

SIX SIGMA; A THEORETICAL EXPLORATION WITH IMPLICATIONS TO IRANIAN BUSINESS CLIMATE

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Abstract

Six sigma is one of the newest and most effective tools as well as theories in management. It endeavors to reduce obstacles on the way of productivity and effectiveness. But, the object of implication for six sigma is highly contextual. It works in a very complicated work ecology, which makes its implications very diverse, according to context of application. This study is going to enumerate theoretical criteria of six sigma and describe how these theoretical implications can relate to work environment in a country like Iran. The material to learn what is the work culture in Iran is used through a documentary studies of the previous studies on the related files. Finally, it shows how six sigma can be applied to Iranian corporations in general and what are the differences and similarities between applying six sigma in Iran and other cultures.

Keywords: six sigma; Iran; work environment; business climate

1. Introduction

Six Sigma is a theory and analytical tool that was originated by Motorola Inc. in the USA in about 1985. At the time, they were facing the threat of Japanese contest in the electronics diligence and needed to make drastic improvements in their quality levels. Six Sigma was a way for Motorola to express its caliber goal of getting an acceptable level where a defect opportunity is an operation loser that is critical to the client (Linderman et al, 2003). Six Sigma has been characterized as the latest management fad to repackage old quality management principle, practices, and tools/techniques. At first glimpse Six Sigma looks strikingly similar to prior quality management approaches. However, leading organizations with a lead record in quality have adopted Six Sigma and claimed that it has transformed their organization (Schroeder et al, 2009). Not all procedures should operate at the Six Sigma layer. The appropriate tier will depend on the strategic grandness of the process and the cost of the improvement congener to the welfare. If a process is at the two or three sigma stage, it will be relatively easy and cost effective to reach the four sigma level. However, to reach five or Six Sigma will require much more attempt and more sophisticated statistical tools. The effort and trouble increase exponentially as the level of the sigma increases. Ultimately, the return on investiture for the improvement effort and the strategic importance of the process will determine whether the process should be improved and the appropriate objective sigma level as a goal (Linderman et al, 2003).

Six Sigma improvement projects often use explicit goals to motivate performance. These types of goals can create the illusion that goal setting is solely a technical issue, where managers simply set goals on the basis of the desired level of applicability and results they want to achieve. However, studies reveal that effective objective setting requires behavioral considerations. If designing a six sigma project were purely a technical issue, then setting difficult goals would always result in improved performance. Studying six sigma indicates that this is not the case. Goals perceived as too difficult by organizational managers and employees can result in lower levels of commitment, which in turn decreases performance. Studying six sigma illuminates the significance of behavioral influences on goal setting, and more broadly suggests the importance of social and psychological considerations in understanding the Six Sigma layers. Organizational leaders must be aware that successful deployment of Six Sigma requires not only technical understanding, but also behavioral insight (Linderman et al, 2003).

When we want to achieve such goals, we should take note of the context in which we are going to apply these rules. Can six sigma be applied everywhere with a same manner? This study is going to answer this question by seeing how the existing literature on application of six sigma in Iran can help us to understand if any changes to the theory and practice should be envisaged.

2. Implementing Six Sigma in the Iranian Environment

Theories and methodologies do not develop in vacuum and six sigma is not an exception. Particularly, cultures have implications which affect everything, including business culture and environment. In this section we will count six sigma 11 ingredients of successful six sigma application introduced by Antony and Banuelas (2002) and see how these essentials can emerge in the Iranian environment based on the research carried out on the Iranian work culture and business environment.

3. Management involvement and commitment

Six Sigma is a theory which is used mostly in management and hence it takes management involvement and support a vital aspect. It is paramount that the company board places quality as the first priority (Brun, 2011). Organizational commitment, senior management involvement, and team involvement are typically expected to have a tremendous impact on the advancement of strategic information systems planning objectives. That is, more commitment and involvement is expected to yield greater success. However, they might also have an unwanted impact, specifically an inverted-U relationship such that after they reach an optimum, the achievement of the objectives diminishes (Basu, et al., 2002).

