Strategic framework for Chinese quality management

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ABSTRACT

This study identifies the strategic approaches presented in research literature that support the core requirements of quality management while integrating the societal elements that are important to Chinese business processes. The study builds on previous research by the authors related to the development of quality management programs for businesses to be successful in their business ventures with China. Previous studies by the authors identified the strengths and weaknesses of import safety policy and identified the various societal elements that must be considered when developing quality management programs for outsourced goods and services from China. The current study provides a framework that builds on the previous research and identifies the interrelationship between the core requirements of quality management, societal elements that impact on the core requirements, and strategies that are integral to establishing effective quality management programs for business with China. This framework is expected to serve as a guide to quality management practice and future research related to quality management strategy for a variety of outsourced Chinese ventures.

Key Words: China, Quality, Imports, Cultural, Outsourcing, Contract

INTRODUCTION

The Chinese business environment has been compared to the "American Wild West" filled with many challenges including an evolving and experimental approach to business, fast paced economic boom, a complex culture with customs difficult to assimilate, and a governmental system that is still developing (Elliott, Jiang, Redding, & Stening, 2010; Mihm, 2007). In 2007, the Consumer Protection Agency was involved in conducting the largest recall effort in U.S. history when they recalled over 110 million Chinese products from the U.S. market (Gooden, 2008). The recall involved a broad spectrum of products including toys, foods, and medicines (Field, 2008; Hope, 2009). The recall resulted in a pronounced emotional response from the public that led to the federal government developing an action plan and regulations intended to address the problem (Action Plan for Import Safety, 2007). Since then, the recall scare and public outcry have been mostly abated and business with China has continued to increase from $321 billion in 2007 to $425 billion in 2012 (http://www.census.gov/foreign-trade/balance/c5700.html). The size, growth, and complexity of China's business activity has resulted in China becoming an important component of U.S. business outsourcing strategy and worthy of further research and development.

This study is designed to expand upon previous research which identified the strengths and weaknesses of import quality efforts in terms of core quality management elements and identified the societal elements unique to China that must be considered in establishing a successful quality-based business relationship with Chinese companies (Shehane, Huan, & Ali, 2010, 2011).

The remainder of this paper is organized as follows: A discussion of the research question and plan will be presented. A summary review of the societal elements and their impact on each of the quality management core requirements will be presented. A brief review of the framework of the core requirements of a quality management program will be covered. Following this, the results of a content analysis of journal findings that present strategic approaches related to each quality management core requirement will be discussed. The results of the analysis and previous studies will then be incorporated into a unified strategic framework showing the relationships between the Quality management core requirements, societal elements, and the strategic approaches identified in literature that fills a current gap in research literature. Finally, the results of this study and future research implications will be discussed.

RESEARCH PLAN

The research question addressed in this study is: What are the strategic approaches presented in literature that support the Quality Management efforts of the core requirements of quality management and that consider the societal elements that impact on China's business processes?

To identify these strategic approaches that impact on quality management in China, a content analysis of leading research journals was conducted for the period 2000-2012. The research journal search was structured to identify articles that discussed quality management issues related to mainland China, Hong Kong, and Taiwan.

The findings of the literature research were then incorporated with the authors' previous research to develop a strategic framework that shows the relationship between strategic approaches, quality management core requirements, and the societal elements that impact on

outsourcing quality in China (Shehane et al., 2010, 2011). The strategic framework fills a gap in research literature by developing a relationship model that demonstrates the elements in Chinese society that influence the core requirements of successful quality management policy and the strategic approaches that can be applied to ensure successful execution of the quality management core requirements for a wide variety of outsourced Chinese products and services.

CHINESE SOCIETAL ELEMENTS

A previous analysis of research literature indicates that historical, cultural, social interactions, and other factors, that are an integral part of Chinese history and society, can serve to enhance or detract from Quality Management efforts when conducting business with China (Shehane et al., 2011). The phrase "societal elements" was used to describe the assemblage of various factors that were found to affect the overall quality mission and are the following:

Survival Mode (SV)

Although China has become prosperous at a very quickly, much of the workforce is still in "survival mode". As a result, many quality management concepts have little real meaning to those who have recently emerged from poverty (Roth, Tsay, Pullman, & Gray, 2008).

Health Beliefs (HE)

While China has quickly become an accepted member of the world economy, there are still elements from its past that are entrenched and affect its perception of quality. One of those elements is their basic belief in hygiene which is that excessive concerns about hygiene can weaken ones immune system. This belief becomes especially impactful on quality management efforts involved in food production and handling (Roth et al., 2008).

Core Cultural Values (AD, HY, IN)

The research on the degree that Chinese core cultural values affected quality management was mixed. A preponderance of existing research indicated that the Chinese cultural values of adaptation, harmony, and interdependence influenced the quality management elements of organizational commitment, communication, unity of purpose, and management vision (Noronha, 2002; Zhao, Flynn, & Roth, 2007). In fact, Noronha found that the success of quality management programs in Chinese businesses appeared to be related to how well their programs assimilated Chinese core cultural values. However, one study by Pun & Ho (2001) found that employee acceptance and involvement in quality initiatives was not related to core cultural values.

