Impact of kaizen on firm's competitive advantage in a Japanese owned company in Malaysia

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Abstract: This study aims to investigate the relevance of kaizen in today's commercial and market situation in the non-Japanese-oriented social values cultures, specifically in multicultural Malaysia. A qualitative methodology has been used to investigate the role of kaizen and its effect through a semi-structured interview Japanese owned companies (JOC) in manufacturing sector. The study found that kaizen is perceived by the top management of the JOC organisations to be critically important to maintain its competitive position. The findings also suggest that kaizen application is not dependent on having the Japanese social-oriented values. Most importantly, the study finds that kaizen could strive and be deployed strategically in the Malaysian cultural work place to build organisational dynamic capabilities. Many advantages could be obtained from the predicated of the people's efforts in kaizen which often requires behavioural change in application including underscore the transformation of management. Kaizen uniqueness is in its unrelenting continuous development of people's competences, ideas management and never ending operational process improvement. This uniqueness can be very effective as the firms' internal resource to complementing the RBV strategic framework.

Keywords: kaizen, competitive advantage; cultural; continuous improvement; process; Malaysia.

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1 Introduction

Kaizen is a problem-solving and people-oriented process. It has been defined as any process of continuous improvement in any area of life: personal, social, home or work, and when applied to the workplace kaizen means continuing improvement involving everyone – managers and workers (Imai, 1991). In terms of the time consumption, this activity is above the duration of the internal process improvement (Aoki, 2008). Kaizen is people-oriented and its application involves everyone in the organisation from top management to workers at the shop floor (Berger, 1997). It can therefore, support any management activities including cost reduction and time management (Bertodo, 1993), safety management (Krause and Finley 1993), product design, productivity improvements, zero defects, maintenance management or new product development. This multiplicity of methods and contexts means that kaizen is highly versatile both as a concept and a technique. This study shall adopt the definition of kaizen as that presented by Brunet and New (2003, p.1428) which shall be that, "kaizen to consist of pervasive and continual activities, outside the contributor's explicit contractual roles, to identify and achieve outcomes he believes contribute to the organizational goals".

Maurer (2004, p.1) states that Japanese firms have long applied kaizen to achieve their business goals and maintain excellence. Imai (2001, p.1) suggests that kaizen has contributed greatly to Japan's competitive success. In Japan, kaizen is a pervasive concept linked to all Japanese manufacturing practices (Young, 1992). And Japanese manufacturing management technique stands out among several factors accounting for the success of Japanese manufacturing firms as quality producers of goods, reduction in costs, increased throughput and increased flexibility (Lee, 1992). Kaizen which is supposed to be simple, low cost, low technology and people focused, which primarily

aimed to continuously enhance the firm's capabilities, productivity and quality, can be considered as a major competitive resource. Literature review indicates that numerous authors have written about kaizen application in diverse firms in Japan, USA and Europe (Berger, 1997; Malloch, 1997; Cheser, 1998; Brunet, 2000; Shimizu, 2000; Styhre, 2001; Soltero and Waldrip, 2002; Brunet and New, 2003; Inoki and Fukazawa, 2007; Khan et al., 2007; Glover et al., 2011). Several other recent studies in kaizen have also been conducted in China (Aoki, 2008) and Mexico (García et al., 2013; Suárez-Barraza and Ramis-Pujol, 2010). However, it is believed that following extensive web search there is no notable similar research has been carried out in Malaysia.

Past studies have signified that despite the benefits of kaizen, there were many companies failed to achieve the success of the activity in their organisations. This is because of the internal constraints that impede the effectiveness of the implementation against the expected outcome of the activity. For instance, García et al. (2013) quoted the case of the study by Jaca et al. (2010), who discovered that two main barriers that hinder the effectiveness of the kaizen activities in Spain and Mexico are poor cooperation among employees and management and also the defiance of employees towards the changes in the working system. On similar note, Suárez-Barraza and Ramis-Pujol (2010) reported that the failures to achieve the objective of kaizen activity among Mexican industries are the employee resistance to change and no appropriate execution and monitoring of the kaizen project. Nevertheless, these factors are not applicable to all countries due to the fact that each particular nation may have different culture, education and knowledge in adopting the kaizen philosophy.

In view of this, there is at paramount importance to understand on the adoption of kaizen in other countries so that the crucial factors can be identified for comparisons and resemblances. Such study outside Japan can help the management to understand the approach towards the proper practices of the kaizen activities in other countries (Aoki, 2008) across the globe. This study offers additional advantage by providing kaizen adoption experience from a diverse cultural environment in multiracial work-force of the Japanese owned company (JOC) firms in Malaysia. Richard (2000) refers racial diversity to mean cultural diversity. Cox (1994) describes cultural diversity to mean the representation, in one social system, of people with different group affiliations of cultural significance. Proponents of diversity maintain that different opinions provided by culturally diverse groups make for better-quality decisions (Cox, 1994; McLeod et al., 1996). Indeed Malaysia with her diverse racial mix, nationally and in the work place (comprising almost of equal proportion of the major racial groupings of Malays, Chinese and Indians, and with a broad spread of foreign expatriates) present an ideal study from the cultural perspectives.

In particular, the objective of this study is to investigate the role of kaizen as applied in the Malaysian work place cultural setting including its effect on the organisations' competitive capabilities. The study draws on the in-depth experiences and expectations through exploratory methodology from the top management personnel of two kaizen practicing JOC operating in the electronics manufacturing industry. Section 2 reviews the literature related to this topic. Section 3 presents the research methodology, Section 4 discusses the findings, and Section 5 presents the study discussion. The final of Section 6 concludes the study by indicating the managerial implication and suggestions for the future research.

2 Literature review

Literature review shows that basic organisational capabilities in terms of productivity, quality and delivery time with attention to customer satisfaction and human resource competences are key competitive resources for the firms. The kaizen contextual linkage to such competitive resources can be seen from the many arguments presented by various authors. Styhre (2001) describes kaizen as the ethics enabled development of an enterprising self within a specific organisational setting. Imai (1991) suggests that in Japan the notion that the customer comes first is incorporated into the kaizen concept. Bhatt (2000) argues that each capability of the firm to consist of the knowledge of several repertoires. A firm's capability as a competitive resource can be viewed from Penrose's (1959) argument that each capability is unique since it is developed within a specific set of resources through the integration of diverse sets of repertoires in the organisation.

The Japanese firms seek kaizen incremental improvements for products and services in every aspect (Imai, 1991). Kaizen as suggested in the literature review is a very powerful concept underpinning many of the Japanese management style (JMS) that have effectively changed Japanese manufacturing industry. Japan's reputation to having world-class manufacturing is still presently valid. Yamashina (2000) argues that as a total production resource, the Japanese firm is much stronger than its western counterpart, in that Japan continues to have a decisive edge particularly in three crucial areas of quality management, value add per employee and shortening of lead times. Porter et al. (2000) assert that when Japanese firms compete with distinctive strategies, they have remained highly competitive and profitable, despite the fact that western firms have reached comparable levels of operational effectiveness. In terms of manufacturing to meet customers' needs, Yip and Ng (2004) suggest that the combination of the Japanese firms' high degree of trust built over the years with their customers, the relentless pursuit of value creation for customers, and the willingness to adopt kaizen in their daily practices to achieve such value creation will help guide the Japanese firms to design and manufacture products to suit to the customers' precise and ever-changing needs. Schonberger (2006) states that Japanese production management, while potent itself, becomes even stronger when linked with complementary western innovations.

