

# Adoption of JIT/TQM in A Transition Economy: A Case of Manufacturing Industry in Kazakhstan

**Choong Y. Lee<sup>1</sup>, Gulzat Maichinova<sup>2</sup>,**

*<sup>1</sup>Pittsburg State University, Pittsburg, KS, 66762, U.S.A.,*

*<sup>2</sup>Institute of Research Innovation for Society, Kyrgyzstan,*

**Abstract:** One of the important elements that have been playing a vital role in today's successful management practice is culture. An important dimension has been added to the cultural aspect of management since the management practices of JIT/TQM became a popular philosophy and tool among many world-class organizations from all over the world. This paper reviews the transferability of the management practices of JIT/TQM to Kazakhstan, specifically the Kazakh manufacturing industry. The manufacturing industry including mining has been a major revenue generator for Kazakhstan contributing to nearly 30% of its national production. Some of well-known models of cultural analysis in international business are discussed and applied to this study of the transferability of JIT/TQM to Kazakhstan. The resulting inferences are further analyzed and examined to make some suggestions to Kazakhstan for the successful adoption and implementation of JIT/TQM practices based on cultural analysis of Kazakhstan.

**Keywords:** Culture, JIT/TQM, Kazakhstan, Manufacturing Industry

## I. INTRODUCTION

With the globalization of business, most companies are aiming to reap the benefits of economies of scale globally. This has led to the growth of multinational companies based on their competitiveness in the global markets. Those companies usually have many plants and factories all over the world. In them, the task of transferring their core values and management practices from one place to another encounters many hurdles, obstacles, and challenges to overcome for the successful implementation.

Today, most of those internationally competitive companies adopt advanced management practices, such as JIT (Just-In-Time), TQM (Total Quality Management) and Lean Manufacturing, etc., for their daily operations. Many scholars [1], [2], [3], [4], [5], [6], [7], [8] have stated the benefits obtained by adopting JIT and TQM. It has been overtly agreed that culture is the biggest component to be considered in adopting and implementing these management practices successfully and effectively. Interactions with people from different backgrounds and cultures pose a great challenge especially in JIT/TQM practices. With many researchers being conducted on cross-cultural analysis [9], [10], [11], [12], [13], [14], [15], there has been a wide spectrum of inferences obtained from many countries and businesses around the world.

The objective of this paper is to analyze and discuss the issue of adoption of JIT/TQM practices in the Kazakh manufacturing industry including mining sectors based on the cultural analysis. Many studies [3], [4], [5], [6], [7], [14], [15], [16], [17], [18], [19] have been conducted on JIT and TQM and their transferability to various industries around the world but very few for Kazakhstan. However, there have been some studies of cross-cultural analysis on the Kazakh way of behavior or doing business in general [20], [21], [22], [23], [24], [25], [26], [27]. Those studies allow this research to incorporate their findings into the analysis of Kazakh culture in conjunction with adoption of JIT/TQM in Kazakhstan. So, this article attempts to analyze some of the important cultural dimensions and their impact on adoption of JIT/TQM practices in the Kazakh manufacturing industry. Finally, it makes some suggestions to Kazakhstan for the successful adoption and implementation of JIT/TQM practices based on cultural analysis of Kazakhstan. All suggestions made in this article could be applied easily to other countries in a similar situation to Kazakhstan for their successful adoption and implementation of JIT/TQM practices.

## II. LITERATURE REVIEW

The organizational culture of Kazakh firms can be characterized by complexity and diversity in terms of employees' ethnic and cultural backgrounds, social classes, and education. Furthermore, the contemporary culture of Kazakhstan has been developed with four strong components in its tradition: (1) Asian way of thinking, (2) nomadic tradition, (3) Russian civilization, and (4) Islamic influence. Therefore, it is not easy to define core values and social norms in some cases. For instance, overall, it still has a strong influence of the Russian culture in addition to the long tradition of its own Kazakh nomadic culture. However, some regions have strong influence from traditional nomadic culture with little impact from Russian culture while some urban areas look more like Russia.

Until 1991, Kazakhstan was under the Soviet Union and its management system and style was very much like the communist Russian one. But, with its independence from the Soviet Union in 1991, it was the 1990s' economic liberalization that brought Western management system and practices to Kazakhstan. The Kazakh government's policy of simplifying the approval process for new ventures, with abundance of natural resources and well-educated skilled personnel, has attracted many world-class multinational companies to Kazakhstan. This has resulted in not only bringing the Western goods and products to Kazakhstan but has also exposed the country to Western management philosophies, ideologies, and practices [20], [22], [26], [27].