Adaptation (AD)

Over the ages, collectivism has been valued by Chinese society over individualism. Collectivism emphasizes adaptive rather than innovative behavior, which conflicts with Western values. Collectivism is a value that can clash with the concept of continuous improvements and the basics of traditional quality management approaches (Noronha, 2002).

Harmony (HY)

Chinese culture tends to avoid acknowledging problems and personal embarrassment (Roth et al., 2008). This cultural value is in direct conflict with quality management's focus on actively identifying and resolving problems (Roth et al., 2008). This cultural value presents a challenge to continuous improvement efforts and the need for transparency and traceability. This value also complicates the negotiation efforts of western business negotiators (Ma, 2008).

Interdependence (IN)

China's political history has led to weak participatory processes that have extended to the workforce and resulted in the lack of core quality values such as transparency, traceability, and employee involvement (Zhao, Flynn, & Roth, 2006). This element represents a serious impediment to establishing effective quality management programs, open partnering, and continuous improvement environments.

Company Structures (CM)

Researchers agree that quality management efforts are slower to be implemented than in western nations (Zhao, et al., 2007). As a result of China's transitioning from a centrally directed economy to a socialist economy, there are three types of companies in China – state owned, privately owned, and international joint ventures (Zhao, et al., 2007) which has complicated the implementation of quality management initiatives (Peng, Li-Hua, & Moffet, 2007; Zhao, et al., 2007).

Fragmented Structure (FR)

China's business environment and regulatory environment is often viewed as highly structured and organized and controlled from the top. However, regulatory enforcement is often highly fragmented (Roth et al., 2008) and diverse. The fragmented nature of regulatory agencies hinders coordination and control efforts (Dong & Jensen, 2007; Roth et al., 2008).

Economic Pace (EC)

One of the problems affecting the quality management focus in China has been the rapid economic growth which has resulted in a challenge to China's infrastructure and ability to regulate (Zhao, et al., 2007). This represents a challenge to quality efforts.

Price Pressure (PR)

The history of the dealings between Chinese businesses and westerners has been that importers choose vendors based on lowest price with little focus on quality. This has had negative implications on the use of quality management programs in Chinese businesses.

Long Term (LT)

The Chinese have a long-term-orientation that is solidly based on 5000 years of history and their preference for stability (Zhao, et al., 2006). This has results in a cautious adjustment to new concepts such as quality management and the use of customer feedback (Zhao, et al., 2006).

Decision Support (DS)

Decision support has been recognized and even state sponsored in China since the early 1980s (Tian, Wang, Li, Li, & Wang, 2007). China's universities are also involved in offering courses of study in decision sciences. However, Chinese management style tends to be more directive than analytical, which is not naturally suited with the use of DSS (Chu & Spires, 2008; Yan & Davison, 2011).

Negotiations (NG)

Research shows that a well written and negotiated contract is a critical element in establishing a business relationship in China. A well written contract is essential to setting quality standards and recourse from failures (Fremlin, 2008; Jin & Lucy, 2008). However, a contract with Chinese businesses does not have the same meaning as it does to westerners. Handfield and McCormack (2005) warned that "the signing of a contract is just the beginning of real negotiations." Chinese negotiation style can represent a significant hurdle to western business partners (Handfield & McCormack, 2005; Zhu, McKenna, & Sun, 2007).

Quanxi (QX)

Quanxi is an aspect of conducting business with China that must be considered in the early stages of developing a relationship with one's Chinese partner. Quanxi is a cultural value of Chinese society that is focuses on social networks as a basis of doing business (Anderson & Lee, 2008; Davison & Ou, 2008; Lu, 2012). Research indicates that Quanxi affects resulting quality efforts (Davison & Ou, 2008; Peng, et al., 2007; Tung & Worm, 2001; Zhao, et al., 2006, 2007).

Regional Differences (RG)

Contrary to western perceptions, China is composed of significant regional differences involving seven different regions that differ significantly in their economic, management sophistication, historical development, experience in international trade, and cultural values (Lin, Cai, & Li, 2002). There can be significant differences in local protectionism, level of influence on business, and rules and regulations that can impact on quality management (Peng, et al., 2007; Zhao, et al., 2007). The Chinese central government has also relegated much of regulatory enforcement to local and regional governments (Roth et al., 2008; Zhao, et al., 2006) which must be considered in quality management and contracting efforts.

QUALITY MANAGEMENT CORE REQUIREMENTS

Figure 1 is a conceptual framework, referred to as Q8, that presents in its inner layer the eight core requirements that support quality management efforts – quality programs, measurement, contracts, decision support, continuous improvement, partnering, knowledge sharing, and multi-perspective viewpoint (Shehane, 2007; Shehane, et al., 2010). The outer layers of the framework present the various supporting concepts related to each core requirement. The framework has been found to be useful in previous research conducted by the authors that addressed quality management issues and shortfalls in product and service outsourced environments (Shehane, 2007; Shehane, et al., 2010).