Unlike Japan with her racially homogeneous society, Malaysia is a multi-ethnic country, having three dominant ethnic groupings, Malays, Chinese, Indian and many minor ones. Although a large segment of the cultural dimensions of the three large ethnic groups are similar, there are differences in terms of degree and priorities of values (Zailani et al., 2007; Salleh, 2005). Malaysian culture is therefore, not homogenous, but basically made up of three main races – Malays, Chinese and Indians. Osman-Gani and Tan (2002) who studied the same three major ethnic groups in Singapore discovered that these three groups also employed different negotiation styles. Malays are more indirect in expressing their views and opinions which are embedded in the nonverbal behaviours and flexible as an attempt to secure a close relationship with the other party (Mohd Salleh, 2005). Also the Malay language is more analogous than digital and that a single word can be used in many different contexts (Salleh, 2005). Salleh (2005) further indicates that other than culturally heterogeneous there exists in Malaysia an additional 'new culture' as a result of the mixing and the blending of the three dominant Malay, Chinese and Indian cultures.

Smith (2003) postulates that Malaysia is probably unique as no other country exemplifies such a strong example of the practicalities of managing cultural diversity

from three major ethnic communities and many minor ones. Although the literature review shows that despite the cultural divergence kaizen could be successfully implemented in the US workplace with selective adaptation, it should be noted that firstly, the Japanese have taken many of their basic ideas developed in the US behavioural sciences and acted to institutionalise them in their daily practice (Cole, 1980). Additionally it is important to recognise that as compared with Malaysia both Japan and the USA are highly industrialised nations. Starting in the early 1980s, Japanese production methods and management philosophy have begun to diffuse in the USA in two ways, the Japanese were building plants in the USA and the US mass-producers were adopting these methods on their own (Davenport and Tang, 1996; Rhody and Tang, 1995; Womack et al., 1990). However, Malaysia is a developing economy with relatively lower end production activities. Japan mostly moved their low end production primarily to other low-cost production locations in Asia including Malaysia and investment in career development was primarily targeted at Japanese employees who were on foreign assignment (Denison et al., 2004). Also in Malaysia at this stage of her industrialisation it is pertinent to note that the wage differential between the production workers and the managerial levels could be large, exceeding more than ten times (MIDA, 2009) as compared with the differential of about three times in highly industrialised Japan and the USA (Robert Walters, 2009).

As to the JOCs in Malaysia it is pertinent to note from the literature review that they (JOCs) are managed primarily as integrated part of the central control system of the parent companies, which usually control capital budget, distribution of technological know-how or patents, expatriate administrative staff, the supply of raw materials and the destination of sales with little degree of freedom of management left to the Malaysian subsidiaries (Imaoka, 1985). Due to the strong operational control from the parent companies in Japan it is therefore, more appropriate for the study to investigate the applicability of kaizen firstly in such JOC managed workplace environment. In summary kaizen which essentially underpinned the Japanese management philosophy is a derivative of their culture (Imai, 1991). Malaysia having a significant cultural variation and at a different stage of industrialisation as compared with highly industrialised Japan and USA clearly has to be studied separately in terms of kaizen application. Indeed Malaysia with her plural society offering a unique blend of three large ethnic groups with distinctive variation in values and practices, present a unique opportunity for this study on kaizen. This study sets out to investigate the relevance of kaizen in today's commercial and market situation in the non-Japanese-oriented social values cultures, specifically in multicultural Malaysia. In particular the study investigates the role of kaizen as applied in the Malaysian work place cultural setting and its effect on the organisations' competitive capabilities.

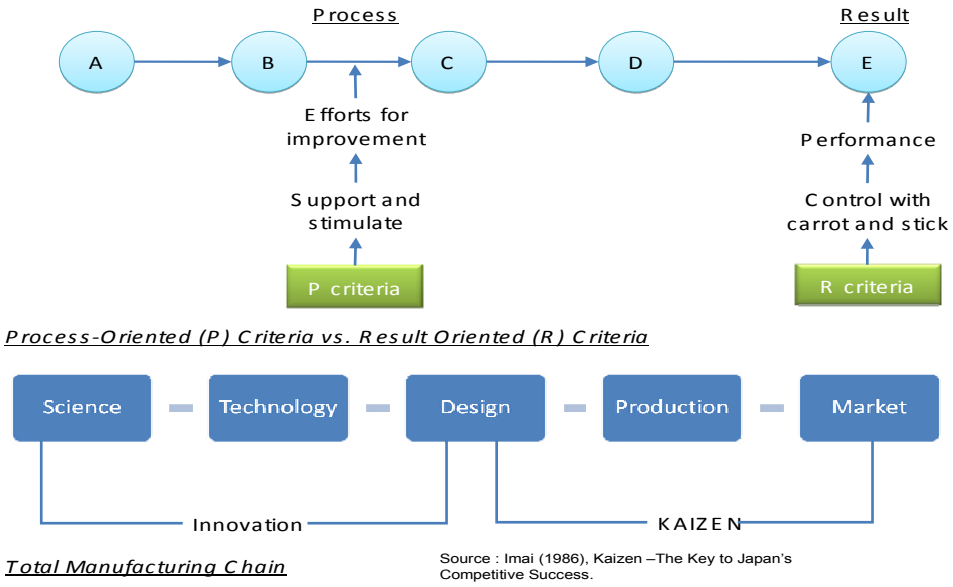
2.1 Kaizen scope and characteristics

According to Imai (1991) kaizen is an umbrella concept that includes a series of JMS, covering production planning activities, human resource policies and practices, organisational and leadership approaches. Kaizen is process-oriented, focusing on discipline, time management, skill development, participation and involvement, morale and communication, collectively termed by Imai (1991) as the P (process) criteria. A kaizen manager is therefore, a people-oriented manager. The Japanese have found that by

making kaizen continuous improvements (CI) a never-ending process, the many thousands of kaizen improvements made over time have made their Japanese firms what they are, and they claimed this as the reason behind the Japanese manufacturing success (Pomlett, 1994). Kaizen creates a culture that allows employee creativity and ideas to flourish, the result is the firms will be able to react quickly to change and to aim better or differently across major company functions (McAdam et al., 2000). Cheser (1998) claims that kaizen has resulted in dramatic gains in productivity, enriched jobs and increased motivation. However, the employees must receive adequate training and support to ensure the successful of the kaizen activities (Marksberry et al., 2010).

This is proven from a study of transition of US manufacturing from traditional methods to kaizen based on the job characteristics model (JCM). Teamwork, empowerment and training are key elements of kaizen practices. Brunet and New (2003) suggest that kaizen creates modern mindset/culture where change and new technology are easily accepted. Malloch (1997) suggests that kaizen creates a reservoir of labour skilled at analysing and standardising work processes, which is a source of competitive advantage. Styhre (2001) argues that kaizen is based on ethics that enabled development of an 'enterprising self' within a specific organisational setting. Figure 1 shows the kaizen continuous process-oriented for overall improvement.

Figure 1 Kaizen continuing process-oriented improvements (see online version for colours)



Source: Imai (1991)

As depicted in Figure 1, the uniqueness of kaizen, is in its never-ending improvement process and one that emphasises on communication and trust between workers and management towards productivity and quality improvements. From another point of view, according to Modarress et al. (2005), kaizen costing activities involved a continuous improvement by concentrating on the increase of product cost during production stage and not from the earlier R&D stage. Normally in the kaizen costing, the management will fix the target of cost reduction for each of the products. As in the case

of Boeing for instance, the cost reduction activities for each departments are set within six months period intervals to accomplish. After that, the costing of each section is discussed between the management and the related section for the finalised cost reduction target. It is up to the particular section to find ways on how to achieve the agreed target within the stipulated time period. However, they will be held responsible and required to investigate if they failed to meet the progressive targets (Modarress et al., 2005). This is because in kaizen costing, the product costs must be lowered down consistently in every consecutive period in order to achieve the target objectives (Monden, 2000).