There have been many cross-cultural studies and comparisons made on Kazakhstan and various other countries, such as U.S., Germany, Japan, Mexico, Korea, and China, etc., [1], [5], [6], [7], [9], [10], [12], [13], [15], [17], [19], [20], [25]. The study of culture can be broadly classified into eight variables that influence general perception of any company. They are (1) action; (2) competitiveness; (3) communications; (4) environment; (5) individualism; (6) structure; (7) thinking; and (8) time [28]. Proper cross-cultural training programs are required to combine these eight variables effectively ([9]). Hofstede [11], [12] has mentioned that American management theories are imported and then selectively adapted to the ideas of the importing country.

Conrad [21] agree that some ideologies and approaches followed by the Kazakh people reflect national culture while others become more like Western practices and ideas. Kazakh managers develop and follow a hybrid, or cross-vergence approach in their workplace, which reflect a combination of indigenous and imported approaches to managing people at work. In another study [20], it is observed that Russian and Kazakh organizations scored similarly on parameters like centralization, joint decisions, specialization, and number of hierarchical levels. But they were different in formalization, chief executive's span of control and communication pattern according to the study. On the other hand, the same study shows that little similarity was found in the value systems of Russian and Kazakhstan, even though many managers in both countries were educated in Russia. There are some studies that have compared the cultural difference between Kazakhstan and other countries regarding business and its management [26], [27]. Trompenaars [29] used seven dimensions to define management-culture. No doubt these studies give us an insight into various business and management cultures.

The study for this article is to use those models and findings in the literature above to analyze and examine how the Western management practices, specifically JIT/TQM practices, are adopted and implemented in the Kazakh manufacturing industry. With highly diversified people making up the Kazakh workforce, the challenge is to find how to adopt and implement JIT/TQM practices smoothly and effectively in the Kazakh industry. With this research, Kazakh manufacturing firms could find the ideal approach to the adoption and implementation of JIT/TQM practices under the given condition for each company and should maximize all the benefit from their implemented JIT/TQM practices with little setback from negative cultural influence on their operations of JIT/TQM practices in the workplace.

The failure of many Kazakh firms with JIT/TQM practices is not due to their smaller size than Western companies as some researchers [2], [3], [4], [5], [7], [8], [26] have already shown how successfully small manufacturing firms could adopt and implement these management techniques of JIT/TQM with lots of benefits in many countries of different cultures. From a managerial point of view, generally the management practices in the manufacturing industry differ greatly depending on the top management, amount of capital invested, quality of labor force, level of manufacturing technology used, and area of operations, etc. However, the focus of this paper is on how the adoption and implementation of JIT/TQM practices are influenced in the Kazakh manufacturing firms culturally, not technically.

### III. MANAGEMENT PRACTICES IN THE KAZAKH MANUFACTURING INDUSTRY

Kazakhstan's organizational culture is autocratic and paternalistic, with strong task orientation and centralized decision-making. There is concern with rules and emphasis on patience and modesty. The risk tolerance is very low with high power distance and masculinity. With the Kazakh culture stressing on family and social values, individualism happens to be very low. For the sake of comparison, let's look at Japan, the origin of JIT/TQM practices. The work culture in Japan is high on masculinity, power distance and uncertainty avoidance, but low in empathy and risk-taking. Prestige, security, and pleasure are considered less important in Japan. There is a high emphasis on pragmatism with low value on open expression of conflict.

The manufacturing industry in Kazakhstan plays an important role not only producing greater amount of national wealth, but it is also one of the leading industries employing nearly two million workers [27]. Except a few large firms, most firms are small and volume of production. Due to cheap labor costs and low educational requirements, women and young adults form the major workforce of the shop floor in most of Kazakh manufacturing firms. In most of small local firms, people with little specialization in their field of operations form the middle management. The owners of these types of small firms represent the sole brain in the organization. He/she may have his/her own specialization that is needed to run the business or just have the business acumen to keep the business going with the support from external sources. The level of technology adopted is usually low due to constraints in capital investment.

The Kazakh government has set up a statutory body under the Ministry of Economic Development called the "Industry Development Committee" with a mission to promote quality and excellency to improve competitiveness and productivity of Kazakh firms. The committee has its regional offices located in all major cities. This committee also aims at providing consulting services to the implementation of ISO-9000 QMS and ISO-14000 EMS standards in the manufacturing industry. The Kazakh manufacturing industry is dominated by sub-contractors and joint ventures of international companies and consists mainly of small firms of machinery and mining business. On the other hand, some of the Western firms operating in Kazakhstan have the capability to invest their resources in production systems to improve quality, reduce costs, implement better process and product control, and increase productivity. Also, they usually have enough resources to train and educate their employees. It is estimated that Kazakhstan has approximately 3,000 manufacturing firms with most of them being classified as small scale-firms with a few exceptions of big oil/gas and mining companies. Even though their size can't match that of Western companies, it is still important for the Kazakh local companies to adopt the competitive management practices of JIT/TQM and take full advantage of all expected benefits from them to compete against larger Western companies [3], [22], [26].

