that he is in fact in Supply Chain Management Studies.

He refers to this capability as market sensitivity. One of the limitations of the interpretation of Christopher (2000) is that although he points out to the importance of understanding the customer needs, but he does not conceptualize it as a distinct capacity; he puts it in the same batch that respond to capacity of actual demand is in it.

Another shortcoming of the research of Christopher (2000) it is that he only points out to the importance of understanding demand the information, regardless of supply and supply.

Other researchers in the field of supply chain also point out to this point that agility requires a level of real knowledge of changes and compatibility with sensitivity dimension of market changes introduced by Christopher.

However, Ien Lin and colleagues (2008) who conceptualize consciousness as a distinct dimension of the agility of supply chain for first time. These researchers believe that supply chain agility must be vigilant to changes in the supply chain and the surrounded environment. This dimension of agility, appears by sensing the emerging trends in the marketplace, listen to customer and monitoring real demand due to data of sales points of the product.

Access

Availability was determined as the second dimension of agility of supply chain of business firms after reviewing the articles. Access to supply chain information is known as one of the key requirements of supply chain agility. Christopher (2000) says in his entrepreneurial ideas article that agile supply chains must have several characteristics.

Agile supply chains should be virtual, in other words, they should be instead of being inventory -oriented, be data-oriented. Members of the supply chain should share the momenta demand, inventory and information related to production.

Create virtual supply chains give the possibility to access to relevant data to all members of the supply chain and, make informed decisions about how to respond to changes in the environment that are identified. Lin and colleagues (2006) refer to the capacity to access information as integration information and describe it as ability in using information technology in order to share data between buyers and suppliers.

Information integration can be considered as an infrastructure needed to create a virtual supply chain. Research in the field of construction and production, also suggest that the need to design the agility means creating an environment in which can access the relevant information. Goldman & et al. 1995, know forming a virtual partnership as one of the four basic principles of agility.

This view is supported by other articles in the field of manufacturing and production researches that know the virtual businesses, ICT as key factors in creating the agility

Information systems development, and researches of development the information systems also present many empirical evidences to consider information integration as a key factor in creating the agility. The high level of

integration provides the possibility to collect and share accurate information.

Instantaneous access to information, gives the possibility the rapid identification of changes in the needs of customers to the supply chain members. Schifer (2006), considers an ability to provide a quick and matched response to collect and useful disseminate information. This perspective is confirmed also from Atkinson and Moffat (2005) who believe that the availability of information is one of the necessary conditions for the existence of agility.

Decisiveness

This dimension is defined as the ability to decide firmly, decisiveness is determined as the third dimension of supply chain agility of businesses. Sports researches and military sciences suggest that agility depends on the ability to take a final decision by using available information.

Researchers of learning engine have found the role of decision-making in agility of duties. They could manage to separate the time of decision-making of players in order to evaluate its contribution in the performance of agility. Time decision making with the time elapsed between the moment that a stimulus is displayed for the player and the first movement of player is measured.

Researchers control the aspects of awareness and the availability of agility by providing incentives to the player (minimum requirement for identification) and provide information about how to respond to these incentives (limited need for access to information). The effect of the decision-making abilities has investigated in different fields of sport.

Helson and Paolous (1988) showed a real movie of various football practice patterns to beginners and professional of football. Participants were asked to respond physically to this film, these reactions should be done at the time that the ball moves toward them in order to the goal, gives a pass to a member of the band or is passed by a dribble of a player.

Simulation showed that skilled players compared to recruit players have high decision-making skills. These researches show that outstanding performance is ultimately determined based on effective decision making skills in free skills sports.

Forward players with enough agility, have wonderful decision-making skills in response to movements and exposure the body in front of their central defenders. Researches of Wheeler and Cyrus 2010, have investigated the role of ability to decide at the time of caring out the duties of agility about the role of rugby players.These authors have concluded that exercises of decision-making must be entered in the programs of agility training. Their findings are in compliance with other studies that have shown that have involved the parts of the decision-making leads in different levels of performance of agility.

In Australian football, have known the decision-making as one of the most important factors in the creation of agility, because it helps to forward players to successfully pass of the dam of opponents. Yang et al (2002) in their definition of agility, two main components of agility identified in the change of direction of speed and decision making factors.Other procedures of conceptualization the agility also are confirmed the share of decision-making abilities in agility performance in sports. Also, researchers suggest that decision-making skills also find importance by the increasing the complexity of the task.

The increase in complexity affects the performance of an athlete; this issue is observed based on weak correlation between the ability to direct running and ability to handle complex tasks of agility. The component of decision-making agility can help to explain this issue that why the direct running (no decision is needed) has little effect on performance of agility.

