AN EXAMINATION OF KAIZEN DRIFT IN JAPANESE GENBA:

IMPLICATIONS FOR BUSINESS IN THE ANGLOSPHERE

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ABSTRACT

In attempting to decode the industrial competitive success of Japan, researchers in the Anglosphere have predominantly identified with the highly visible tools and methods of the quality management philosophy of kaizen. However, due to data collection methodologies and significant cross-cultural limitations kaizen appears to have been largely *mis*interpreted and *mis*understood. This 'gap' has resulted in literature riddled with deterministic models of mechanical methodologies promoted to pursue business excellence. Further, there has been a plethora of attempts at transplanting Japan-centric tools and techniques, with little – if any – regard for the country's individual and indigenous social characteristics.

To deepen understanding of kaizen a phenomenological study was conducted in middle-to-large sized industrial companies in Japan to investigate Japanese workers' perspectives of kaizen. Two parallel and complementary philosophies of the pursuit of business excellence were identified. The Japanese thread explored how Japanese workers acknowledge and exercise kaizen; and, the Anglosphere thread examined how workers in the Anglosphere attempt to adopt and practise kaizen. In the Japanese context, society is identified as being highly bounded with little opportunity for individual creativity. Many Japanese industrial organisations, being active kaizen environments, channel worker creativity and expressions of individuality into bounded environments, or kaizen audiences, providing a counter-point to social and cultural requirements. In addition to Japanese-style management, this has resulted in the production of tangible kaizen tools and methods, as easily identified by Anglosphere researchers and practitioners.

The primary contribution to knowledge this research presents is the development of understanding of the utility of the kaizen phenomenon. Kaizen in industrial settings in Japan is found to be both culturally bounded and contextually dependent, and far beyond continuous improvement; differences in the perceptions of older and younger workers are seen to exist as kaizen drifts across generational boundaries; active programmes are maintained to ensure that kaizen remains embedded in both the individual and the organisation; and, the simplistic diffusion of kaizen to

Anglosphere organisations is observed to be an unlikely guarantee to sustainable business excellence over the longer term, as it has in Japan. This research reports that the only likely viable means to sustainably diffuse kaizen in Anglosphere domains is for business leaders to return to *square one* and instil an implicit, comprehensive understanding and appreciation of kaizen; and, acquire and develop recipient-organisation-centric tools and methods. Such a new approach could provide practitioners in the Anglosphere the means to adopt and sustain kaizen thinking and practice, and a gateway to sustainable competitive advantage.

Keywords:
Anglosphere, conformity, creativity, culture, diffusion, drift, genba, intergenerational, Japan, kaizen

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My DBA Journey originally sought discovery of the enablers and drivers of the Japanese economic miracle. Enquiry soon identified the underpinning Japanese philosophy of kaizen, not as a theory of explanation but as a metaphor for understanding. Beginning with a series of generalist questions and progressing through to academic enquiry, this study has provided abundant fruit, and I would like to take this opportunity to acknowledge a very special circle of people who have provided invaluable knowledge and support. Unfortunately, these words will not truly express my appreciation for the contributions and encouragement received.

My wonderful wife Hiromi initiated the first step of this journey after late night discussions contemplating answers to questions, suggesting the research topic of kaizen. She was an invaluable soundboard and source of both Japanese and Anglosphere experience and insight. She allowed me frequent travel from Japan to New Zealand to undertake coursework and research. In the weekends, she gave me time off from family duties to hit the books by entertaining our daughters Amy and Emma at a park or friend's house. Thanks for the Eureka moments. I am very much looking forward to repaying this tremendous debt.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ATTESTATION OF AUTHORSHIP

I hereby declare that this submission is my own work. To the best of my knowledge and belief all previously published material has been appropriately acknowledged herein, and the work on which the thesis is based has not been accepted either in part or in whole for any other degree or diploma at an institution of higher education.

Wayne Macpherson, DBA Candidate

BIOGRAPHY

Undertaking postgraduate study, being employed by Japanese corporations, and working within active kaizen environments over the last twenty years has provided me with unique insight into the holistic nature of Japan and the Japanese people. This motivated me to seek a deeper understanding of the Japanese quality management philosophy of kaizen through unhindered enquiry of those working in active kaizen environments. In addition to Japanese language and Japanese cultural fluency (should that be possible for a Westerner), I am able to adopt my home New Zealand Kiwi culture or adopted Japanese culture at will. That being, I can wear the mask I see fit: think and act Western, think Japanese but act Western, think Western but act Japanese, or think and act Japanese. My multicultural identity allows for in-depth enquiry and understanding, and subsequent articulation in a language that my audience can understand. It also allows for the removal of outside translators from the cross-language, cross-culture equation; and, for continuous drilling down in the attainment of deep and confirmed understanding by asking why, why, why, why, why, and why?

CHAPTER ONE: INTRODUCTION

In Japan, kaizen is a *way* with resultant manifestations, but in the Anglosphere (Bennett, 2004, 2007) it is employed as a model (Weick, 2003). An overview of Japanese and Anglosphere kaizen literature follows, and the proposition that kaizen in the Anglosphere is misunderstood and misinterpreted is presented. Diffusion of kaizen in Japanese environments through intergenerational drift is discussed and contrasted with attempts in the Anglosphere to diffuse in home environments. In the Anglosphere, momentary replication of kaizen tools and methods is achievable, but longer-term sustainability is rare due to embedded cultural determinants. A brief explanation and insight of Japanese cultural norms is provided, closing with a chapter-by-chapter thesis outline. Chapter One closes with a list of vocabulary and definitions employed in this thesis.

1.1 KAIZEN AND ITS INTERPRETATION IN THE ANGLOSPHERE

The codification of kaizen began in 1978 with Taiichi Ohno's Japanese edition of the *Toyota Production System*. A decade later saw the publication of this seminal work in English (refer Ohno, 1988). Other influential publications that introduced the Japanese philosophy of kaizen to the Anglosphere include Imai's *Kaizen* (1986), Womack, Jones and Roos' *The Machine that Changed the World* (1990), and Liker's *The Toyota Way* (2004). This genre of literature set the stage for the Anglosphere's attempt at catching up with the late 20th Century Japanese quality movement. Following in the shadow of these later publications a veritable deluge of interpretations of the Japanese Total Quality Management (TQM) revolution, Japanese organisations, and the mind of the Japanese worker (Liker, 2004; Barnwell, 2007) followed. In addition, Japanese academics and practitioners contributed publications[1] that attempted to shed light on all that was well with Japanese

[1] In addition to the processes used to translate the questionnaire to Japanese and participant interviews to English (see Chapter Three), those used to translate Japanese academic and practitioner source materials are explained in detail in Appendix 1.

manufacturing (Matsushita, 1984; Haitani, 1990; Matsushita, 1991; Eguchi, 2000; Itoh, 2000; Tsutsui, 2001; Hayashi, 2002; Fukunaga, 2004; Itoh, 2004a).

Analysis of academic and practitioner literature indicates that quality movement researchers in the Anglosphere have conducted their undertakings through a common perspective (Schonberger, 2007) of conventional economic liberalism and social conservatism (Lillrank, 1995; Brunet & New, 2003; Yokozawa et al., 2010a, 2010b) that has produced results different from research undertaken through a Japanese mind-set or even a balanced East-West mind-set (Itoh, 2004a). In addition, resultant of language barriers, Anglosphere researchers pursue their profession with the aid of translators (Brunet & New, 2003; Schonberger, 2007) whom, while translating from the base to target language, may exclude or ignore deeper context and cultural meaning (Lander & Liker, 2007). The phrase "lost in translation" is fitting. Furthermore, due to the contextual and holistic nature of the Japanese language (Moore, 1967; Cosier & Dalton, 1986; Ahire et al., 1995; Poole, 2009) there may be considerable loss of meaning regardless of publication in Japanese or English. This may result in the conundrum of "it may not be what it appears to be" and a vague Anglosphere equivalent of kaizen that lacks the efficiency and effectiveness of kaizen in Japan (Lander & Liker, 2007; Farris et al., 2008b; Ichijo & Kohlbacher, 2008; Powell, 2009).

The concept that the tangible tools and methods of kaizen are purely outputs of the underpinning philosophy (Reed & Lemak, 1996) is developed in detail in this research. The development and employment of such tools and methods, however, requires a prerequisite: a fundamental understanding of kaizen philosophy (JRS, 2006a). This perspective is also explored in full. Any lack of understanding, or misunderstanding, is likely to result in less than effective quality movement tools and methods (JRS). This is evidenced by numerous failed attempts (Bessant et al., 1994; Redman & Grieves, 1999; Ahire & Ravichandran, 2001; Bessant et al., 2001; Brunet & New, 2003; Venkateswarlu & Nilakant 2005; Flynn & Saladin, 2006; Found et al., 2006; Lander & Liker, 2007; Schonberger, 2007; Farris et al., 2008b; Yokozawa et al., 2010a). In such cases, practitioners have attempted to transfer (read: diffuse) their interpretation of Japanese kaizen output templates as Anglosphere kaizen input templates. Any true understanding of kaizen would provide a means through which

tools and methods are developed from the inherent philosophy and criteria of recipient organisations. The parallel and sequential review of Japanese and Anglosphere literature conducted here will provide insight and understanding to what kaizen is today (in each context), and how it has come to these end-states.

1.2 EMERGENCE OF THE QUALITY MOVEMENT

For the last century or more, there has been sustained contention between cost and quality in manufacturing (Reitsperger & Daniel, 1990). As recently as 1980, Porter was promoting cost-based strategies as an alternate to focus-based strategies, with the inference that focused-based strategies are motivated by quality. Management was recommended to pay attention to cost with little attention to quality. Taylor's (1911) scientific management showed that costs were reducible through attention to worker effort and movement (Bessant et al., 1994; Hayashi, 2002; Schonberger, 2007). Following this, Ford's mass-production took the approach of reducing per unit cost through economies of scale, with little consideration for the worker (Styhre, 2001; Brunet & New, 2003). In contrast, the quality movement, which gained considerable momentum after WWII (Huntzinger 2002; Brunet & New, 2003; Schonberger, 2007) paid attention not only to cost and quality but also to the human element (Saruta, 2006; Kuroiwa, 2009). The Toyota Motor Corporation of Japan (Toyota), as an exemplar (Frost & Stablein, 1992), reported as the *Toyota Production System* and its supporting *Toyota Way* (Monden, 1983a, 1983b, 1985, 1994; Ohno, 1988; Womack et al., 1990; Liker, 2004; Saruta, 2006, 2009; Lander & Liker, 2007) quickly emerged. Although academics and practitioners have tried to *reverse-engineer* this system and philosophy (Cosier & Dalton, 1986; Hackman & Wageman, 1995) they have almost, always failed to understand the real source of its effectiveness. Several reasons are proposed for this failure. They include partial information or even misinformation due to the method of information gathering. Some academics and practitioners visit Japan with pre-conditioned mind sets, usually in awe; others gather information through third parties such as interpreters and translators (Brunet & New, 2003); others see only half the picture due to viewing only what they have been directed to view during factory tours (Lillrank, 1995). This amounts to numerous viewpoints on the same subject with possibly no real

understanding of underpinning philosophy (Nonaka, 1994; Black & Porter, 1995; Goncalo & Staw, 2006; JRS, 2006a; Anand et al., 2009).

1.2.1 Genba is All

The Japanese term *genba* is defined and outlined in this thesis as *the actual place where something occurs* and is similar to an Area of Operations (AO) in military parlance. It literally means *the real place* and, in business-process improvement context, the place that adds value such as a manufacturing area or a workshop. The genba is more than just a physical place, as outlined by much of the Anglosphere literature (refer Liker, 2004), because it both includes context and occurrence of events. It is the place where events happen, experiences are gained, knowledge is generated and shared, the intrinsic becomes explicit, and the intangible becomes tangible. It is the place where philosophy and theory become practice. Through the interface of people, attention is called to ideas and action. These are enacted by people based on circumstance and accumulated experience (Weick, 2003).

1.2.2 Kaizen Diffusion

Academic and practitioner literature within the Anglosphere often considers the active *transfer* of kaizen (Kono, 1982; Schulz & Jobe, 1998; Barnwell, 2007). However, the term kaizen *diffusion* (Kono, 1982; Hackman & Wageman, 1995; Powell, 1995; Ahire & Ravichandran, 2001; Bessant et al., 2001) is adopted in this research due to semantics.

Anglosphere literature may lead the reader to the conclusion that kaizen is a rule-based performance-improvement methodology readily transferable to outside workplaces through the adoption of templates, modules, or tools. Powell (1995) reported that some companies acknowledge they have adopted aspects of kaizen, adapted some, and even ignored others. However, kaizen is an all-encompassing philosophy covering all aspects of the organisation (Iizuka, 1998; Huntzinger, 2002; Brunet & New, 2003; Fukunaga, 2004; Itoh, 2004a; Itoh, 2007; Lander & Liker, 2007; Schonberger, 2007) complete with hardware – plant and products, software –

policies and procedures, and humanware – employees (Wittenberg, 1994; Saruta, 2006; Kuroiwa, 2009).

The Anglosphere has attempted to diffuse kaizen in all manner of organisations, from industrial (Sugimori et al., 1977; Womack et al., 1990; Ahire et al., 1995; Womack & Jones, 1996; Huntzinger, 2002; Shah & Ward, 2007) to service (Ahire et al., 1995; Powell, 1995; Shah & Ward, 2003; Sila, 2006) to non-profit (Shah & Ward, 2003; Sila, 2006). The methodology employed has invariably by-passed the development and tailoring of kaizen tools and methods to organisational needs and requirements. At a superficial level, companies in the Anglosphere are able to replicate the quality movement tools and methods of Japanese industry. However, implementing kaizen in the workplace without understanding the underpinning philosophy has resulted in organisations in the Anglosphere being unable to achieve the same levels of continuous, sustained process and product improvement as in Japan (Lander & Liker, 2007; Farris et al., 2008b; Ichijo & Kohlbacher, 2008; Powell, 2009). Acknowledging this insight may better equip Anglosphere corporations with a priori knowledge, reduce the learning curve, and develop successful and sustainable quality improvement programmes. Due to cultural differences, such programmes may not take the same form as those undertaken in Japan, however, the outcomes could be comparable with, or even surpass those of Japan.

1.2.3 Intergenerational Diffusion of Kaizen

Japan has experienced several generational shifts in recent history: the War Generation (those born 1938 to 1950); the Bubble Generation (those born 1951 to 1975); and, the Post-Bubble Generation (those born 1976 to 1995) (JCMRI, 2006). The War Generation appears to have had a disproportionately large influence over the establishment of kaizen. If kaizen drift occurs it must, somehow spill into both the Bubble and the Post-Bubble generations (JCMRI). The latter are now approaching management positions in domain companies in Japan.

Access (Gummesson, 2000) has been repeatedly identified as a key constraint of business research. Initial workplace inquiries in Japan regarding the candidate's research endeavour received enthusiastic reception from employees and management alike. The need for Japanese employees and managers to *tell their story* quickly emerged. Initial conversations revealed that research participants had an inherent need to pass on their tacit knowledge, while there did not appear to be an audience for its reception. The identification of a generational element led to ask, "What does kaizen mean to those who exercise it?" The generational element refers to the fact that although the Japanese are predominantly homogeneous in ethnicity and culture, there was often talk of *them* and *us*, referring to younger and older generations in the work place: crudely speaking War; Bubble; and Post-Bubble generations, with notable change in their approach to work occurring within the 45 to 50 year old range.

1.2.4 Kaizen Drift

When speaking in passive tense, kaizen drift is observed through generations due to its embedded passive, at times active, and pervasive nature. This occurs when the underpinning philosophy of an ideology is actively, or passively, passed on to up-coming generations through tacit and explicit knowledge exchange in genba. This positive interpretation of drift is in contrast to that identified by Snook (2000). In his case, failure not performance resulted in the tragedy of two USAF F15s destroying two US Army Black Hawk Helicopters, killing all on board. The point here is that drift usually infers some movement away from a predetermined outcome to the detriment of performance. In the case of kaizen drift in genba, the opposite appears to apply – movement toward a predetermined outcome resulting in value.

1.3 RESEARCH QUESTIONS

Analysis of the English-language kaizen literature identifies gaps in the knowledge with regard to the Anglosphere's understanding. Particularly, those related to the philosophical underpinnings of kaizen. While the literature occasionally acknowledges the existence of kaizen philosophy it usually concerns itself with the

highly visible tools and methods of kaizen. A lack of understanding, or misunderstanding, of the underpinning philosophy may not provide the development of effective and sustainable tools and methods necessary for the successful diffusion and embedding of kaizen in Anglosphere organisations over the longer-term.

There have been recent attempts by New Zealand Trade and Enterprise to embed lean manufacturing in select companies in New Zealand. Upon low uptake and/or low levels of achievement, a subsequent effort to reinforce *lean manufacturing* by way of leadership development was pursued. Yet, even a cursory glance of these proposals (NZTE, 2009) suggests considerable naivety on behalf of the government agency, as well intentioned as they may have been. Considerable research has been undertaken in the Anglosphere around quality movement practices in the workplace. These activities, as opposed to the research, have largely been the result of imposing Japanese kaizen outputs, with near total neglect of their inputs – philosophy in particular. That sustaining *lean processes* in New Zealand has been identified as a problem suggests that greater impact could be achieved by learning how such practices are actually sustained in Japan.

The primary aim of the research is, from a cross-cultural perspective, to develop kaizen knowledge and examine issues of significance to Japanese workers through the following first level (primary) and second level (secondary) Research Questions:

Primary Research Question:	What is kaizen in the Japanese environment?
Secondary Research Questions:	How is kaizen diffused?
	Is kaizen sustainable?
	What are the implications for the Anglosphere?

This approach is seen to provide opportunity to explore intergenerational kaizen drift (diffusion and sustainability), its meaning, and embeddedness (Granovetter, 1985) in Japan. The primary research question requires an in-depth explanation of the kaizen phenomenon in Japan, in both industry and daily life, through exploration of underpinning philosophies and subsequent cultural and social characteristics; and, development of acceptable definition. The first secondary research question builds on the primary as a means to discover the driving and enabling environmental

characteristics (that may later be taken into consideration to diffuse kaizen in to jurisdictions beyond Japan) required for kaizen to occur in the Japanese environment. The second of the secondary research questions builds on the first through investigation of how kaizen in Japan has remained sustainable over the longer term, as is clearly evident. In Japan, kaizen is a real phenomenon and not just an accidental extended stroke of luck for Japanese manufacturing organisations; unfortunately, Anglosphere organisations have not experienced the same level of success as the Japanese. However, conducting and completing the study in Japan is suspected to be of little use to both practitioners and academics in the Anglosphere; as already noted, too much would be left to translation. Therefore, a final secondary research question is provided, namely, the identification and discussion of the implications for the benefit of the Anglosphere, and New Zealand in particular – while not necessarily developing theory in a predetermined manner.