In most of Kazakh manufacturing firms, managers from all different levels have different backgrounds in culture, and status in society, and education. Relevant qualification for any job is not a must. The knowledge and expertise that an employee possesses and the work he/she does are in two different things. Secondly, implementation of strategy or any policy action is mostly done in the upper-management and sometimes by the middle management. Very rarely the input or feedback from the lower-level management or the first-line workers is sought. There exist deep separations and huge gaps between the upper-management and lower-level workers in almost all organizations in Kazakhstan. Virtually, no communication channels are developed between the upper-management and lower-level employees in most of Kazakh companies.

The official language of Kazakhstan is Kazakh, and Russian is still widely used in most regions of the state. Also, there are more than 30 different ethnic groups living in Kazakhstan, such as Russian, Uzbek, Kyrgyz, Turkish, Mongolian, and Korean, etc., in addition to the largest group of Kazakh. So, a typical organization in Kazakhstan represents this diversity in its workplace. Women represent a major portion of workforce where dexterity is required, and men are involved in masculine jobs. Although the average educational level of the general workforce is somewhat high due to the legacy of the well-developed educational system established under the Soviet period, they are not expected to have a high-level technical expertise in their field. The labor is cheap with an average worker earning about US\$ 500 per month in 2021. The level of automation is very low or negligible. If there is a failure/breakdown in the production floor, entire production gets disrupted. Only very few big companies can afford the state of art automation. Not all companies have full-proof inventory/tracking systems. The volume of production depends heavily on the demand and season. Given the vagaries of transportation and severe competition that exists in its manufacturing industry, mass production is mostly adopted as a competitive strategy and to reap economies of scale in Kazakhstan. The extent of training and education of the people involved is minimal due to high numbers of turnover in most of Kazakh companies. Waste

elimination is seen only from a financial point of view not from the view with efficiency as the main criterion. The interaction with outside suppliers and vendors is not strong in the Kazakh manufacturing industry and their quality assurance is not at an acceptable level yet [26], [27].

#### **IV. KEY ELEMENTS FOR SUCCESSFUL ADOPTION AND IMPLEMENTATION OF JIT /TQM**

There are several key elements of JIT/ TQM that are required to be implemented in a proper manner for the maximum benefits. Lee [4] has mentioned (1) a focused factory, (2) reduced set up time, (3) group technology, (4) total preventive maintenance, (5) cross-trained employees, (6) uniform workloads, (7) Just in time delivery of purchased parts, and (8) Kanban, as the most important elements of JIT/TQM. Among those elements, some are non-cultural while some are related to culture.

For those non-cultural elements, if the organization has the right technology with enough capital investments, it will have little problem of the successful implementation in most cases. However, on the other hand, it takes a longer time to implement those culturally related items successfully since they require proper training and mental preparations of all stake holders. For successful implementation of JIT/TQM, the organization should focus on quality with customer in consideration and setting standards to measure the process of quality regularly. Continuous improvement in quality is the key to JIT/TQM. Everyone involved in quality should think towards the long- term objective of the quality but should act short term so that quality is maintained always.

Furthermore, most key elements of JIT/TQM management techniques have been developed based on their fundamental cultural values, such as harmony and group loyalty, consensus decision making, and lifetime employment, etc. [1], [19]. Harmony and group loyalty called as “Wa” in Japanese means the search for or the existence of cooperation so that a group's members can devote their total energies to attaining the goal of the group. Wa is so pervasive that the Japanese prefer, and often insist that all business dealings occur among friends [2]. Consensus decision-making, more popularly known in Japanese as “Ringiseido”, is an agreement by all parties involved in the group's decision, with each group member satisfied with the ultimate decision. This allows group members to participate in the decision-making process while respecting and maintaining their hierarchical relationships [2]. The lifetime employment offered in Japan has helped their firms to achieve a high-level productivity. A main reason for Japanese corporations' reputation for the development of many new productivity-enhancing technologies is that since Japanese workers enjoy lifetime job guarantees, they see no downside risk in helping their organization improve productivity [30].

#### **V. ANALYSIS AND COMPARISON OF CULTURE BETWEEN KAZAKHSTAN AND JAPAN**

Many researchers have found that culture plays a vital role in the successful JIT/TQM program [2], [4], [6], [15]. The main constituents of culture comprise of elements such as religion, values, society, environment, and beliefs, etc. Obviously, there are many differences between Kazakhstan and Japan in these cultural constituents. One of the most important factors is religion. The Kazakh society is based on combination of Islam and Russian Orthodoxy while the Japanese society is based on Confucianism (or Shinto in principles) and Buddhism, which is a system of social and ethical philosophy rather than a religion.