ANALYSIS OF STRATEGIC APPROACHES

The following presents a description of the Q8 quality management core requirements (Shehane, 2007), a short description of previous research findings that showed the societal factors that influence the Q8 core requirements when conducting business with China and a discussion of the strategic approaches identified in the content analysis of research literature that are applicable to each of the Q8 core requirements (Shehane et al., 2011).

Quality Management Program

As used in this study, "A quality management program is a formalized approach to quality management that defines quality goals, quality monitoring approaches, measurement approaches, and an overall paradigm to be used in managing quality"(Shehane et al., 2010). Quality management program examples are Six Sigma, TQC, TQM, SPC, ISO 9000, and ANSI Z1.4-1993 (Beckford, 2002; Montgomery, 2005).

In terms of the societal factors, the current research analysis found that Regional Difference (RG), Long Term (LT), Survival Mode (SV), Adaptation (AD), Harmony (HY), Interdependence (IN), Health Beliefs (HE), Company Structures (CM), Economic Pace (EC), Quanxi (QX), and Price Pressure (PR) were associated with the quality management program requirement (Shehane et al., 2011).

The following strategic approaches were identified in the analysis of research literature that supports the quality management program core requirement:

Foreign companies often ignore or relegate their vendor quality management to vendor intermediaries. This situation partly led to the safety scares and quality concerns of 2007 and beyond with Chinese products and services (Kedl, 2008). As stated by Fremlin (2008), "importers can no longer treat recalls that result from defective Chinese products as remote possibilities". Fremlin goes on to say that the fact that "importers are not manufacturing the defective goods does not shield them from US regulators … nor from liability, tort, or class action litigation". Research literature addresses three main strategic areas to consider in becoming engaged in establishing quality management programs in China.

First, the body of literature recognizes the need for companies to establish a more active presence in quality management at their vendor locations. This concept encompasses requiring organizational leaders of companies that outsource to be personally involved in QM training and activities which reinforces acceptance from Chinese workers and supervisors (Noronha 2002). In addition, Zhao, et al. (2007) indicated that early establishment of a shared vision and common

goals helped to improve trust which is supportive of quality improvement efforts. Studies also recommended placing an internal quality oversight person to monitor processes to ensure quality needs are implemented correctly (Handfield & McCormack, 2005). Active involvement in quality management also includes the use of internal staff to validate the supply chain (Kedl, 2008). A part of this more active approach to quality management might also involve using 3rd Party quality standards and verification programs to ensure quality (Roth et al., 2008).

The second area of focus involved recommendations that to establish effective quality management programs requires that foreign organizations recognize and account for the broad range of institutional, social and political factors that impact adoption of programs in China (Yan & Davison, 2011). One recommendation was that the quality management program be designed or adapted to incorporate the cultural and quality philosophy of the Chinese partner's organization (Noranha, 2002).

The third area involved the importance of the focus of the quality management program. One recommendation was that companies design quality into processes based on identification of root causes of potential process failures versus relying primarily on inspections, which tend to be overused in challenging environments (Roth 2007, et al, 2008). Another recommendation was that quality management programs should establish a customer focused contract and environment. Customer focus was identified as the most important core element for quality management (Chin, Tummala, & Chan, 2003).

Measurement

One of the most common obstacles encountered in outsourcing relates to the development of quality measures (Brown & Wilson, 2005; Duening & Click, 2005;). The most common types of measures mentioned in literature are output measures which are quantifiable, input measures, which are tasks defined or accreditation based, and customer feedback measures (Brown & Wilson; Duening & Click).

In terms of the societal factors, the current research analysis found that Fragmented Structure (FR) and Quanxi (QX) impacted the measurement requirement in China (Shehane et al., 2011).

The following is a discussion of specific strategic approaches identified in the analysis of research literature that could be supportive of the measurement core requirement:

After the Chinese safety scare of 2007, research literature and businesses began to address the need for more active quality management efforts by western partners (Shehane et al., 2010). A critical element to quality management efforts consists of establishing and using quality measures for products to be imported. One strategic option recommended in literature was for western partners to work with their Chinese counterpart to identify key metrics of processes involved, and then to implement a measurement, testing, and reporting plan to ensure quality results (Roth et al, 2007). In order to facilitate measurement plans, it was found that adaptations for China existed for both SERVPERF and SERVQUAL that were useful in quality measurement effort (Zhao, et al., 2007). As part of a measurement plan, it was also suggested that western businesses maintain physical transparency of documents and use them in follow-up inspections (Roth, et al., 2007).

Contracting

A critical element of quality management with outsourced products and services is the negotiation and establishment of a formal contract that specifies the quality requirements that must be met (Corbett, 2004; Duening & Click, 2005). Imported goods also involve complexities resulting from both contractual and government agreements that elevate the need for a contracting perspective (Fremlin, 2008; Shehane et al., 2010).

The current content analysis discovered the new societal associations of Economic Pace (EC) and Regional Differences (RG) Company Structure (CM) and Price Pressure with the contracting requirement that were not identified in the previous Shehane, et al. (2011) study. In terms all of the societal factors, the current research analysis and Shehane et al (2011) found that Harmony (HY), Quanxi (QX), Negotiations (NG), Economic Pace (EC), and Regional Differences (RG) affected the contracting requirement (Shehane et al., 2011).