2.2 Organisational capabilities

Collis (1994, p.145) defines organisational capabilities as the socially complex routines that determine the efficiency with which firms physically transform inputs into outputs. Winter (2000, p.4) suggests that an organisational capability is a high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organisation's management a set of decision options for producing significant outputs of particular type. Helfat and Peteraf (2003, p.999) posit, that "an organizational capability refers to the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result". The RBV endorses the virtues of organisational capabilities (however defined) as a valuable source of competitive advantage. According to Bhatt (2000), neither capabilities nor resources, alone, are sufficient to offer above 'rents' to the organisation. It is the interaction between resources and capabilities that drive the organisation for coordinated use of knowledge and resources (Bhatt, 2000).

Gong, Baker and Miner (2006) argue that organisational routines offer an important element of stability in organisations. Routines provide efficiency (Argote, 1999) and continuity (Becker, 2004), allowing predictability in active organisational life (Cohen et al., 1996). Routines play a key role by reducing variability in organisational behaviour (Becker, 2004). Here, kaizen, which advocates continuous improvement to organisational processes and routines and which focuses on people's activities, is the strong enhancer to the organisational capabilities. For instance, by applying technology in kaizen to record the workflow line information of the hospital workers, Mizuno et al. (2012) signified on the ability to improve the movement of nursing work is higher by mapping out the flow of movement patterns between the skilled and unskilled workers. The waste of motion has been greatly reduced and improved the overall quality of the healthcare work, as a result of the continuous kaizen initiative efforts initiated in the hospital workflow line operations.

Ulrich and Smallwood (2004) offer a compendium of capabilities that tend to be prevalent in successful organisations (where such organisations typically excel in as many three of these capabilities while maintaining industry parity in the others) namely:

1 talent (technically excellent performance)

2 speed (speedy response to market demands and/or quickly incorporating new ideas and technologies into products)

3 shared mindset (good at ensuring employees and customers possess common and consistent images and experiences with the organisation)

4 accountability (linking performance to rewards)

5 collaboration (partnering across corporate boundaries)

6 learning (adapting corporate practices in light of accumulated experience)

7 leadership (effectively articulating and implementing strategy)

8 customer connectivity (building enduring trust relationships with targeted customers)

9 strategic unity (pursuing a shared strategic vision)

10 innovation (generating new ideas and combining existing elements to create new sources of value)

11 efficiency (cost effectively delivering products).

However, it must also be recognised that the sustainability of organisational capabilities for competitive advantage is dependent on the context of the industry and time. As Collis (1994) argues that the position of competitive advantage which a capability can generate today will not be sustained due to erosion of that capability itself as the firm adapts to external or competitive changes; replacement by a different capability; and being surpassed by a better capability. Collis (1994) also posits that no solution is truly adequate to reconcile the infinite levels of capability with the analysis of competitive advantage because any higher-level capability is always logically prior as the source of sustainable competitive advantage.

3 Methodology

This study is a kind of exploratory research based on multiple case studies with two JOC Malaysian organisations based in Penang. In relation to this, the case study methodology has been proven effective in exploring the new phenomena for the development of the new theories in the field of operations management (Voss et al., 2002). The chosen companies are currently operating in the manufacturing industry or more precisely those operating in the fast moving electronics sector and already practicing kaizen for a period of time. Penang hosts a relatively large number of JOC electronic and electrical manufacturers outside the Kuala Lumpur area. In this case, the selection is based on the firms that are really suitable to represent the samples that are capable of generalising the case study results (Lau and Wang, 2009). Hence, using as guide to identify the JOC organisations for the study, the researcher referred to the Japan External Trade Organization (JETRO) 2007 directory which contained 24 JOCs operating in the electrical and electronics industry out of a total Penang base of 119 JOC companies.

The study used the interview method that enables the researcher to obtain meaningful data to answer the research questions, namely in terms of rich data (Sekaran, 2003), in-depth data (Gay and Diehl, 1992) and non-verbal cues by observation (Neuman, 1994; Churchill, 1995; Sekaran, 2003; Cooper and Emory, 1992; Salkind, 2000; McBurney, 1998). The interview method is also useful to establish rapport and in motivating responses (Sekaran, 2003; McBurney, 1998). The inherently tacit nature of kaizen application, which Imai (1986, p.xxix) stated as being, “so deeply ingrained in the minds of both managers and workers that often do not even realize that they are thinking kaizen”, necessitated the use of the aforementioned interview method.

The semi-structured interview has both the advantages of the 'semi-standardised interview' and that of the 'ethnographic interview' (Flick, 2002). The 'semi-standardised interview' allows the structuring of the contents with its structure-laying technique, rendering implicit knowledge more explicit. And the 'ethnographic interview' has the advantage of being more insightful than the 'semi-structured interview' (Flick, 2002).

Therefore, semi-structured interviews and in-depth interviews can enable the researcher to elicit from the interviewees more meaningful data that can be used in qualitative analysis. This study therefore, employed the semi-structured interview method, aimed to obtain meaningful data to investigate the impact of kaizen as applied in Malaysian workplace on the JOC organisational capabilities for theoretical and practical contributions to knowledge and to industry respectively.

The researcher focuses on a single industry as it is recognised there might be significant differences in manufacturing practices between different industries and that collecting information for such studies which require calling on the senior management to understanding the firms' strategic capabilities and performances would be extremely difficult if not impossible. The researcher contacted the chief executives of these companies randomly, inviting them to participate in the study. Two JOC organisations, company code named N which operates in the PC industry and company code named E in the electrical and electronic components industry expressed their willingness to be included in the sample. It is also recognised that the two JOC participants are not representative of the population.

4 Findings

4.1 Profile of JOC organisations

The two JOC companies, company N and company E from which the researcher draws the interviewees, are majority Japanese owned and being managed as direct subsidiaries of their respective holding companies based in Japan. These two JOC companies are considered as large organisations in terms of number of employees (MITI, 2006). A summary of the backgrounds of company N and company E is provided Table 1.

Table 1 Profile of the two JOC organisations

Background	*Company N*	*Company E*
Established in Malaysia	1997	1995
Controlling shareholder origin	Japan	Japan
Total assets RM	86 million	62 million
Paid up capital RM	142 million	22 million
Annual rev (Y1996) RM	420 million	89 million
No. of employees	300	700
Manufacturing type	Assembly	OEM
Marketing type	Channel and direct	OEM
Main product	Personal computers	Capacitors
Main markets	Consumer and commercial in Asia	Industrial in Malaysia and Asia

Table 1 shows the profile of the two JOC organisations participated in the interview of this study. Both of the companies are from the electronics industry and have been established for more than a decade in Penang, Malaysia. Company N is larger than company E with the paid up capital of RM 142 million and annual revenue of RM 420 million as compared with company E with paid up capital of RM 22 million and RM 89 million in annual revenue. Company N is a finished-product assembler while Company E is an original equipment manufacturer (OEM) produce semi-finished products or component parts. Nevertheless, in terms of the number of employees, company E hires 700 employees, whereas company N hires fewer with only 300 employees.

4.2 Management-oriented kaizen activities

Kaizen success in organisations is to a large extent driven by the management in inculcating an atmosphere conducive to its assimilations. As Shimizu (2000) explains that even the well-known Toyota production system (TPS) cannot just be reduced to its organisational techniques of production from groups and individual workers' initiated activities but to take notice of the fact that it was kaizen activities organised by the management that brought Toyota a high performance in cost and quality competitiveness. Kaizen application for increasing production efficiency in Toyota is never a matter of worker's voluntary activities, but controlled under the company's kaizen costing management and production efficiency management.