Previous researches have observed less than fifty percent share between reactive agility performance (decision needed) and the agility pre-defined performance (no need to make decision). In the area of supply chain, Christopher (2000) makes a clear distinction between speed (to meet customer demand through short time main delivery) and agility (rapid response to changes in demand in terms of volume and diversity).

Researches in the field of military sciences point out to the importance of decisiveness. Phase of decision making, is one of the main components of the ring of OODA. A three-stage process in sequential occurs during the decision making phase: production the options, choose the best option and adapt with the best option.

It was suggested that acceleration the phase of decision making causes more agile response.

Review the above articles shows that in order to develop supply chain agility, create the abilities to identify fast changes (consciousness) and access to relevant information on how to change (accessibility) is not enough.

Businesses must boost their abilities to make decisions decisively about how to respond to changes (decisiveness). Agility dimensions together, means the awareness,

accessibility andand decisiveness can shape the field of cognitive of supply chain agility. These dimensions are related to processing information and provide the possibility to the businesses to determine the measures that need to take ahead in respond to changes, the opportunities and threats.

Speed

After that the decision was made about how to respond to changes, business units must be able to quickly implement those decisions. Speed, fourth dimension of agility is defined as the ability to run faster the decisions.

Researches in sports sciences and military sciences have shown that aggressive in creating a proper platform for the creation of agility is very important. Researches on training effect of agility on the performance of power of athletes show that agility depends heavily on the speed of athletes in motion.Numerous sport tests about agility have identified the change in the speed of orientation as one of the main components of agility. Although the technical expressions may vary among different research papers (for example, being quick, being sharp, sharp, speed, acceleration), but most of the articles point out to speed as an essential part of agility.Also, researches of military science confirm through emphasis on the role of fast-moving, sharp (Decker 2006) and the speed of operation (Alberts 2007; Makeli et al. 2008) in facilitating the quick response.

Christopher in the studies of field of business (2000) suggests that speed is one of the required capacities in the supply chains of agility, and defines it as ability to complete an activity, as quickly as possible. He knows this ability constantly as a key factor to create agility in supply chain management researches.

Also refers to the issue of sharpness with this definition in researches of Lin and colleagues (2008, 2009): the dimension of capacity of agility response of business firms supply chain.

Kumar and Motoany (1995), refer to the dimension of speed agility as the ability to accelerate in critical and sensitive times. Researches in the field of manufacturing and production provide additional evidences to confirm the speed as one of the dimensions of agility.

Sharifi and Zhang 1999, say that speed is one of the necessary capacities of an agile organization. They describe the speed as the ability to execute tasks and operations in the shortest possible time. Kidd (1994) also says that business units move in agile and fast way and Zhang (2011) considers speed as one of the features of agile business firms.

In fact, agility, as a business concept, is focused around speed. In one of the most important articles in the field of agile manufacturing and production, Gonaskaran (1998) introduces the components of speed (for example: rapid formation of partnership) as key factors of creating the agility. An overview of definitions of agility shows that most conceptualizations of this component, consider considerable emphasis on speed.

Flexibility

The fifth dimension of agility the supply chain, flexibility, is defined as ability in range of tactics and operations as required, Sport science researchers; consider flexibility as the key factor of agility.

Sporis et al (2010) refer to the effect of flexibility on agility in educational field of agility in their researches. Researches show that the agility performance can be improved by training the flexibility. Military Sciences Researches provide additional verification to consider flexibility as an important factor of agility.

This section of articles has concluded that the inherent flexibility is required for agile military response. Also, researches of the business area suggest that the answer of the business firm to changes depends on the flexibility of tactics of its supply chain and its operations.

In the field of sport, mobility the joints of athletes (means flexibility), controls intervals of fast settings of athlete. The kind of change the direction (agility) implemented depends on flexibly of certain members of the body that are involved in training. Similarly, supply chain of a business firm works in a certain range and agility of supply chain of business firm (means adjust the tactics and operations) is limited according to that range.

For example, supply chain of the business firm cannot produce quickly more items than manufacturing capacity and fixed production that allows it. Agility articles of Supply Chain point out the role of flexibility to ensure agile response. Empirical researches have realized to the direct positive relationship between logistics and flexibility of manufacturing and production and agility of supply chain.

Soaford and colleagues (2006) in their framework, consider the agility of supply chain as the capacity that focuses externally and is derived of flexibility in supply chain processes (merit with internal focusing). Researches also show that the flexibility of the supply chain directly affects the agility of supply chain.

Other researchers of the supply chain have realized to the role of flexibility. Lee and colleagues (2008, 2009) in his

definition of supply chain agility, consider the flexibility the main aspect of this structure. Similarly, this view finds its confirmation of frameworks of agility of supply chain.