The following strategic approaches were identified in the content analysis of research literature that were supportive of the contracting core requirement:

"A good contract sets legally required quality standards and the legal recourse that the western buyer has against the Chinese supplier if quality requirements are breached" (Fremlin, 2008). A critical component in obtaining a good contract is the contract negotiations phase which was one of the most prevalent themes in the literature research. One approach mentioned in literature was that negotiations with Chinese businesses should be viewed as relationship building. This relationship building is composed of three negotiation stages that take time and effort – pre-formal, formal, and post-formal (Akgunes & Culpepper, 2012; Fang, 2006; Handfield & McCormack, 2005; Pranee, 2009; Zhu, 2007). One aspect of negotiations to consider is that it is important to ensure that significant rank and decision authority are represented in the negotiations and relationship building effort (Fang 2006; Pranee, 2009). In addition, it is important to ensure that negotiators incorporate and acknowledge cultural issues during negotiations (Akgunes & Culpepper, 2012; Chua, 2012; Pranee, 2009; Quer, Claver, & Rienda, 2010). Also, due to the pace of change that can be encountered in China, negotiators need to be willing to monitor and adjust based on conditions (Handfield & McCormack, 2005). Negotiators should be prepared to use multiple interpreters that understand the language, culture, and business to ensure proper interpretation, given the complex nature of the Chinese business environment (Chua, 2012; Handfield & McCormack, 2005; Pranee, 2009). Negotiators and business executives should also remain flexible when considering options for structuring their venture and be aware of the preferential policies that might be provided by local governments (Akgunes & Culpepper, 2012; Pranee, 2009). Negotiators should not be hesitant to pad their offer since the Chinese culturally expect this (Fang, 2006). A part of the negotiation strategy should also consider regulations that may pertain to business sector and region (Pranee, 2009; Akgunes & Culpepper, 2012).

The contract structure itself should consider contingencies such as volatility, complexity, and any possible hostility in order to reduce the risks and potential hazards of uncertainty (Luo & Tan, 2003). When structuring the contract and relationship, rely on Chinese management's strengths, such as build and delivery processes, and rely on western partner strengths for external collaboration, such as design, planning, and sourcing (Handfield & McCormack, 2005; Akgunes & Culpepper, 2012). Be proactive in providing investment of needed resources pertaining to contract performance that would enhance the Chinese partner's efforts. Partners should focus on the long term gain rather than any short term loss that the investment involves (Quer et al.,

2010). Specify testing requirements in contract and settle this requirement early (Roth et al, 2007). Mitigate the risk of defective products by utilizing product liability and recall insurance requirements that are specified in the contract (Fremlin, 2008). Finally, coordinate and obtain approval of the contract obligation with government agencies to ensure support (Pranee, 2009).

Be prepared to show how each partner will benefit both socially and economically (Neidel, 2010). Finally, foreign partners should be aware that western excessive reliance on a legalistic strategy for resolving problems will typically encounter a negative reaction from Chinese partners.

Decision Support

Decision support tools are an important requirement when facing complex quality issues such as those encountered in outsourcing and importing which involve multiple layers of supply and production (O'Donnell & David, 2000; Turban et al.; 2005). Considering the enormity and complexity of China's international trade process, the use of decision support tools should be considered as a viable option. As such, sourcing plans and policies need to be reevaluated on a regular basis (Handfield & McCormack, 2005). The use of decision support could be a valuable aid to these evaluations and long term business success (Yan & Davison, 2011).

The current content analysis discovered new societal associations with decision support that were not identified in the previous Shehane et al. (2011) study. The content analysis found that Decision Support (DS), Quanxi (QX), Regional Differences (RG), and Company Structure (CM) were associated with the decision support requirement.

The following strategic approaches were discovered in the analysis of research literature that could be supportive of the decision support core requirement:

China's economic growth has been accompanied by widespread development and acceptance of information systems for operational decision making, but has encountered resistance to the use of decision support tools and systems for long term decision making (Yan & Davison, 2011). One of the recommended options for overcoming this predicament is to build on existing Chinese management's trust in information systems to introduce higher level use of DSS (Yan & Davison, 2011). In addition, the development of decision support tools needs to consider the management decision style of the Chinese and its potential fit for decision support. Studies have shown that Chinese managers are prone to a directive, conceptual, and behavioral decision style that is not a good match for decision support systems and tools (Yan & Davison. 2011;). In order to resolve this ,ismatch and encourage acceptance of decision support tools, developers need to build decision support tools that are based on and supportive of Chinese decision styles and that meet their informational needs and behavior (Yan & Davison, 2011).

Decision support development needs to also recognize and incorporate a broad range of institutional, social and political factors that impact adoption of management tools (Yan & Davison, 2011). In addition decision support developments need to consider Chinese continued reliance on people sources and information from social networks and use this in their implementation efforts (Kedl, 2008; Yan & Davison, 2011).