Confucianism founded by K'ung Fu Tzu, deals primarily with the moral and ethics of an individual, and the way power is exercised by those who have it. Japanese management philosophies and principles are based on the principles of Confucianism. Japanese Confucianism has four distinct characteristics: (1) The human being regarded with respect and dignity, (2) The values of harmony, (3) Righteousness and the acts of righteous individuals in a framework of loyalty, and (4) The morally superior person who leads by example and is devoted to the other Confucian values [30]. Some of the important cultural characteristics for Japan's success, such as consensus, futurism, quality, and loyalty for their superiors, are a direct byproduct from Confucianism. So, Confucianism contributes to a large extent for the success of the Japanese management practices [1], [19]. Confucianism also emphasizes on group-orientation which eventually is one of the highlights of Japanese management philosophies.

Hofstede [10] has provided one of the most popular cultural models after he studied and compared various countries based on the four dimensions: (1) Power Distance, (2) Uncertainty Avoidance, (3) Individualism, and (4) Masculinity. According to Hofstede, the ‘Power Distance’ of Kazakhstan, which is higher than Japan, represents issues like

organizational structure, management by objectives and participatory management. The organizational structure of a typical Kazakh firm is a rigid, i.e., it is of pyramid shape. The implementation of Management by Objectives is not successful and there does not exist participatory management in most of Kazakh companies. The 'Uncertainty Avoidance' of Kazakhstan, which is lower than that of Japan, indicates the preparedness of Japanese firms for many issues like planning, competition, budget systems, establishing control systems, promotion of employees, and the amount of risk being taken. The managerial implications of 'Individualism/Collectivism' focus on issues such as decision making, reward system, organization climate, and ethics/values. The dimension of 'Masculinity' explains issues of departmental relations, networking, and reward/motivation.

Hofstede's dimensions of culture between Kazakhstan and Japan shows that 'Power Distance' and 'Individualism and Collectivism' are almost the same in the two countries but differ in 'Uncertainty Avoidance' and 'Masculinity'. Both countries are collectivist in nature with more emphasis on group participation rather than on individual importance. In both countries, individual participation is not encouraged and usually has a negative connotation. A practical and psychological relationship of dependence exists between individuals and their group. Groups will protect and patronize their members who in return owe loyalty. This strong identification of individual-group results in individual assimilation of the group's values. Collectivist values in Kazakhstan and Japan stem from the extended family tradition, common in both countries. An extended family relation consists of grandparents to grandchildren and close relatives to close friends. There is no "I" within the family and a mindset of "We" is emphasized.

Japanese corporations foster collectivist behavior through the tradition of lifetime employment, which is rare in the Kazakh industry where turnover is very high considering the fluctuating economy with lots of uncertainty in transition of its national system. The Japanese employees become a part of the corporate family once they are hired, and this security brings the best out of them. In some of big Kazakh corporations, similar behavior can be witnessed. Although turnover is high among unskilled workforce, skilled workers usually seek lifetime employment with their companies. Rewarding and appraisal systems in traditional Kazakh corporations are based on highly subjective arguments that take into consideration ethnic background, hometown, social class, or other selective factors.

### **VI. TRANSFERABILITY OF JIT/TQM TO KAZAKH MANUFACTURING INDUSTRY**

Although the Kazakh manufacturing industry is filled with employees from various backgrounds of ethnicity, hometown, and social class, the organization's moral values and culture have usually more influence than the values or culture of the individual on the daily operations in the workplace. The highlight of the JIT/TQM philosophy and practices is that they do not require a significant amount of investment for implementing them in the organization. It also emphasizes on training employees and building a good relationship with the other contributors to the firm, such as the suppliers, carriers, community, and legal bodies, etc.

Even though Japan and Kazakhstan are both Asian countries, various cultural, political, and environmental differences have affected the transferability of JIT/TQM management techniques to the Kazakh manufacturing industry. Managing a corporate culture involves gathering information about those values that most affect the culture, designing a plan to reinforce or restructure culture-shaping norms, and building people into the process [5], [19]. The social, economic, and political diversity found in the Kazakh industry makes the transferability of JIT/TQM philosophy and tools not easy with challenges and obstacles. Having said that the transferability is challenging, Kazakhstan, more exactly speaking, the Kazakh industry should not give up its attempt to implement JIT/TQM practices in its organizations because they will upgrade the Kazakh manufacturing industry's competitiveness and productivity with little costs incurred.

There are some key elements they should consider initially for successful adoption and implementation of JIT/TQM practices in the Kazakh industry:

#### **6.1. Improving Organization-wide Communication**

The success of any management practice requires the organization to establish an effective communication system, guaranteeing easy fearless two-way communication at all levels of management in the organization. In the words of Deming, one of the pioneers of TQM, it is "Drive out fear" which, means that fear reluctance to say/share the thoughts of the employees may prove to be counterproductive for the growth of the organization. People at all levels should be allowed to share their opinions/thoughts comfortably without feeling any fear or worry.