Flexibility has been considered as one of the key aspects of agility in the researches of produce and manufacture. Agility was expressed as a business concept, for first time in relation to flexible manufacturing systems. The idea of flexibility of manufacturing and production was extended to a wider scope of business and concept of agility was born as one of features of organization.Agility role in providing agile response has been specified in several definitions of agility. Hung and colleagues (1996), define agility as flexibility and quick response to market demands. But Ashlaqy and his colleagues present it as a model that is flexible as well.

Sharifi and Zhang 1999; introduce the flexibility as one of capacities that and agile organization must have in one of the famous frameworks in agility of manufacturing. This view is confirmed by a lot of empirical research papers in the field of manufacturing (Holcomb and Stank, 2013).

2.5 Performance of agile supply chain

Today, organizations and managers have to find new ways to adapt to changes and global developments for their actions so that they can remain in the domestic and international scene to competitive and have better performance than competitors (Feyzi, 2007).

Strategies are designed and implemented in order to improve the performance of companies, the status of its resources and the opinion of senior managers, and In fact, that thing that has made difficult to improve the performance of the company, is to choose the most effective and the best strategy, according to the characteristics of organization that of course, these strategies have been reported the greatest challenges in recent surveys and studies (Simons, 2006).

Including the requirements of a manufacturing company, is the acceptance of some kind of supply chain strategies. These strategies emphasize on the way of coordinate the internal and external business processes in order to provide best services to customers and consumers as a result of this coordination, and also cause to improve the performance of individual members of the organization.

If the company can design and create agile supply chain that meet market demand, can be converted from a small company to a large market.

For this purpose and in order to satisfy the market demands in a profitable way, efficient operations of supply chain play a central role. A company must know in what cases and in what places of the supply chain has desired performance, then it should decide to focus on what activities to have more added values (Cohn & Roussel, 2005).

Improving Agility Capabilities in an Organization

In the future and at time to compete in the dynamic and competitive market environment, organizations and companies need to consider the development of agility capabilities and use the agility as a competitive advantage. One of the problems of focus on improving agility, dynamism and also being the contingency is ability that is pre-defined by the organization.

Here agility is considered as an endless way of continuous improvement and since has been mentioned no plan to measure agility in literature of this theory; determine a certain level of required agility is hard and difficult. In this regard, Fokorka and Flydner (1998) have prepared and designed a model to improve agility capabilities based on the comments of Nakan (1986) and also comments Ferdoos and D Emper (1990).

This model suggests that firms that emphasize on improving agility without considering the other functional capabilities will probably be encountered with failure.

Before start to create and apply the agility is necessary to determine the basis of merit in other competitive features. Sandy-shaped model that in a way is extended model of Ferdoos and D Meyr, suggests to organizations and companies that open a special account for competitiveness and sustainability on the dimension of agility in the future.

Improve the quality is essential precondition for improving and developing other competitive capabilities. After achieving an acceptable level of quality, the corporations and organizations must continue to think about development the efforts of quality and meanwhile, prepare and set programs and strategies to improve their capabilities of reliability.

Once an acceptable level of reliability was achieved, while maintaining the two previous activities, companies or organizations must have the flexibility, responsiveness and ability to adapt and, organizations are able to walk towards the agility based on successful improving in the area of flexibility.

In addition, effort to improve the agility should be supported by efforts to improve the quality, reliability and more flexibility (Jafarnejad, 2010).

DISCUSSION AND CONCLUSION

Deep transformation and changes of business world and the new requirements of production and trade in this era have been provided the area of the rise and emergence the new approaches that are essential to be considered by authorities in the production and trade area.

In line with this approaches and new attitudes have extended on the subject of with the title of supply chain management, so that has provided the area for creation a new approach in the field of supply management. In the current competitive market, businesses and productive firms in addition to the company and internal resources have committed themselves to the management and monitoring on resources and associated elements outside the company.Accordingly, activities such as materials procurement, production, storage and warehousing of good, inventory control, distribution, delivery and providing the services to customers that were previously done at the corporate level, has currently been transferred to the supply chain level.

In the meantime, supply chain integration, as a key factor in creating harmony and cooperation between the various elements of the supply chain has found a vital role in improving the performance of companies in the supply chain.

The present research has examined the impact of agility capabilities in networking of supply chain.

It can be said that the components of "consciousness", "availability", "decisiveness", "flexibility" and "speed" effect on the agility of the supply chain network. Thus, by improving the mentioned components can be expected the improvement in the supply chain agility. Andalib (2004) determines the factors of the success of agile organizations in the management of supply chains.

Jafarnejad and Darwish (2009) measured the indicators of flexibility, responsiveness, speed and competence as the major indices of agility of a supply chain and identified limiting factors the agility in this supply chain.

Mashreghi (2010), using information technology causes to increase the integrity and flexibility among the components of the supply chain and becomes better communication between them.