Supplier selection and management is an important aspect of a sourcing plan that involves a challenging decision environment involving reducing costs while maintain quality. Examples of both a generic and industry specific supplier management decision support tools were presented in literature that were applicable to China's business environment (Choy & Lee, 2003; Choy, Lee & Lo, 2004).

Continuous Improvement

A critical ingredient of quality management is the concept of continuous strategic and systematic improvement of quality (Beckford, 2002; Montgomery, 2005). Continuous improvement involves establishing an organizational climate that is aimed at constantly improving processes to achieve higher quality levels.

The current content analysis discovered the new societal associations of Company Structure (CM) and Price Pressure with continuous improvement that were not identified in the previous Shehane, et al. (2011) study. In terms of all of the societal factors, the current research analysis and Shehane et al (2011) found that Adaptation (AD), Harmony (HY), Interdependence (IN), Company Structure (CM), and Price Pressure (PR) were associated with the continuous improvement requirement.

The following strategic approaches were identified in the content analysis of research literature that are supportive of the continuous improvement core requirement:

Zhao, et al. (2007) discussed the importance of relationship management and collaboration with quality management and continuous improvement efforts with Chinese partners. Wong, Tjosvold, and Zhang (2005) indicated that interdependence between partners led to cooperative goals which in turn led to continuous improvement which resulted in a positive influence on customer satisfaction. Wong, Tjosvold, and Zhang (2005) also found that shared vision and common goals helped to improve trust that was supportive of long term supplier relationships and quality management efforts. It was also found that the sharing of improvements between partners through training and discussion also improved trust levels and resulting continuous improvement efforts.

Active involvement by both partners in process control and improvement efforts were key factors in operational performance and customer satisfaction (Yeung, Cheng, and Lai, 2005). Finally Roth et al. (2007) found that the process of analyzing shortfalls against quality measures was an important impetus to continuous improvement efforts.

Partnering

Partnering is a relatively new term that involves a separate agreement between a supplier and buyer to openly share information and to establish and work toward common goals and benefits. This approach is designed to avoid adversarial contracting relationships in favor of more collaborative and mutually beneficial arrangements (Corbett, 2004; Gunasekaran et al., 2004; Shehane et al., 2010; Webb & Laborde, 2005).

The current content analysis discovered one new societal associations of the Long Term (LT) factor with the continuous improvement requirement that was not identified in the previous Shehane et al. (2011) study. In terms of all of the societal factors, the current research analysis and Shehane et al. (2011) found that Harmony (HY), Interdependence (IN), Quanxi (QX), Negotiations (NG), Price Pressure (PR), and Long Term (LT) factors were associated with the partnering requirement (Shehane et al., 2011).

The following strategic approaches were identified in the analysis of research literature that were supportive of the partnering core requirement:

The Chinese are historically and culturally oriented toward avoiding confrontation, saving face, and finding grounds of mutual cooperation in business and thus can be prime candidates for a partnering approach (Akgunes & Culpepper, 2012; Handfield & McCormack,

2005; Pranee, 2009). Research indicates that partner selection should be based on an active, value added partner with valuable government connections, industry knowledge, local business connections, labor practices and results, ownership type, and financial strength (Akgunes & Culpepper 2012; Handfield & McCormack, 2005; Pranee, 2009). Additional selection factors should be shared standards and ethics, decision-making capability, good communications, mutual trust, common strategic objectives, regional advantages, and product attributes related to ventures (Pranee, 2009, Quer et al., 2010; Zhao et al., 2007). Don't hesitate to seek references from companies that have conducted business with supplier partners in China (Akgunes & Culpepper 2012; Handfield & McCormack, 2005). Also, consider use of a knowledgeable agent in China to assist in selecting a supplier (Handfield & McCormack, 2005).

In terms of the working relationship to establish with Chinese partners, it is important to rely on Chinese management strengths such as make and delivery processes and use western partners strengths with in-house resources for external collaboration such as design, planning, and sourcing (Akgunes & Culpepper, 2012; Handfield & McCormack, 2005). Partner with supplier members in the supply chain and involve them in the product development process to increase trust and quality (Kedl, 2008). Use and build on existing good relationship networks available to Chinese partner to take advantage of "social capital" (Kedl, 2008; Yan & Davison, 2011).