1.4 OVERVIEW OF RESEARCH METHOD

This research is conducted as a phenomenological (Dreyfus & Dreyfus, 2005; Goulding, 2005) enquiry within the bounds of domain companies of large Japanese corporations. In order to comprehend *what* kaizen is, it examines how Japanese workers in active kaizen environments acknowledge, exercise, identify, and transfer kaizen in a sustainable manner through the primary and secondary Research Questions above. These domain companies are middle-to-large sized industrial companies where participants (n=53) range from recent-hires to retirees (23 to 61 years of age), from factory floor employees to executive management, and from a cross-section of departments.[2]

Inductive case study methodology is typically exploratory in nature and requires metaphysical elaboration to challenge and extend existing theory (Glaser & Strauss, 1967; Bourgeois, 1979; Eisenhardt, 1989; Yin, 2003). The unit of analysis is the Japanese worker operating within the bounds of Japanese manufacturing organisations. The extension is the Anglosphere where the practices of supposed

[2] This is discussed in detail in Chapter Three.

kaizen have been promoted for the last three decades or more. It would be hugely presumptive to offer a new theory in the middle range (Merton, 1968) from this study. To do so would challenge the Anglosphere's entire quality movement. An inductive elaboration, however, contextualised for the benefit of firstly New Zealand manufacturing companies, and secondly the Anglosphere appears entirely appropriate. This may be as simple as reinforcing extant enlightened approaches to manufacturing (see Knuckey et al., 2002) such as Walter Hewlett and David Packard's *The HP Way* (Packard, 1996), Apple Computer's and Ferrari's total commitment to engineering, or BMW's sustained pursuit of excellence. The tragedy being that national competitive advantage (Porter, 1990), in the manufacturing space at least, appears to have long lost the Anglosphere, and even the West.

Cultural Norms: Use of Japanese Lexicon, and Academic Conformity

The inclusion and explanation of Japanese vocabulary and phrases in this thesis conveys original contextual meaning, and avoids sanitisation and corruption through translation and cultural bias. It is important for the reader not to hang on every word, but maintain a mind of holistic and contextual openness. This approach is anticipated to allow for deeper explanation and insight for all parties: the researcher, the reader, and those contributing to the research process.

Academics and practitioners operating within a single culture, or one similar to native culture, may not encounter opposing environments or fundamental influences. Strong social expectations and social boundaries in Japan (Sugimori et al., 1977; Hofstede, 1983; Goncalo & Staw, 2006) dictate the undertakings of individuals and groups. Evidence shows this also applies to Japanese academia, which may produce bounded sanitised outcomes in the form of research and literature.[3] The implications of the sanitisation of published research are *not insignificant*. What reaches the public domain may be bounded by conformity and acceptability and not necessarily reflect underlying knowledge. Therefore, accepting much Japanese research as being the result of rigorous process can be problematic. Departures that emerge between

[3] For a more detailed account of such activity, refer to Appendix 2.

published sanitised results and more common workplace norms, mores, and behaviours are identified.

1.5 THESIS OUTLINE

This research examines two parallel, arguably complementary, philosophies of the pursuit of business excellence by way of kaizen: the Japanese *parent* thread and that of the Anglosphere, which by contrast appears to be a somewhat malnourished orphan. The Japanese thread presents how Japanese workers interpret and exercise kaizen; and, the Anglosphere thread presents how those in the Anglosphere view and practise kaizen. Differing terminology exists because both parties do not view and undertake kaizen in the same light. The Japanese appear to operate in the realm of philosophy. Those in the Anglosphere view the highly visible tangible outcomes of kaizen, with some philosophical elements thrown in the mix.

Chapter Two provides a discussion of the literature relevant to this study. It is presented in the form of two parallel, albeit largely independent reviews: Japan and the Anglosphere. Kaizen in Japan provides a creativity counter-point to social conformity; whereas, kaizen in the Anglosphere is dependent on the Japanese strand, despite the research outputs having little in common. The gap between the two, and an explanation of diffusing kaizen to the Anglosphere is explored by way of cultural proximity.

The research method employed for data gathering, and analysis is presented in Chapter Three. An explanation of statistical methodology, data collection, data analysis, and ethical considerations and undertakings is included. This universal methodology was conducted in both Japanese and English languages, where effort was made to avoid corruption and sanitation of data. Specific attention is directed at the process and pitfalls of translation, and retranslation of data – more so given the criticism directed at the lack of understanding by successive Anglosphere researchers in this study.

Chapter Four presents the results of the participant interviews and subsequent immediate analysis by way of data reduction, and first stage cross-tabulations. The various statistical techniques, discovery of patterns, and subsequent results of fieldwork research are reported.

A thematic discussion of emergent themes is presented at the start of Chapter Five. The implications for Japanese corporations are then explored. A metaphysical elaboration is then directed at the Anglosphere. The Japan-based research provides insight and a deeper understanding of kaizen, its means, and ends (Recht & Wilderom, 1998); enquiry of a kaizen philosophy approach to identify the enablers and drivers of kaizen, thus providing a working means for successful diffusion in jurisdictions beyond Japan. However, given the unique opportunity presented by this study, the implications for the Anglosphere are somewhat different to current recommendations.

The concluding chapter, Chapter Six, provides a reiteration of relationships and occurrences within the literature and research data; identifies limitations of the research; proposes future research; outlines the strength of the research; and finally, moving beyond the data, delivers insightful observations unique to the candidate, seen as beneficial to the academic and practitioner audience.

1.6 DEFINITIONS

The following definitions have been included in this Section 1.6, as opposed to an Appendix entry, as the content and context herein provides the reader with prior cognition to better understand and comprehend the holistic nature of the topic to be explored. English language entries were sourced from the Cambridge, Merriam-Webster, and Oxford Dictionaries; and Japanese language entries were sourced from the Japanese-Multilingual Dictionary.

Anglosphere – identified by Bennett as "a network civilization without a corresponding political form, has necessarily imprecise boundaries. Geographically, the densest nodes of the Anglosphere are found in the United States and the United

Kingdom. English-speaking Canada, Australia, New Zealand, Ireland, and English-speaking South Africa … are also significant populations" (2004, p. 80).

Autonomation – a concept of *automation with a human touch* that implements supervisory functions. This concept employs automatic and semi-automatic processes to reduce physical and mental load on the workers.

Cross-functional – an individual or team working across company departments.

Domain Company – the Japanese reference to a subsidiary company.

Driver – a person or factor that causes a phenomenon to occur or task to be performed.

Enabler – a person or factor that provides the authority or means to undertake a task.

Flexible Labour Line – multi-skilled factory floor workers who can rotate and fill in for absent workers.

Ford Production System – a large-scale management cum mass-production system of moving assembly lines, developed by Henry Ford, circa 1915.

Genba – the actual place where something occurs. It is similar to Area of Operations (AO) in military parlance. In Japanese, it literally means the *real place*. In the business-process improvement context, refers to the place that adds value, such as a manufacturing area or a workshop.

Genbutsu – parts or products, or the actual thing.

Genchi genbutsu – similar to genba in that genchi means actual place, and genbutsu means actual thing, usually referring to part or product; roughly translated as *go and see for your self*.

Genjitsu – *reality* or the actual situation.

Greenfields – areas where factories are built that have not been previously utilised as industrial zones.

Grounded Theory – developed by Glaser and Strauss, a systematic method of generating theory from (qualitative) data.

Hansei – self-reflection.

Heijunka – the Japanese technique of achieving even output flow by coordinated sequencing of very small production batches throughout the manufacturing line in a lean production or the just-in-time (JIT) system.

Heuristics – solving problems through trial-and-error procedure, employs independent discovery, and relies heavily on common sense, creativity, and learning from experience.

Humanware – not an official English word but employed in this thesis to refer to the human element of the organisational equation, as in: hardware (plant and products), software (policies and procedures), and humanware (employees).

Just-in-time – also referred to as JIT, a system in which required parts and goods are made available/delivered as required, to avoid carrying high levels of stock; said to be one of the pillars of the Toyota Production System.

Kanban – a materials requirement planning technique developed by the Toyota Motor Corporation (as part of the JIT inventory system) in which work-centres signal with a card when they require parts from feeding operations or the supply bins.

Knowledge Creation – the formation of new ideas through the extrapolation of tacit to explicit knowledge. As defined by Ikujiro Nonaka, consists of socialisation (tacit to tacit knowledge), externalisation (tacit to explicit), combination (explicit to explicit), and internalisation (explicit to tacit).

Lean Production – developed by Toyota's Taiichi Ohno during the post-WWII reconstruction period in Japan and popularised by Womack, Jones, and Roos' 1996 book *Lean Thinking*, bottom-up efforts to eliminate or reduce *muda* (Japanese tern for waste or any activity that consumes resources without adding value) in processes.

Monogatari – a Japanese philosophy of storytelling that focuses the animate and inanimate objects, their relationships, and interrelationships.

Monozukuri – a Japanese philosophy for making things that emphasises the *object* being created. It differs to craftsmanship and artisanship as these emphasise the *person*. Referred to as "conscientious manufacturing" in Toyota-speak.

Muda – waste.

Mura – unevenness.

Muri – unreasonableness.

NUMMI – New United Motor Manufacturing, Inc., a joint venture programme between Toyota and General Motors (GM) from 1984 to 2010 that provided Toyota with a US manufacturing base and GM with lean manufacturing techniques.

Philosophy – a critical, systematic, and rational argument approach to fundamental problems.

Process-oriented – related to the process aspect of an event.

Quality – a measure or state of being free from defects, deficiencies, and significant variations brought about by strict and consistent adherence to measurable and verifiable standards to achieve uniformity of output.

Quality Control Circles – also referred to as QC circles, a participative bottom-up management technique within the framework of a companywide quality system where small teams of employees (usually 6 to 12) voluntarily form to define and solve quality or performance related problems.

Result-oriented – related to the result aspect of an event.

Sangen shugi – a Toyota philosophy for *actual place, actual part, and actual situation*, which can be roughly translated as *go and see for your self*; also referred to as the Three Reals Philosophy.

Socio-technical System – an approach to achieve optimal interaction between the social and technical systems of an organisation.

Statistical Control – a state of a stabilised production where only common causes of variation remain, with special causes of variation removed. Evidenced on a control chart by the absence of (1) data points beyond the control limits, and (2) non-random patterns of variation.

Suggestion System – a system that communicates employee ideas and suggestions upward through the management hierarchy.

Taylorism – developed by Taylor circa 1890, a production efficiency methodology that breaks every action, job, or task down into small and simple segments that can be easily analysed and taught. Taylor's 1911 book, *Principles of Scientific Management* laid down the fundamental principles of large-scale manufacturing through assembly-line factories.

The Toyota Way – established in 2001, Toyota's management philosophy as it relates to kaizen and respect for people.

Three Reals Philosophy – refer sangen shugi.

Total Productive Maintenance – regular machinery and facility maintenance and repair.

Total Quality Control – referred to as TQC, the application of quality management principles to all areas of business from design to delivery, instead of confining them only to production activities; came to be known as Total Quality Management (TQM) in mid-1980s.

Total Quality Management – also referred to as TQM, a strategic top-down management approach to long-term continuous improvement in all aspects of an organisation. TQM aims to radically transform the organisation through progressive changes in the attitudes, practices, structures, and systems. It transcends the product quality approach, involves everyone in the organisation, and encompasses every function within the organisation.

Toyota Production System – also referred to as TPS, is a socio-technical system of Toyota's management philosophy and principles – the Toyota Way –, which extends into production and supply.

Zero Defects – defect prevention level where all output is within specification limits.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This thesis addresses the philosophy of kaizen, and its tangible and intangible aspects. Substituting Japanese terminology for English, as noted above, would only sanitise the holistic nature of integral explanations made herein. Specifically, rather than substitution of Anglosphere terminology, the term *kaizen* is utilised throughout this thesis. Reviewing kaizen and the quality movement literature requires an accurate definition of kaizen that is comprehendible and acceptable to those in the Anglosphere.

Development of the primary and secondary Research Questions in Section 1.3 directs this thesis to seek an explanation and definition of kaizen from the literature, both in Japan and the Anglosphere, in the first instance; and, the equivalent from real people working in active kaizen environments thereafter. A definition of kaizen in Japan, and for the Anglosphere, is developed from Japanese academic and practitioner literature in Sections 2.1.1 and 2.1.2. While avoiding repetition of literature common to the Anglosphere, Section 2.2 provides insight by disclosing reoccurring themes and areas of emphasis within Japanese literature. From a Japanese-style management approach, this addresses companyism, relationships, monozukuri and monogatari, genba, quality circles, knowledge creation, and the Japanese view of Anglosphere organisations as a means to explore the diffusion and sustainability in Japan.

From the predominantly Japanese theoretical perspective, perspectives of Japanese and Anglosphere academics and practitioners are then utilised, and insight on Japanese business practice is presented in Section 2.3. Deeper insight into kaizen is provided through a detailed review of the Toyota Motor Corporation of Japan (Toyota). The Toyota Way and Toyota Production System[4] are not limited to just

[4] To maintain the essence created through the descriptive, with the exception of cited material, this thesis does not abbreviate the term Toyota Production System to the common TPS acronym.

Toyota as the philosophy and methodologies thereof have “swept through Japanese businesses within Japan” (Saruta, 2006, p. 488). Section 2.4 presents an overview of the philosophical and physiological essence of the Japanese mind, society, and culture. Sections 2.5 to 2.7 provide an in-between ground, a cultural bridge between East (Japan) and West (the Anglosphere), with commentary on Maslow, Herzberg, and Hofstede regarding fundamental human psychological and physiological characteristics that shape people, organisations, societies, and cultures. Commentary on Anglosphere literature and Anglosphere practice follows in Sections 2.8 and 2.9 respectively provides comparative insight to differences in the Anglosphere and their reasons for such occurrence. Section 2.10 considers the movement of knowledge between agents, and introduces the concept of kaizen drift, which is defined as *the passive diffusion of kaizen philosophy and practice through generations*; and, concludes with a brief outline of Japanese and Anglosphere literature and practice. Knowledge culminating from this Literature Review then provides a framework in which to conduct data collection in genba to develop a series of emergent themes (refer Sections 4.3 and 5.2) so to explore implications for business in the Anglosphere, as is taken up in Section 5.5.

2.1.1 Defining Kaizen in Japan

Kaizen, even to the Japanese, is a difficult word to conceptualise and subsequently define (Brunet & New, 2003; JRS, 2006a). Any attempt to develop a definition requires prior conceptualisation, resulting in identifying kaizen as a philosophy or a deterministic model of tools and methods, or a combination of both – particularly, a series of prescribed changes for ingenuity, improvement, and reform. Nevertheless, these are merely descriptions from different angles. Extant literature and this research note that users of the term somehow understand it, but not necessarily with universality. No matter what explanation is offered, there is still much subjectivity. Given the holistic nature of the Japanese language (Moore, 1967; Cosier & Dalton, 1986; Ahire et al., 1995; Poole, 2009) and differing perspectives, it is difficult to develop a truly explicit and universal definition of kaizen (JRS, 2006a).

Japanese academic and practitioner literature does not offer a precise definition; nor do Japanese authors define the term, even when writing specifically on the topic. The closest to an outright definition may be found in the work of Itoh (2004a, 2004c). Although he attempts to construct a definition, nothing explicit or viable is forthcoming, resulting in only generally accepted, rather than definitive discourse. The literature does, however, find offerings such as "constant and indefinite pursuit of [improvements in] safety, operation efficiency and morale" (Iida, 2008, p. 36), and "an intellectual and creative activity … [involving] thinking process, induction, [and] deduction" (Irikura & Imaeda, 2007, p. 12). Itoh simply provides "knowledge creation" (2004a, p. 49), and "problem solving" (2004b, p. 70). The authoritative JRS Management Information Service organisation defines kaizen as "the selection of means to better achieve objectives, and method change … to change the way of work" (JRS, 2006a, p. 2). Such contributions of the variety of conceptualisations and understandings only reinforce kaizen as a philosophy, and not a theory of quality management (Weick, 2003). JRS (2006a) notes that the Japanese tend to speak of kaizen as company-limited where some employees and organisations interpret kaizen as problem awareness, part awareness reform, part organisation activation, and part capacity building.

The lack of an explicit universal definition of kaizen does, therefore, result in contention. Individuals, groups, and organisations, while holding their own definition, can use the term kaizen in varying contexts. Nevertheless, even though various agents use the same terminology, that terminology is likely to hold different meanings for each. This phenomenon is the ultimate source of confusion in understanding kaizen activity, in both Japan and the Anglosphere. Subsequently, in attempting to develop a definition or understanding of kaizen it is necessary to realise that a universal definition does not exist; and, that kaizen can only be defined from the viewpoint of the individual operating in a kaizen environment. Kaizen appears to be more than activity in the quest of business excellence, underpinned by a driving and enabling philosophy, but a means for Japanese workers to view their world, providing a metaphor for understanding.

2.1.2 Defining Kaizen in the Anglosphere

In consideration of the explicit nature of the Anglosphere, a definition of kaizen becomes necessary. In the Anglosphere, academics and practitioners predominantly concern themselves with the tangible outcomes of kaizen due to a cultural bent to explicate phenomenon. Some authors write of kaizen philosophy but infrequently offer insight. In order to develop a unifying definition of kaizen (refer Section 5.3), a lexical breakdown is now provided, moving to definitions offered by oft-cited authors. In extension, Section 5.3 provides a construct of kaizen not yet seen in extant literature. This resultant explicit, yet holistic, definition will provide agents with a means to view their world with respect to kaizen.

The term 改善 (kaizen) stems from the two Japanese kanji (ideograms): 改 (kai) meaning reform, change, modify, examine, and inspect; and 善 (zen) meaning virtuous, and goodness (JMdict). Subsequently, we are able to synthesise the common *change for better*. Anglosphere definitions tend to include the context of *continuous* and *incremental*, but nowhere within the lexical does such context exist. The only means to imply continuous and incremental is through pure assumption that those working within the kaizen paradigm continue to do so, and that companies continue to exist. Imai provides a generalist definition in "KAIZEN means improvement … continuing improvement in personal life, home life, social life, and working life. When applied to the workplace … continuing improvement involving everyone-managers and workers alike [sic]" (1986, p. xx). Analysis of Anglosphere literature demonstrates that beyond Imai there has not been any development of the definition of kaizen for the past 25 years.