The Kazakh manufacturing industry, as mentioned earlier, comprises of mostly low-educated workers at the production floor and technically qualified junior-level/middle-level managers and supervisors with little delegation of power. So, it is not surprising at all to find inherent communication barriers in such an organization. This is one of serious reasons why it is very hard to make continuous “improvement” in a typical Kazakh organization. All employees from every level, including the first-line workers especially, should be encouraged to voice their constructive inputs because it is those people who are directly involved in the day-to-day operations. If the manager is superimposing, then that may stop lower-level people from contributing to the efficient use of resources. Also, if the top management does not understand what is going on in the lower levels, then they are likely making bad or poor decisions, which could put the entire organization in a difficult situation or eventually danger. All these are happening to many organizations in Kazakhstan due to a poor communication system in their organizations.

Organization-wide fear-free communication systems are more essential and critical in a culture of high ‘Power Distance’ and high ‘Collectivism’ that most of Kazakh manufacturing firms belong to for successful implementation of JIT/TQM practices. Establishing such a communication system should start from the top-level management. Without top management’s initiative and support, it is almost impossible to instill such a fear-free system into the entire organization. In a local manufacturing firm located in Almaty, the largest city in Kazakhstan, the top person and the senior production supervisor stand at the entrance of the organization much before the workers start coming in and speak to them in a pleasing manner. Although this type of approach is not easy in a culture of high ‘Power Distance’ and high ‘Collectivism’, the dividends obtained from this simple practice are countless. Also, it helps the organization create a friendly environment which could be a foundation for building a fear-free communication system in the organization. Furthermore, it costs little or nothing.

### **6. 2. Gradual Training and Step-by-Step Implementation**

A pragmatic approach to transfer JIT/TQM management practices would be to consider one element of JIT/TQM practices and tools at a time and implement it step-by-step in their daily operations and routine activities. The middle management in the Kazakh industry is a very important layer between top management and the rest of the workforce. The onus of translating the top management philosophy to action lies on these middle-level managers. It is these supervisors who directly interact with the workers at the shop floor. Hence for the top management to implement JIT/ TQM successfully, they can adopt a three-stage approach. In the first step, the management should decide as to what are the key areas where these management practices and techniques need to be implemented on priority.

Secondly, the key middle management people should be identified and trained to learn the philosophy, tools/ techniques, and practices of JIT/TQM. The training can be done in a slow and gradual manner considering one element of JIT/TQM at a time rather than everything altogether at one time. As the middle management realizes the fruits of JIT/ TQM practices more and more, they would be motivated to go through the rest of the training. In the third phase, the middle management should share all their learnings including the benefits of JIT/TQM practices they have acquired with the low-level employees and all other stakeholders such as their vendors and carriers, etc., so that the organizational goals are met. Training schedules at regular intervals of time should be drafted throughout the organization and need to be monitored. The HR professionals of the company should play an important role in bringing about the cultural change of the rest of the organization [7], [28].

### **6. 3. Fair Reward System**

Reward can be financial and/or non-financial. The reward system, either financial or non-financial, in most of the Kazakh firms is limited to employees working out in the field like the sales personnel or the marketing representatives. There is hardly any reward/recognition for other employees in the organization. Even for the sales or marketing personnel, the reward is usually calculated based on the “gross” output than the “net” output. The reward point for sales or marketing personnel in most cases is calculated on the total calls he/she makes rather than the total productive calls made. This clearly distorts the needs or demand or even the buying patterns of the customers. Since JIT/TQM management practices require the involvement of everyone in the organization, other employees within the company should also be given enough recognition and reward, and specific guidelines should be set for the evaluation of reward to them.

Another easy recommendation for the implementation of non-financial reward system may be the way in which the employees are looked or addressed at. The Wal-Mart or J.C. Penny's practice of treating their employee as an "associate" would increase the employee's morale and eventually the organizational performance. In a Kazakh company located in Almaty, which is an American licensee, the top-level management introduced an annual event of employee recognitions, called "The Day for All Champions", which is the day all employees are off. On the day, the company invites all employees to a resort where everybody in the company from the top CEO person to the first line employees enjoy bowling, ping-pong, and other sports games with dinner, recognize all those employees who perform outstanding jobs with various types of financial rewards, and finally have a party with singing songs and dancing with music bands. In addition, to recognize the efforts of the employees at the shop floor, a free lunch is provided throughout the organization and encouraged to continuous their hard work. These success stories can be used as a model for other firms in Kazakhstan to recognize and reward its employees.

### **6. 4. Emphasis on Quality**

Quality and ethics go hand in hand. An ethical and responsible individual and/or company should never let a product that they know to be substandard go to a customer [31]. The main purpose of JIT/TQM practices is to improve the quality of product through enhancing the quality of work or process and reducing waste as well. The approach of JIT/TQM practices involves placing high priority on rules and procedures and mistakes committed by workers in their jobs are regarded with strictness by the organization [19]. This emphasis of quality should be at two places: one within the firm and the other at the supplier end. Improving quality would result in huge savings for the Kazakh manufacturing industry since most of Kazakh manufacturing firms waste lots of resources due to outdated processes and poor workmanship in their operations. The first step in implementing quality is to implement the recommendations mentioned above and then lay its strong emphasis on quality. A report or circular announcing the previous day's best outputs in terms of quality can be posted at most visible locations of the organization, and this could not only motivate others to follow but could also make quality to be the most important inherent attribute of the firm.