Once a partner has been selected, literature suggests that westerners build on the relationship. As mentioned in earlier findings, the different stages of negotiations should focus on building the relationship and trust by using the pre-formal, and post-formal stages(Chua, 2012, Fang, 2006, Pranee, 2009). During these stages, success should be measured based on duration, forbearance, and quality of relationship. (Chua, 2012, Fang, 2006, Pranee, 2009). During this period, companies should focus on building long-term relationships based on trust rather than pursuing lowest price and continued rebidding (Roth et al., 2007, Zhu et al., 2007). Companies should focus on cooperative goals and interdependence between partners to improve trust (Wong, Tjosvold, & Zhang, 2005). Also, companies should look for opportunities to provide new knowledge or value to the Chinese partner, which serves to build trust and reliance (Chua, 2012). In addition, companies should use equal corporate executive levels in the trust building activities conducted between partners (Chua, 2012). It was also recommended in literature that western companies utilize language training for executives to assist in relationship building (Chua, 2012). Westerners should build trust based on constantly testing cultural assumptions in the context of actual experience and adjusting accordingly (Chua, 2012). One other suggestion in literature was that westerners consider hiring locally where possible to utilize existing cultural knowledge to overcome cultural distance and then train in business knowledge (Chua, 2012; Fang 2006). It was also suggested that westerners provide training in technical and best practices to close gap between local norms and expectations (Roth et al., 2007). Westerners should be open to "retention-oriented and use team problem-solving management practices" to better adapt to Chinese societal values (Quer et al., 2010). Western partners should apply openness and cooperation with partners in conflict resolution including concerns, priorities, ideas, and issues but should avoid over-reliance on a legalistic contractual approach since this has negative implications when working with the Chinese (Fang, 2006; Quer et al., 2010,).

Relationships of trust are important in Chinese society, but to ensure quality, active verification is required. Follow-up visits to the Chinese partner's operation, including reviewing operating records, financials, and industry input are discussed in literature (Pranee, 2009; Roth et al., 2007).

Knowledge Management/Sharing

Research literature supports the critical nature of knowledge management and sharing in facilitating complex decision making that would be involved in quality management programs operating in difficult and convoluted business environments that exist in China (Bose, 2003; Corbett, 2004; Duening & Click, 2005). Knowledge management, for this study, is defined as the "processing, representation, and reuse of an organization's aggregated expertise in such a manner that it provides value to the organization and its entities" (Holsapple, 2001; Shehane et al., 2010; Turban, Aronson, & Liang, 2005). "Knowledge sharing refers to the transference of knowledge from one entity to another" (Shehane et al., 2010).

In terms of the societal factors, the current research analysis found that Company Structure (CM), Quanxi (QX), and Regional Differences (RG) were closely related to the knowledge management/sharing requirement (Shehane et al., 2011).

The following is a discussion of specific strategic approaches identified in the analysis of research literature that could provide useful support to the knowledge management/sharing core requirement.

China's historical and cultural development has been characterized by an aversion to transparency and openly sharing knowledge (Davison & Ou, 2008; Roth et al., 2007; Zhao, 2007). As discussed by Davison & Ou (2008), in knowledge management literature, tacit knowledge can be described as "we can know more that we can tell". However, in the Quanxi oriented and somewhat closed environment of Chinese business, tacit knowledge can best be phrased as "We know more than we want to tell" (Davison & Ou, 2008). Given the difficulty of sharing, strategies that encourage trust and openness are important for western partners. Chua (2012) points out that one of the keys to building relationships in China is through the open sharing of helpful information. As quoted from an interview by Chua, "Once you show you can be helpful … people open up and trust you more". One area of useful sharing discussed by Roth et al. (2007) was that businesses develop a map of the supply chain they plan to use and actively share this with their partners and managers and train on how to ensure quality product delivery through this chain (Roth et al., 2007).

The literature also discussed the sharing of quality improvements through training and that discussion helps improve levels of trust and encourages continued improvements (Roth et al., 2007). Another strategic option mentioned in literature was the advantages for quality improvement that could be gained through improved and expedited sharing of auditing and compliance on products and services (Roth et al., 2007).

Multi-perspective

The multi-perspective element applies to quality management challenges where many different viewpoints such as regulatory, political, cultural, technical, etc. must be incorporated to arrive at optimal decisions (Cil, Alpturk, & Yazgan, 2005; Courtney, 2001; Corbett, 2004; Harland, Knight, Lamming, & Walker, 2005; Webb & Laborde, 2005). The multifaceted and complex nature of conducting business with China, make it a prime candidate for multiperspective consideration (Shehane et al., 2010).

In terms of the societal factors, the content research analysis identified the societal factors of Regional Differences (RG), Economic Pace (EC), Fragmented Structure (FR), and Quanxi

(QX) that have an impact on the multiperspective core requirement, that were not identified in the previous Shehane et al. (2011) study.

The following is a discussion of specific strategic approaches identified in the analysis of research literature that could be supportive of a multiperspective decision approach:

Research literature emphasized the strategic need to ensure the backing of both parties' governments. This included coordinating and obtaining approval of obligations, agreements, and needs with Chinese government agencies in the regions and at different levels (Pranee, 2009; Handfield & McCormack 2005, Fang 2006). Both the regional differences, an accelerated economic pace, and fragmented regulatory structure in China make this strategic option important. In addition, the need to show the backing of the foreign partner's government was also stressed since this shows a level of authenticity and status that helps build trust and overcome the initial Quanxi disadvantage.

In addition, due to regional differences, it is important to look for supportive provinces and local governments. Research indicates that there is greater trust developed between business partners that operate under a facilitative government (Rao, Pearce, & Xin, 2005). Not only must foreign partners understand the difference in regions, but they should adjust for rivalries and differences between provinces and regions that can impact on the reliability of sources and the sophistication of available supply chains and account for this in their strategic plans (Handfield & McCormack, 2005).