To initiate synthesis, a very simplistic and general understanding of kaizen as "continuous improvement" (Bessant et al., 1993, p. 242; Bessant et al., 2001, p. 67; Styhre, 2001, p. 795; Shconberger, 2007, p. 409) or "incremental improvements" (Womack et al., 1990, p. 149) is typically offered – usually by authors who do not take it upon themselves to explore the underpinning enablers and drivers of this phenomenon. In such settings, it is a useful but lazy catchall. Taking this one step further, Huntzinger provides "continuous improvement for the better" (2002, p. 17).

Within the realm of the organisation Bessant et al. contribute "continuous improvement through incremental innovations and problem solving" (1993, p. 242), and **"**continuous improvement based on employee involvement" (2001, p. 67). Bond offers "small incremental change" (1999, p. 3). Brunet and New touch on philosophy with "pervasive and continual activities, outside the contributor's explicit contractual roles, to identify and achieve outcomes he believes contribute to the organisational goals" (2003, p. 3). Moving still closer to the recognised birthplace of kaizen, Japan, Imai defines kaizen as "an umbrella concept for … productivity, total quality control … zero defects … just-in-time, and the suggestion system" (1997, p. 2).

Barnwell observes that, "it is typical of the Japanese approach to quality in that it merges statistical quality control with the social system of the factory. It highlights that quality requires the cooperation of all workers, and the widely discussed techniques of quality circles provides an example" (2007, p. 9). Toyota provides the following definition, "the process of making incremental improvements, no matter how small, and achieving the lean goal of eliminating all waste that adds cost without adding value … a total philosophy that strives for perfection and sustains TPS on a daily basis" (Liker, 2004, p. 24). Interestingly, the Denso Study Guide (Denso is a member of the Toyota Group of companies) offers to its American employees "small, incremental, continuous improvement" (2008, p. 1-3), yet points out that "this definition does not begin to cover what kaizen actually means to the company" (2008, p. 1-3), yet no further explanation is forthcoming. Would it not make sense for a Japanese organisation attempting to educate its offshore employees about kaizen to provide a *complete* definition so that all parties may operate on the same intuitive playing field? As is evident, the literature subscribes almost exclusively to the context as described by Imai, and within the realm of continuous and incremental improvement, and problem solving by all employees of the organisation. This does not, however, provide any form of cognisable definition other than what may be visually identified. Analysis of both Japanese and Anglosphere literature, while providing rudimentary definition, does not provide any real understanding to the observer.

2.2 JAPANESE LITERATURE

Japanese academics often publish about the Toyota Way and Toyota Production System (see Shingo, 1980, 1987; Monden, 1983a, 1983b, 1985, 1994; Fujimoto, 1997, 2003, 2004; Saruta, 1992, 1993, 1995, 2006, 2009). However, as Japanese academic and practitioner literature has not witnessed any significant publications on the subject of Japanese quality management since Ohno's original 1978 Japanese edition of the *Toyota Production System*, the literature is seen as not having evolved (Saruta, 2006).

Much research highlights Japan's post-war high growth and economic strength, even after the Oil Crisis of the early 1970s (Baba, 1991; Lillrank, 1995; Fukunaga, 2004). Itoh notes that, "Japan's economy, from 1955 onward, over a period of 20 years, achieved unprecedented economic and corporate growth" (2000, p. 189). This was due to the unique structure of its economic/social system: pure capitalism at the macro level, yet socialism at the micro level (Baba, 1991), in unison with "companies that had strength in integrating employees" (Baba, 1988, p. 51), and "employees with very strong company attitudes" (Baba, 1991, p. 62). Essentially, two underlying factors contributed to the development of Japanese industry: a scarcity of natural resources (Iizuka, 1994), and an abundance of human resources (Sugimori et al., 1977; Itoh, 2000). Japan did not have the luxury of abundant natural resources, as did many other countries, and had to import nearly all their raw materials, which contributed additional costs. The only abundant natural resource was its people, one with unique and homogeneous traits of cooperation, commitment, and conformity (Sugimori et al., 1977; Bessant et al., 1993; Barnwell, 2007). Japan knew that to compete and succeed in the global marketplace it had to achieve low cost production without detriment to product quality. Human resource activities were organised into three areas: developing people through society, developing people through education, and employee/family peace of mind (Saruta, 1990, 1992; Iizuka, 1998). Japanese industry was able to take advantage of these factors through the development of lean production techniques, resulting in waste elimination, quality products, and humanisation of the workplace (Ohmae, 1982; Saruta, 2007). Coupled with local cultural and social underpinnings, a uniquely Japanese-style of management developed around companyism, long-term relationships, monozukuri

and monogatari, genba-ism, quality control circles, and knowledge creation – all of which are reflected in the Toyota Way and resulting Toyota Production System. Each of these is now discussed in turn.

2.2.1 Japanese-Style Management

Companyism

The Japanese *1955 System* (the development of a two-party political system) was of significant historical consequence to social, industrial, and political life in Japan. In 1955, a large-scale political realignment took place (Itoh, 2000; Itoh, 2004a) whereby various factions and smaller parties coalesced into several larger political parties, most prominently the conservative Liberal Democratic Party and the liberal Social Democratic Party. It was at this point that Japan decided its national objective – "[to economically] overtake the developed countries of the Western Hemisphere" (Itoh, 2000, p. 190). Itoh infers that a new agreement, though implicit, was formed through political objectives based on economic goals of an affluent standard of living, focused on corporations.

Ohmae's, *Companyism and Do More Better* (1989), is one of the few pieces of Anglosphere literature that examines the Japanese concept of companyism. The term, though not common in the Anglosphere management-science lexicon, is widely used in Japan. Those in the Anglosphere may incorrectly assume that companyism refers to the business-enterprise system. However, in Japan, companyism comprehensively refers to Japan's social-economic system (Baba, 1991). It combines aspects of socialism-communalism with capitalism to create the characteristics of the long-term business relationship (Fukunaga, 2004). Recently, however, change appears to have occurred in the structure of Japan's social-economic system from macro-level capitalism and micro-level socialism to macro-level socialism and micro-level capitalism – possibly resultant of continued globalisation; an aging population; and, impacts from both the global financial crisis of 2008 and the Fukushima disaster of 2011.

Long-term Relationships

The Japanese approach to long-term relationships, or long-term thinking based on trust relationships (Ohmae, 1982; Baba, 1991; Itoh, 2000; Fukunaga, 2004), provides that harmonious labour relations, humanism, equalitarianism, and genba-ism are the basis of fundamental human rights (Iizuka, 1998; Itoh, 2000; Saruta, 2007). For example, Toyota, as with other corporations, are active in promoting respect for humanity; and, "[management] that cares for people" Itoh (2007, p. 10). This is evident in the prominent features of the Japanese personnel system, specifically the lifetime employment and seniority systems (Iizuka, 1998; Itoh, 2007). Such long-term relationships are not limited to just the workplace. The corporation, as Iizuka notes, is:

> Active in celebrating of milestones from induction to retirement, condolences and sympathy, homeownership (housing loan interest subsidies, employees' savings schemes), favourable lunch breaks (free meals, special meals on days of celebration, seasonal music, and flower arrangements), travel, recreation (travel assistance programmes, and facilities for family use), management-labour cooperation [sic] ("happy" meetings, workplace advisory meetings, and sports festivals). (1998, p. 90)

The cornerstone of Japanese management is the understanding that *manufacturing is developing people*, a belief that started decades ago with Konosuke Matsushita of Panasonic Corporation to Toyota, Canon, and Kyocera (Saruta, 1992; Itoh, 2004a). The Japanese believe that human resource development is generally the most important practice in business because to develop good products it is first necessary to develop good people (Iizuka, 1998).

Within the bounds of the long-term employment system, the dismissal of employees is the last implicit employment practice of choice when business performance proves poor (Itoh, 2004a; Itoh, 2007). With regard to permanent employees, since WWII, labour costs are seen as fixed costs. These core values of Japanese management are in stark contrast to *labour costs as variable costs* in American-style management (Itoh, 2004a; Itoh, 2007). Long-term employment is a large burden to companies,

but for Japanese management it a core condition of support. For employees (including their families, and until retirement) such an approach provides a stable lifestyle and confidence. In return, employees contribute lifetime loyalty and a strong work ethic to their company (Katsundo, 1985; Itoh, 2004a).

Japanese Monozukuri and Monogatari

Japan-watchers in the Anglosphere translate the process of Japanese monozukuri as craftsmanship, or artisanship, with the focal point on the skills of the craftsman (or craftswoman). In contrast, the focal point of Japanese monozukuri is on the object being created, with less or no emphasis on the person. An object created within the monozukuri philosophy has life, spirit, and portrays ideas, feelings, and emotions. Monozukuri is centred on the Japanese philosophy of sangen shugi, or in Toyota-speak the *Three Reals Philosophy* (Itoh, 2000; OJT, 2006).[5] The monozukuri philosophy is not limited to the "three actuals" philosophy, but is a general knowledge-creating process. The process begins the knowledge creating activity literally from the ground up, and ties directly with genba-ism[6] (Aoki, 2008). Monozukuri ties directly to the philosophy of monogatari. The Anglosphere provides a rudimentary translation of monogatari as *story*, in the sense of a beginning, an unfolding plot, and ending. In the Japanese mind, monogatari is deeper than just a story. It involves animate and inanimate objects, their relationships, and inter-relationships.

The Genba Approach

Genba-ism refers to the advent of genba thinking (Imai, 1997; Itoh, 2000), which is somewhat distinct within the Japanese organisation. Genba refers to the *actual place*

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[5] Unfortunately, even for Toyota, this translation does not do the philosophy justice. Substitution of "real" with "actual," as in actual place, actual part/object, and actual situation (thus the Three Actuals), provides a more accurate means to view the philosophy.

[6] Genba-ism conceptualises genba (actual place), genbutsu (actual part or object), and genjitsu (actual situation).

where something happens (OJT, 2006), and may be best understood by the phrase *go and see for your self* (OJT). This resonates closely with military context, and the Area of Operations, or AO (Crane, 2005). In the AO, those in the higher ranks instruct subordinates only on requisite outcome, and not methodology. The subordinate decides the process of achievement. In the organisation, the work of each individual employee in the genba establishes company activity; if work content strengthens intangible knowledge creation, differences in employees' work attitudes will bring large differences in activity results (Imai, 1997; Itoh, 2000).

Quality Control Circles

Quality control circles (QC circle/s) are small-group participative bottom-up activities (Schonberger, 1986; Saruta, 1992, 2006; Monden, 1994; Lillrank, 1995; Itoh, 2007) established to define and solve quality and performance related problems. QC circles may be established to work in a general nature or for a specific purpose; they may be dedicated to just one section of the organisation, or cross-functional (Lillrank, 1995). Essentially, QC circles pursue humanisation of the workplace (Sugimori et al., 1977; Itoh, 2007c).

Knowledge Creation

The process of Japanese-style knowledge creation and diffusion resonates with that of the Anglosphere. Japanese companies focus on genba experience (Senoo, 2004) and regular job rotation (Ueki & Ueki, 2010) with the aim of expanding workers' experiences and deepening knowledge through interacting with workers of adjacent workplaces (Takeuchi et al., 2008). In addition to learning, workers aim to test personal ability through new work and workplaces, resulting in simultaneous training and evaluation over the long term (Itoh, 2000). "Their 'experience' and acquired 'knowledge' is inherited, accumulated, and shared with other members" (Itoh, 2007c, p. 65). Further, mechanisms resulting from production activity and newly acquired knowledge provide a company's real advantage, and form the centre of invisible assets (Itoh, 2000). Organisations are able to enhance knowledge creation through building strong management leadership, implementing strategy and clear vision;

striving to improve brand value and customer satisfaction; encouraging two-way information sharing; providing challenging initiatives that tolerate failure; and, applying comprehensive human resources practices (Ueki & Ueki, 2010).

Effective knowledge management (Ueki et al., 2011) entails the management of knowledge creation, transmission, protection, and disposal within an enabling context (Ichijo & Kohlbacher, 2006). This knowledge management-enabling context is possible through specific enablers – instilling a knowledge vision, managing conversation, mobilising knowledge activists, creating context, and globalising local knowledge (Ichijo & Kohlbacher, 2008). For example, Toyota has achieved such knowledge management through its *learn local, act global* strategy (Ichijo & Kohlbacher, 2006, 2008), QC circle and small group activity, education programmes, and the Toyota Way. Here, Toyota views organisational learning as the centre of its Toyota Production System; and tools as articulated tangible outcomes of applying the principles of the Toyota Way.

The Japanese View of Anglosphere Corporations

Japanese literature implies that Anglosphere corporations fundamentally have tenuous trust relationships, short-term thinking, labour-management conflict, a hierarchical view of people, and a discriminatory culture. Itoh (2000) hypothesises that this creates labour conflict within companies, as capitalists, and employers on their behalf, seek to maximize profits, and exploit labour for much work for little pay. In response to this, labour seeks to maximize wages while avoiding work. Both parties effectively seek to eliminate the other without compromise. Naturally, productivity is low and output quality poor.

Itoh (2004a) describes the nature of the *American Management* model as shallow relationships of trust, short-term thinking, labour-management confrontation, and a hierarchical view of human beings and discrimination – opportunism, sexism, and top-down management – established through political and social instability. In contrast, he describes the nature of the Japanese Management model as one of long-term thinking based on relationships of trust, union-management cooperation, basic

human sense as represented by humanism, egalitarianism, and a hands-on approach. The establishment criteria included political and social stability resultant of the political framework set up in 1955, and common goals to catch up and overtake the *rich managerial society* of the West. Itoh (2007) further provides a view of how Japanese management operates within the realms of good and bad management. He notes that the Japanese identify *poor management* as occurring when, following operational failure, an investigation is made as to *who* caused the problem. In self-defence responsibility is, like in the Anglosphere, often passed to others which may result in the hiding of facts, kaizen initiatives are not possible, and ultimately resulting in pay cuts, and staff transfer measures. However, *good management* occurs when investigation is made into root cause, standardisation of operations, and measures to eliminate future problems are implemented – ultimately resulting in underlying cause measures. A summary of the attributes of good and bad management, adapted from Itoh (2007), is provided in Figure 2.1.

Figure 2.1. The Japanese view of good and bad management.

Poor Management	**Good Management**
Failure occurs	Failure occurs
Investigation as to who caused problem	Investigate root cause
In self-defence, responsibility passed to others	Machine/tool hard measures
	Standardisation and elimination of problem repetition
Facts hidden, kaizen not possible	
Pay cuts and staff transfer measures	Underlying cause measures

Note: Adapted from "海外現地法人における人材育成 [Personnel training in overseas subsidiaries]" by Y. Itoh, 2007, *The Japanese Society for Quality Control, 37(*1), 7, p. 10.

2.3 JAPANESE PRACTICE

Commerce between the East and the West commenced some 1500 years ago via the Silk Road. However, regular and frequent contact was minimal until the mid-

nineteenth century (Hill, 2007) due to the availability of mass transport, first, sailing ships then trains and steamships. Development of commerce, knowledge, and technology opened all manner of access routes, and eventual globalisation.

Even during this era of development, "East Asia maintained and consolidated its cultural identity based on the ancient traditions of Buddhism, Confucianism, and Taoism" (Braudel, 1993, cited in Hill, p. 60). Buddhism bridges "the individual's relationship with heaven and the afterlife" (Hill, 2007, p. 65); Confucianism is "concerned with harmonious relationships between the individual and society" (Hill, p. 65) based on "virtue, benevolence, humanity, [and] humanness" (Oldstone-Moore, 1988, cited in Hill, p. 65). Taoism provides "the harmonious relationship between individuals and the natural order of things" (Hill, p. 65).[7] The effects of these are evident in East Asian and Japanese society where Buddhism provides "general values and behaviours (compassion, harmony, and respect), relationships, and leadership styles" (Hill, p. 65), Confucianism contributes social constraints (ethical rather than legal codes), and Taoism teaches reducing needless energy and preserving vital energy (Hill).

There are a number of evident parallels between East Asian culture and East Asian management styles.[8] The most notable include: respect for authority with the deference to hierarchy, titles, and seniority (Hofstede, 2001); trust and relationship orientations (Yeung & Tung, 1996); conflict avoidance (Hofstede, 2001); and, conformism (Lewis, 1996). In addition, group orientations (Hofstede, 2001); consensus decision-making (Hill, 2007); close relationships among governments, companies, and workers (Redding, 1984); and, paternalistic management processes (Redding, 2004) too have parallels between culture and management styles. In the management and business context, Buddhism concerns itself with community and organisational stakeholders – as reflected in Japanese lifetime employment, employees' attitudes toward job and company, relationships, hierarchy, and paternalism. Confucianism dictates ethical and social relationships over legal

[7] Refer Appendix 3, Table A3.1 for a detailed summary.

[8] Refer Appendix 3, Table A3.2 for characteristics of East Asian management styles and associated religious and cultural underpinnings.

relationships, hierarchy, paternal management, work ethic, respect, obligation, and collectivism (Saruta, 1998). Taoism deals with consensus and moderation. Hill notes, however, that congruency may be difficult to quantify (Hill, 2007).

2.3.1 Management by Incentive

Japanese-style management posits incentive over coercion, reflects the collectivist and consensual nature of Japanese culture, and resonates with the proverbial carrot rather than the proverbial stick of the Anglosphere. The following outlines a number of incentives as employed by Japanese organisations. The first noted incentive is economic stimulus, specifically wages and bonuses, lifetime employment, a seniority-based wage system, corporate welfare programmes, and in-house training and education. These provide economic incentive through lifetime security and belongingness to the corporate family (Recht & Wilderom, 1998). Parallel to recent changes to these systems, the adoption of a merit-based system has also been successful in motivating employees (Saruta, 2006).

The second incentive relates to flexible labour lines and small workgroup management in the form of suggestion systems and QC circles (Recht & Wilderom, 1998; Saruta, 2006). These create environments where each worker becomes an integral part of the organisation, allowing the externalisation of organisational kaizen philosophy, just-in-time (JIT) methodology (Saruta, 1993), and autonomation (Imai, 1986) through minimal worker numbers. However, Saruta (2006) argues that the existence of such systems create an attendance-rate control regime and an environment where workers are "reluctant to be absent … make a mistake for the fear of 'letting the others down'" (Saruta, p. 492).