Another way of emphasizing on quality is by adopting a traditionally critical component of JIT/TQM practices, "life-time employment". Once the employee has job security especially in a transition economy where everything is unstable with lots of uncertainty about future, he/she would adhere to what the organization asks since the employee feel he/she really belong to the organization as a member of "family". So, every employee should become a quality player in his/her jobs with no or little resistance and is willing to accept his/her role in the quality management in implementing JIT/TQM practices in the organization.

### **6. 5. Turnover Issues**

The successful implementation of JIT/TQM practices needs close cooperation and collaboration between management and labor as a prerequisite. For the last thirty years since its economic reform with the independence, Kazakhstan has been a promising land for many Western corporations. So, there is no dearth of companies for workers to work for. Similarly, the population of Kazakhstan is also large enough that the companies could find their employees when they need. However, there are not enough skilled labor, such as technicians, engineers, and experts, in every sector of Kazakh industries. Thus, there is a need for companies to retain the most efficient personnel and the employees to remain in the most congenial atmosphere that suits them. Hence there needs to be cooperation from the employees while the employers need to reciprocate their commitment by offering the employees the best they could. To improve their human resource management, which is a critical foundation of JIT/TQM practices, the Kazakh firms should do much better jobs in promotion, reward/recognition, and training, as mentioned earlier.

### **6. 6. Organization-wide Integration of JIT/TQM with Top Management Commitment**

One of the most common causes for failure in implementing JIT/TQM management practices in an organization is lack of support from the top management [19]. In Kazakhstan, the top management in most organizations sees their jobs in JIT/TQM practices as separate and additional entities and not as an integrated part of the work in the organization. With such a mindset of top management, it is not easy to get the full support from the top management even for a simple implementation of easy practices. It is observed from all those organizations with successful implementation of any JIT/TQM practice in most of countries that they have received full supports from their top management with unconditional commitment with no exception [5], [15], [19].

For any change with new management philosophy, one of the most important elements for integrating the new philosophy into the existing organizational culture smoothly is the full commitment and support of top management in the organization. First, the top management should be aware of the quality programs to be implemented with their roles and responsibilities. Secondly, employees at key positions in the high-level management and middle-level management should be identified and trained exhaustively with the tools and techniques of JIT/TQM practices. For example, a Kazakh joint venture with a well-known Western oil company has experienced an impressive growth with a record-breaking productivity after it had implemented its well-developed organization-wide JIT/TQM programs successfully. The key was the full commitment and support of top management in every stage of JIT/TQM implementation, which is largely responsible for its current success. Again, as this company's success points out that JIT/TQM should not be seen as a separate parallel activity to a business operation rather must be integrated in the existing operations and practices even from the very beginning stage of management planning of strategy, just as one was to plan in all functional areas of finance, marketing, production, and technology. The commitment from the top management makes a clear difference in JIT/TQM practices.

### **6.7. Customer Focus**

Both JIT and TQM are directly related to customers basically. While the former focuses on the needs of the customers, the later focuses on satisfying these needs. JIT cannot be accomplished without identifying the perception of the customers while TQM focuses on shaping these perceptions by continuously improving quality. Although most of the Kazakh manufacturing firms are not big-sized international players, competition is still very tough to survive even in their domestic markets. They need continuous evaluation of the needs and demands of the customers. With the help of customer survey or proper data collection, the needs of the customers can be identified. Marketing representative or an outside agency can help those firms collect necessary data. The channel to reach the customers should be rigid regarding this aspect of activity. At present for most Kazakh companies, customer feedback comes from the sales personnel and at some times from the distributors or the retailers. So, it is important that those companies emphasize to the people close to the customers, such as sales personnel, distributors, retailers, about the importance of proper feedback. Incentive/recognition for giving proper feedback and data from the distributors and retailers, such as the "Outstanding Distributor" or "Best Retailer", would make this process more effective and successful.

## **VII. SUGGESTIONS AND CONCLUSION**

The purpose of this research is not to promote any culture or way of living but to emphasize the cultural influence on the business management practices, especially JIT/TQM practices that are regarded as one of the most well-known management philosophies still working effectively in many countries all over the world since its introduction by Japanese companies in 1970s.