Finally potential foreign partners should recognize and account for the broad range of institutional, social, cultural, and political factors that impact on the adoption of programs and management tools (Yan & Davison, 2011). For example Chinese managers tend to be more focused on the daily operational factors of business and so they prefer and accept information systems use in their decision making, but tend to avoid more analytical decision approaches (Yan & Davison, 2011). This needs to be understood when attempting to institute new systems and programs (Yan & Davison, 2011).

CONCLUSIONS AND FUTURE RESEARCH

Other studies have addressed many of the individual factors that affect quality management performance in the Chinese business environment. However, this study represents an original work in the development of a framework that provides an integrated perspective of the 8 core requirements of quality management, the societal elements that affect them, and the strategic approaches that have been identified as effective in their application to the Chinese business environment. The framework resulting from this study is presented in tables 1-8. Societal factor relationships that are enclosed in brackets are those that were newly discovered in the current content analysis.

Although adding to the cumulative body of knowledge concerning strategic approaches for quality management efforts in China, the study is not without limitations that should be considered. The literature reviewed for this study was restricted to relevant academic journals on Chinese quality management. However, any effort based on literature research could have overlooked studies contained in other journals not identified in the original selection. In addition, this study included a wide variety of organizational types that exist in China, including small to large sized government owned, privately owned, and jointly owned ventures. It is recognized that the successful application of the various factors identified might vary among the various organizational types.

However, the framework developed in this study should serve as a useful aid to researchers and practitioners by outlining the role each element of the framework plays in supporting effective quality management practice in a fast-paced international environment.

The findings of the study indicate several areas where future studies would be of worth. Per Davison and Ou (2008), the recent reliance on on-line intermediaries is resulting in a wider range of business associates versus the previous reliance on Quanxi and its tighter grouping of friends, family, and familiar business associates. Surveys and Delphi Studies indicate that the use of Quanxi is expected to diminish over time (Anderson & Lee, 2008; Elliott et al 2010). In fact, per Chua (2012), it appears that China's active involvement and acceptance in world trade is causing China to align their business practices more with western values and expectations. Further study is needed to determine this trend is growing and its impact on Quanxi in Chinese business practice.

Although it is generally accepted that Chinese cultural values influence employee participation and quality management programs, there was some conflict in findings between Noronha (2002) (2003) and Pun & Ho (2001). Pun's findings indicated no evidence of cultural values influence. Further study is required to resolve these conflicting findings.

In addition, a future study is planned by the authors to use the strategic framework concepts to revise an automated quality management system currently successfully used in the U.S. for a local outsourced operation. The goal of the revision would be to develop an international model of an automated quality management system that could be applied to an outsourced operation in China. This effort would represent a unique effort not previously documented in research literature.

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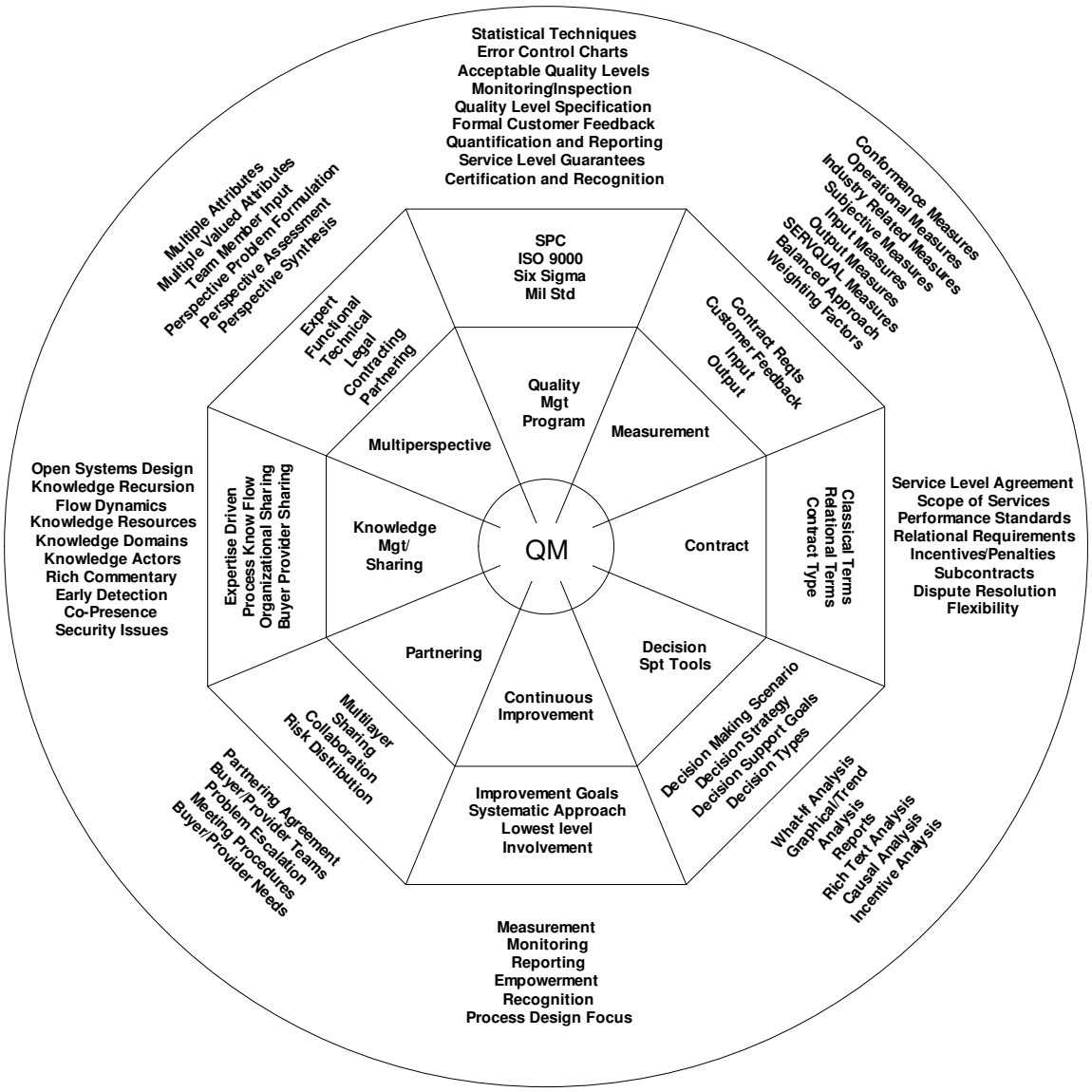