The third incentive, introduced much later through behavioural science based labour management, is "incentive from within" (Saruta, 2006, p. 495) and is based on what could be seen as a combination of Maslow's Hierarchy of Needs (1970), McGregor's Theory X and Theory Y (1960), Argyris' Job Enlargement (1973), Herzberg's Hygiene and Motivation Factors (1968), and Likert's Group Work (1959). In extension of these, on-the-job-training (OJT) and self-disciplinary training

programmes are seen as a "form of psychological training towards a sense of employee/group consciousness" (Saruta, 2006, p. 495). Saruta proposes that such incentive management and organisational training are used to nurture employees to comply with organisational requirements for concentrated labour and long working hours (2006). In Toyota, "this mechanism acts both internally and externally as a coercive force to concentrate labour and make long working hours obligatory; workers remain loyal to Toyota, resulting in the famous "Toyota Man" [sic] (Saruta, 2006, p. 491).

2.3.2 People and Organisations

The tangible tools of kaizen in Japan are not so different from those in the Anglosphere. However, an individual employee's approach to kaizen may be the defining difference (Bessant et al., 1993; Black & Porter, 1995; Anand et al., 2009) between Japan and the Anglosphere. Kaizen is very much person dependent by way of its philosophy and methodology. Workers in an active kaizen environment tend to view kaizen as something integral to their job and something that provides underlying support to company activities (Hackman & Wageman, 1995; Iizuka, 1998; Itoh, 2000; Bessant et al., 2001; Huntzinger, 2002; Brunet & New, 2003; Saruta, 2006; Lander & Liker, 2007). Kaizen is enriching for the individual (Liker, 2004; Poole, 2009) as it develops people's knowledgebase through active and inactive education programmes, for example, OJT. Further, it builds confidence as workers develop their knowledge (Likert, 1959), moving from simple users to competent users, and eventually experts in their fields. This provides a source of motivation (Hackman & Wageman, 1995) and even job enjoyment to the individual. In addition to these implicit aspects, workers are also very much aware of the explicit provisions of kaizen. Kaizen provides a way to build quality into an organisation's products and production methods through systemised operations, work methods, and safety awareness. This subsequently provides stability in the minds of the workers and in the organisation as a whole.

To the Japanese organisation, more than management of key functions, such as production, inventory, and finance, management of human resources may be the

most dynamic, and important for future value. An active kaizen environment provides an organisation the means to integrate the mental and physical, and necessary *change management* to create a dynamic organisation that is proactive and reactive to internal and external environmental changes. Within the organisation, reactive problem solving activity and proactive prevention activity is made possible through visual management. This ties up production operating efficiency, quality, and safety through active tools, including analysis, feedback, and clarification of operating methods, and by asking the question "What can I do?" As kaizen integrates the individual with operations, and operations with the organisation, it becomes a necessary philosophy and activity within the organisation.

2.3.3 Toyota: Kaizen Philosophy and Practice

The publication of Ohno's, *Toyota Production System* (1988), Womack, Jones, and Roos', *The Machine that Changed the World* (1990), and Liker's, *The Toyota Way* (2004) provided much attention to Toyota, said to be the epitome of kaizen and lean production (Lander & Liker, 2007). Notably, Toyota has achieved significant low cost production through the Toyota Production System; and, the underpinning Toyota Way has maintained essential corporate culture.

The Toyota Way

The Toyota Way is a set of underpinning principles (Liker, 2004) developed, adopted, and adapted over time that has resulted in the Toyota Production System (Lander & Liker, 2007). It is supported by the two ideologies of continuous improvement and respect for people. Of the first ideology, Itoh notes that, "Toyota's basic human sense and work ethic identifies 'working means using the brain', 'wisdom and kaizen', and 'innovation' as being strongly required of all members" (2007c, p. 68). Within wisdom and kaizen are the components of challenge, improvement, and genchi genbutsu (OJT Solutions, 2006). The second ideology, respect for human nature, identifies with respect and teamwork (Itoh, 2004a). Toyota views the Toyota Way as a source of competitive power and the driver of the Toyota Production System (Saruta, 2006). It "wants individual workers to think of

the ‘Toyota Way’ in terms of the ‘basis of competitive power’ and is willing to expend much effort into inoculating this message” (Saruta, p. 490). Toyota notes in its Toyota Technical Skills Academy[9] version of the Toyota Way, that the Toyota Way “is an expression of values and conduct guidelines that all employees should embrace – this is the basic philosophy of working at Toyota” (Saruta, p. 490), which eventually becomes the consciousness of every worker.

The following are the Five Main Principles of Toyoda (Toyota Global) as established by founder, Sakichi Toyoda in 1935:

Principle 1: Always be faithful to your duties, thereby contributing to the company and to the overall good.
Principle 2: Always be studious and creative, striving to stay ahead of the times.
Principle 3: Always be practical and avoid frivolousness.
Principle 4: Always strive to build a homelike atmosphere at work that is warm and friendly.
Principle 5: Always have respect for spiritual matters, and remember to be grateful at all times.

Over time, through trial and error, changing business environments, and acquired organisational knowledge, these principles evolved to become (Liker, 2004, pp. 37-40):

Principle 1: Management decisions on a long-term philosophy, even at the expense of short-term financial goals.
Principle 2: Create continuous process flow to bring problems to the surface.
Principle 3: Use "pull" systems to avoid overproduction.
Principle 4: Level out the workload (heijunka).
Principle 5: Build a culture of stopping to fix problems, to get quality right the first time.
Principle 6: Standardized tasks are the foundation for continuous improvement and employee empowerment.

[9] The Toyota Technical Skills Academy is a Toyota group corporate high school and polytechnic.

Principle 7: Use visual control so no problems are hidden.

Principle 8: Use only reliable, thoroughly tested technology that serves your people and processes.

Principle 9: Grow leaders who thoroughly understand the work, live the philosophy, and teach it to others.

Principle 10: Develop exceptional people and teams who follow your company's philosophy.

Principle 11: Respect your extended network of partners and suppliers by challenging them and helping them improve.

Principle 12: "Go and see for yourself" to thoroughly understand the situation (genchi genbutsu).

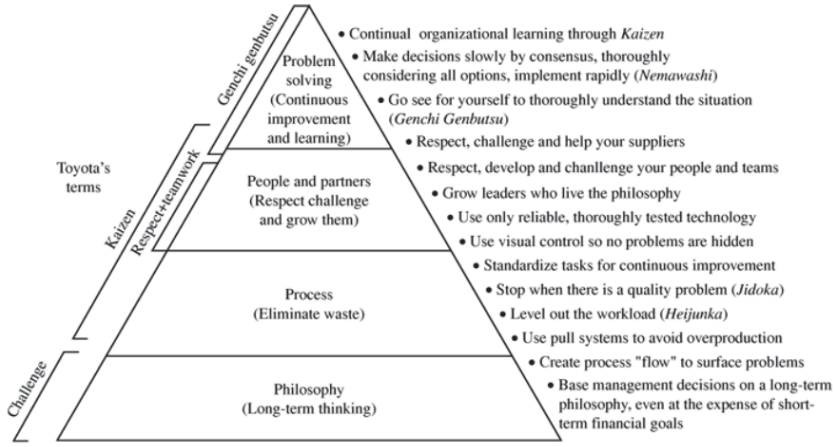
Principle 13: Make decisions slowly by consensus, thoroughly considering all options; implement decisions rapidly.

Principle 14: Become a learning organisation through relentless reflection (hansei) and continuous improvement (kaizen).

Comparative analysis of the original Five Main Principles of Toyoda and the current 14 Principles of the Toyota Way identifies a tendency from an exclusively philosophical approach to a mixed philosophical/mechanical approach. These principles dictate how the company views its world (Lander & Liker, 2007) with respect to waste elimination, product development, production methodology, standardisation, quality, technology, leadership, human resource management, vendor management, organisational learning, performance measurement, and corporate culture.

Figure 2.2 illustrates the 14 Toyota principles (Liker, 2004, p. 13). As is evident, an organisation needs to commence its operations and undertakings with an underpinning philosophy that is essentially the DNA of that organisation (Spear & Bowen, 1999). This is very similar to the dictum as stated by Maslow's Hierarchy of Needs (Maslow, 1970) – lower levels enable and drive higher levels. The philosophy provides purpose to the organisation, which results in tools and methods to achieve it.

Figure 2.2. The 14 principles of the Toyota Way.



Note: From *The Toyota Way: 14 management principles from the World's greatest manufacturer*, p.13 by J. K. Liker, 2004, New York: McGraw-Hill.

The Toyota Production System

The Toyota Production System is a socio-technical system (Brannen, 1991; Flynn, 1992; Bessant et al., 2001; Lander & Liker, 2007; Shah & Ward, 2007) developed by Taiichi Ohno, Shigeo Shingo, and Eiji Toyoda during the 1950s, 60s and 70s (Takeuchi et al., 2008), and continues to develop today. It finds its roots in the JIT production system (Saruta, 1993) developed by Toyota founder Sakichi Toyoda, his son Kiichiro Toyoda, and engineer Taiichi Ohno (Schonberger, 1986, 2007; Holweg, 2007; Lander & Liker, 2007; Shah & Ward, 2007). Many Japanese companies adopted the Toyota Production System in response to the 1973 Oil Shock, and many Anglosphere companies subsequently took note (Lander & Liker, 2007). The Toyota Production System does not concern itself with tools[10] but pursues organisational learning (Spear & Bowen, 1999; Lander & Liker, 2007) and waste reduction (Holweg, 2007; Lander & Liker, 2007; Shah & Ward, 2007; Schonberger, 2007) through the elimination of *muda* (non-value-adding work), *muri* (overburdening), and, *mura* (unevenness). Tools employed are developed where needed, and have

[10] Within the Toyota Production System, the tools of kaizen are employed on a daily basis but the focus of the organisation is on the underpinning philosophy.

been described in detail by Shingo (1980, 1987), Schonberger (1982), Imai (1997), and Liker (2004).

The Toyota Production System consists of two pillars (Liker, 2004): JIT (Ohno, 1988; Saruta, 1993, 2007) and autonomation (Imai, 1986), or smart automation where machines are employed to assist workers rather than replace them. Sugimori et al. note,

> There are two major distinctive features in [the Toyota Production System]. One is the 'just-in-time production' [where] 'only the necessary parts, at the necessary time, in the necessary quantity' are manufactured, and … stock on hand is held down to a minimum … Second … is 'respect-for-human' system where the workers are allowed to display in full their capabilities through active participation in running and improving their workshops. (1977, p. 553)

This, ultimately, creates a system designed "to produce the kind of units needed, at the time needed, and in the quantities needed such that unnecessary intermediate and finished product inventories can be eliminated" (Shah and Ward, 2007, p. 788).

The Toyota-General Motors (GM) 1984 joint venture, New United Motor Manufacturing, Inc. (NUMMI) programme, officially introduced the Toyota Production System to the United States (Recht & Wilderom, 1998; Huntzinger, 2002; Liker, 2004; Shah & Ward, 2007; Iida, 2008). This provided Toyota with its first US manufacturing plant and GM with lean manufacturing techniques directly from Toyota. The NUMMI project, within the confines of the Fremont, California factory, was judged a success in terms of benchmark results and transformation of the workforce (Liker, 2004; Holweg, 2006). Holweg, however, notes that, "despite NUMMI's outstanding success, transfer to other GM plants took many years … [and] that GM's management at the time lacked commitment to implementing lean, and 'seemed more embarrassed by NUMMI than enthused by its success'" (2007, p. 428). This was a pragmatic system developed deep within Japanese culture, and it was difficult for US managers to comprehend. Each manager, tended to focus on the tangible visible aspect of the system, rather than on the whole (Shah & Ward, 2007; Iida, 2008). From the outset, the obstacle this joint-venture lean production system

faced was the diffusion of pre-developed tools – as noted, the Toyota Production System is the tangible result of organisational needs to satisfy customers, manage production, and manage labour.

Bridging the Toyota Way – Toyota Production System Gap

The Toyota Production System is resultant of and dependent on the Toyota Way. Toyota management is required to coordinate each, both independently yet collectively, to ensure sustainability and an everlasting stream of benefits (Saruta, 1998). The human resources and labour management elements of the organisation provide the means for this. Toyota management employs three fundamental elements to implement the system, comprehensively linking it to the Toyota Way. These elements include economic stimulus, management of personnel, and behavioural science based labour management (Saruta, 2006). Toyota has developed a "comprehensive in-house system of education and training, covering all aspects of labour-management relations and [human resource management]" (Saruta, p. 487). Complete understanding, implementation, and management of philosophy, process and people allow the organisation to operate in an efficient manner that is the Toyota Production System.

Itoh notes that with regard to Toyota, "while there is a deep relationship with the management principles, rather, the 'mind-set' and 'behaviour' are the emphasis of the Toyota Way 2001" (2004b, p. 61). Toyota has globalised its management system with the aim of spreading the *Toyota philosophy* to domains outside of Japan, especially with regard to thinking and acting. Further, Itoh notes,

> For Japanese people, this is what was naturally inherited … it is obvious to anyone who is a member of Toyota. This is the corporate culture of Toyota. The Toyota Way is the formulation and documentation of implicit knowledge and explicit knowledge as inherited by members over the long term … includes the aim of learning 'the underlying idea', that is to say philosophy. With regard to organisational culture, it is thought that not undertaking this process, in the short term, results in the person not learning the underlying idea …

> Toyota's basic human sense and work ethic are 'working means using the brain'; 'wisdom and kaizen' and 'innovation' are strongly required of all members, ultimately resulting in 'knowledge creating humans' and a new human model. (2007, p. 68)

Itoh further exclaims of Toyota's dedication to the Toyota Way and its philosophy: in the autumn of 2003, because of a recent scandal, Toyota was under the examination of the Japanese Ministry of Land, Infrastructure and Transport. In response to this scandal, Toyota took proactive amends where the Chairperson, Vice-Chairperson, President, and Vice-President took a (30~50% and 3 month) pay cut, with Chairperson Okuda and the Vice-Chairperson taking the highest rate of 50%, in light of not knowing anything about the situation. Though the course of this action was very severe, it was necessary so to take responsibility (2004).

The All Toyota Labour Union (ATLU) coordinates "management-led labour-management relations" (Saruta, 2006, p. 500) to support the Toyota Production System and its underpinning Toyota Way. ATLU achieves this by supporting workers through the traditional role of Japanese-style unionism, and sharing the same system of values that constitute the company-centred doctrine (Saruta). Events in 1950s characterised the ATLU of today, namely its pledge to "labour-management relations based on mutual trust, a plan for corporate prosperity and maintenance/improvement of working conditions via increased productivity" (Saruta, p. 501); resulting in the ATLU's effecting the dispersion of the Toyota Way to the Toyota Production System.

The stark differences between Japanese and Anglosphere organisations emerge through their underpinning philosophies, the approach of management to practice, and the humanising of the organisation. These differences appear to emerge regardless of the group, industry, or sector of business involved. The following section explores the source of Japanese identity that stems from society, culture, and beyond, and identifies differences between Japanese and Anglosphere theory and practice.

2.4 JAPANESE SOCIETY

2.4.1 Philosophy and Culture

Differentiating between philosophy and culture provides an entry point to understanding the philosophical and physiological essence of the Japanese mind. Philosophy is structural-nature and thought-tradition, and culture is the set of manifestations thereof. Japanese philosophy and culture are enigmatic and paradoxical in that they deal with the experiential and are anti-intellectual (Moore, 1967). It is unique as almost all points of view emulate in the "entire fabric of cultural life" (Moore, p. 293). This tightly intertwined nature of philosophy and culture provides for living through experience, with minimal "intellectual examination and analysis of life" (Moore, p. 290). Consequently, this is the result of, or conversely, has resulted in the holistic, indirect, suggestiveness of the Japanese mind. In the corporate context, kaizen philosophy manifests itself in the form of kaizen culture, tools and methods, creating an active kaizen environment within an organisation. As the culture of an organisation is simply a manifestation of the philosophy held by that organisation, so too, kaizen culture of an organisation may be traced back to kaizen philosophy held by the organisation. This is evident in the case of Toyota. As noted above, the Toyota Way is the underpinning philosophy of the organisation, and the Toyota Production System in the resultant culture, tools, and methods thereof (Spear & Bowen, 1999; Lander & Liker, 2007).

Philosophy in Japanese Society

Hill's *Religion and the Shaping of East Asian Management Styles: A Conceptual Examination* (2007) provides insight into the influences of Buddhism, Confucianism, and Taoism in shaping East Asian society and business. Buddhism, Confucianism, Taoism, and in extension Japanese Shintoism, are not identified as religions per se but teachings, philosophies, or ways, and do not provide the believer with sanctuary or revelations, but with pathways through life. These ways have been affected into the guiding philosophies of Japanese corporate life. The following discussion

utilises the term *philosophy*, and in the case of cited material *religion* is inferred to mean the same.

Buddhism (India), Confucianism (China), Taoism (China), and Shintoism (Japan) were established circa 500BC (Hill, 2007), and each serves a differing purpose. "Buddhism became more dominant in the individual-heaven interface, Confucianism managed the individual-society relationship, and Taoism focused on the individual's interface with nature" (Hill, 2007, p. 65). Over time, Shintoism, the national philosophy of Japan (Van Wolferen, 1990), assimilated the principles of Buddhism, Confucianism, and Taoism to become a collective of these. In Japan today, Buddhism is the dominant individual-heaven interface, and Shintoism is inclusive of Confucianism and Taoism. Such deep assimilation into Japanese lifestyle (Moore, 1967) has extended into management styles and business practices (Hill, 2007), and provides understanding of daily and business behaviour in Japan and East Asia. An outline of the principles, social effects, and business effects of each (Hill, 2007, pp. 73-76) are presented in Appendix 3, Tables 1, 2, and 3.

