DOES CHINESE QUALITY CONTROL MEET THE GLOBAL MANAGEMENT CHALLENGE

Tadeusz Wawak, Jagiellonian University
Mark M. Michalski , WB consultant

1. Paradigm Shift: Global Quality Management

China is not famous for its own school of management, or for having a process of continuous improvement, customer satisfaction, or quality circles. Yet China has been one of the fastest growing economies in the world, hovering around ten percent in real terms, per year, for the last two decades. The challenge for the future is likely to be the extent to which Chinese operations can utilize modern management techniques to improve product and service quality in an increasingly global market.

This paper explores some of the conceptual or theoretical problems that are affecting the management of quality within business organizations and private enterprises. The paper argues that the sole provision of high technology and new machinery is not sufficient in itself to ensure the maintenance of quality standards. What matters more and more in the new global economy is managing information, knowledge, inventions and total quality management, (TQM). These ingredients have to be coupled with continuous quality improvement and entrepreneurial innovation. Quality management in the West has become synonymous with increased employee involvement, total customer satisfaction and developing customer-oriented cultures.

The success of quality management initiatives therefore depends upon the effective co-operation and enthusiastic participation of employees in the process of continuous quality improvement, which China seems to accept by default, while imitating (and copying) seductive Western models of mass production, and mass consumption on a massive scale.

The next stage (it follows), and seems to naturally emerge on the horizon, is global quality management[1].Quality management within companies for decades (both in the East and the West) was hampered by the prevailing passive work attitude and hindered by less than satisfactory human resource and management systems. The not-so-long ago insufficient and inadequate standards of knowledge management (KM), lack of special training, dissatisfaction with remuneration, and insufficient communication between top management and employees in

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Tadeusz Wawak is the head of the Department of Applied Economics at Jagiellonian University in Krakow, Poland. He helped establish the Professional Business School in Krakow. Marek Michalski has taught at Jagiellonian University and has served as a consultant at the World Bank.

[1] In 2007 the US toy company Mattel had to recall millions of dollars worth of toys manufactured in China due to quality problems. Not only did it cost the company in hard cash, it also affected customer confidence and sent their shares plummeting on international markets. In the wake of quality lapses from Chinese manufacturers, companies are concerned about the risks of manufacturing in China. This recent example puts the Chinese quality problems into context, not to mention other, foods or pharmaceutical products.

the business organizations has given way to new models and practices. Among the most common are such as six sigma, work empowerment, process of continuous improvement, quality awareness, quality strategies and best practices, just to name a few.[2]

1.1. Key to Quality: Pragmatic Management Philosophy

According to W. Kowalczewski: 'the philosophy of management might be defined as a general reflection on the meaning, essence and progressive development of study and management [...]. Numerous sciences stem from the science of philosophy and contain philosophical grounds. Likewise the most important discipline of science, which is the science of management, has its own philosophical basis. "[3] It is difficult not to agree with this statement; the first significant currents of thought in economics, whether physiocratism[4] or mercantilism,[5] have stemmed from specific currents of philosophy, in a similar manner as have classical capitalist and Marxist economics. Management Science in subsequent periods of economic development of Europe and abroad is likewise associated with specific philosophical views, including in the field of quality management, or more specifically - Total Quality Management. "TQM is the continuing improvement of enterprises in all areas of activity and results. This is a philosophy of management which expands beyond the basic concept of improving products and services, to further include an emphasis on quality of work which involves advancing both the

[2] China does have an official industry standard for quality management. Released in 2003, Quality Management Systems--Requirements for Regulatory Purposes was simply a Chinese translation of ISO 13485. Because the language in this standard is quite general, the implementation requirements for self-examination by manufacturers and onsite inspection by state officials have been very generic as well. Manufacturers passed quality system inspections if they passed all major check items and most minor items. Due to the lack of specificities, though, companies could pass these inspections quite easily, leaving room for problems to surface down the line.