Figure 1. Conceptual Framework for Quality-Management. From Outsourcing Management – Implementing Quality and Performance Decision Support, by R.F. Shehane, 2007. Saarbrücken, Germany: VDM Verlag Dr. Müller reproduced with permission.

Table 1. QM Program Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
Regional Difference (RG) Long Term (LT) Survival Mode (SV) Adaptation (AD) Harmony (HY) Interdependence (IN) Health Beliefs (HE) Company Structures (CM) Economic Pace (EC) Quanxi (QX) Price Pressure (PR)	QM Program	Incorporates the cultural and quality climate Design quality into processes Leaders personally involved in QM Include org philosophy and cultural values Customer focused contract and environment Validate and monitor supply chain Consider using 3rd Party quality verification Consider placing an internal quality oversight Consider range of factors that affect adoption

Table 2. Measurement Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
Fragmented Structure (FR) Quanxi (QX)	Measurement	Identify key metrics of processes SERVPERF/SERVQUAL use Maintain physical transparency of documents

Table 3. Contracting Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
Harmony (HY) Quanxi (QX) Negotiations (NG) [Economic Pace (EC)] [Regional Differences (RG)]	Contracting	Approach negotiations as relationship Ensure rank and decision authority Incorporate and acknowledge cultural issues Acknowledge and adjust to the pace of change Use multiple interpreters with understanding Consider options for structuring venture Consider preferential policies of government Identify business regulations and region Apply intellectual property protection Contract with environmental contingencies Rely on Chinese Management strengths Use own resources for external collaboration Be proactive in providing investment if needed Obtain approval of government Specify testing requirements in contract Pad price to reflect Chinese expectations Show each partner's gain Use liability and recall insurance to mitigate risk

Table 4. Decision Support Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
Decision Support (DS) [Quanxi (QX)] [Regional Differences (RG)] [Company Structure (CM)]	Decision Support	Utilize supplier database with evaluation methods Build on existing trust in IS Consider management's decision style Consider Chinese reliance on people Consider range of factors that affect adoption

Table 5. Continuous Improvement Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
Adaptation (AD) Harmony (HY) Interdependence (IN) [Company Structure (CM)] [Price Pressure (PR)]	Continuous Improvement	Use analysis of shortfalls against measures Share improvements Use process control and improvement Focus on cooperative goals and interdependence

Table 6. Partnering Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
Harmony (HY) Interdependence (IN) Quanxi (QX) Negotiations (NG) Price Pressure (PR) [Long Term (LT)]	Partnering	Select partner based on value added Partner with suppliers on product development Use agent in China to assist in selections Rely on Chinese Management Use internal resources for collaboration Build on good relationship networks Seek references for Chinese supplier partners Focus on building long-term relationships Utilize negotiations to build relationship Focus on cooperative goals and interdependence Apply selection factors Provide knowledge or value to Chinese partner Use equal executive levels in trust building Build trust on constant testing of assumptions Utilize language training for executives Hire locally to utilize cultural knowledge Open to "retention and team problem-solving Follow-up review visits with partner Schedule regular visits to facilities Apply openness in conflict resolution Provide training in technical and best

Table 7. KM/Sharing Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
Company Structure (CM) Quanxi (QX) Regional Differences (RG)	KM/Sharing	Map supply chain, train, and share Share and train on improvements Reduce delays on auditing and compliance

Table 8. Multi-perspective Framework Elements

Societal Factors	QM Reqts (Q8)	Strategy
[Regional Differences (RG)] [Economic Pace (EC)] [Fragmented Structure (FR)] [Quanxi (QX)]	Multi-perspective	Ensure government backing of both parties Understand and adjust for region rivalries Account for broad range of factors