The need to effectively manage the organisation in its entirety, to guide decisions and integrate priorities into daily working is the heart of general management (Witcher and Butterworth, 2000). When employees understand corporate direction and purpose they can then control their own performances in relation to it, self manage their own work, and act to correct divergences from corporate goals (Bartlett and Ghoshal, 1994). Relating to this is the Japanese top management policy deployment concept of 'hoshin kanri'. Quoting Witcher and Butterworth (2000), "hoshin kanri is an organizing framework that focuses attention organization-wide on corporate purpose; it aligns priorities with local plans; integrates these in daily management, and ensures organizational learning and adaptation through review". Hoshin kanri's organising framework is aimed to establish a sense of transparency in daily management that clarifies for people how change activity can be accommodated. So hoshin kanri becomes an essential component of kaizen implementation from management side.

In the study, it was noted that the JOC's top management played a critical role in driving kaizen and arising there from to make changes in the organisations with the objective to speed information flow that underpinned better staff communication. Management initiated visual management plays an important part as a medium for feedback to staffs and better understanding of management directions. This is particularly relevant for company E that employs an ethnically diverse workforce. This was aimed to achieve continuous improvements in communication and to provide a better working environment for performance enhancement in kaizen activities. Instructions and examples of idea implementation and achievements were displayed on staff notice boards and publicly mentioned in regular staff meetings to make it obvious for everyone to see and to learn from mistake and to motivate staffs' performances by publicly quoting real examples. Key performance indicators were displayed to all managers and employees so that corrective actions were taken in timely manner. As Mestre et al. (1999) emphasise

that 'visual control' reinforces existing practices, values and to provide an avenue for workers to operate.

4.3 Group-oriented kaizen activities

The most visible and fundamental group-oriented kaizen is represented by the 5S activities (seiri, seiton, seiso, seiketsu and shitsuke), a group activity that is aimed to generate group activities in waste elimination management. The 5S is a low cost first step approach and central to the group-oriented kaizen to improve quality and to reduce cost (Hirano, 1993). However, it requires the combined commitment of management, proper training and a culture that make sustaining improvement a habitual behaviour from the shop floor (Liker, 2004). Main purposes of the 5S are as follows:

1 *Seiri:* approach to raise work efficiency, performed by group to clearing up the shop floor. Purpose of having seiri is to create valuable and safe working space primarily to prevent mistakes (examples: miss-usage, miss-handling, miss-transportation); to prevent material deformation and to create spacious feeling at work place. A group decision is therefore, required to classify materials into the wanted category for safe keeping and those unwanted for disposal.

2 *Seiton:* approach to systematic arrangement, performed by group to installing appropriate systems to new situations after the seiri exercise, and to apply visual management extensively to all items. Purpose of having seiton is to eliminate the unproductive 'search time', to claim back valuable work space, to compress stock quantity and to implement systematic, direct visual effect layout (visual management) at work place.

3 *Seiso:* approach to enhance work quality, performed by group to physically, thoroughly and systematically clean all the machines and equipment to discover all inadequacy and potential problems. Essentially cleaning which is a non-value added factor for operation management is an act aimed to improve, to simplify and to eventually eliminate the need for cleaning.

4 *Seiketsu:* approach to maintain the betterment of 5S works, performed by group to standardise (to set benchmarks and requirements to maintain 5S, procedure rulings, use visual management to assist execution and upward revision of rulings and set-ups established through the last 3S activities) in order to observe and further improve the set-ups and product superiority. Seiketsu is essentially akin to a display of 'team beauty', which is a step ahead of the more materialistic team efforts. Sense of belonging is the key to maintain cleanliness in seiketsu.

5 *Shitsuke:* approach to sustain the 5S group works, performed by group to follow through, communicate, teach and to cultivate good habits to sustain continual improvement of 5S. Essentially to instil the culture of self-discipline and self-awareness to maintain and to continue 5S activities and improvements thereof.

The 5S programme has not only increased awareness and self-discipline in waste elimination but more importantly it has resulted in positive employees' participation on shop floor programmes. The 5S is meant to be self-sustaining and the benefits are the results of a disciplined workforce. Holding 'gemba kaizen' or kaizen event in the

organisation at the production floor is another common form of effective kaizen group activity. Inputs from interviewees indicated that the kaizen activities carried out in company E were predominantly those that cantered on 'gemba kaizen' or group improvement activities at the shop floor. Kaizen activities across the shop floor are important elements in creating a culture of innovation and improvement (Kaye and Anderson 1999). Main objective is target towards the eliminating the 3M in operations; MUDA, MURA and MURI (waste, irregularity and stressfulness).

The kaizen event to regularly walk around the workplace (gemba) is to facilitate communication with the direct operators and for the management to better and visually understand the work place and operations. The Japanese director interviewed also commented that to improve communication with the operators who best know the plants and processes, managers should take the initiative to communicate directly with them at their respective work stations:

> "Top management always asks our managers and executives to always communicate with our operators. You know, we are a manufacturing plant. Every fault or minor problem comes from the machines, then with this small problem, normally operators will know better. Not the managers. So they always encourage us to communicate with the operators. Get more information… what's the problem during operations." (Interview, EK/Director, November 14, 2008)

4.4 Individual-oriented kaizen activities

Individual kaizen is commonly represented by the company's staff suggestion schemes which constitute the most popular improvement activities at the work areas. It is different from the management-oriented kaizen where improvement and kaizen activities are regarded as part of the manager's job (Imai, 1991). Individual-oriented kaizen is a self-thinking and self-motivated activity to find a better way to perform a better job. This is a major source of motivation to the rank and file workers due to the tacit acknowledgement by management that the employee knows his or her job better than the manager.

Management actively encourages its propagation by instituting various forms of schemes to facilitate staffs' contributions. The ideas and suggestions ranged from the simplest to the most complex and nothing was too small a kaizen for the kaizen committee's deliberations. As a kaizen principle every idea given is not too small or simple to be considered by the kaizen committee to keep staff motivation towards continuous generation of ideas. The process of writing and submission of an idea is in itself a learning experience. The suggestion schemes help workers to understand and to improve the company's operational process even if the ideas submitted were not implemented (Kerrin and Oliver, 2002).

4.4.1 The effect of corporate culture on kaizen

A strong corporate culture is related to national culture and is strongest where the corporate leverages it on the local culture (Pinner, 2003). Deal and Kennedy (1982) suggest that a key base for Japan's historical success is the continuing Japanese ability to maintain a very strong and cohesive culture. The strong corporate culture of the JOCs is manifested in the JMS and the basis for kaizen success in Japan. While corporate culture

can be used to create competitive advantage, it has also proven very difficult to adapt and to change.