[3] W. Kowalczewski, "Premises of Management Philosophy", (orig. Przeslanki Filozofii Zarzadzania, in Future of Enterprise: Reality and Fiction, ed. By Irena K. Hejduk, Institute of Organization and Industrial Management, "ORGMASZ" Warsaw, 2004, p.55)

[4] Physiocratism, school of French thinkers in the 18th century, founded by François Quesnay, 1694–1774, French economist. His disciple, Victor de Mirabeau, was the author of the physiocratic tax doctrine. However, Quesnay's original contribution, and the basis of the doctrine, was the axiom that all wealth originated with the land and that agriculture alone could increase and multiply wealth. Industry and commerce, according to the physiocrats, were basically sterile and could not add to the wealth created by the land. They did not advocate that industry and commerce be neglected in favor of agriculture, but they tried to prove that no economy could be healthy unless agriculture were given the fullest opportunity. Agricultural methods had to be scientifically improved, and—above all—fair prices had to be maintained for agricultural production; according to Quesnay's maxim, only abundance combined with high prices could create prosperity. This could be obtained only if the "economic law," which the physiocrats envisaged as being as immutable as the law of gravity, was allowed to act untrammeled. Absolute freedom of trade was necessary to stabilize prices at a fair level, and laissez faire was to restore the economic process to its natural course, from which all further benefits would flow.

5 Mercantilism is an economic theory that holds the prosperity of a nation dependent upon its supply of capital, and that the global volume of trade is "unchangeable." Economic assets or capital, are represented by bullion (gold, silver, and trade value) held by the state, which is best increased through a positive balance of trade with other nations (exports minus imports). Mercantilism suggests that the ruling government should advance these goals by playing a protectionist role in the economy; by encouraging exports and discouraging imports, especially through the use of tariffs.

skills of workers and the quality of equipment in order to improve operational, informational and decision-making processes. "[6]

Quality of work requires the improvement both of managers (supervisors) as well as subordinates (special case relates to mentoring, but this is beyond the scope of this paper).

Therefore, we need to distinguish between:

- The quality of labor in management, namely the quality of management,

- The quality of work managed, or workmanship.

Regarding the final quality (either of a product and/or service), both elements affect the quality of an end product, and the impact of the quality of management is twice higher than that of workmanship. Decisions made by those at the managerial level determine within 65 - 75% the quality of the final product. If the manager proceeds in accordance with the philosophy of TQM, the shape of final decisions is subordinated to continuous improvement of product quality. It is an entirely different case when management is guided by an economy with a command-and-distribution system, where every decision is predominantly guided by increase in quantity. Philosophy of management guided by quantity has existed not only in socialist but non-socialist (i.e., market) economies as well. In the United States, for example, during the first half of the twentieth century the push for quantities emerged primarily in the automotive industry, reflected by the views of, among others, H. Ford, F.W. Taylor, and H. Fayol. However, quantity-based management lost when in competition with ideals of market forces both in Europe and abroad, thus promoting the concept of quality and its continuous improvement.

TQM, as K. Lisiecka writes, is the most pragmatic philosophy of effective business management. "At the foundation of this philosophy lies organizational culture, or a system of ideas, norms and values shared by its employees, closely intertwined with technical culture."[7] The process of implementation of TQM in the organization comprises the application of the pro-active quality rules, strategies and systems, methods and management techniques in order to continuously improve the effects of man's work.

According to S. Tkaczyk: "Improving the quality of managerial functions in an organization managed on the basis of quality should be reflected in the higher performance of its management effectiveness"[8]. Therefore, in the European Quality Award, progress in the implementation of TQM is assessed by the primacy of the potential effects of management and the levels of satisfactions obtained by customers, employees, environment and organizations - the final product delivered users, or customers. "Quality nowadays constitutes the central challenge of proper managerial governance. High quality is becoming the competitive strategy of today. It also is an essential element of promoting, or growing, enterprise "[9]. The necessity and

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[6] Kowalczewski, op. cit., p 61.

[7] K. Lisiecka, *Creation of Quality* (in orig.: Kreowanie Jakosci) published by Academy of Economics in Katowice, Katowice 2002, p. 185.

[8] S. Tkaczyk, *Paradigms and Trends in Management Based on QualityCriteria (*in orig. Paradygmaty I trendy w zarzadzaniu opartym an kryterium jakosci, in: Przedsiebiorstwo przyszlosci, fikcja I rzeczywistosc; op. cit. p. 174

[9] W Kowalczewski, *Philosophical premises of management* (in orig.: Przeslanki filozofii zarzadzania, op. cit., p. 61.

the need for subordination of any decision-making process in the organization has now become an extremely important paradigm of effective and efficient management practice.