Employee commitment which is an important aspect denotes a belief in and compliance of the goals and values of an organisation, a tendency to exert effort on behalf of the organisation, and a strong will to maintain membership of the corporation. This outcome has a strong correlation with organisational success criteria such as higher job satisfaction, lower absenteeism and organisation citizenship commitment. It has thus been argued that members with high levels of commitment are more willing to devote greater efforts towards an organisation's objectives. In order to support a will to high commitment, certain strategies can therefore be put in place in corporations. There are two types of commitment-enhancing performance management practices. The first has a high involvement concentration and includes personal involvement in setting goals, having frequent opportunities to discuss performance and getting feedback, and having some choice over the pay and benefits earned. In return for these organisational practices, the organisation member reciprocates with higher commitment to the organisation in line with social exchange theory. The second type concentrates on employees feeling they have opportunities to develop, with the reciprocal repayment of this investment again in terms of commitment and a lower inclination to leave. Such practices include appraisal discussions which result in training and development opportunities and new challenges being set for the employee to work towards. Combined, scholars refer to these practices further as High Commitment Performance Management which is a strategy focusing on the three aspects of performance management (appraisal, target setting and reward) (Farndale et al., 2011).

In Iran, both commitment and involvement are low, because of many reasons which are beyond the scope of this paper. Alimohammadi and Jamali Neyshabor (2013) conducted a survey in Tehran to analyze the relationship between work motivation and organizational commitment of employees. The authors selected 10 Small and medium enterprises as statistical population of the study. There were 195 employees in those companies. After distribution of questionnaires among the employees, a total of 163 usable questionnaires were gathered. The research method used for their study was descriptive-correlation. Moreover, Confirmatory Factor Analysis and Structural Equation Modeling were conducted by LISREL. The factors analysis and the findings showed that work motivation had a significant positive influence on organizational commitment of employees. Furthermore, they also concluded that normative, affective and continuance commitment had the most to the least impact on organizational commitment of employees. Therefore, they concluded that it was essential for managers of organization to provide suitable environment in organizations to reinforce employees' commitment positively.

Ghaziani et al., (2012) studied the impact of organizational justice perceptions on job satisfaction and organizational commitment in Iranian sport federations' employees. Their results indicated that organizational justice affects directly employees' overall organizational commitment and overall job satisfaction didn't mediate this effect; procedural justice has a direct effect on overall job satisfaction; and both distributive justice and interaction al justice had a direct effect on overall organizational commitment; procedural justice as well as interactional justice had a direct effect on satisfaction with coworker and supervisor; distributive justice had a direct effect on continuance commitment and interactional justice had a direct and an indirect effect on affective commitment.

4. Cultural change

The terrain, its climate and geography, and the inhabitants, their history and culture are elements of the administrative environment in Iran that have a relationship and an effect on Iranian administration. It would

be impossible to characterize all the factors which make up the administrative environment of Iran (Gable, 1959). There is a wide range of positions around the possibilities of managing culture, i.e. for management being able to have a strong, systematic, intended effect on the values, beliefs, ideas and meanings of the subordinates, including being able to bring about a cultural change. Broadly, three positions on the manageability of organizational culture can be enumerated. One is that organizational culture, at least under certain situations and with the use of sufficient skills and resources, can be changed by top management. A second is that this is very cumbersome. There is a multitude of various values and meaning affecting groups, and 'depth' structures are not easily reachable for influencing. People do not respond predictably to endeavors to change their orientations. Still, change happens and management is one resourceful group exercising influence. One could therefore assume that senior managers apply a moderate influence on some values and meanings under certain circumstances. A third view emphasizes that culture could not be controlled. How people create meaning in their work experiences is related to local culture, contingent upon educational record, work tasks, group belonging and interpersonal interactions, etc. Another problem concerns the difficulties of researching cultural changes in organizations. Culture is a phenomenon difficult to grasp and study – it calls for in-depth investigations and inferences which typically take a long time. Studying the effects of change programs is not easy, as it would, in principle, call for two in-depth studies at different periods. Another difficulty is that, as indicated above, it is frequently difficult to sort out cultural change from material and behavioral changes (Alvesson and Sveningsson, 2008).

The well-established literature on development has already shown cultural barriers in the Iranian business and production sections. Iranians are known to be egocentric, lazy, and arrogant in workplace. Social laziness is attributed to the Iranians and it has come to the general attention in recent years. There are some manifestations representing it in the society such as low work efficiency, abundance of holidays, overweight and lack of physical movement. Despite the importance of this issue, a direct sociological research has not been conducted on it. Javadi Yeganeh and Fouladian (2012) attempted to study the number of factors influencing social laziness in the form of a concept in the framework of Rational Choice theory. Their study was a survey research and it was conducted on 1256 residents of Tehran. Their findings indicated that tendency for laziness in Tehran was at least %20. The interpretation of this finding expresses that the trend of tendency to laziness is not increasing. The most important factors influencing laziness in Multivariable Analysis was fatalism, sense of powerlessness and autonomy. Their final finding indicated that low-level tendency toward laziness did not necessarily mean the actual low rate of its occurrence, because social conditions facilitates laziness in society.