There is the strong belief especially among the Japanese interviewees that kaizen is the inherent cultural value of the Japanese people that naturally manifest itself in the JMS. And this cultural value is reflected in the workers' self-development aspirations and work conduct. As described by one Japanese company president:

> "Kaizen is a kind of the culture of the Japanese industry and the culture of the Japanese companies which practice some form of lifetime employment. So the Japanese employment system can produce such culture. Usually kaizen is not only for the company but also for each employee, in terms of the enhancement of their skills. That probably means that culture is good for the Japan companies, the Japanese self-development systems. Japanese like such a thing – self development. In the first stage of joining the company, the managers are usually trained, like that. During the first year, from the beginning of the employment, the education is self-development and the concept to measure every employee. I remember, the first education for me in a Japanese company was like that. Of course, the first year is the very beginning, including some business manners and how to write a business document. Later there in some parts of the course, they touch on self-development including PDCA (plan develop, check, action) cycles, the very fundamental methods in business. Kaizen is a key point for the education. You can apply the Kaizen for both company operations and people." (Interview, NM/President, December 1, 2009)

Another Malaysian senior manager interviewed responded, stressing the importance of having a strong corporate culture to underline a successful kaizen implementation:

> "Kaizen is definitely a very powerful application and useful as a motivational tool for improvement. But you must kaizen it properly based on the resources, based on the importance of the areas of improvement. Not doing kaizen for the sake of kaizen. So the understanding of this philosophy is important and whether the company culture support for its implant in the mindset of the people. The people's mindset is another key area for the success of kaizen. In some companies they do have their own styles of improvement but not the culture. To be a successful company you must have a same thinking, the same culture, just as it should be a better way of improving the whole company and for the on-going improvement, kaizen is important." (Interview, NC/Senior Manager, November 21, 2008)

One Japanese senior VP for operations said at the interview:

> "yes, troublesome (work pressure) means that we already have so many daily jobs, but the senior guy (top management people) further requests you to provide some more ideas. Ideas for improvement to your daily job itself is okay, but one could treat the request as that not meant for me,… sometimes it is very easy to think in such a way. But if senior guy requests us or me, meaning need further improvement, they like to further improve. So, it's about mindset or culture. At the beginning of this interview I said if it is not a culture, it becomes very big pressure on me, so I said sometimes troublesome. However, if this (general acceptance to continuous change) becomes a very common action for all the people of the company, then it's becomes a kind of culture or religion to improve activity so then it's not so difficult. This is like the DNA of the company that is the people must change for the better. To build the DNA or culture of the company, you need to have strong leadership qualities." (Interview, NK/SVP Ops, November 8, 2008)

People of different nations have different values and social norms that influence their perception, attitudes and priorities on issues relevant to the organisations. Organisations also have distinctive cultures which are at its strongest if linked to that of the national cultures. The amenability of these organisational cultures to specific management techniques, especially those stemming from a different national culture, can vary in its acceptability by the workforce and therefore, determined it effectiveness to the organisations. Although the Malaysian multicultural values and social norms are not fully comparable with those of the Japanese, the underlying value on many counts of cultural dimensions in terms of moderate individualism, uncertainty avoidance, long term orientation and moderate power distance are not vastly different.

Kaizen central mission on lowering of costs and the achievement of greater efficiency is rooted in the Confucius ethic of thrift and perseverance which is also generally the underlying Asian value. The good fit of kaizen with Japanese value orientation might explain its huge success in Japan. Nonetheless, the evidence collected from this study suggests that kaizen can also be effectively implemented in the Malaysian workplace subject to a favourable management style and adaption of reward features. As organisational trait and practices and the management's attitude towards employees is far more critical than that of national culture. Therefore, the implementation of kaizen in non-Japanese orientated values workplace requires a considerable amount of insight and careful attention to organisational conditions and labour's expectations. If well aware of their own organisational culture, firms will have a higher likelihood of success in kaizen.

4.5 Organisational capabilities

A key definition for organisational capability as offered by Helfat and Peteraf (2003) is the ability of an organisation to perform a coordinated set of tasks, utilising organisational resources for purpose of achieving a particular end result. The RBV of the firm backs the virtues of organisational capability as a valuable source of competitive advantage with emphasis on managerial resources or capabilities as the key contributors on the high performance work organisation (Teece et al., 1997). Gong et al. (2006) argue that organisational routines offer an important element of stability in organisations. Organisational capabilities can drive both operational success and long term adaptation (Galunic and Eisenhardt, 2001; Helfat and Peteraf, 2003; Zollo and Winter, 2002).

4.5.1 The effect of kaizen on organisational capabilities

Argote (1999) stressed that routines provide efficiency. Many of the interviewees shared and supported this underpinning for competitive advantage. A Japanese company president at the interview suggested:

> "Kaizen is a kind of system to improve the people's capability. Like thinking the kaizen is very similar to a kind of training to think better. So the issue in the Japanese company is lack of innovation. Usually Japanese company is good at improving the operation. Like in Toyota Motors it is fine. The automobile industry is already mature and well established. Of course there is some innovation like electric car or hybrid. So improvement in operation can make Toyota stronger still. So expectation is improvement for the operations. Since most companies are like Toyota recently. So, people every time don't expect the innovation or innovative business model. So, then every company should improve the operations for competitive advantage. This probably is very

> Japanese mind thinking." (Interview, NM/Company President, December 1, 2008).

A Malaysian service director who has been in the customer service sector for over 30 years firmly added that kaizen is essential to meet customer's satisfaction and fundamental to the service operations, said:

> "The innovation may be how we want to do it. Although I don't see, perhaps some of it is not so much innovation as the way we do, it could be innovation in this company but the ideas are probably not new, you know, somebody else has done it. You know, the ideas related to like every company.
>
> For my group, I think the most important factor, as a customer facing group, will be customer satisfaction. Although somebody will say, no, if the customer or company doesn't make money, then we don't need you as well. But I will say that customer satisfaction is key – number one. And then, of course the next one is make sure you don't lose money also. I will always think it is customer satisfaction because that is the, probably the main key factor that underline the business. You know, if you have satisfied customer, you have less problem, you can spend less money and hopefully, you get more sales. So, this one will lead to the other one. Top sales then of course no need for my group. And, everything is fine... So, eventually if it's the customer buy, you make sure he's happy. That would be my key. I have to focus on that.
>
> I think service operations must definitely have kaizen. Kaizen is always the key. The key is always, it must be implemented with the customer in mind. It must be an implementation that says firstly, what is the benefit of this to the customer. And then, yes, typically will save some costs. Typically, what you do to achieve the customer satisfaction should have some cost benefits. Again of course, do we do it on a big step, or small step you know, small saving, big savings? Maybe it doesn't matter you know." (Interview, NH/Service Director, November 20, 2008)

In pointing kaizen towards the core competitive position of the company, a Japanese senior advisor mentioned:

> "So I think idea, to be passed to the production manager and the PC (production control) manager is to keep on thinking. If cannot get (achieve), and it sometime misses the target to carry on thinking… always thinking. If stopping the kaizen… Company will crush! Starting next month the world economy is very bad. If stopping the kaizen, it will affect the company more adversely." (Interview, EU/Senior Advisor, November 26, 2008)

Relating the kaizen to understanding customer's satisfaction, a Japanese senior VP for operations stated at the interview:

> "We should know the customer's complaints. This is one of the quality issues. But also for delivery we are always being chased by the sales side. Sometimes sales have some problems, but anyway, maybe the customer must require this product due to some reasons. So how to support customers, not how to support sales… how to support customer? From that sense I think the kaizen activity may be good for there" (Interview, NK/SVP Ops, November 21, 2008)

The US engineering director mentioned:

> "I think of all the different kinds of industry, kaizen fits best for manufacturing enterprise. Because first of all it's, I think the reasons we have already discussed over. So, it fits quite well in manufacturing and Malaysia has a very strong manufacturing base so definitely Malaysia can leverage on kaizen. It

> will keep the workforce motivated, increases the morale, and also it helps the competitiveness of the company.
>
> The key success factors and then how kaizen has an impact on these capabilities – examples as on customer satisfaction, on time to market or in terms of cost and delivery. The product must be launched on time, and we must have no defects." (Interview, NN/Engineering Director, November 24, 2008)