Buddhism, Confucianism, Taoism, and Shintoism are lifestyle religions (read: philosophies). Unlike the Western concept of religion "based on deities and external revelations … [, Eastern] religions … are rooted in individual insights, awareness and consciousness" (Nigosian, 1990, p. 6, cited in Hill 2007, p. 62). Western culture tends to emphasise individuality and egalitarianism, where Eastern culture emphasises authority, discipline, respect, and reverence for the family, age, and status (Moore; 1967; Aviel, 1996). Western "social hierarchies tend to be dynamic and competitive, East Asian hierarchies … more stable, with subordinates having a more passive acceptance of their roles within societies … [This results in] inequalities [being] tolerated in return for an orderly society that looks after the basic welfare of citizens and employees" (Redding, 2004, cited in Hill, 2007, p. 63). "In return, subordinate members of the hierarchy reciprocate with loyalty and hard work" (Zakaria, 1994; Koh, 1998, cited in Hill, 2007, p. 63). This provides for social harmony and cooperation between social structures, organisations and individuals (Goncalo & Staw, 2006). However, for such social harmony and cooperation to exist there is also the requirement that society members relinquish individualism. The expectation to relinquish individualism is evident in the Japanese adage, "the nail

that sticks up gets hammered down" (Ohmae, 1982, p. 228), and is manifest in strong social conformity within the resulting boundaries as set by society.

2.4.2 The Virtues of Japanese Society

The four Japanese virtues of *on*, *gimu*, *giri*, and *ninjo* shape Japanese culture, society, and the moral character of harmony (Seki, 1971; Sugiman, 1998). These four virtues combine the elements of reputation, respect, and ethical code. 恩 (on), or virtue, generally translates as reciprocity where an individual is required to acknowledge and repay all debts, even debts of honour. 義務 (gimu) may be viewed as piety when a debt cannot be repaid, the debtor must show allegiance to the debt holder. 義理 (giri) refers to duty, but goes far beyond the Anglosphere concept. Such duty, or obligation, is required in order to maintain a honourable life. 人情 (ninjo) may be seen as compassion, empathy toward others, and that all others are equal. Through the quest for a harmonious lifestyle, the individual must surrender certain freedoms. This is the underlying spirit of social harmony and the precursor of the Japanese group-oriented value system (collectivism). Rather than a mentality of general group orientation, as in the Anglosphere, Japan is one of extreme: individuals tend to feel an obligation in exchange for membership.

Collectivism

In Japan, as in the societies of East and South-East Asia, the smallest social unit is the group, whereas in the Anglosphere this tends to be the individual (Moore, 1967; Ohmae, 1982). In Japan, people speak of "we" and "my company," but in the Anglosphere people speak of "I" and "me." Although all cultures and societies of the world exhibit the same fundamental qualities of group centricity, the socio-cultural values of Japan are particularly pronounced (Haitani, 1990). These values may be identified individually, but operate in unison for the greater good of harmony. The individual tends to seek self-improvement, not for self, but for the wellbeing of the larger social group. Particularism states that an individual's age, gender, rank, and educational background are more important than functional ability

(Trompenaars & Hampden-Turner, 1998, cited in Flynn & Saladin, 2006). Vertical consciousness within a group commands respect for those of higher age and seniority ranks by those below (Moore, 1967). Shared destiny may be felt by all members of a group as the group is seen to succeed or fail, and no one individual is ever seen as having responsibility for either. An individual's identity is borne from group membership as it provides identity and ultimately security to the individual. Mutuality of obligations states that each member's contribution to the group is necessary for the group to function in harmony (Ohmae, 1982). When an individual does not *carry their weight*, they are dealt with in a manner necessary, for example, either by coercion or ostracism.

Harmony

Through the function of collectivism, moving up through Maslow's Hierarchy of Needs,[11] and in parallel from Herzberg's lower levels hygiene factors to higher level motivators,[12] the group moves from the short-term survivability function to the longer-term function of harmony. In Japan, this harmony, or "wa" (Ohmae, 1982), runs deep and is both the means and the ends of social existence. It establishes and maintains the boundaries of conformity of the individual, their education, growth, and development from ruled junior to eventual ruling senior, and ultimately the destiny of the group.

2.4.3 Kaizen as an Audience

Maslow (1970) notes, that people are creative. In the collective context, one member of a group attempting to seek individual improvement compared to others may be seen as a challenge to the institution of group harmony – the nail that sticks up. Japan maintains an established set of well-defined boundaries that guide an individual's public behaviour. However, these boundaries tend not to define the individual's behaviour in privacy, for example, in their own home. In public, the

[11] Section 2.5 provides a detailed account of Maslow's Hierarchy of Needs.

[12] Section 2.6 provides a detailed account of Herzberg's hygiene factors and motivators.

individual must uphold the tenets of Japanese society, but in private not so. In private, individuals have the freedom to nurture their creativity in ways that may not be possible in public. However, an audience to this private creativity, or an attentive ear, may be missing. Here the corporations play an important role by channelling private creativity and expressions of individuality into the public arena. The audience they provide is the kaizen environment, where an individual's expressions of creativity become the tools and methods of improvement, efficiency, and product design. In hindsight, the inputs of kaizen are the cultural/social boundaries of Japan coupled with the individual's need for creativity, with the outputs of kaizen being the tangible tools and methods of improvement. In the Anglosphere, however, the opposite appears to be the case. Anglosphere practitioners have simply performed a *copy and paste* of Japan's kaizen output templates (Lander & Liker, 2007) and applied these as Anglosphere kaizen input templates, which have resulted in poor results and failure (Ahire, 2001; Bessant et al., 2001; Venkateswarlu & Nilakant, 2005; Farris et al., 2008a, 2008b).

2.4.4 Education

The education system of Japan is one that produces generalist-thinking individuals (Ohmae, 1982; Gainey & Anderson, 2002), as opposed to Anglosphere-styled independent thinkers. Informal education attempts to eradicate, where possible, free thinking and enquiry. It teaches children from a young age to accept what is demanded of them, and that acceptance of immediate reality is the easiest path to travel through life. This is similarly mirrored in the formal education system. As high school and university graduates move to the employ of corporations they undergo firm specific training so to acquire the skills necessary to effectively carry out company operations. In response to this, the corporations have developed a specific set of labour practices to protect their human investments. These include labour unions, lifetime employment, seniority-based remuneration, and external benefits such as accommodation (Iizuka, 1998; Itoh, 2000, 2004a; Saruta, 2006; Itoh, 2007). In extension, the corporations are able to invest in further training and education of their workforce, allowing opportunity for management and labour to nurture long-term relationships of trust and reciprocity (Itoh, 2000; Itoh, 2004a; Fukunaga, 2004).

Japanese corporations have developed their own comprehensive in-house education and training systems, which cover all aspects of labour-management relations and human resource management (Saruta, 2006). Many corporations even establish education facilities below the level of in-house training and education centres, for example, the Toyota Technical Skills Academy high school.

Kaizen in Japan consists of explicit tools and methods resultant of the underlying cultural and social drivers – the same drivers that nurture the individual through their entire lifetime. It appears that kaizen as an approach to work and a means of working is embedded in the individual. Hence the motivation for this research: Without equivalent nurturing, is it possible to adopt or adapt to the philosophy and tools of kaizen? A brief enquiry was made of the essence of Japanese identity, in particular, how it emerges in the workplace of domain companies. The following section considers the literature and theory as it relates to people, irrespective of race or ethnicity, as developed by Maslow, Herzberg, and Hofstede in an attempt to consider if such learning is diffusible outside of Japan.

2.5 MASLOW ON MOTIVATION

Through the primary synthesis of holistic and dynamic principles, Maslow provides a general theory of human motivation – Maslow's Hierarchy of Needs. Anthropological evidence suggests that, although outward conscious desires may be evidential, fundamental desires are relatively the same (Maslow, 1970). Ultimately, the same end needs and desires are sought but means of satisfaction appears to differ. That is, the ends are universal but the means may differ considerably from culture to culture, through various socio-economic groups and so on.

Taking that people intrinsically seek survivability, thus reducing the risk of demise, improvement becomes a natural tendency. "Man [sic] is a wanting animal" (Maslow, 1970, p. 24). As people's needs develop and their ability to satisfy them dwindle, people naturally form groups in an attempt to satisfy higher level needs. As needs become increasingly complex, these groups develop to become organisations to satisfy yet more needs. In the context of the manufacturing organisation, these

organisations are able to provide not just the goods and services demanded of them, but also the provision of means to satisfy the needs and desires of the individuals within, and the organisations themselves. Ultimately, such organisations provide for even greater satisfaction of social needs.

Maslow states that people seek six[13] levels of needs: physiological, safety, belongingness and love, esteem, self-actualisation, and self-transcendence. Physiological needs refer to two factors: homeostasis and appetite through the attainment of food, water, clothing, shelter, and warmth; while safety needs include, but are not limited to, security, stability, dependency, protection, freedoms (fear, anxiety, chaos), and structure (order, law, limits). Belongingness and love identifies the building of relationships and seeking of affiliation and affection. Esteem needs seek the attainment of self-confidence, respect, and feelings of adequacy and importance; and, self-actualisation pursues fulfilment of potentiality and capability through fit of the individual and specific activities and functions (Maslow, 1970). Finally, self-transcendence essays transpersonal benefits and experiences through various means, including service to others and mystical, aesthetic, and emotional experiences (Koltko-Rivera, 2006).

As noted, Japanese society is one of well-established expectations and explicit boundaries, ensuring conformity to the norm. Individuals naturally seek to satisfy their higher level needs within these strict bounds. Fundamentally, society seeks to provide all level needs, particularly in a free market. However, one key result of the very structure of Japanese society is that the individual's job and place of work has become the place through which such higher needs appear to be fulfilled. For the Japanese worker, and the famous *company man* [sic], the company may be a means to those very ends. The company is seen to provide a financial means to satisfy the lower level physiological and safety needs. It can provide a means to satisfy middle-level belongingness and esteem needs through community and workplace relationships. The highest levels, self-actualisation and self-transcendence, can also

[13] Extant literature depicts five needs of human motivation as expressed in Maslow's *Motivation and personality* (1970). However, Koltko-Rivera (2006) brings to light Maslow's sixth need – Self-Transcendence.

be fulfilled through creative activity furnished to the individual, whether it be through the development of products or the management of people. Subsequently, it is here, within the Japanese company, that kaizen becomes the audience for the worker and a means to satiate needs.

Maslow's Utopia

Maslow provides a speculative description of his psychological utopia, that he calls "Eupsychia" (Maslow, 1970, p. 277). In this utopia, all inhabitants are psychologically healthy, where:

> People would not bother each other so much as we do, would be much less prone to press opinions or religions or philosophies or tastes…. [The] inhabitants … would tend to be more Taoistic, nonintrusive, and basic need gratifying … would only frustrate under certain conditions … would be more honest with each other that we are … would be far less controlling, violent, contemptuous, or overbearing than we are. (Maslow, 1970, pp. 277-278)

Although Maslow has developed this *speculative* description of a psychological reality, literature analysis and ethnography find that this description very much parallels the Japan of today.

2.5.1 Maslow Critique

While there still remain some unresolved theoretical issues, academics and practitioners alike fundamentally accept Maslow's Hierarchy of Needs. For some individuals, higher-level motivators appear as dominant motivators, while lower-level motivators can remain unsatisfied (Koltko-Rivera, 2006) in the short term. This flaws the concept of hierarchy, as lower-level needs must be supposedly addressed to proceed to higher-level needs. Further, as Maslow's hierarchy remains at the hypothesis stage of development due to a lack of empirical clarification (Yang, et al., 2011), it is by no means a theory of human intrinsic needs, but a dictum in its own right.

2.6 HERZBERG ON DUALITY

Parallel to the work of Maslow, Herzberg attempts to explain human physiology and psychology, noting that, "the primary functions of any organisation, whether religious, political or industrial, should be to implement the needs for man [sic] to enjoy a meaningful existence" (Herzberg, 1968, p. x). Herzberg speaks of human duality – coexisting human and animal needs – and that "the animality of man [sic] has been exploited by the hegemonic forces in society" (Herzberg, p. 13). The animal disposition that centres on avoidance (including hunger, pain, and sex) and psychological disposition that centres on "man's [sic] compelling urge to realize his own potentiality by continuous psychological growth" (Herzberg, p. 56). These two dispositions appear to mirror the lower and upper needs described by Maslow (1970).

As part of the human quest to satiate needs, from physiological needs to self-actualisation and self-transcendence, people develop myth systems that satisfy their intellectual and emotional needs (Herzberg, 1968). More than natural laws, the generation of myths allow for simple creation and adaption of reasoning. As people move higher up Maslow's Hierarchy of Needs, it becomes necessary to unify the vast volume of information and encounters individuals face. By relating facts, the individual's place in society becomes apparent, and since "man [sic] is the indivisible unit of society … an implicit conception of what people [are becomes necessary]" (Herzberg, 1968, p. 13). He explains:

> The dominant social power, whether it be [sic] religious, political or economic, propounds and directs self-serving myths because of its awareness that the stronger the belief in myths the easier it is to shape human behaviour. The controlling force in the culture realistically underwrites only those needs of human nature that will also serve its purposes. [This may be qualified as the] primary object of the controlling organisation is to maintain its own value. (Herzberg, p. 14)

Over time, industry has developed classifications of its people as a means to understand and subsequently manage them. Herzberg identifies six manifestations of

human labour. These include Physical Man,[14] where industry provides good conditions and fringe benefits to workers as protection from social protest; Mechanistic Man, who delights in being used efficiently; and Economic Man, who projects the human side of efficiency. Further, Social Man, who seeks acceptance from fellow workers; Emotional Man, who acknowledges the dignity of labour; and, Instrumental Man, as a means to cope with the necessary implementation of advanced systems analysis and control in operations (adapted from 1968, pp. 42-43). Subsequently, an organisation ought to be able to develop its human resource management approach resultant of such employee classification – philosophy and practice.

Herzberg's study of two hundred engineers and accountants in *The Motivation to Work*, published in 1965, found five factors referred to as *motivators* that stand out as determinants of job satisfaction. These include achievement, recognition, work itself, responsibility, and advancement (Herzberg, pp. 72-73). The study also found dis-satisfiers, or *hygiene factors*, which include company policy and administration, supervision, salary, interpersonal relationships, and working conditions (Herzberg, p 73).

In contrast to the motivators, which relate to the employee's job, the hygiene factors all relate directly to the employee's environment. The work of Herzberg mirrors that of Maslow – the hygiene factors seek to avoid some aspect of the environment, while the motivators seek psychological growth from work. Here motivators are task related factors, whereas the hygiene factors do not contribute to growth, or tasks. Herzberg also found that the effect of improvement in hygiene factors was short-term, with less and less effect over time (Herzberg, p. 170).

Herzberg identifies two divisions of industrial relations that the organisation seeking efficiency – creativity and psychological growth of employees – needs to address. "This restriction and channelling [of employees' creativity] may lead to bureaucratic goals that are not designed to provide for the most efficient use of creativity but rather are actuated by the fear of it" (Herzberg, 1968, p. 170). He continues,

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[14] Reference to *man* is taken to mean *person*.

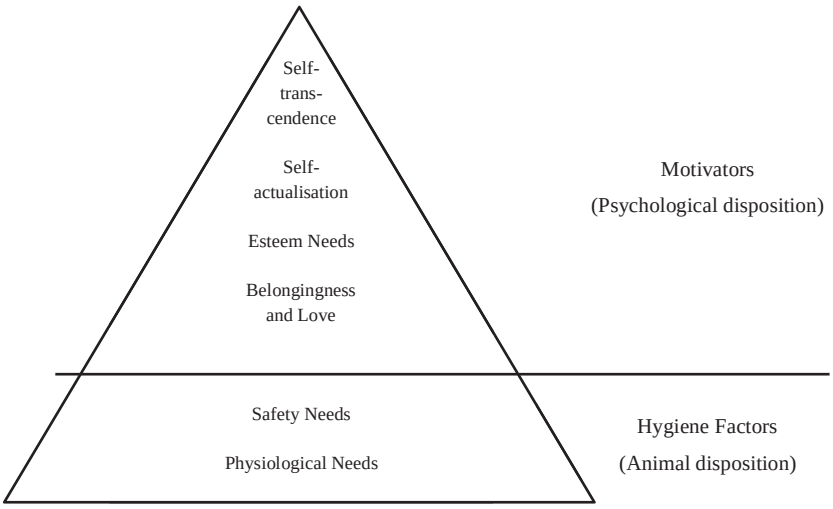
> The second division … the motivator needs … have as its sphere the psychological growth of the personnel in the organisation. This division would be given the tasks of discovering the problems that interfere with growth and seeking solutions that would encompass technical and psychological procedures … the motivator division would have three basic tasks: [first,] the education of employees for motivator orientation … [second,] job enlargement and [third,] remedial or therapeutic actions. (1968, p. 172)

It appears to be easier for an organisation to hold short-term goals than long-term. Further, it is easier to control employees through the deprivation of hygiene factors, than through the provision of motivators. Traditionally, organisations view people as often being in their avoidance, animalistic state, therefore, describing their avoidance disposition (Herzberg, 1968). An organisation that satisfies its employees' motivators, their goals of achievement, and self-actualisation will inevitably find itself in competition with employees and allow employees to be deterministic in the satisfaction of organisational needs and goals. For the organisation to hold the upper hand in this situation, the organisation can restrict employees' motivator characteristic while emphasising their hygiene factor characteristic. Although this is prevalent in the Anglosphere, it may also be true of Japanese organisations. A Japanese employee can undertake kaizen and be creative but only within the bounds of a reasonably high degree of conformity. This is ultimately where the organisation still holds the upper hand.

An organisation's objective of satisfying employees' hygiene factors is not necessarily a bad thing as long as provision is made at a level society can afford, and that employees are truly satisfied (Herzberg, 1968). In not making provisions for employees' motivators, however, the organisation may be restricting employees' creativity and missing the opportunity to profit. Japanese organisations appear to have adopted the view of the organisation being able to profit more from satisfying employees' psychological disposition through creativity (Hackman & Wageman, 1995; Hayashi, 2002; Liker, 2004; Aoki, 2008) than avoidance disposition through fear (Saruta, 2006).

Herzberg's hygiene factors appear to tie directly with the lower (two) levels of Maslow's Hierarchy of Needs: physiological, and safety; and his motivators are observed to tie directly with Maslow's upper (four) levels: belongingness and love, esteem, self-actualisation, and self-transcendence. The relationship between Maslow and Herzberg's models of human needs is presented in Figure 2.3.

Figure 2.3. Cross-reference of Maslow and Herzberg.



2.6.1 Herzberg Critique

The examination of Herzberg's methodology, through theory testing of derived hypotheses has provided mixed conclusions. Studies that replicate Herzberg's methodology are reported as either not supporting theory, or have provided unequivocal support of it (Lindsay et al., 1967). Herzberg's motivation model continues to be influential in the industrial and organisational psychology body of knowledge. This is despite the observation that it has met with mixed reviews to date.