1.2. Innovation and Quality

According to B. Nogalski[10], the modern management paradigm is determined by the currently prevailing circumstances that exist at the time of any given business operation or trend. European and world competition, in an age of globalization, requires an active pursuit of companies to constantly improve the quality of manufactured products. The main sources of competitive advantage are: unique products (goods and services), technical and organizational knowledge, technologies, management methods, marketing and benchmarking. "By creating a valuable innovation, an enterprise ensures that it does not become a victim or by-stander of external conditions, but rather; it becomes a dynamic participant in an industry, thereby creating new challenges to different market participants, who then have to adapt to the new situation created by innovation. This is another important (and quality-related) management paradigm."[11] Innovations are the key determinants of the type of quality of performance and the source of better quality of life.

In order to improve their position in the market, organizations are deliberately developing strategies. Changes in the environment require them to use innovative processes in order to create newer and better quality products. These processes should include not only technical and technological changes but also economic, organizational and a broadly defined practice of management.[12] "Innovative processes in an industry are carried out in accordance with the strategy of innovative organization that develops its expertise in a continuous process of learning, which can skillfully and creatively use it within the network of feedback."[13]

Undertaking innovative ventures in the field of quality always involves substantial risks, costs and the conviction that they bring expected benefits. Therefore, in order for innovation in the field of quality to be effective and efficient, it must be constantly improved and consistently implemented. Innovation must in particular:[14]

- Be focused on the market in general and most specifically on customers;
- Be the result of highly deliberate, highly disciplined and specifically desired actions;
- Use or utilize optimally resources earmarked for their implementation in the changing conditions;

[10] B. Nogalski, *Choice of management paradigms of future enterprises* (in orig.: Wybor paradygmatow zarzadzania przedsiebiorstwem przyszlosci, in Przedsiebiorstwo przyszlosci, fikcja I rzeczywistosc; op. cit. p. 35.

[11] Ibid. p.35.

[12] The book by Peter Drucker with the same title: *The Practice of Management* remains a classic.

[13] M. Dwolinska, Organizational Innovations at the beginning of 21th century, (in orig.: *Innowacje w organizacjach u progu XXI wieku),* in: Przedsiebiorstwo przyszlosci, fikcja I rzeczywistosc; op. cit. p. 44.

[14] W.M Grudzewski, I.K. Hejduk, *Knowledge Management Systems* Systemy Zarzadzania Wiedza – Nowy paradygmat czy wyzwanie, in: Przedsiebiorstwo przyszlosci, fikcja I rzeczywistosc; op. cit. p.12-15.

- Managed in a creative manner so as to encourage exploring new ideas, gain acceptance to change, facilitate contacts, provide better recognition and acceptance of occasional failure;
- Process innovation in the field of quality must be closely related to the mission, vision and firm's strategy, and be an important component of quality policy in the company. Competition requires that organizations continuously invest in quality-oriented innovation, including: research and development, training, implementation in developing incentive schemes to encourage innovation.[15]

According to W.M. Grudzewski and I. Hejduk, "Processes of innovation are aimed externally - away from enterprises and toward consumers - and they decide not only about the potential and effective profits, but also about the quality of management." They consider the essential entrepreneurial and business criteria of seeking profits by delivering valuable goods or services that are rewarded and verified by the market place."[16]

1.3. The Managerial Mind and Mindful Management

In management theory, developed by S. Morina, there are two distinct yet essential currents linked to each other, as if they were discourses, forming a creative and continuous feedback:[17]

- "Managerial mind covers complexity of methods and techniques that have been developed for various management practices, such as the planning, organizing, motivating and controlling;"
- "Mindful management is considered to be a set of practical reflections inspired by the experience of managers, their impressions, their successes and failures."

These two types of knowledge are shaping the overall quality of management, which in fact comprises scientific management of the art of management. According to Z. Martyniak - "The essence of the latter are the decisions and goals. Setting up the objectives and the process of decision-making, in spite of the existence of many methods and techniques, is still to a greater degree an art, rather than science."[18] Experience shows that this art must be based on a good foundation of knowledge regarding management on which it continues to build and expand. With this in mind, we can develop the thesis that the quality of management practice is a consequence of his/her;

- Sum of knowledge, which has certain, specific managerial attributes,

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[15] M. Dwolinska, Organizational Innovations at the beginning of 21 century, (in orig.: *Innowacje w organizacjach u progu XXI wieku), op.cit., p.46.*

[16] W.M Grudzewski, I.K. Hejduk, *Knowledge Management Systems* Systemy Zarzadzania Wiedza – Nowy paradygmat czy wyzwanie, in: Przedsiebiorstwo przyszlosci, fikcja I rzeczywistosc; op. cit. p.17.