Speaking from the experience of the PC parts procurement industry which is very price sensitive and technologically competitive, a Japanese senior manager for material procurement, stressed as follows:

> "I think that the kaizen is very useful to improve our capabilities. You know we produce the computers, sell the computers to many countries. And there are many variables to enable competitiveness, lead time, cost down, quality. You can also compare with the competitors', so you know, by understanding your position compared with the standard or compared with the competitor, you know, it would drive your people to, to do the kaizen. You have to perform better or otherwise you will just be weaker than the others or weaker than or worse than the target or the standard. So, when measuring those figures in the manufacturing or materials or the delivery, logistics, I think that many fields you can utilize kaizen. Satisfaction index… there could be many points… how customers can be satisfied? The product itself, you know, this I know, functionality or quality or delivery, or first of all, I may be related to the delivery, which I think we can contribute by implementing the Kaizen activity. If we did reduce the lead time or the material costs, we are starting to meet the customer satisfaction target because we can deliver the goods early." (Interview, NA/Senior Manager, November 21, 2008)

From the context of production activities and processes, the Malaysian senior manager for operations offered the following comments:

> "Comparing a company with kaizen culture and another company without the kaizen culture, of course there will be, in long run, there will be a gap. Because those with kaizen culture, they are looking for continuous improvements. They don't stagnate. If you don't have that culture, for example, now I'm achieving this, achieving that, I feel that I'm very good and I maintain this. That means I'm just maintaining this same level, and that in a competitive world, if you are stagnant, you don't go forward. So comparatively even if I can achieve everything I want now, I am still stagnant. And the others will look for opportunities, continuous cycle non-stop improvements. So eventually, after a period, definitely you will be out of the competition. Because we must be moving forward, everybody is moving forward, depend on how far and how smooth. So this (kaizen) is essentially a very important culture which is needed to be cultivated. And for delivery, of course, if you improve, continue to improve, your customers' satisfaction will be better and better… shortening delivery time of course and better quality products. That means this is a company, a dealer, for example a dealer, is satisfied, you're improving, requiring shorter and shorter lead time so that whenever I order, I can immediately get the stock. That means, your customer is also satisfied and then the quality improvement, better and better quality. So eventually if all this areas like quality, delivery time and costs, all these, if you continued driving this kaizen little bit by little bit, where essentially required, eventually the whole chain will improve and then everybody will be happy about this. So I believe this (kaizen) is a must in an organization in order to survive." (Interview, NC/Senior Manager Ops, November 21, 2008)

The aforementioned statement further attested kaizen impact on competitive capability, based on the experience of a Japanese director:

> "After we implemented kaizen, we could see many benefits to our company… external benefits, like due to our quality improvement so that we have good customers, orders increased and also internal benefits from kaizen. I can say that during customer's audits they are always saying that, compared to previous audits, this audit, we have much changed. If they were not interested in this kind of kaizen improvement item, then they will never give us some kind of ideas, a good idea for us. So based on our monitoring graphs we can see that everywhere the margin of improvements is increasing from employees' ideas." (Interview, EK/Director, November 14, 2008)

Commenting on kaizen productivity in leading to cost and quality for competitive advantage in cross border trade and investment movements, a Malaysian engineering manager added:

> "to increase its competitiveness, I think Japanese companies moved to Malaysia and Malaysian companies will have to move to lower cost areas eventually. So the only way you can survive is the kaizen way to continue improvement and to continue changes. Then, only no matter how the costs are increasing and the selling price reducing, you will be able to survive in the market.
>
> From customers' feedback also, the customers always identify at year-end or beginning of the year or when there is a factory audit, when they start wanting to buy your products, they might send in their QA team to carry out an inspection or audit. So normally the first impression to the auditors, to the customers, besides the practice of 5S, of course 5S also one of kaizen practices, the important requirement is having kaizen activity in your process.
>
> Only by this kaizen activity in your process, you can have very active participation by all the people and to have continuously, lots of improvement carried out for your whole production process. I think customers will be very confident with your products.
>
> I say from now onward until next year will be very tough.
>
> We need to have very good cost savings and the return must be very good… the yield, quality, etc. So, this kaizen is a no ending project actually.
>
> For the Malaysian industry to continue to survive in the global market we must improve our costing. Because our costs for manufacturing keeps on increasing actually as compared to China, India or to Vietnam recently or even to Indonesia.
>
> They are more, much higher. I mean overall manufacturing costs… including labor, material, transportation cost, everything. So kaizen plays a very important role in this direction." (Interview, EL/Engineering Manager, November 25, 2008)

A Malaysian quality manager added:

> "We all know that the price of electronic parts in the market is getting cheaper and cheaper. It's very competitive. Some will be pushed out of the market. So it's very important to our company to bring down the cost, and to improve the quality. But also have to improve the process in order to reduce the cost of the waste and to reduce the defects, that's part of our kaizen activities." (Interview, EE/Quality Manager, November 25, 2008)

Compared to China in terms of manufacturing capability wherein China is given as having the cost advantage over Malaysia, the same Malaysian engineering manager commented:

> "Now the China market is very good in terms of resource availability and also on the costing side. It's very attractive to the investor. But, if Malaysia can take this kaizen as a one of the continuous improvement items to continue improving, in terms of costs and also the good impression from the customers' side and also on this continuous machine output improvement and the process innovation, I think we can, we still be able to survive (compete).
>
> And also your yield can be improved. Okay, today China market is very good. But their yield rates or their section wastage losses will not improve even they have very good machines (with low costs) if they do not carry out the kaizen continuous improvement. Maybe they can only achieve 95% performance level on the yield and the section loss might continue increasing. For us if you have this kaizen project of course, your section loss will keep on reducing and your yield will keep on improving. So your cost automatically will reduce." (Interview, EL/Engineering Manager, November 25, 2008)

Therefore, the kaizen process to continuously and increasingly establish new customer satisfaction standard underline the underlying drive in achieving competitive capabilities. A Japanese senior manager put it as follows:

> "By giving some standard, they (suppliers) can, or we can get together to set the targets. And the setting of standard, I think it a must, as without having standard, I don't think you can really measure any improvements. With standard then we can measure already, you know, one month later, how is our activities. Getting better or very much better and then we can find why we are doing better. So, I think it will require the management or managers, their knowledge or capability to set the standard to be suitable for that condition.
>
> So the manager I think is required to understand all the circumstances among the business so that he or she can set the right standard. There is no single standard that can be used everywhere. I think that standard has to be adjusted accordingly.
>
> So by setting the standard, their performances become more visible, therefore they don't have to rely on their feeling." (Interview, NA/Senior Manager, November 21, 2008)

5 Discussions

The research findings clearly underline the critical role that kaizen plays in furthering the RBV's resources – particularly human competency and capabilities. The study amplifies the linkage of kaizen intended primary purpose to continuously enhance the firm's capabilities in order to gain superior performance to the RBV theoretical aspects. Kaizen which propagates a culture of continuous improvement aiming to standardise and then to continuously increase those standards already achieved in the firms through the plan, do, check and act (PDCA) process underlie the RBV focus on the firm's internal competence and process enhancement for competitive advantage.

The RBV of the firm has also made important contributions in the field of strategic human resource management (HRM) (Wright et al., 2001). Firm specific HRM systems and routines which develop over time may be unique to a particular firm and contributes

to the creation of specific human capital skills (Barney et al., 2001) The human resource's ability to learn and to change are amongst the most important capabilities that a firm can possess. Therefore, the competitive advantage of the firms can exist in dynamic markets only because of the ability of firms to continuously change (Barney et al., 2001). To the extent that some firms in the fast moving and changing market are more able to change quickly, and more alert to changes in their competitive environment, they will be able to adapt to changing market conditions more rapidly than competitors, and thus gain competitive advantage (Barney et al., 2001). In this respect kaizen application underscores the RBV strategic framework as indicated in the research findings.