Culture plays a significant role on the issues of transferability of JIT/TQM practices like many other management practices. Sometimes much sophisticated one may be the machine used in production. If the people operating and monitoring these machines are not ready with no mental preparations needed for working with such a sophisticated machine, it is no use. Managing an organizational culture involves gathering information about the core values that most affect the culture, designing a plan to reinforce or restructure culture-shaping norms, and educating people into the process [19], [27]. Without creating the culture needed for the organization adopting a specific management practice, it is very hard for the organization to accomplish its goals even though it invested a lot in machines and equipment.

The social, economic, and political diversity found in Kazakhstan makes the transferability of any kind of management system and practices not simple nor easy in most cases. Having said that the transferability is challenging, the Kazakh manufacturing industry should not give up its attempt to implement JIT/TQM practices because they provide lots of benefits to Kazakhstan at little costs. For the sustainable development of its economy, Kazakhstan needs to upgrade its major industries' performance. The adoption of JIT/TQM tools and techniques with all successful implement of their practices should help Kazakhstan improve its national competitiveness based on strong performance of its manufacturing industry. Although there will be some challenges and obstacles in adopting and implementing JIT/TQM practices, the Kazakh manufacturing industry should move on with keeping the lesson in their mind that the adoption and implementation of any management philosophy and practices is never easy in any country, either. However, with these JIT/TQM management practices successfully implemented, the Kazakh manufacturing industry can get immediate



results: improving quality, reducing costs, increasing flexibility of operations and throughput, reducing the product development time, and improving capability to broaden the product range. Furthermore, all these benefits are given with little costs since most of changes needed in the process of JIT/TQM implementation does not require little investment or resources allocated.

With various ethnic groups of people working within the same organization in Kazakhstan, the first and foremost thing is to improve communication so that everybody in the organization knows what is being required for each employee to do in the JIT/TQM practices. In a typical JIT/TQM organization, everybody should be a player with clearly defined roles and jobs assigned.

The next stage would be to provide proper education/training of JIT/TQM tools and techniques to every member of the organization from the top management to the first-line workers. Making the top management understand their commitment and support as one of the most critical elements of the success of JIT/TQM practices should be part of the JIT/TQM training program for the top management. Training middle-level managers is as important as educating the top management to understand their commitment and support in this stage of organization-wide education/training because they form the fulcrum of success for the organization in implementing JIT/TQM practices. When they are trained about these JIT/TQM practices, they should understand the core values of JIT/TQM philosophy and learn how to apply them into the organization's daily operations and how to motivate their subordinates to reach their individual goals/objectives positively with no pressure from their assigned jobs in the organization. Just training does not complete the task. With many opportunities and resources available for both employers and employees, training employees with their new ideas and goals about their jobs help the organization retain them encouraged with new vision and energy.

Also, rewarding the employees properly can help the organization retain its loyal employees with stronger motivation. Although rewards could be even non-financial, in the existing situation of the firm in the Kazakh manufacturing industry, it is advisable to have a tangible reward than purely a non-tangible one like just recognition and announcements, etc. In addition, developing and maintaining a cooperative relationship between the management and labor is encouraged since many components of JIT/TQM practices need employees' voluntary participation and willingness to do their additional assignments as a team member. The same kinds of relationship are also needed with other external bodies like suppliers and carriers. Any JIT/TQM practice should start with outside suppliers and vendors' collaboration, and the organizational success in a typical JIT/TQM organization rely on what relationship the organization has with those outside partners. So, the JIT/TQM organization should provide those outside partners necessary resources for them to be "JIT/TQM Players". When such a relationship is established, there should be emphasis on quality. Therefore, all outside partners should also be "Quality Players". When outside partners are assured of a congenial atmosphere, they are ready to give their best to their partners, too.

Once those elements of JIT/TQM practices mentioned above are tuned, the management can focus on other issues like planning and advertising, which would avoid unnecessary inventory. Then, customers should be the focus. All these should be integrated into the regular routine of the company. This would create a strong base for the next task in adoption of JIT/TQM practices, implementation of technical and non-cultural elements of JIT/TQM, to become a fully developed JIT/TQM organization eventually. Finally, all suggestions made in this article could be applied easily to other countries in a similar situation to Kazakhstan for their successful adoption and implementation of JIT/TQM practices.

### **REFERENCES**

- [1.] J. Thanopoulos and J. Leonard, Nourishing American Business with Japanese Recipe, *Review of Business*, 18, 1996, 7-10.
- [2.] M. Ala and W.P. Cordeiro, Can We Learn Management Techniques from the Japanese Ringi Process?, *Business Forum*, 24 (1), 2000, 22-25.
- [3.] R.R. Fullerton and C.S. McWatters, The Production Performance Benefits from JIT Implementation, *Journal of Operations Management*, 13 (1), 2001, 81-96.
- [4.] C.Y. Lee, The Applicability of Just-In-Time Manufacturing to Small Manufacturing Firms: An Analysis, *International Journal of Management*, 13, 1996, 249-258.
- [5.] C.Y. Lee, JIT Adoption by Small Manufacturers in Korea, *Journal of Small Business Management*, 35, 1997, 98-107.
- [6.] C.Y. Lee, Development of TQM in Small Manufacturers: An Exploratory Study in India, *Journal of Taiwan Institute*

## Adoption of JIT/TQM in A Transition Economy: A Case of Manufacturing Industry in Kazakhstan

of *Business Administration*, 3 (1), 2007, 31-47.