Something which can be found among most Iranians which has tremendous consequence for every dimension of social and political life is a deep seated and pervasive pessimism. The glory of ancient Persia has not been recaptured in recent centuries. Iran has never been able to measure up to its impressive beginnings. She never fully recovered from the destructions waged by Mongols or Turks or Arabs. In the recent ages, because of her very geopolitical location, and the wealth of oil reservoirs, Iran has been invaded by global industrious powers. Even in two world wars, Iran declared neutrality and yet again in both wars was attacked by Russians or the English. The corruption of the officials is also a problem and all these contribute to a culture of pessimism (Gable, 1959).

Iranians are likely to look at others from the point of view referred to in Persian as *badbini*, literally 'seeing evil, suspicion, pessimism,' but often translated as cynicism, and this increases as the social context widens. Strangers and people with wealth or power are often regarded to be corrupt or hypocritical in their public virtue, and this goes with being shrewd, calculating, and opportunistic. Obsequious flattery, ostentatious virtue, and insincerity are the source of undeserved and unearned wealth and influence. Iranians will condemn whole categories of fellow Iranians on all of these counts, so that they combine to form a standardized critique or stereotype (Bateson, 1979: 126). These traits have made Iran not a fertile land for implementing six sigma, as well as other strategies. There must be hard effort to remove this cultural barriers if six sigma is to be applied.

5. Organisation infrastructure

Six Sigma needs a well-defined infrastructure. Six Sigma projects use a systematic methodology that subscribes to the scientific management approach, known in the business world as fact-based management. Scientific management includes collecting data to make an informed hypothesis about something and using statistical studies to either prove or disprove the hypothesis. The approaches to infrastructure and implementation, as well as the particular techniques and tools, have differed, with mixed results. The fact remains that not only do all perspectives share common tools, they also share a common objective—improving quality and productivity (Ehrlich, 2002). Six sigma can be a great victory or a disastrous failure

depending on the way we conduct and design our activities based on organization's infrastructure. Building a good six sigma infrastructure is a very interactive and complicated process which is intended to culminate in a better understanding of the quality and make it a routine in which employees work and live every day. Infrastructures can vary significantly, depending on the culture and strategic business goals of organizations. Every organization's creation of a Six Sigma infrastructure is unique: however, there are factors common to even success story (Breyfogle et al., 2001).

We cannot make general suggestions about this item in Iran because it is highly contextualized and depends on many factors. For example a foreign organization in Iran works in this environment but uses facilities and infrastructures which comes from a developed country and sometimes even the infrastructure itself does not need to be transferred to Iran. IT services are a good example. People my work in Iran but enjoy a high speed Internet which is facilitated to an affiliated organization in Switzerland.

Yet, we have some information which shows that infrastructure as it matter when thinking of six sigma could be ranked low among other countries. One criteria is World Bank income classification. The World Bank income classifications are divided according to 2000 GNI per capita, calculated using the World Bank Atlas method. The groups are: low income, \$755 or less; lower middle income, \$756- \$2,995; upper middle income, \$2,996- \$9,265; and high income, \$9,266 or more. Based on this criteria, Iran is a lower-middle income country (Tobin, et al., 2003).

6. Training

An important option for managers is to make the training available online and somewhat self-paced. Expert's recommendation is that there be some firm deadlines for completing designed modules of training. It is too easy to put things off for the more necessary daily business. Other options include public courses and having managers participate in training for Six Sigma project team members. Once the initial training is complete, however, an issue that must be considered is the training of the people who were not in the organisation during the original training, or did not get the training required for their ongoing responsibilities.

If the organization makes enough competence a requirement for promotion to manager level or for any promotion for existing managers, the training needs to be available on a regular basis. This is where the self-paced programs have some real advantages, especially for smaller companies. If one has a qualified competence as a requirement for managers, it is recommended that there be a clear communication of that policy, with adequate opportunity for people to avail themselves of the training. Once the cut-off date has been reached, there are no exceptions. If not taken seriously, this cause some real damage to the credibility of top management, when a vice president was promoted to senior vice president without enough competence. In short, managers should not make accepted qualifications competence a requirement unless they are going to live by the policy for everyone, including themselves (Adams, et al., 2007).