[17] Z. Martyniak, *Continuity and Changes in Practice of Management*, (in orig. Ciaglosc I Zmiana w teorii I praktyce zarzadzania przedsiebiorstwem, in: Nowe Kierunki w zarzadzaniu przedsiebiorstwem – ciaglosc I zmina), collected essays, ed., H Jagodaand J Lichtowski, Publ. By Academy of Economics in Wroclaw, 2000, p. 363.

[18] Z. Martyniak, *Continuity and Changes in Practice of Management*, (in orig. Ciaglosc I Zmiana w teorii I praktyce zarzadzania przedsiebiorstwem, op.cit., pp. 363-364.

- Sum of individual characteristics, including management insight, which is indispensable to arrive at the right decision.

Quality management within the organization comprises the synergies of the decisions made at any given time by competent decision-makers (at various levels of management), whose activities may be mutually reinforcing or contradictory, involving loosely disciplined subordinates in the implementation of goals who might in fact oppose them. It is therefore very important to have coordinated, concerted efforts of team management and operations in pursuit of common objectives and clear mission and vision. Any decision made by the organization should be subordinated to achieve the desired goals with concrete benefits. The decision must be a conscious choice among the best alternatives, which can be achieved at different levels of performance and efficiency. This level will be a measure of the decision made, and in effect, the synergy of all the decisions defining a level of overall quality management.

1.4. Effectiveness and Efficiency of Quality-based Decisions

The economic indicator of the effectiveness and efficiency of any given decision will be a coefficient of its range (S), which is the product: of the degree of implementation of anticipated (or planned) tasks (a), and the achievement level of brought about results (b), that is efficiency: $S = a \cdot b$

If, for example, we decide to increase profits by reducing the quantity of products not complying with the specific requirements, then the measure of economic efficiency and effectiveness of this decision will be made a factor of its range - "S", where the degree of implementation of planned tasks (reduction in the amount of deficiency) was a = 0.7 and the achievement of planned results (profit growth) b = 0.6 and then:

$$S = 0.7 \cdot 0.6$$
$$S = 0.42$$

Thus, the abovementioned formula shows that the level of decision quality will be 0.42, or in other words it will be implemented in 42%. Therefore, there still remains the necessity to reduce the amount of deficiencies by improving the quality of the work, by quite significant proportion, i.e., some 58 %.

According to E. Skrzypek - "Efficiency is reflected in every deliberate, value-driven, purposeful human activity. If we are talking about analyzing the effects of the project, or other specific activity, it is necessary to consider the following: identification of end products, measuring the results, and determining a suitable comparison reference. Finally, it is also important to use appropriate language (i.e., wording) and the evaluation methods for further monitoring of expected effects."[19] In other words, what metrics can we use to synthetically evaluate the synergies of all decisions in the organization - namely the level of managing output quality? This is an extremely complex issue that has not yet formulated a synthetic indicator of the quality management assessment.

[19] E. Skrzypek, *Quality and Effectiveness,* (in orig.: Jakosc i efektywnosc), publ. By UMCS Lublin, 2000, p.191.

The organizations that are assessing implementation of TQM, or actually assessing the effects of quality management include the following:

- The Union of Japanese Scientists and Engineers (JUSE), which in 1950 created a Japanese Deming Prize (The Deming Application Prize[20]);
- National Institute of Standards and Technology. The Malcolm Baldrige Awards Program[21], which awards highest national quality recognition since 1978 (awarded by the President of the United States).
- European Foundation for Quality Management (EFQM), which has developed an Excellence Model, which provided the foundation for establishing a set of quality criteria for launching in 1991 the European Quality Award[22].

All of these awards assess the effects of implementing TQM, as estimated by the extent to which a given organization meets the associated requirements. These are organizations (though initially they were the corporations manufacturing products), which began applying TQM principles in order to achieve higher business goals, implementing higher degrees of quality with continuous process of improving the quality of work and products. The degree of implementation of the specifically set criteria is subsequently given certain points and scored in a tabular form. The European Quality Award requires a grand total of 500 points for the implementation of the first five criteria for evaluating the potential of the organization and additional 500 points for achieving results through the application of the principles of TQM (in sum 1,000 points). Malcolm Baldrige Award requires at least 1,000 points for the fulfillment of seven criteria.