- [7.] C.Y. Lee, Transferability of JIT/TQM to the Indian Textile Industry: Issues and Suggestions based on Cultural Analysis, *Journal of International Management Studies*, 6 (1), 2011, 106- 114.
- [8.] L. Yu, Improving Quality Just In Time, *MIT Sloan Management Review*, 42, 2001 20 - 32.
- [9.] J. Hayes and J. Butterworth, Achieving Organizational Change Through Project-Based Training: A Cross-Cultural Experiment." *Personnel Review*, 13 (1), 1984, 22-28.
- [10.] G. Hofstede, National Cultures in Four Dimensions: A Research-Based Theory of Cultural Differences Among Nations Source, *International Studies of Management & Organization*, 13, 1983, 46-74.
- [11.] G. Hofstede, *Culture and Organizations: Software of the Mind*, McGraw- Hill, New York, NY, 1991.
- [12.] G. Hofstede, Cultural Constraints in Management Theories, *Academy of Management Executive*, 7, 1993, 81-94.
- [13.] A.M. Jaeger, Organization Development and National Cultures: Where's the Fit?, *Academy of Management Review*, 11 (2), 1986, 178-190.
- [14.] S. Gopalan and A. Stahl, Application of American Management Theories and Practices to the Indian Business Environment: Understanding the Impact of National Culture, *American Business Review*, 16, 1998, 30-41.
- [15.] D.S. Kraniias, Cultural Control: The Case of Japanese Multinational Companies and Their Subsidiaries in the UK., *Management Decision*, 38, 2000, 638 - 642.
- [16.] G. Plenert, Are Japanese Production Methods Applicable in the United States? *U26*, 1985, 121-129.
- [17.] S. Shahabuddin, Is JIT Really Appropriate for American Manufacturing?, *Industrial Management*, 34, 1992, 26-28.
- [18.] D. Chandra and D.K. Somaiya, Just-In-Time in India, *Production & Inventory Management*, 11, 1991, 30-32.
- [19.] C.Y. Lee, The Adoption of Japanese Manufacturing Management Techniques in Korean Manufacturing Industry, *International Journal of Operations & Production Management*, 12, 1992, 66-81.
- [20.] Ardichvili and A. Gasparishvili, Socio-cultural Values, Internal Work Culture and Leadership Styles in Four Post-communist Countries, *International Journal of Cross-Cultural Management*, 1 (2), 2001, 227 - 242.
- [21.] A.M. Conrad, Ethical Leadership in Kazakhstan: An Exploratory Study, *The Journal of Values-Based Leadership*, 6 (1), 2013, 1 - 11.
- [22.] B. Karibayeva and S. Kunanbayeva, Intercultural Business Discourse: Characteristics of Kazakh Context, *International E-Journal of Advances in Social Sciences*, 2 (4), 2016, 238 - 241.
- [23.] B. Karibayeva and S. Kunanbayeva, Power Distance and Verbal Index in Kazakh Business Discourse, *International Journal of Speech Technology*, 20, 2017, 779 - 785.
- [24.] B. Karibayeva and S. Kunanbayeva, Kazakh Power Distance Dimension in Business Discourse, *Social Semiotics*, 28 (2), 2018, 286 - 296.
- [25.] Kozhakhmetova, A. Zhidebekkyzy, A. Turginbayeva, and Z. Akhmetova, Modelling of Project Success Factors: A Cross-Cultural Comparison" *Economics & Sociology*, 12 (2), 2019, 219 - 234.
- [26.] C.Y. Lee and M. Tugut, Doing Business in Kazakhstan: Challenges, Opportunities, and Suggestions, *Journal of Global Business Management*, 3 (1), 2007, 109-119.
- [27.] C.Y. Lee, Building a New Corporate Culture for Business Development in a Transition Economy: A case of Kazakhstan based on Lessons from South Korea, *International Journal of Business Marketing and Management*, 4 (9), 2019, 15 - 22.
- [28.] R.A. Simpkins, The Global Mind, *Competitive Intelligence Magazine*, 1, 1998, 34-36.
- [29.] F. Trompenaars, Resolving International Conflict: Culture and Business Strategy, *Business Strategy Review*, 7, 1996,

51-68.

[30.] E. Fingleton<sup>60</sup>, Jobs for Life: Why Japan Won't Give Them Up, *Fortune*, 131, 1995, March 20.

[31.] N. Grubb, A Question of Ethics and Responsibility, *Supervision*, 55 (1), 1994, 14-16.