2.7 HOFSTEDE ON PROXIMITY

Convergence hypothesis, or its big brother Convergence Theory, is very much at the centre of management theory, and the current globalisation trend (Hofstede, 1983;

Dobi & Bugar, 2007; Naor et al., 2010). Westernisation, or Americanisation, (and even Japanisation) is claimed to be imposing itself upon regions and countries in all manner of fields including social, political, economic, and of course organisational. However, rather than convergence to some form of common ideology, systems and procedures, and lack of appreciation for recipient cultures and values is accentuating differences in cultures and regions of the world. This is ultimately resulting in failure to provide a panacea for current troubles and inequalities. Hofstede (1983) notes that nationality is important to management for three reasons, namely, political, sociological, and psychological. The underlying theme to these is that each country, even region, has distinct histories, symbolic values, and cultures (McSweeney, 2002).

As management science deals with the facet of human resource management, culture is a dominating variable when viewing the organisation. It is here where the academics and practitioners begin to speak different languages as they fail to resolve what culture is, whether human culture or organisational culture. Hofstede (1983) suggests that it is, in a general nature, a "collective mental programming: it is part of our conditioning that we share with other members of our nation, region, or group but not with members of other nations, regions, or groups" (p. 76). This is also applicable to the culture of an organisation where sub-cultures may exist due to further deeper programming. In understanding that real differences exist between groups of people, whether it be due to ethnicity, education background, or job description the formulation of organisation systems and procedures should be viewed differently rather than just as one blanket ideology.

Hofstede undertook research in 40 countries, as published in *The Cultural Relativity of Organisational Practices and Theories* (1983) and developed four criteria to quantify relative and absolute dimensions of national cultures. These dimensions include Individualism versus Collectivism, Large or Small Power Distance, Strong or Weak Uncertainty Avoidance, and Masculinity versus Femininity. Subsequently, he provided the further addition of Long-term versus Short-term Orientation (Hofstede, 2001). The following explanation provides reference to the individual criteria indices of Japan, New Zealand, and the United States.

Individualism versus Collectivism[15] refers to the relationship between individuals of a group, and adherence to social norms, whether loosely or tightly integrated. Hofstede's research finds that Japan held an Individualism Index score of approximately 45, whereas New Zealand held approximately 80, and the United States almost 90, out of a possible 100 (1983, p. 80). This exhibits the West's nature of *high individualism* relative to the *moderate individualism* tendency of Japan (while its Asian neighbours display *low individualism* in the 10~20/100 range). Within the organisation, such notable differences in individualism and collectivism may affect the attitude of the individual towards participation in the collective, and adherence to social and organisational norms, as is the nature of kaizen.[16]

The second criterion, Power Distance,[17] refers to how society deals with the reality that people are unequal, ultimately inequalities of power and wealth. Some societies allow inequalities to continue, others attempt to find equality. In an organisation, this refers to centralisation of power and autocracy. Autocracy is not unidirectional, both members and leaders must accept it for to exist. Hofstede finds that Japan holds a Power Distance Index score of approximately 55, New Zealand holds 25, and the United States 40, out of a possible 100 (1983, p. 82). In cross-referencing this index with the Individualism Index, we see that Japan displays *moderate power distance* and *low individualism* tendencies, whereas New Zealand displays *moderate* to *small power distance* and *high individualism* tendencies, and the United States similar to New Zealand, yet even more *extreme individualism*. Countries with lower power distances scores endorse democratic decision-making processes, and are more accepting of differing ranks in position. The benefits of such decision-making, however, may be offset by higher individualistic tendencies as seen in the Anglosphere. The lower individualistic tendency of Japan is more conducive to better decision-making and action.

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[15] Refer Appendix 3, Figure A3.1 (Hofstede, 1983, p. 80).

[16] Refer Recht & Wilderom, 1998.

[17] Refer Appendix 3, Figure A3.2 (Hofstede, 1983, p. 82).

The third criterion, Uncertainty Avoidance,[18] refers to how societies socialise to accept an unknown future. Hofstede explains that in "weak Uncertainty Avoidance societies … people have a natural tendency to feel relatively secure … other societies (strong Uncertainty Avoidance) there will be a higher level of anxiety" (1983, p. 82). These strong avoidance societies "create security in 3 ways … technology … law … religion" (Hofstede, p. 83). The case of religion may even extend to ideologies, including kaizen, that make uncertainty tolerable. Japan holds an Uncertainty Avoidance Index score of approximately 90, with New Zealand and the United States at 45, out of a possible 100 (Hofstede, p. 84). In cross-referencing each country's Power Distance Index to Uncertainty Avoidance Index, we see that Japan displays *large power distance* and *strong uncertainty avoidance*; New Zealand and the United States display *small power distance* and *weak uncertainty avoidance*. The high uncertainty avoidance tendency of Japan, it would appear, has been offset through the development of collective institutions, social boundaries, and the adoption of new technology.[19] In the Anglosphere, the opposite may be the case; lower anxiety may accentuate individualism and prove counter the philosophy of kaizen.

Hofstede's fourth criterion, Masculinity versus Femininity,[20] refers to the sex roles in society. A masculine society refers to a society that clearly defines these roles, and a feminine society shares roles. Hofstede finds that Japan held a Masculinity Index of 95, whereas New Zealand and the United States held close to 60, out of a possible 100 (1983, p. 86). In cross-referencing this with the Uncertainty Avoidance Index, we see that Japan displays *strong uncertainty avoidance* and *masculinity*; New Zealand and the United States display *moderate uncertainty avoidance* and *masculinity*. Flynn and Saladin (2006) propose that the masculine culture enables organisational learning and relates positively to process management. Empirical research shows that cultures with masculine tendencies propagate successful process management (Yokozawa, et al., 2010a). Hofstede says of Masculine countries that, "in these countries there is less willingness to take risks: security is a powerful

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[18] Refer Appendix 3, Figure A3.3 (Hofstede, 1983, p. 84).

[19] Refer Recht & Wilderom, 1998.

[20] Refer Appendix 3, Figure A3.4 (Hofstede, 1983, p. 86).

motivator. People are very willing to perform if they are offered security in exchange" (1983, p. 88).

Hofstede's fifth criterion, added two decades after the first four, is Short-Term versus Long-Term Orientation.[21] It refers to persistence, thrift, ordering relationships by status, sense of shame, reciprocation, respect of tradition, protecting face, and personal steadiness and stability (Hofstede & Minkov, 2010). Some of these are from the teachings of Confucius (circa 500BC). Although this research was independent of Hofstede's original 1983 work, it found that World Values Survey data was conceptually similar and correlated significantly with the Long-Term Orientation data. Hofstede finds that Japan held a Long-Term Orientation Index of 88, whereas New Zealand holds 33 and the United States 26, out of a possible 100 (Hofstede & Minkov, 2010, p. 499). Notably, Japan (and Korea, Taiwan and China) is significantly *long-term oriented*, meanwhile New Zealand, the United States, and other Anglosphere countries, are *relatively short-term oriented*. Differences in short-term and long-term orientations may determine where the individual sees their position in society, the role they play, and their contribution. Short-term orientation will emphasise individualism, and long-term orientation emphasise collectivism, as is evident in Hofstede's first criterion.

Hofstede's *The Cultural Relativity of Organisational Practices and Theories* (1983) finds differences in national culture, which are in due course transposed into the countries' organisations, or certainly those that are established and headquartered there. It would not be appropriate to assume that the forces of Convergence Theory are strong enough to effect change on national culture, as national culture has taken millennia to develop to where they are today. Quite the reverse may be true, national culture could well stall Convergence Theory, and create the need for a new hypothesis and theory (Kuhn, 1996). Hofstede notes that, "in organisations the decisive dimensions of culture are Power Distance and Uncertainty Avoidance. Organizations are devices to distribute power, and they serve to avoid uncertainty, to make things predictable" (1983, p. 87). If we take this to be correct, and that kaizen is successfully implemented in Japanese organisations, it may be posited that

[21] Refer Appendix 3, Table A3.3 (Hofstede & Minkov, 2010, p. 499).

countries located closer to Japan ought to be able to implement kaizen more effectively than those more distant in Hofstede's dimensions. It is here, however, that a dilemma arises. What of Japanese organisations that establish offshore domains and factories? It appears to become problematic that systems and procedures developed in Japanese environments by Japanese cannot be simply transposed onto other national/cultural groups and be expected to produce the same results as those obtained in Japan. Some allowance needs to be made for cultural resistance from the receiving subsidiary.

As witnessed in Japan, successful implementation of foreign (Western) management theory is possible, subject to adaption to local conditions. The case of QC circles exemplifies this (Lillrank, 1995; Recht & Wilderom, 1998; Ueki & Ueki, 2010); which were highly successful in enabling a bottom-up approach to management. In noting the success of this practice, US organisations have reverse-imported QC circles but not to the same degree of success, possibly due to the underlying educational and social systems hence. It appears that management and organisations are culturally dependent due to the manipulating of symbols (Hofstede, 1983) that directly relate to people's views of the world, and intrinsically penetrate society, organisations, and management through and through.

In counter-argument to the dilemma of kaizen crossing cultural boundaries and resistance therein, there is also the opportunity of acceptance of an alternative means to view work, and implement the operations of the organisation. This stands on the premise that kaizen, as an organisational culture and means to work, has succeeded in Japan and provided tangible benefits. In holding such a view, the people of recipient cultures and organisations may subconsciously relax their cultural and social norms and expectations in the short-term and be more accepting of different ways to work and view work. In the case of the individualistic nature of those in the Anglosphere, a move to a more collectivist approach may be possible in the short-term should the adoption of kaizen be seen as beneficial. In the long-term, outcomes may become extensions of the short-term, or reversals, depending on the immediate results realised by individuals in organisations, and their organisations as a whole.

2.7.1 Hofstede Critique

Hofstede's study, though comprehensive in nature, relied on single explanatory variables to describe national culture, thereby not providing for the influences of non-national cultural (sub-cultures) and non-cultural phenomenon. This has resulted in measures that may be viewed as either restrictive (McSweeny, 2002) in nature, or descriptive and insightful (Williamson, 2002). Hofstede's criteria provide only broad categories of national – human and organisational – culture; possibly ignoring, or not allowing for, deeper and influential sub-cultures that may exist. This may not provide the comprehensive understanding required in the development of organisational systems and procedures in global organisations and across national borders.

2.8 ANGLOSPHERE LITERATURE

Moving from kaizen theory and practice in Japan, the following section examines the parallel equivalent as viewed and practised in the Anglosphere. Review of published English language literature presents the following sections: organisation-wide activity by way of the total quality management movement; small group activity through quality control circles; the kaizen methodologies of just-in-time stock management, total productive maintenance, lean production, and the kanban system; and finally, the attempted unification of global quality practice through the Malcolm Baldrige National Quality Award.

Imai brought the concept of kaizen to the attention of the Anglosphere in his 1986 seminal book *Kaizen – The Key to Japan's Competitive Success*. This work inherently acknowledges kaizen as a Japanese philosophy and Japanese manufacturing techniques, but weighs heavily on tools and methodologies. It attempts to provide inside knowledge for the Anglosphere so that Japanese quality management practices may be replicated elsewhere. Unfortunately, it offers little on the broader kaizen philosophy, the underlying enablers, and drivers.

The second monumental contribution to Anglosphere literature was Womack, Jones, and Roos' 1990 *The Machine that Changed the World*. This book was the result of research undertaken at the Massachusetts Institute of Technology. Their five-year, fourteen-country International Motor Vehicle Programme study focused on the global manufacturing move from mass production to lean. This single contribution provides an in-depth explanation of lean production tools and methods, both in Japan and abroad. However, it does pick up on the necessity and weight of the human element within the lean production equation (as practised by Toyota and other Japanese lean producers); discusses in part the need for reciprocal obligation, respect, and delegation within the organisation (underpinning elements of Japanese organisational life); and, points out that simply changing organisational charts or introducing quality circles (i.e., simple mechanical procedures) tend to be in vain (1990). Womack, Roos, and Jones, while pushing for the human approach within the organisation – both top down and bottom-up – do identify the inter-play between management and workers – as is identified by this research as the core of kaizen in the industrial organisation (refer Section 5.3) – without realising their discovery. This same non-discovery has permeated Anglosphere literature and practice: ideas have not been picked up so are therefore not understood; and, ideas are not understood so are therefore have not been picked up – creating ever-expanding circles of missed opportunity to understand and possibly profit. Unfortunately, with respect to kaizen, the only contribution is in a brief definition, "the continuous incremental improvement in the production process" (1990, p. 150), again without further mention of kaizen philosophy.

Imai's follow-up *Gemba Kaizen* (1997) provided the Anglosphere with insight into the Japanese concept of *genba* (genba and gemba may be used interchangeably), and contributed "a practical guide to implementing kaizen" (1997, xii). Imai defines genba as "the 'real place' … in management terminology to mean the 'workplace' … where value is added … the shop floor" (1997, p. xxiv). Senoo notes that Nonaka and Takeuchi refer to *ba* or genba as "the ontological platforms for knowledge creation" (2004, p. 93). Generally, genba refers to the actual place where an event occurs. As noted previously, the military's Area of Operations exemplifies the closest civilian equivalent. No similar business construct appears to exist in the West.

More recently, Liker's *The Toyota Way* (2004) provided insight to the Toyota Production System and its underpinning Toyota Way. This contribution provides in-depth analysis and explanation of Toyota kaizen methodology, yet no contribution regarding philosophy. Liker acknowledges, "kaizen, defines Toyota's basic approach to doing business" (2004, p. xi) where "[kaizen] is a total philosophy that strives for perfection and sustains TPS on a daily basis" (p. 24). Throughout this contribution, Liker adopts the "continuous improvement" terminology and only refers to the tangible aspects of kaizen.

Many academics and practitioners acknowledge kaizen as a philosophy, yet few have attempted to articulate this further (refer Section 2.8.1). Possibly the most relevant work of recent times is Brunet and New's *Kaizen in Japan: An empirical study* (2003). This research of major Japanese companies included a comparative analysis of kaizen activity in Japan, and describes how kaizen develops within the bounds of existing kaizen environments. They detail how kaizen is both contractual and non-contractual, and that it allows workers to contribute to the development of their own company. They further provide the definition "pervasive and continual activities, outside the contractor's explicit contractual roles, to identify and achieve outcomes he believes contribute to the organisational goals" (p. 1428). Brunet and New conclude that, kaizen as a philosophy and a methodology "evolves uniquely within an organisation, following changes to the organisation's business environment" (p. 1426).[22]

A number of seminal works exist in the Anglosphere, inclusive of these, the literature predominantly identifies with tangible kaizen and the "low hanging fruit" (Brunet & New, 2003, p. 1429). Many authors provide descriptive accounts of what kaizen in Japan; what it means to the Japanese who work with it; and, techniques to implement kaizen in the Anglosphere. While much practical understanding is evident, there appears to be little understanding of the holistic, philosophical – possibly the most important – aspects of kaizen. To be a true authority on kaizen requires not just an understanding of the tangible, but also the intangible.

[22] Refer Appendix 3, and Shah and Ward, 2007.

2.8.1 Total Quality Management and Interpretations

The Total Quality Management (TQM) methodology, originally Total Quality Control (Schonberger, 2007; JUSE), is a complementary set of tools within the lean production system, employed by management to achieve desired goals and objectives (Hackman & Wageman, 1995; Bessant et al., 2001; Brunet & New, 2003; Anand et al., 2009). Deming's *14 Points*, Juran's *Trilogy*, Ishikawa's publication, *What is Total Quality Control?* and Crosby's *14 Quality Steps* provided the original core ideas of TQM[23] more than 20 years ago (Hackman & Wageman, 1995). Ahire et al. explain that, "TQM is an integrative management philosophy aimed at continuously improving the quality of products and processes to achieve customer satisfaction … [through] the building of quality into products and processes … [by] making quality a concern and responsibility for everyone in the organisation" (1995, p. 278). Shah and Ward contribute their own conceptual definition, resultant of extensive literature analysis, "lean production is an integrated socio-technical system whose main objective is to eliminate waste by concurrently reducing or minimizing supplier, customer, and internal variability" (2007, p. 791). Research shows that while "many firms have reaped the operational and financial benefits of TQM … numerous others have failed miserably" (Ahire & Ravichandran, 2001, p. 445).

Working within the TQM framework, the observer is required to hold certain assumptions concerning quality, employees, and organisations. For example, quality is always assumed to be less costly to the organisation than poor workmanship; quality is viewed as ultimately and inescapably the responsibility of top management; employees naturally care about the quality of work they do and will take initiatives towards its improvement; and, organisations are systems of interdependent parts where the central problems they face invariably cross over traditional functional lines (adapted from Hackman & Wageman, 1995, pp. 310-311).

Organisations working within the lean production paradigm adhere to guiding principles when improving quality, specifically focusing on work processes,

[23] Refer Figure 2.4, The Core Ideas of Total Quality Management.

analysis-of-variability, management-by-fact, and learning and continuous improvement (Hackman & Wageman, 1995). The organisation also observes interventions to ensure the achievement of core values, including explicit identification and measurement of customer requirements; creation of supplier partnerships; use of cross-functional teams to identify and solve quality problems; scientific methods to monitor performance and identify points of high advantage for performance improvement; and, the use of process-management heuristics to enable enhancement of team effectiveness (Hackman & Wageman, 1995). Shah and Ward contribute the following:

> TQM is an integrated management philosophy and set of practices that emphasizes continuous improvement, meeting customer requirements, reducing rework, long range thinking, increased employee involvement and teamwork, process redesign, competitive benchmarking, team-based problem solving, constant measurement of results, and closer relationships with suppliers (Ross, 1993). TQM is a philosophy or an approach to management that can be characterized by its principles, practices and techniques. Its three principles are customer focus, continuous improvement, and teamwork (Dean & Bowen, 1994). Common guiding TQM precepts can be conceptually distinguished into three clusters: (a) focusing on customer satisfaction, (b) stressing continuous improvement, and (c) treating the organisation as a total system (Sitkin et al., 1994). TQM is an approach to improving the quality of goods and services through continuous improvement of all process, customer driven quality, production without defects, focus on improvement of processes rather than criticism of people and data driven decision-making (Flynn et al., 1994). (2007, p. 788)

Powell (1995), through review and integration of TQM literature, identifies twelve factors common to comprehensive TQM programmes. These include committed leadership; adoption and communication of TQM; closer customer relations; closer supplier relations; benchmarking; increased training; open organisation; employee empowerment; zero-defects mentality; flexible manufacturing; process improvement; and, measurement (adapted from Powell, 1995, p. 19). Committed leadership provides long-term commitment by top managers to philosophy, usually under such

labels as Total Quality Management, Continuous Improvement, or Quality Improvement. Adoption and communication of TQM is made possible through tools such as mission statements, themes, and slogans. Closer customer relationships allow for determining and meeting internal and external customer requirements. Working closely and cooperatively with suppliers enables closer supplier relationships. Subsequently, benchmarking provides opportunity to research and observe best competitive practices. Increased training usually includes TQM principles, team skills, and problem solving.