Consistent with the RBV emphasis on human capital development as a competitive resource the research findings envisions kaizen to promote the creation of a learning organisation wherein groups and individuals could leverage on each other's knowledge and skills to enabling a sustainable competitive capability. The findings are also consistent with the knowledge, core competence, and learning schools which suggested that competitive advantage arises from internally developed core competences or distinctive capabilities based on knowledge developed through organisational learning (Hamel and Prahalad, 1994; Nonaka, 1990). However, it must also be recognised that people are not passive resources waiting to be used; they are indeed actively interacting to the various elements of the firms and environment socially. People are not merely reactive to events but their actions can be self-directed.

Stonehouse and Snowdon (2007) suggests that an *inside-out* approach to strategic management is needed based on the premise that competitive advantage depends on the behaviour of the organisation rather than its competitive environment. In this respect the research findings positions kaizen with its internal focus on individual and group activities to optimise the firm's resources towards productivity, quality and organisational learning environment is in a pivotal role with regard to RBV as a change driver. It has to be recognised that the RBV's dependency on internal resources for competitive advantage is not without its disadvantage (Stonehouse and Snowdon, 2007). Since the RBV value lies in placing emphasis on developing the organisation as a unique bundle of resources and competences there is the danger, inherent in the competencies approach to strategy, that the organisation becomes too internally focused at the expense of customer focus.

Also the RBV has been criticised for its limited ability to provide reliable predictions (Godfrey and Hill, 1995; Priem and Butler, 2001). Nonetheless, the usefulness of RBV appears to be greater in terms of generating understanding and providing a conceptual framework for strategising rather than for predictions. As Barney et al. (2001, p.49) suggests, "resource-based logic can help managers more completely understand the kinds of resources that help generate sustained strategic advantages, help them use this understanding to evaluate the full range of resources their firms may possess, and then exploit those resources that have the potential to generate sustained strategic advantage". From the findings it can be argued that the RBV underpinned by kaizen, has great potential for managers and firms in their quest to improve practices, process and performances because they are consistent with the kaizen key purpose of continuous improvement on people, process and management as manifested in the research findings. Also as competitive advantage is a moving position, firms must continuously assess and question their competences and capabilities and how they can generate greater value. The underlying logic of kaizen with a retrospective process of attribution of cause and effect

backed up by the PDCA cycles contributes to the understanding and strategising attributes of RBV. Hence it is believed that kaizen could be the key linkage as the underlying driver for RBV and the organisational people. The research findings provided insights as to the complementary role of kaizen in applying RBV in terms of its people and process focus continuous improvements efforts.

Hence the research findings of the kaizen effect on the organisation and human resource capabilities in an atmosphere of organisational learning culture consistently synchronises with the RBV strategic management framework. Indeed it is recognised that the strategic intent of kaizen is to build the organisational learning capabilities for competitive advantage. The kaizen attributes as highlighted in the research findings relating to the JOC's human resources in management competences and routines focused continuous improvement mechanism have provided unique insights into their behavioural aspects and motivational aspirations and hence have contributed significantly to making RBV a more robust theory.

6 Conclusions

This study makes the following contributions to the research literature. Firstly it is believed that the studies on the kaizen effect on the firms' capabilities in the Malaysian multicultural environments are scarce. This study contributes to the research literature by providing an understanding of the impact and nature of kaizen application in Malaysian work place environment by uncovering through in-depth interviews of the top management personnel in kaizen practicing firms. Lesson derived from this study is that kaizen is universally applicable. However, with similar performance expectations, the nature and styles of kaizen could differ dependent on the work environment. Many choose their own approach dependent on their strengths and weaknesses. The level of success greatly depends on management commitment in the inculcation of kaizen as the underlying culture, the workers' involvement, their willingness to cooperate with management in introducing kaizen, backed by appropriate reward schemes. Training and worker empowerment will be very relevant in attaining the kaizen culture.

Infusing a kaizen culture does not only demand waste elimination and continuous improvement but it also requires a concerted effort and support by management in the areas of human resource development in line with its business strategy or the *hoshin kanri* policy deployment. The study reveals that it takes a highly human participative approach in attaining an effective kaizen culture. The high commitment shown in the 5S programme, zero defects and waste elimination supported the underlying process driven culture essential to operational efficiency and thereby leading to kaizen success. Of course this focus on the process does not displace innovation or new technology improvement. The kaizen culture does not just happen. It needs long term kaizen inculcation from top management that cascades through the organisation. Top management needs to visibly direct, inculcate and grow the kaizen culture in its policy deployment.

Recognition by management of the worker's effort is an essential underlying key success factor for kaizen. Granting of recognition immediately causes the improvements to accelerate. When people know that they can gain recognition by way of some small awards and visible acknowledgement from higher management for small achievable

targets, they become motivated and thus encourage further efforts to seek for continuous improvements.

The study also contributed to the linkage of kaizen with RBV of the firm. Kaizen as the never ending improvement driver aimed to set ever higher standards and with a keen process of retrospective evaluation perfectly complements the RBV theoretical framework. It can be argued that the study has presented a specific contribution to kaizen and RBV. However, the study also revealed that there is a need for more in-depth study of kaizen application and the role of management, supervisors and workers to sustain kaizen application for quality and productivity.

The research findings indicate that organisations are actively seeking to implement kaizen in some form laying on the foundations for CI and achieving local and operation level benefits (Caffyn et al., 1996). This requires the linkage of kaizen problem finding and solving behaviour to the strategic goals of the organisational development, basically known as policy deployment (*hoshin kanri*). This requires a process of creating and sharing the strategic goals of the business throughout the organisation in such way as to create each individual or problem-solving group to focus on efforts on improvements which will have an impact on the strategic targets. Basic conditions being the creation of a clear and coherent strategy for the business and the deployment of it through a cascade process which build understanding and ownership of goals.

Kaizen is seen as a Japanese management tool. Suggestion is to reduce its Japanese impression by not calling it kaizen, just to refer it as CI. There was also suggestion that the kaizen leader be Japanese as non-Japanese will not be able to drive kaizen amongst the Japanese expatriates. Kaizen was also seen as a technique meant for those who are socially oriented with the Japanese culture as it more conducive in an environment with life time employment, corporate loyalty, long-term perspective and strong corporate culture. There is opportunity for kaizen with Malaysian managers showing strong support for it. The findings of the study suggest that JOCs practice kaizen in Malaysia objectively and are firmly committed to it as a tool for building competitive capabilities. There was clear acknowledgement by both Japanese and Malaysian managers that without kaizen the firms could perish and its performance deteriorate.

Firms should assign a kaizen champion or leader who is an excellent communicator and business process improvement specialist to take the lead in kaizen implementation. This kaizen leader should take the lead and focus on how to align and improve the process as a whole instead of managing operational activities. The opportunities for kaizen to improve capabilities are significant, but management must be able to provide the direction and encourage the employees' participative culture. The research helped considerably to understanding the uniqueness of kaizen from the point of view of top management in the Malaysian work environment. The added advantage is that the insights came from a mix of Japanese, US and Malaysian top managers grounded in their own respective experiences across many cultural backgrounds. The conclusion from this research is that kaizen can be applied in firms operating in Malaysia and to effectively contribute to their competitiveness. However, it will need strong and visible management direction in its application and that there should be embedded a culture of participative management style and to provide a much stronger sense of job security. The potential of kaizen manufacturing management for electronics manufacturing firms in Malaysia are seemingly significant. Improvements in quality, reduction in costs, increased throughput

and increased flexibility are noted as the most important benefits of Japanese manufacturing management.