Iran is good in this criterion. There are currently more than 400 universities and institutes of higher education working in Iran in which about 4.5 students are studying (more than half of them are studying either in Azad University of Payame Nour University). More than 60 percent of Iranian students are women which is an incredible statistics in comparison to neighboring countries as well as other Muslim majority countries. In such a rich atmosphere, there are plenty of educational opportunities available to corporations and organizations to involve their staff in training activities.

7. Project management skills

Project management skills are generally left to chance in Six Sigma. Although qualified members are supposed to manage projects, getting project management education is considered an extra. Reasons given for this vary: reluctance to pay for more evaluations and tracking. Implementing the certified criteria, business process management, or process improvement requires specific skill sets from quality professionals, such as lean practitioners, involved in these efforts. Typical training for these members includes project management skills. Project management skills are important because continuous improvement efforts are often project based and cross-functional in nature. The project leads are held accountable for completing projects on time, within budget (if applicable), and to deliver improvements based on customer or business needs. This usually requires managing multiple activities at once, addressing change management issues, and meeting rigorous "tollgate" timelines. In addition, people who were good in training or other quality professionals are routinely assigned multiple projects at any given time. Utilizing project management discipline, such as understanding a project's critical path and the key responsibilities to be completed, improves the probability of success for the projects themselves. Process improvement are dependent on the project leads possessing the skills to successfully manage the lifecycle of projects. Delivering results are ultimately critical

to a program launch in order to gain credibility to the quality system initiative. Project management discipline enables project leaders to successfully complete the projects, and hence, demonstrate the much needed credibility or value to the business leaders (Dinsmore and Cabanis-Brewin, 2011).

This criteria also have no significant difference as Iranian corporations and organizations are concerned. Of course there are cultural codes which may affect Iranian managers as well; but, as managers have to be effective, they are apt not to apply their cultural codes when they contradict the daily routines. Also, the government in Iran is big and most of the important institutes in Iran are belonged to the government. Following two decades of failed economic liberalization programs since 1989, Iran has stepped up its privatization policy. Under the Islamic Republic, the Iranian economy has been characterized by an extensive state presence; a complex relationship between public authorities and private interests; and politicized approaches to economic management, credit allocation, subsidization, and price control. After over two decades of economic liberalization and privatization, Iran's economy continues to be dominated by state-run enterprises, unregulated revolutionary foundations (bonyads), and an emerging paragovernmental sector under the invisible control of security and military organizations, in particular the IRGC. This has significantly retarded the growth of an independent, competitive, and market-based private sector in Iran (Azad, 2010).

8. Understanding six sigma methodology tools and techniques

The Six Sigma methodology uses an extensive and statistical array of *process* analysis and improvement methods and procedures. These are called Six Sigma tools. Most of the tools are not new and were developed in the past by other strategies. Yet, the way some of the tools are applied within the Six Sigma methodology is different from their traditional use.

When Implementing Six Sigma, It is Important to differentiate between two sets of tools and techniques:

- Basic or common tools and techniques and
- Advanced tools which are used where needed, and only where appropriate.

We should consider that most Improvement projects in transactional and service environments can be carried out by using basic tools and techniques. Even in manufacturing systems, there are relatively few projects which require more advanced (statistical) tools (Akpolat, 2004).

This item could be said to be not so well-known in Iran. Of course there are examples, but six sigma is yet to be known and liked by Iranian researchers and corporate managers. The instances of implanting or studying six sigma in Iran show that there are still much way before we get there. For example Hekmatpanah et al (2008) conducted a study in Iran to show that six sigma is a business improvement approach that seeks to find and eliminate causes of mistakes or defects in business processes by focusing on outputs that are of critical importance to customers. The four phase improvement process; measure, analyze, improve, control. Six sigma has both management and technical components. Six sigma is designed to dramatically upgrade an organization's performance, improving quality and productivity. The programme of six sigma and productivity is designed for quality service managers and administrativity/professional staff, who are seeking to learn and apply six sigma language and concept at their respective work places and increasing their productivity. There are some other studies on methodologies to implement and study six sigma in Iran, but only few, if any, of them are fieldworks and this shows that Iranian managers and officials need to recognize the benefits of six sigma more closely. Therefore, the following 5 criteria could not be exclusively specialized in Iran.