Similarly, the Japanese have also adopted in the Deming Award similar amount of points for the achievement of 10 criteria. In all of these awards, the results obtained at the level of quality management are judged by the degree of implementation of the principles of TQM by customers, employees, environment and organizations, or business owners. The evaluation takes into account the economic results obtained by competing organizations, such as costs, profits, liquidity, ability to evaluate threats and risks, etc. Evaluation of quality of management is therefore in a sense an overview of specific performance giving a clear cross-section, with its ultimate goal an indication of how it affects economic organization and its place in the market for given products and services. It is furthermore evaluated to the degree of implementation of explicit mission and vision of the organization.

1.5. Role of Knowledge and Managerial Talent in Shaping the Quality

Decisions regarding quality are closely related to the above-mentioned points. Thus, as it was pointed out already, explicit and tacit knowledge about organization, skills and abilities of workers make up an overall intellectual capital of a business organization. For the development

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[20] www.deming.org. Paper focused on JUSE, delivered by T. Wawak, May 17, 2008 in Krakow, Poland

[21] W. Modlinski, *World Quality Awards,* (in orig., Swiatowe nagrody jakosci), in: Problems of Quality, No. 2/93, Warszawa, 1993.

[22] www.efgm.pl; www.efgm.org; Paper delivered by T. Wawak, May 20, 2008 in Krakow, Poland

of quality management it is necessary that all employees develop their knowledge, and share within the business organization.

The whole business enterprise embodies the tacit and explicit knowledge, which is cumulatively being lumped into what has become known as knowledge management. In order to use it, it becomes necessary that the knowledge becomes overt and is disseminated in the company thereby raising management quality and an overall culture[23]. Applying the principles of TQM in the business organization accelerates the use of knowledge within that organization.

Teamwork, employee involvement, leadership and other procedural rules allow the business organization to more rapidly become intensely intelligent, transforming knowledge management into a valuable cluster of creative innovation. One does not need to convince anyone that "innovation is the most important driving force behind the development of the organization - not only in Poland, China but anywhere in the world."[24]

The level of knowledge that is at the disposal of the business organization may, however, not be utilized, even if transforming tacit knowledge into explicit is a smooth process. This happens due to lack of continuity and changes in management, which in turn leads to the lack of continuity in organizational development. Also, it may occur as the consequence of certain unexpected events.

The logic of such events may go beyond the current models (in terms of description, explanations and projections), and organizations may even try to aim beyond the established and existing criteria, values and standards. Managerial creativity characterized by the new synergy of generating novel ideas are required at this stage while searching for higher quality of management.

Managerial talent along with favorable business environment and carefully planned events are likely to affect the quality of final decisions. It is therefore very important to be able to anticipate the various options, requirements on the one hand, and options for the organization to adapt to these requirements, in light of continuous change in the market. There is no doubt that it is necessary to continuously improve the quality of work of both managers and employees to ensure high quality of products measured by the degree of customers' satisfaction.

Conclusion

With the above in mind, we can say that the paradigm of quality control in the field of management plays a very important role. It is extremely complex and highly intricate, but if used in the process of decision-making prudently and pragmatically - the value to all stakeholders increases, both the quality of manufacturing process and the provision of premium services.

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[23]I. K. Hajduk, *Toward the future*, (in orig.: W drodze do przyszlosci, in: Przedsiebiorstwo Przyszlosci – nowe paradygmaty zarzadzania europejskiego. Praca zbiorowa poswiecona 50-ciu leciu pracy naukowej prof. dr.W.M. Grudzewskiego), Instytut Organizacji I Zarzadzania w Przemysle, "ORGMASZ", Warszawa, 2003, p. 56-59.

[24] W.M. Grudzewski, I.K. Hejduk, Systemy Zarzadzania Wiedza, op. cit., p. 17.

Applying an appropriate paradigm of quality control while searching for the excellence in management seems to be a condition sine qua non of the development organization. Also, it is the key to its success, to improve the quality of life for managers and all employees. According to S. Kwiatkowski - "Excellence and brilliance are extremely different orientations and propositions in management, leading to extremely different consequences."

We may agree in part with the above statement if we assume that perfection is like a horizon, in that it gets further away whenever we are trying to approach it. It is not true however in light of new developments in the field of TQM, and its special case of six sigma, where tolerance for error is extremely low, approaching to nil, due to new technological advancements, among other things. And Chinese manufacturers have the benefit of accumulating experience with many practical years of advanced and sophisticated quality control and management techniques are getting well positioned to adopt and perfect the best practices, six sigma methods, continuous improvement quality circles to become leaders in the field that rewards excellence.