6.1 Managerial implications

The findings indicate that the uniqueness of kaizen fundamentally lies in the mindset of the people-workers and managers. This behaviour is directed by the managerial groups through training in order to generate a process-oriented thinking and developed strategies that assure continuous improvement and waste elimination. Kaizen is principally aimed at the active involvements by everyone in the organisation's operational and management levels to provide the competitive capability. The research findings basically reveal that managerial initiation and controls is essential for kaizen sustainability in the Malaysian work environment. As repeatedly indicated in the research findings that unlike in the Japanese work environment where employment tenure in much more permanence, those in Malaysia are less secured. Also as noted in the literature review under the JMS value systems employees in Japanese environment cultivate a much stronger corporate identity. It is believed that the embedded employment tenure and the JMS are key enablers for the kaizen continuous run in Japanese organisations in Japan. Because the Malaysian work places lack such enablers, there is a stronger need for management in the Malaysia to provide the direction in order to sustain the kaizen application. So typically in Malaysia the managerial controls on kaizen activities will determine the levels and job types; the lower skill contents for direct workers and the strategic importance to the managerial groups. The simple maintenance tasks are decentralised to the shop floor while more problematic ones are made by the production engineers. Most of the direct and general workers' involvement is restricted to contribute to suggestion scheme for process improvement.

The research findings also indicate as pre-requisite for the success of kaizen is to maintain an effective alignment of employer-employee relationship. That essentially having the policy deployment is fundamental to kaizen application. Based on this policy deployment statement the various functionalities and kaizen activities in the organisation could then fit into it. This policy deployment ('hoshin kanri' in Japanese) is seen to be the necessary foundation as for kaizen as without the management policy deployment it is difficult for non-Japanese workers to grasp its full concept. Parker and Slaughter (1988) underline that in Japanese transplants in the US kaizen is focused upon productivity increment as a policy and imposed as such on the workers.

The research findings further suggest the *invisibility* feature of the kaizen particularly to those not oriented towards Japanese social norms and culture. This invisibleness of kaizen is further amplified by Japanese national managers who stressed that kaizen is indeed invisible, as it is fundamentally a way of how things are done in the Japanese industries and everyday life. This adds to the need for a much stronger management direction to driving a kaizen culture especially in non-Japanese work environment. Comparatively, as Shimizu (2000) explains that even the kaizen as practiced in Toyota Motors under the TPS for increasing production efficiency and for lowering labour cost never was and is the matter of worker's voluntary activities, but controlled under the company's policy on 'kaizen costing management and production efficiency management'. In essence the TPS resides in the organised kaizen activities under Toyota Motors' production efficiency management.

From the kaizen implementation support structure, the research findings also indicate that a formal announcement by top management prior to the launching of kaizen is required to accord visibility of freedom to all employees to making improvements at their work place. This is aimed to make the top management intention and support for the kaizen implementation completely visible. Additionally, management ought to set up a kaizen committee headed by a kaizen champion to facilitate the kaizen implementation. Employees are required to hold weekly and monthly meetings in groups with involvement from the direct workers, supervisors and management. Kaizen training module should be developed, by which the philosophy and methods of practice be communicated to all employees before the commencement of the monthly meetings. The implementation is top down.

Consistent with the research findings, in the implementation of kaizen the management has to inculcate an organisational culture acknowledging that the employee knows his/her job better than his supervisor. This means authority has to be delegated downward to the machine operator level in the case of the production department, suggesting that authority should be delegated not responsibility (Tsuda, 1992). Delegation of authority downward is a break away from the normal top down management philosophy.

Kaizen is akin to the elimination of work in terms of encouragement to self-destruction rather than a reorganisation leading to elimination suggested by someone else. As indicated in the research findings to sustain motivation in this direction, employees who worked themselves out of the jobs should not be retrenched but redeployed and be publicly recognised accordingly. Employees should be encouraged to redeploy resources across functionalities and departments and re-use scrap by reconditioning to reduce waste. Towards this end management has to adopt a policy of accepting creative proposals and methods. Management also has to revisit the traditional concept and system of rewarding individuals for performance since changes are required to make it relevant to 'group' rewards and to elimination of work.

As reinforced repeatedly in the research findings and consistent with the literature review is that incentives and recognitions are crucially important but not necessary for the firms to institute formal monetary rewards other than for token cash and visible management recognition. Kaizen improvements are treated as part of the employees' normal work. However, one way for management to award visibility in the recognition to the employees who supplied the ideas is to publish the improvements through the company's intranet and staff notice board. The management has to hold in high esteem all those who reduce and even eliminate their work. The policy for the surplus headcount is deployment to more productive usage rather than retrenchment. This is to remove the underlying employees' fears in losing their jobs from productivity improvements. This management approach is generally essential to support the success of kaizen.

The research findings suggest that the management policy has to be directed to the specific focus on kaizen as to quality and productivity improvement. Imai (1991) signified that kaizen increases the productivity as well as result in the quality improvement, which reduces repairing work and time as well as eliminating 'muda' (waste of human resources, materials and time). Parker and Slaughter (1988) indicated their argument on kaisen from the angle of productivity. From the findings it is essential that management to set the specific the top down policies, which is consistent with the suggestion put forward by Shimizu (2000) that the top management in Toyota fixed the

saving to be reduced by kaizen (kaizen costing) following its profit strategy, then distribute it as a kaizen norm to all production divisions, by taking into consideration their feasibility. According to Shimizu (2000), it is the kaizen activities organised under the company's production efficiency programme that brought Toyota the high performance in cost and quality competitiveness. Shimizu (2000) suggested that in Toyota, kaizen for increasing production efficiency and lowering labour cost was never a matter of worker's voluntary activities, but controlled by various management initiated programmes.

The research findings expounded on the Shimizu (2000) observation that similarly as in the TPS there are two kinds of kaizen activities: kaizen made by the supervisory staff and engineers as their functions, and that made by workers through the quality circles and suggestion system. Shimizu (2000) posits that it is the worker's voluntary kaizen activities that bring the high product and production quality whilst the essential part of economic gains realised by kaizen – cost reduction and productivity increase – comes from the kaizen activities at the planning stage by the supervisors and engineers. Shimizu (2000) concludes that it is the responsibility of the group leaders, chief leaders, section heads, planners and engineers to execute the kaizen activities whilst these kaizen activities are then supervised and controlled by management. These TPS activities are referred to as 'organised kaizen activities' (Shimizu, 2000).Therefore, as indicated in the findings, kaizen requires proactive and participative management leadership style.

6.2 Limitations

The study inherently has limitations. Firstly the study does not cover all Japanese owned companies in Malaysia. The two JOC organisations were selected on convenient sampling. The interviewees comprising management personnel of the two JOC organisations were from a purposive sample. There is an element of possible biasness as they were the only few management participants and convenient sample of companies willing to discuss and be interviewed. They cannot be used to generalise the actual population. Secondly the focus of this study is on a single electronics industry rather than on the manufacturing industry in Malaysia as a whole. This industry restriction has also limited the extension of the research results to other sectors of the manufacturing industry. Additionally since the data collected from the participants was from just a relatively short interview, some important information and insights might not have been captured during the process.

Finally, although it is true that the participants were from the top management and would be familiar with the business operations and organisational capabilities and to provide the true insights into the application of kaizen, it can also be argued that they might be less well informed about measures of tacit customer relationships and satisfaction in the actual market place.

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