9. Project prioritization and selection

Project selection is a process in which we presuppose that a qualified project has met some corporal criteria and could be considered for bringing into reality in the future. This means that project has passed all necessary tests. Project prioritization means that a selected project will be independently assessed against specific criteria in order to be assigned a rank evaluation. Rank evaluations of other projects will also be considered in order to make a comparison possible and then we can determine if a rank is high or low (Kubiak, 2012). There are dozens of criteria that can be used. Yet, almost every management team prefers simple criteria. Some of the popular criteria that appear in opportunity template rating forms include relationship to organization goals, customer impact, competitive impact, risk, cash flow, level of difficulty to complete the processes in a project, and amount of strategic resource required. It is also important to have a well-defined and established project selection and prioritization process and a good mechanism for communicating those priorities. Within the project management environment, there has been much attention

to resource allocation with companies spending great financial resources to implement sophisticated resource management mechanisms. Demand management is a key principle in project selection and prioritization as part of an overall portfolio management process (Dinsmore and Cabanis-Brewin, 2011).

Considering what is said about prioritization, one may perhaps argue that with more time and less competition from pressured regular work responsibilities the situation might have looked different. Therefore, with extraordinary or episodic and long-term initiatives generally – they lose the battle for time and attention to what is seen as urgent and needs to be fixed in the short run. The trajectory illustrates how the idea of cultural change as a quick solution, falls rather flat, since the centrally involved people did not seem to be willing to reflect much upon what they were included in. The culture program was insufficient to even modestly counteract short-term priorities and to inspire some on-going interest in working with values and raise the perspective of the organizational participants. The culture work is marginalized and squeezed out almost entirely (Alvesson and Sveningsson, 2008).

10. Linking six sigma to business strategy

Six Sigma tools are more than a process of quality improvement or a set of project improvement tools. When institutionalized, Six Sigma becomes a part of a business strategy that must be scheduled, executed, monitored, and steered toward the achievement of the organization's intended business results. The executive management of the deployment organization must nurture the Six Sigma business strategies. We provide practical information that will assist you in facilitating a successful implementation of Six Sigma methodologies.

One major key to obtaining successful implementation of Six Sigma methodologies is to manage the organization's visions, values, and systems. Forging these into strategic objectives, goals, and plans creates an effective focus on the activities and behaviors involved in the organization's endeavors toward the successful accomplishment of world-class performance (Adams et al., 2007).

Businesses and corporates develop strategies for maximizing profit and growth. The strategy is driven down through action plans and policies to implement them. Most strategies fail to get down to the floor level and get lost in the middle layers of management, but a well-designed plan can help execute the profit and growth strategy through the use of Six Sigma (Gupta, 2005). Six Sigma refers to a business strategy or approach for systematic application of business processes to achieve bottom line profitability. Six Sigma is a business strategy supported by a quality improvement strategy. Moreover, the infrastructure of Six Sigma is designed to be owned by the business units and supported by the quality department (Ehrlich, 2002).

11. Linking six sigma to the customer

Six Sigma is supposed to begin and end with the customers. Projects should begin with the determination of customer requirements. The process of linking Six Sigma to the customers can be divided into two major stages:

1. Identifying the core processes, defining key outputs and defining the key customers that they serve.
2. Defining the customer requirements

The first step is based on Porter's notion of value chains, which aims at representing the organisation as a collection of activities. Main processes are usually chains of tasks involving various departments and functions that deliver the products or services to the customer. Core processes are supported by a number of enabling processes that provide: vital inputs to the value-generating activities.

Therefore, the companies first need to identify, define and prioritize their main business processes. The next step would then be to define the key products from the main processes and the key customers that these outputs serve. Using this information, process maps can be drawn for each of the core processes and how they interconnect. This helps to create a better understanding of the business and its interdependencies (Sahu and Bharti, 2009).

Having defined the main processes, the next step is to define the customer needs. The organisations need to recognize the fact that the needs, demands and attitudes of customers change over time. The organisations therefore need to prioritize projects that enhance the ability to meet the customers' needs. In line with the data-driven philosophy of Six Sigma, the business needs to have a Voice of the Customer (VOC) system to gather customer data. This VOC system becomes valuable only if the data is analyzed and acted upon. The insight gained from this data can then be used to establish guidelines for performance and customer satisfaction. The data can also be used to analyze and prioritize customer requirements and,

hence, link these to the company strategy (Sahu and Bharti, 2009).