An open organisation develops lean staff, empowered work teams, open horizontal communications, and relaxation of traditional hierarchy. Resulting employee empowerment is possible through increased employee involvement in operations, and greater autonomy in decision-making. This provides opportunity to develop zero-defects mentality by implementing systems to spot real time defects rather than inspection and rework. Flexible manufacturing techniques provide tools and methods for just-in-time inventory, cellular manufacturing, design for manufacturability, statistical process control, and design of experiments. Process improvement is possible by reduced waste and cycle times through cross-departmental process analysis, and measurement using statistical methods. These themes reoccur through the seminal perspectives of Deming's 14 Points (Deming, 1982), The Juran Trilogy, and Crosby's 14 Quality Steps (Powell, 1995, p. 19), as detailed in Figure 2.4.

Figure 2.4. The core ideas of Total Quality Management.

DEMING'S 14 POINTS

1. Constancy of Purpose
2. Adopt the Philosophy
3. Don't rely on mass inspection
4. Don't award business on price
5. Constant improvement
6. Training
7. Leadership
8. Drive out fear
9. Break down barriers
10. Eliminate slogans and exhortations
11. Eliminate quotas
12. Pride of workmanship
13. Education and retraining
14. Plan of action

THE JURAN TRILOGY

1. Quality Planning
   - Set goals
   - Identify customers and their needs
   - Develop products and processes
2. Quality Control
   - Evaluate performance
   - Compare to goals and adapt
3. Quality Improvement
   - Establish infrastructure
   - Identify projects and teams
   - Provide resources and training
   - Establish controls

CROSBY'S 14 QUALITY STEPS

1. Management commitment
2. Quality improvement teams
3. Quality measurement
4. Cost of quality evaluation
5. Quality awareness
6. Corrective action
7. Zero-defects committee
8. Supervisor training
9. Zero-defects day
10. Goal-setting
11. Error cause removal
12. Recognition
13. Quality councils
14. Do it over again

Note: From “Total quality management as competitive advantage: a review and empirical study” by T. C. Powell, 1995, *Strategic Management Journal, 16,* p. 19.

From a philosophical perspective, the teachings of Deming (technical orientation), Juran (process orientation), Crosby (motivation orientation), and even Ishikawa, appear to concentrate on their own ideologies of the management of quality. They do, however, hold a set of commonalities of the quality movement, notably, upper management commitment, cost reductions, customer orientation, and continuity. Nevertheless, nowhere in these ideologies is there allowance for, or infusion of, underpinning philosophy that filters through local culture and society. In the Anglosphere, these ideologies are purely seen as opportunity for change, or panacea to existing ills.

Quality Control Circles

Quality Control circles (QC circles) are part of small group activity utilised within the concept and methodology of lean management, total quality management, and the Toyota Production System. The underlying concept identifies that they are voluntary and participative in nature, and function to solve work-related problems, improve productivity, and motivate employees (Katsundo, 1985; Imai, 1986; Schonberger, 1986, 2007; Bessant et al., 1993; Wittenberg, 1994; Farris et al., 2008a). QC circles may be on-going activity or established for specific projects (Flynn & Saladin, 2006). They are said to be voluntary in nature, and do not share in any financial benefits realised (Imai, 1986; Dyer & Nobeoka, 2000; Brunet & New, 2003). However, this is up for individual interpretation: companies pay employees for any task undertaken within the work system; some companies provide awards, both monetary and non-monetary, at ceremonial events to recognise outstanding problem solving and knowledge creation. During the 1970s, there was much interest in the concept of QC circles, but from the 1980s, interest appears to have begun to wane (Schonberger, 2007). Anglosphere proponents then changed the name to Quality Circles. Currently there appears to be little evidence of QC circle activity in Anglosphere industry (Hill, 1991; Schonberger, 2007).

Just-in-time

The just-in-time (JIT) production system, as developed by Toyota, is composed of three components: flow, quality, and employee involvement (Imai, 1986; Schonberger, 1986; Hall, 1987; McLachlin, 1997; Liker, 2006; Shah & Ward, 2007), providing "only the necessary products, at the necessary time, in the necessary quantity" (Sugimori et al., 1977, p.553). It is a comprehensive approach to continuous manufacturing improvement based on the notion of eliminating all waste in the manufacturing process (Sakakibara et al., 1993; Monden, 1994; Iida, 2008) through simplification of processes (Flynn et al., 1995a, b). It incorporates the kanban system (Monden, 1981; Ohno, 1988), production smoothing, and setup time reduction through the "full utilization of people, equipment, materials, and parts" (Davy et al., 1992, p. 655). More recently, the integration of "information systems technology … to further reduce costs, increase quality, and improve lead time" (Monden, 1994, p. xv) has further enhanced the JIT system.

Total Productive Maintenance

Total productive maintenance (TPM) is a concept within the lean production framework (Suzuki, 1992). It is a pro-active methodology of regular machinery and facility maintenance, and repair prior to defects occurring – which may later create larger costly problems to the organisation (Bessant & Francis, 1999; Chan et al., 2005; Shah & Ward, 2007). TPM can be broken down into two parts: regular maintenance and required maintenance (Suzuki, 1992). Regular maintenance is performed at management established predetermined intervals. Required maintenance is directed by worker intuition and knowledge, where one worker operates one specific machine and gets to know individual machine peculiarities (to the extent of vibrations and sounds). In the event *something is wrong* the worker informs their line manager to undertake necessary maintenance (Shah & Ward, 2003, 2007). In addition to machine operating procedure training, workers are also educated in machine operations and maintenance (Suzuki, 1992; Schonberger, 2007).

Lean Production

Lean production, also known as *lean manufacturing* or just *lean* in the Anglosphere, is a system of tools concerned with bottom-line profitability, through cost reduction. It is derived from the Toyota Production System, with remnants of Taylorism and Fordism, and is a *pull* implementation system (Stamm et al., 2009). The objective of lean production is to eliminate waste through the reduction of variability created by excess inventory and excess capacity (Barnwell, 2007). Krafcik (1988) initially coined the term, but Womack et al. (1990) brought it to public attention. The literature describes lean production from the philosophical perspective of principles (Womack et al., 1990), and the practical perspective of management tools and techniques (Imai, 1986; Shah & Ward, 2007). These differing perspectives have provided for expansive terminology that refers to the same concepts. Translated Japanese terminology may create further confusion as it intertwines predefined Anglosphere lines of thought with Japanese heuristics.

Shah and Ward contribute to the literature 10 distinct dimensions of the lean production system: supplier feedback; JIT delivery by suppliers; supplier development; customer involvement; pull production; continuous flow; set up time reduction; total preventative maintenance; statistical process control; and, employment involvement (Adapted from 2007, p. 799). They explain that the complementary and synergetic effects of their 10 dimensions of lean production are as follows:

> The 10 underlying factors/dimensions of lean production proposed here jointly enable firms to address variability in the following manner. To facilitate continuous flow [where] products are grouped according to product families, and equipment is laid out accordingly; and to prevent frequent stop-and-go operations, equipment undergoes frequent and regular preventive maintenance (TPM). Closely grouped machines and the similarity of products allow employees to identify problems while cross-trained, self-directed teams of workers are able to resolve problems more quickly and effective … Actively involved customers … enable firms to predict customer demand accurately. Reduced setup times … and stricter quality assurance …

> allow[s] firms to predict process output more exactly. To produce the kind of units needed, at the time needed, and in the quantities needed, firms use kanban and pull production systems … which require that suppliers deliver sufficient quantities of the right quality product at the right time. This JIT delivery by suppliers … is predicated on providing suppliers with regular feedback on quality and delivery performance … and providing training and development for further improvement … Because no firm has infinite resources to expend, the supplier base needs to be limited to a few key suppliers with whom firms can have long-term relationships rather than short-term contracts. (2007, p. 800)

Academics and practitioners in the Anglosphere appear to have approached lean production as a set of cost reducing tools and methodologies within the bounds of the manufacturing organisation. Extant literature, while identifying the principles that establish the framework for practice, tends not to require comprehensive understanding of the underpinning philosophies of the lean production framework. Subsequently, a lack of understanding of underpinning philosophy and associated principles may not allow for the development of effective tools and methodologies of practice.

The Kanban System

The kanban system, an essential part of the JIT system, is a visual pull system operating in real-time (Monden, 1981; Ohno, 1988; Schonberger, 2007; Shah & Ward, 2007). It informs the "type and quantity of units needed … sent from workers of one process to workers of the preceding process" (Monden, 1994, p. 6). This results in "many processes in a plant [being] connected to each other ... allowing for better control" (Monden, p. 6), and allows for the smoothing of production, standardising of jobs, reduction of setup time, improvement activities, design of machine layout, and autonomation (Womack et al., 1990; Monden, 1994; Sugimori et al., 1997; Liker, 2004; Shah & Ward, 2007). Such a system provides for the free flow of inventory in the production system, but is most effective in a mixed-model

sequencing system (Schonberger, 1986, 2007) such as the Toyota Production System.

2.8.2 The Malcolm Baldrige National Quality Award

In the Anglosphere (read: the United States) the Malcolm Baldrige National Quality Award (MBNQA) is "a generally accepted TQM framework" (Black & Porter, 1995, p. 149). It is modelled on Japan's Deming Prize; and, provides the framework for quality awards in many other countries (Flynn & Saladin, 2005). Its relevance across national and cultural borders, however, remains undetermined (Flynn & Saladin). The MBNQA criteria for the United States, and equivalent awards in New Zealand, the United Kingdom, and Japan are listed below:

Figure 2.5. Criteria for the Malcolm Baldrige National Quality Award.

Malcolm Baldrige Award (US):

- Leadership
- Strategic planning
- Customer and market focus
- Information and analysis
- Human resource focus
- Process management
- Business results

UK Excellence Award

- Leadership
- People management
- Policy and strategy implementation
- Resource management
- Process management
- People satisfaction
- Customer satisfaction
- Impact on society
- Business results

NZ Business Excellence Award:

- Leadership
- Strategic planning
- Customer and market focus
- Measurement, analysis, and knowledge management
- Human resource focus
- Process management
- Business results

Japan Quality Award:

- Management vision and leadership
- Strategic planning and development
- Understanding customer and market, and action taken
- Information sharing and utilisation
- Human resource development and learning environment
- Process management
- Results of enterprise activities

Note: United States, New Zealand, and Japan criteria adapted from "Relevance of Baldrige constructs in an international context: A study of national culture" by B. B. Flynn and B. Saladin, 2006, *Journal of Operations Management, 24,* p. 584; and United Kingdom criteria adapted from "Performance measurement tools: The Balanced Scorecard and the EFQM Excellence Award" by S. Wongrassamee, P. D. Gardiner and J. L. E. Simmons, 2003, *Measuring Business Excellence, 7*(1), p. 24.

The seminal contributions from Imai (1986) and others mentioned above provide picture-perfect mirror images of the quality movement literature in the Anglosphere. They inherently acknowledge kaizen as a philosophy, with a set of guiding principles and resulting manufacturing techniques, originating in Japan. These contributions weigh heavily on the tools and methodologies employed in the pursuit of business excellence. Unfortunately, there are few offerings on the broader kaizen philosophy, and underlying enablers and drivers. Subsequently, Anglosphere literature does not provide any effective start point for practitioners to comprehensively understand kaizen, nor provide a means through which to diffuse kaizen in Anglosphere organisations. As identified in the literature, this has resulted in failure to successfully diffuse and sustain kaizen in domains outside of Japan.

2.9 ANGLOSPHERE PRACTICE

The preceding review of Anglosphere literature specifically found that the Anglosphere largely identifies with the highly visible, tangible tools and methods of kaizen, with little regard for the underpinning philosophy. It also found that kaizen tools and methods employed in the Anglosphere are somewhat replications of those in Japan; and, tend to provide short-term benefits but not sustainable benefits over the longer-term. An outline of kaizen practice in the Anglosphere is now presented, finding stark differences with Japan, which appear to be culturally based and embedded.

2.9.1 Tools, Tools, Tools

The tools of any movement are the highly visible, tangible outcomes of that movement developed, adopted, and adapted to achieve a specific goal or purpose. The tools developed within the quality movement are very similar between Japan and the Anglosphere. This is because the Anglosphere, seeing the success of the Japanese quality movement, moved to adopt the *easy pickings* of the Japanese quality movement. It is, however, here where the Anglosphere appears to falter.

Anglosphere industrialists ventured to Japan to learn directly from the Japanese, adopting Japanese tools and methods in an attempt to replicate their success (Brunet & New, 2003). Academics and practitioners in the Anglosphere did not seem to realise the depth to which Japanese culture and the Japanese mind-set intrinsically lace the tools of the Japanese quality movement, kaizen, and TQM. In the Anglosphere, there appears to have been little allowance for cultural input, and this may be evident in the number of failure stories (Redman & Grieves, 1999; Bessant et al., 2001; Venkateswarlu & Nilakant 2005; Found et al., 2006; Lander & Liker, 2007; Schonberger, 2007; Farris et al., 2008b). Found et al. note, "at least 50% of improvement programmes are deemed by the firms involved to be failures over the longer term and up to 70% fail to achieve all of their intended benefits" (2006, p. 2).

2.9.2 Organisational Learning

Companies are sources of knowledge creation through the articulation of tacit knowledge to explicit knowledge; and are subject to geographical and cultural diversity (Nonaka & Takeuchi, 1995). It is advantageous to the company to build competitive advantage through the assimilation of knowledge to all reaches of the company (Schulz & Jobe, 2001). In the case of a company with global operations, more than the transfer of knowledge across borders, the company has to adopt new knowledge and adapt it to local conditions (Lillrank, 1995; Recht & Wilderom, 1998). Succeeding in this function, a company creates competitive advantage (Bowman, 2001).

Nonaka (Nonaka, 1994; Nonaka & Takeuchi, 1995) identifies three differences between the approaches of Japanese and Anglosphere companies to organisational knowledge creation. In Japan, organisational knowledge creation occurs at group level, but in the Anglosphere it tends to occur at the individual level. Japanese knowledge conversion relies heavily on intangible modes such as intuition (Ohmae, 1982) and personal experience (Moore, 1967). However, the Anglosphere relies on tangible modes of communication. Knowledge creation in the Anglosphere is receptive to explicit enabling conditions such as clear organisational intention and low redundancy of information. In Japan, the opposite applies, intention is muddled and redundancy high. Japanese organisations tend to focus on holistic, muddled (Lindblom, 1959, 1979), and collaborative aspects of human interaction. This is evident in their strong socialisation and internalisation through group-based approaches, which provide requisite variety through teams, and creative chaos through cross-function. Knowledge creation is tacit knowledge oriented, with emphasis on individual and organisational experience, but with high information redundancy. Organisational structure provides for group autonomy and ambiguous organisational intention (Nonaka & Takeuchi, 1995).

In contrast, Anglosphere organisations tend to focus on explicit and planned aspects of human interaction. This is evident in strong externalisation through individual-based approaches, which provide requisite variety from individuals, and creative chaos through individualism. Knowledge creation is explicit knowledge oriented, with emphasis on analysis, with low information redundancy. Organisational structure provides for individual autonomy and clear organisational intention. It is here that the difference in the focus of Japanese and Anglosphere companies becomes clear. Japanese companies focus on tacit knowledge, whereas Anglosphere companies focus on the explicit. This also ties strongly with cultural differences between Japan and the Anglosphere, namely collective- and individual-orientation (Ahire & Ravichandran, 2001; Ueki & Ueki, 2010).

2.9.3 Systems Thinking

Senge introduces the concept of the shared vision, "a force in people's hearts, a force of impressive power" (1990, p. 206), that through support of peers becomes concrete. Shared vision creates "commonality that permeates the organisation and gives coherence to diverse activities" (1990, p. 206). It provides focus and energy for the learning, or knowledge creating, organisation (Nonaka & Takeuchi, 1995) to achieve its goals and objectives. This shared vision also allows workers and the organisation to move its goals and objectives from the short or medium-term horizon to the long-term. As noted, this is a fundamental difference between Japanese and Anglosphere organisations. Long-term thinking allows organisations to develop and commit to strategic planning and policy, not possible through short-term thinking, and take advantage of tomorrow's opportunities while dealing with today's problems (Hamel & Prahalad, 1994). This long-term vision is, however, not limited to only the organisation, but also the people within the organisation. Here, people develop their own personal visions, which coalesce with, and complement the visions of the organisation.

An important element in developing and articulating shared vision is not through top-down transmission by management, as is pertinent in the Anglosphere, but through management-enabled bottom-up participation, as practised in Japan. Senge notes that providing workers with a voice in the organisation's future strengthens worker commitment, where compliance to top management's demands does not (1990). Responsibility appears to further strengthen this shared vision. Although developing shared vision through commitment and responsibility is necessary for the learning organisation, such shared vision would not be possible without prior "'governing ideas' [of the organisation], its vision, purpose or mission, and core values" (Senge, p. 223). These provide the *what*, *why*, and *how* of the organisation's existence. Senge notes that personal vision coupled with organisational vision may not be enough. What is necessary is "'creative tension,' the tension between vision and reality" (Senge, p. 226). This eliminates the dreaminess of hope and instils the realness of reality. Those holding the shared vision become aware of their place in relation to others in the organisation, the organisation itself, and the outside world. This allows Senge's *Fifth Discipline*, systems thinking, to operate.