Meybodi (2013), stated at the time of assessment of the relation between the agile supply chain and competitive advantage of Bahman Company that the factors affecting competitive advantage in order of priority are: cost, competitive strategies, accountability, flexibility, speed and competence.

Lee and colleagues (2009), characterize agility of supply chain in terms of six factors: strategic consciousness, the strategic response capacity, operational consciousness, operational response capacity, multipart consciousness, and multipart response capacity.

REFERENCES

1. Azar, Adel. (2010). Agile supply chain model; Tfsyry- structural modeling approach. Humanities teacher. Management research in Iran. Volume 14, Issue 4.
2. Jafarnejad, A. Shahaei, B. (2012). Organizational agility and agile manufacturing. Kind book publishing firm.
3. Jafarnejad, Ahmad. (2010). Provide a method to measure supply chain agility by combining graph theory. Matrix approach and fuzzy logic. Quarterly Journal of Commerce. (54).
4. Rahmanseresht, h. Afsari,A. (2008). The effect of information sharing on competitive strategies and supply chain performance. Journal of Information Technology Management. Pages 37-48.
5. Klidbari Rezaei, Hamid. (2014). The impact of supply chain management to improve performance through competitive automotive parts industry. Faculty of Tehran University Management: Business Management. Volume 6, Issue 1.
6. Simons, R. (2006). The military are able to monitor and assess the performance of the strategy. Translator: M. Asadi, Tehran, Ariana industry research group.
7. Saremi, Mahmoud. Azhdari, Behnam. (2009). Agility effect on the performance of companies manufacturer of automotive parts and assembly Bayesian network approach. Journal of Teacher Human Sciences, Volume 13.
8. Faizi, T. (2007). Principles of organization and management. Ninth edition. Tehran: PNU.
9. Agrell, P., Hatami, J., Marbini, A. (2013). Frontier-based performance analysis models for supply chain management: State of the art and research directions. Computers & Industrial Engineering, 66 (3): 567-583.
10. Bratić, D. (2011). Achieving A Competitive Advantage By Scm. Ibima Business Review, Article Id 957583, DOI: 10.5171/2011.957583. http:// www. ibimapublishing.com/journals/IBIMABR/ibimabr.html.
11. Cohn, S., Roussel, J. (2005). Strategic Supply Chain Management: Five Disciplines for Top Performance. Mc Grew-Hill: New York.
12. Devaraj, D., Hollingworth, D. G., and Schroeder, R. G. (2004). Generic manufacturing strategies and plant performance. Journal of Operations Management, 22, pp. 313-333.
13. Jayaram, J., Dorge, C., and Vickery, S. K. (1999). the impact of human resource management practices on manufacturing performance. Journal of Operations Management, 18, pp. 1-20.
14. Joshi, M.P., Kathuria, R., and Porth, S. J. (2003). Alignment of strategic priorities and performance: an integration of operations and strategic management perspectives. Journal of Operations Management, 21, pp. 353-369.
15. Lambert DM, Cooper M C. (2010); "Issues in Supply Chain Management", Industrial Marketing Management, pp. 65-83.
16. Li, S., Ragu-Nathanb, B., Ragu-Nathanb, T.S., Raob, S. (2006). The Impact of Supply Chain Management Practices on Competitive Advantage and Organizational Performance. The International Journal of Management Science- Omega, 34: 107 - 124. www.elsevier.com/locate/omega.
17. Lou P, Zhou Z, Chen Y.P, Ai W. (2004); "Study on Multi-Agent-Based Agile Supply Chain Management", Int J Adv Manuf Technol, pp. 23: 197-203.
18. Mary C. Holcomb, and Theodore P. Stank. (2013). Journal of Business Logistics, 34 (2): 94-108 © Council of Supply Chain Management Professionals. A Multidisciplinary Approach to Supply Chain Agility: Conceptualization and Scale Development David M. Gligor
19. Mason-Jones R., Naylor B., Towill D. R.; (2009). Engineering the agile supply chain; International Journal of Agile Management systems,

Vol.2, No.1.
20. Meredith, M. and Francis, D. (2000). Journey towards agility: the agile wheel explored. The TQM Magazine, Vol. 12, No. 2, pp. 137-143.
21. Narasimhan, R., Swink, M. & Soo Wook, k. (2006), Disentangling Leanness and agility: An empirical investigation, Journal of Operation Management, No.24, pp.440-457
22. Ren, J., Yusuf, Y. Y., and Burns, N. D. (2003). the effects of agile attributes on competitive priorities: a neural network approach. Integrated Manufacturing Systems, Vol. 14, No. 6, pp. 489-497.
23. Zhang, Q., Cao, M. (2011). Supply chain collaboration: Impact on collaborative advantage and firm Performance. Journal of Operations Management, 29 (3): 163-180.

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