12. Linking six sigma to human resources

Despite many advancements in information and communication technologies, businesses still are comprised of human beings. It must be understood that human resource isn't a big part of any business, but it has a deep effect on every business. Human resources should be considered as human capital. Human resource has to ensure that there is good return on investment in human capital. Typical Human resource functions involve benefits management, compensation, recruitment and skills development. Innovation and change management must also become main functions in the Human resource section. In addition to managing these functions well, managing idea to innovation, improving human resource functions, and accountability of members and executives must also be applied. One must create a process map for human resource department to clearly understand human resource functions and prepare for implementing Six Sigma (Gupta, 2005).

13. Linking six sigma to suppliers

We already know that the long replenishment lead-time, huge order lots, expected shortage of products, fluctuated outputs, and limited information sharing are the major barriers to supply chain coordination. Yet, one important factor influencing the performance of supply chain relationship is trust. Through the high degree of mutual trust, supply chain partners can design a strategy to maximize supply chain benefits collaboratively. The development of trust needs a lot of effort, such as the partners' need to value the relationship, identify right roles, agree with effective covenants, and be willing to resolve the conflict. Then, through a long time of cooperation, the trust can be gradually gained. Hence, it is clear that the supplier development is a major task in supply chain management. Supplier development involves a long-term cooperative endeavor between a buying corporation and its suppliers and is aimed at building and maintaining a network of well-trusted suppliers. The development activities include supplier selection and monitoring, supplier assistance and training, the provision of incentives for continuous improvements, and supplier organizational integration. In the Six-Sigma improvement process for supplier development, the main purpose is constantly and carefully to evaluate the supplier's performance. In order to get this objective, an accurate rating system is required. This rating system can maintain competitive pressure on suppliers by monitoring and comparing their improvement over periods of time. In addition, an accurate rating process with multi-dimensional criteria can reduce the risk of encountering 'contractual hazards' in buyer-specific investments. To demonstrate how statistical tools can evaluate the supplier's performance, the principal component analysis (PCA) is used. Note that PCA is a statistical method for multivariate data analysis that can be used to reduce the amount of data. It transforms original and related measurement variables into a set of orthogonal (uncorrelated) linear functions (Wang et al., 2004).

14. Conclusion

Nowadays, the environment of manufacturing and services is completely competitive. Companies are trying to reach and sustain a competitive competency to maintain and inoculate (if there is any possibility) their market share. But reaching this objective is not possible without a continuous improvement. Six sigma is one of the most applicable approaches helps organizations to implement Total quality management concepts. Since its innovation by the late Bill Smith of Motorola, six sigma concepts have been widely utilized in the world of business and industry. Using statistical tools and approaches, six sigma has tried to eliminate subjectivity of decision making process and propose a systematic way to identify the problems and defects drivers and solve them. More than that, six sigma presents some solutions for eliminating these problems and improves the process capability to achieve a business excellence and a competitive edge. Today, six sigma has been considered as the most applicable and useful approach to improve the quality of products and services and also reaching a business excellence and a competitive advantage by eliminating wastes. At first glance, the six sigma looks strikingly similar to a prior quality management approach. However, leading organizations with a track record in quality have adopted six sigma and claimed that it has transformed their organization. Researchers have reported the success of six sigma in both manufacturing and services (Saghaei, A., & Didekhani, 2011).

As we said, the globalisation process has brought about a new and very competitive business sphere. The globalisation has diluted the significance of geographical alignments of countries in economic transactions and has made the market very competitive. In this world of close competition, in every sphere of life the old saying "survival of the fittest" has become more relevant than ever before. The global business environment is witnessing unprecedented changes. In every industry, managers are trying to maximize the profit and

minimize the costs to an extent which was almost unbelievable a century ago. The new technologies have helped statutory deregulation of production process in many ways (Rdddy, 2005). Moreover, in such a competitive sphere, Iran as a political whole, has many problems with her neighbors and so-called, global community (Fisher, et al., 2009). Therefore, it is necessary for Iranian managers to adopt new strategies to meet this new world's requirements and six sigma has proved to be one of the most effective strategies. In this regard, there are some infrastructures and changes which should be taken care of. Two important developments are cultural change and providing and establishing the needed infrastructures. Although the organizations themselves are responsible for both, the government of Iran is also expected to intervene in order to make the positive ground for these two most important developments as well as other advances to be obtained.

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