Behaviour

In an individualistic cultural environment, such as that found in the Anglosphere, particularly the United States, the individual identifies with self and emphasises their uniqueness as a means of dominance. In collective environments, individuals conform, cooperate, and contribute toward social goals, reducing social slacking off, as they identify with their workgroup or company (Wagner, 1995; Saruta, 2006). This may also create the loss of the individuals' creative spark (Goncalo & Staw, 2006). Goncalo and Staw note that, "current research in organisational behaviour suggests that organisations should adopt collectivistic values because they promote cooperation and productivity, while individualistic values should be avoided because they incite destructive conflict and opportunism" (2006, p. 2). Their cited research did support their own hypothesis, that individualistic values encourage uniqueness; subsequently nullifying the competing hypothesis, that collectivist groups are more creative than individualistic groups as they are more responsive to norms when given explicit creative instructions. These two extremes, though immediately identifiable, are subject to context. Japan maintains a highly bounded culture and society, yet is also a source of creativity. So it needs to be asked, how is this so? It would appear that kaizen provides the context: workers are free to be creative within individualism, yet operate within a highly bounded collectivist organisational culture.

2.10 SUMMARY

The themes presented in the following summary relate directly back to the research questions of Section 1.3, as follows:

What is Kaizen?

Kaizen may be broken down into two threads: the planned, daily activity of the company, as evidenced by tangible tools and methodologies; and unplanned, spontaneous employee kaizen. This first kaizen is an adaption of Shewhart's PDCA cycle (Lillrank, 1995; Recht & Wilderom, 1998; JRS, 2006b; Anand et al., 2009), and was popularised by Deming shortly after WWII (Bond, 1999; Liker, 2004;

Anand et al., 2009; Murti, 2009). The second unplanned kaizen exists within the tacit knowledge of the worker and becomes spontaneously explicit through the accumulation of experiences and expertise (Nonaka, 1994). Kaizen experiences result from formal education and training within the company, and informal on-the-job experiences and meetings. These contribute to future kaizen activity, both the planned, and unplanned (Saruta, 2006).

As workers in the lower ranks of the company move up and through the ranks of management, they move from directly improving their own job operations and surroundings to guiding, educating, and facilitating kaizen understanding and practice (Saruta, 2006). The emphasis of kaizen to the individual also changes in an embedded and concurrent manner. To a new employee, kaizen is a process to be implemented, something visible, but not fully understood, provided through company training and manuals. To the seasoned veteran who has moved up the corporate ladder, it is tacit knowledge and accumulated experiences, and seen as more than just reducing costs, increasing productivity, and decreasing lead times (Saruta). Kaizen becomes something invisible that can produce real results to the company's profitability and the manager's reputation. Kaizen moves from a duty to a matter of personal, group, collective, and organisational responsibility (Saruta).

How is Kaizen Diffused?

The position of management in an organisation is to fully understand and pursue efficiency of current work at hand, not to directly develop new business, but to facilitate the requirements of all employees. Young employees, and employees with only a few years' service, tend to contribute much to kaizen activity. Moving through to middle and upper management, employees tend not to contribute so much kaizen activity but move to strategic planning and facilitation. As upper management understands the requirements of employees and provides facilitation accordingly, an active kaizen environment becomes possible (Saruta, 2006). Through worker participation within such environments, kaizen drifts as those with tacit knowledge articulate their tacit knowledge and make it available to those without. The acquisition of experiences strengthens and deepens employees' tacit

knowledge. Those providing the education and training have their existing knowledge reaffirmed (Saruta) through repetition, which further instils knowledge. This process, in turn, contributes to, deepens, and strengthens a company's kaizen culture, eventually to the point of kaizen becoming the DNA of the organisation (Spear & Bowen, 1999; Liker, 2004; Saruta, 2006). This process, in its entirety, through unscheduled kaizen knowledge transfers, equates to kaizen drift within the organisation. The intergenerational aspect exists through the activity of extrapolating existing tacit knowledge from prior learning and experiences to provide explicit knowledge to those with less tacit knowledge. This cycle of tacit knowledge extrapolated to explicit knowledge, embedded with existing tacit knowledge plus experiences, moves through time continuously (Nonaka, 1994; Nonaka & Takeuchi, 1995).

For the organisation, knowledge creation can provide advantage over competitor firms (Nonaka; Nonaka & Takeuchi; Itoh, 2004). However, the transfer of knowledge is also of universal importance to the organisation. Analysis of the literature shows knowledge creation and knowledge transfer requires formal and informal procedures (Nonaka; Nonaka & Takeuchi). This is the explicit knowledge of the worker and becomes the tacit knowledge of the company. In an active kaizen environment, the transfer of worker tacit knowledge by way of unplanned, spontaneous kaizen becomes necessary. However, as this knowledge is tacit, there may be no formal, procedural method of transfer (Lillrank, 1995).

Is Kaizen Sustainable?

Kaizen has, in part, been attributed to the competitive success of Japan (Imai, 1986). In attempting to replicate this success, organisations in the Anglosphere have diffused the highly tangible, visible tools and methods of kaizen *straight out of Japan* (Lillrank, 1995). Unfortunately, for reasons unknown to those in the Anglosphere, this has not necessarily provided the results envisioned, and at times resulted in failure (Bessant et al., 1994; Redman & Grieves, 1999; Ahire & Ravichandran, 2001; Bessant et al., 2001; Brunet & New, 2003; Venkateswarlu & Nilakant 2005; Flynn & Saladin, 2006; Found et al., 2006; Lander & Liker, 2007;

Schonberger, 2007; Farris et al., 2008b; Yokozawa et al., 2010a). In light of Japanese and Anglosphere literature and practice, evidence supports that successful kaizen diffusion requires Anglosphere organisations to adapt tools and methods to particular cultural and social criteria (Hofstede, 1983; Recht & Wilderom, 1998), or develop new and original tools and methods based on target organisation criteria and kaizen philosophy (Takeuchi et al., 2008).

Farris et al. (2008b) present empirical evidence of less than successful implementation through case study research of six organisations and the study of 51 specific events. The research concentrated on the determinants of kaizen effectiveness in terms of outcome and sustainability, and was conducted by way of unstructured interviews and questionnaires. This initial stage was followed up with questionnaires completed by team members, and a questionnaire completed by the event facilitator. Data was also collected on initial event outcomes. The case study organisation was a large-scale equipment manufacturer with a 70/30 manufacturing/non-manufacturing work area mix that had been implementing kaizen programmes since 1998. The study specifically focused on the improvement of raw material quality. The research concluded that, although the technical aspects of the operation were effective, the data provided that the programme was judged a failure by the programme facilitator.

Redman and Grieves (1999), too, present similar empirical evidence of case study research conducted in a manufacturing company producing metal building products. Due to loss of market share, company management decided to implement a Total Quality Management (TQM) programme and a parallel just-in-time programme. As part of the programme implementation, an outside academic expert undertook employee training and development; and team-based participatory-management work processes were introduced. From the outset, managers who feared erosion of authority, the workforce who foresaw subsequent further work practice changes, and the trade unions that feared erosion of bargaining power met the programme with opposition. Initial operational gains and increased profitability were realised, for example, tool change times were reduced 90% and lead times cut. Although the programme saw inception from 1991, by 1995 the programme was viewed as a failure due to management failure, with declines in previously realised operational

gains and lead times, disillusionment of the workforce, and intra-team conflict and management-employee tension. Participant anecdotal accounts provided that the programme had failed. However, researcher analysis found that some TQM practices had become embedded in the operations of the company.

The failure of kaizen in the Anglosphere has also been reported in non-industrial settings. Radnor et al. (2012) note in their research of four English healthcare organisations (hospitals) that failure of long-term organisation-wide sustainable efficiency improvement programmes may be attributed to four occurrences. These include the aforementioned customer/value quandary, the disjointed organisational structure found in healthcare organisations, programmes being implemented as purely tool-based with no attempt made to influence organisational culture, and short-term localised efficiency gains failing to materialise into long-term sustainable organisation-wide improvement. Extant literature shows that public enterprise organisations of today are in the same position that Anglosphere manufacturers found themselves in the 1980s and 1990s (Radnor et al.).

Implications for the Anglosphere

While much is known about kaizen in the Anglosphere, much still remains unknown; while kaizen is acknowledged as important, its workings are relatively unknown. As noted, to the Japanese, kaizen is a *way* and a metaphor for understanding that is woven into the very fabric of Japanese culture; and, is resultant of underpinning philosophies, specifically Buddhism, Confucianism, Taoism, and Shintoism. In a social context, it provides a counter-point to rigid boundaries and conformity through expressions of individuality. In organisational and industrial context, it provides for problem awareness, awareness reform, organisational activation, and capacity building.

A number of English-language seminal works, while focusing on the explicit tools and methods, have attempted to explain all that is kaizen and provide the means to diffuse it to Anglosphere organisations. This has not resulted in a parallel quality movement to that of Japan. In the Anglosphere, kaizen is commonly misunderstood

and misinterpreted; and, is purely a model for the pursuit of business excellence through cost reduction, quality improvement, and operational efficiency. While short-term benefits have been forthcoming, longer-term sustainability has not. What has succeeded in Japan appears to continue to fail in the Anglosphere.

This misunderstanding and misinterpretation is also the result of language and cultural barriers. Research has been undertaken in a linguistically and culturally alien environment with the assistance of interpreters, who have interpreted the language but not the culture. Hofstede's research (Hofstede, 1983; Hofstede & Minkov, 2010) on cultural proximity and the quantification of culture has allowed for limited understanding of national cultural tendencies, but no universal theory. Further, Japanese culture and the Japanese language are holistic in nature, adding more confusion to the mix as Anglosphere researchers undertake their quest to explicate kaizen. Failing to comprehend, or identify the importance of cultural context has resulted in a set of tools and methods in the Anglosphere that were developed in Japan to operate in Japanese industry – most often the automotive industry – that have little in common with local environment and culture where they are now employed. It appears that the only needs and requirements to which attention is paid are operational efficiency and financial benefit; and, no attention paid to national or organisational culture, or the operational side of the organisation.

Those in the organisation tasked with the development of kaizen tools and methodology, in holding superior tacit and explicit understanding of kaizen, would follow the directives of the philosophy, consider local culture, and develop suitable tools and methodology that would provide sustainability in the long term. Such tools and methodology may not be identical to those found in the environs of Japanese industry, but may provide equivocal or even superior benefits. Observation of kaizen in the Anglosphere witnesses transplanted tools and methodology, and continued failure. This, in turn, dictates that while kaizen is seen to be important it is not fully understood.

In closing, the literature is found to display several outlining themes: kaizen is both a means to work (process-oriented) and a means to achieve results (result-oriented); changes occur in the individual worker's understanding of kaizen as they progress to

more senior positions; and that, workers do not hold a universal definition but differing definitions of kaizen appropriate to situation – kaizen drifts. Further, the facilitation of kaizen is the duty and responsibility of management, with the interplay of the passive and active aspects of kaizen emerging with the individual worker. These literature-based themes are reflected in the themes emergent from the research data and as outlined in Chapter Four.

CHAPTER THREE: RESEARCH METHOD

3.1 INTRODUCTION

Case study methodology plays an important function in generating hypotheses and building theory (Eisenhardt, 1989; Yin, 2003). The aim of the research is, through cross-cultural exploration and understanding in situ (Goulding, 2005), the unhindered and insightful exploration of the utility of kaizen, its meaning, and embeddedness in Japan. A second dependent research output is also provided – the identification and discussion of the implications for the benefit of the Anglosphere, and New Zealand. This Chapter provides a description of the data, method of collection and treatment, ethical considerations, and benefits of the research.

The research employed an inductive phenomenological approach to explore the primary and secondary research questions (refer Section 1.3). Enquiry was conducted within the bounds of domain companies of large Japanese corporations; and, examined how Japanese workers in active kaizen environments acknowledge, exercise, identify, and transfer kaizen in a sustainable manner.

Due to the nature of the research, data was collected by way of a mixed-methods research methodology - inductive and phenomenological empirical enquiry. Case study (Yin, 2003) methodology was employed in field data collection as it is ideal for answering *how* and *why* questions; the candidate has little influence over constructs; and, the research topic has real-life context – especially when dealing with complex social phenomena, and there is the need to retain the characteristics of real life. The candidate also made contribution by way of metaphysical elaboration, which provided opportunity for unique insight (refer candidate's biography) into the utility of kaizen and organisational life in Japanese manufacturing organisations.

As this research was exploratory in nature, it required a metaphysical elaboration to challenge and extend existing theory. This process allows for the examination and extension of existing Anglosphere kaizen theory and development of new hypotheses as required (Glaser & Strauss, 1967; Bourgeois, 1979; Eisenhardt, 1989; Yin, 2003).

3.2 QUESTIONNAIRE DESIGN

The survey instrument employed was a research questionnaire (refer Appendix 10 for English version and Appendix 11 for Japanese version) that was developed in response to the need for the research to explore the primary and secondary research questions (refer Section 1.3). An outline of the motivation for each question, based on a condensed 9-item questionnaire (refer Appendix 12), as described in Section 3.7, follows:

Questions 1 and 2: Tests Imai's concepts of Process-Oriented Management and Result-Oriented Management (1986).
Question 3: Enquires of the participant cognitive changes to over time.
Question 4: Enquires of the universality of workers' views of kaizen.
Question 5: Enquires of organisational kaizen activity.
Question 6: Enquires of the universality of kaizen activity across the organisation.
Question 7: Enquires of the contribution of parent organisation kaizen activity.
Question 8: Enquires of the future of kaizen activity, in general terms.
Question 9: Enquires of the future of kaizen activity within subjects' organisations.

These motivations are discussed in detail in Section 4.2.

3.3 DATA

The unit of analysis is the Japanese worker operating within the bounds of Japanese manufacturing organisations. Selected companies were identified as active kaizen environments due to the employment of kaizen tools and methods on a daily basis, as well as their formal education, training, and recognition programmes. These factors were identified through discussions with executive-level officials and environmental analysis of each company.

The criteria for individual participant selection were that participants were Japanese nationals, and full-time employees. No stipulations were set as to participant age, length of service, or job description. This was seen to provide a broad data range

across generations and ranks within the organisation. The candidate's practitioner contacts provided access to participants and their domain companies, with requests for assistance made either directly to participants concerned, or through a company representative. All requests for assistance provided enthusiastic cooperation from participants and their organisations.

Field research collected data from (n=53) participants in five Japanese manufacturing organisations, from February to October 2009. The organisations included: Maultech Corporation Co., Ltd., Mitsubishi Chemical Corporation Co., Ltd., Panasonic Factory Solutions Co., Ltd., Panasonic System Networks Co., Ltd., and Yanmar Construction Equipment Co., Ltd. All companies are subsidiaries of name Japanese corporate conglomerates; and, except for Maultech have global reach within their industries. An brief outline of each company follows.

Maultech Corporation is a manufacturer of plastic air-conditioner and radiator units to automotive manufacturers in Japan. With a staff of approximately 60 people, it was established in 1992, and 58.3% owned by Nippondenso Co., Ltd., an independent Toyota company (Adapted from Maultech).

Mitsubishi Chemical Corporation develops and manufactures chemical-products and solutions within a wide range of industries, including the product performance, health care, and industrial materials industries. It was established in 1950, and employs approximately 28,000 people globally (Adapted from MCC).

Panasonic Factory Solutions develops and manufactures electronic-industry high-precision production-line equipment and solutions, including electronic component mounting systems, wafer processing and IC chip bonding, liquid crystal panel bonding for cell phones to large-screen TVs, equipment delivery and disposal, and measurement systems. It was established in 2003, and currently employs approximately 2,700 people globally (Adapted from PFS).

Panasonic System Networks develops and manufactures enterprise videoconference systems, visual and audio security systems, multi-function imaging devices, and

mobile and terminal point-of-sale devices. It was established in 1955, and currently employs approximately 19,000 people globally (Adapted from PSN).

Yanmar Construction Equipment develops, manufactures, sells, and services construction equipment, including loaders, excavators, and carriers, in the one to nine ton ranges. It was established in 2004, is a wholly owned subsidiary of Yanmar Corporation Co., Ltd, and currently employs approximately 620 people globally (Adapted from YCE).

Data were collected through mixed-methodology field research comprising of questionnaires and unstructured interviews in genba, conducted in Japanese and/or English. Participants' choice of response language was incorporated into the research methodology from the outset. It was well understood that although English may be participants' second language, it is often their work language, and was expected to be reasonably barrier free. Further, a number of participants noted that answering in English provided them with greater opportunity for expression than answering in Japanese. This was thought to provide opportunity to delve deeper into their own thoughts and understanding, as mistaken as this may be.[24]

Where data collection was face-to-face, the hosting companies made seminar rooms available. Participants were greeted, small talk made, followed by an explanation about the background of the proposed research, method of collection, and ethical considerations. In Japan, such preliminary small-talk is necessary before moving to proposed business as it builds trust, understanding, and rapport. The candidate then confirmed with participants that they wished to proceed with the data collection. All participants agreed to do so. Participants were then furnished with an Information Sheet (refer Appendix 6 for English language version, and Appendix 7 for Japanese language version); a Participant Consent Form (refer Appendix 8 for English language version, and Appendix 9 for Japanese language version); and, Interview Questions (refer Appendix 10 for English language version, and Appendix 11 for Japanese language version). Participants duly read the documentation as required,

[24] In practice, this may or may not be easier. Some of the respondents may have held a mistaken belief that kaizen, and its effectiveness, is *better* in the Anglosphere.

and signed and dated the Participant Consent Form. In the case of audio data collection, the questionnaire was distributed to participants via email before data-collection meetings. Those participants who provided responses through a company representative received the questionnaire and documentation via email. The researcher recorded all face-to-face audio data with the knowledge and agreement of participants. Backup copies of audio data and hard copies of Participant Consent Forms were made, and safely stored until the research is complete at which time they will be destroyed. Participants unable to attend for the duration of the face-to-face interviews (three participants) visited the furnished seminar room to sign the Participant Consent Form, and deliver their completed questionnaires. For two participants, attendance was impossible and data collection was completed by email correspondence.

A request to undertake research in one company was met with an offer for a company representative to arrange distribution and collection of all relevant forms within that company. Naturally, that offer of support and administration was accepted. Here, the representative was met and full explanation was made regarding the background of the proposed research, method of collection, and ethical considerations. An initial verbal agreement to cooperate was made by the company representative. Consent to participate by company staff was received through a Participation Consent Form signed on behalf of all company participants by the company representative. Following this, electronic copies of the Information Sheet and Interview Questions were forwarded to the representative. These were forwarded at the company's discretion to employees via email. As previously agreed, the company made a hard copy of all participants' feedback for company use. Thereafter, follow up enquiry was made as required. All Japanese language responses were translated as per Appendix 1. Final English language feedback response transcripts are located in Appendix 16.

Demographic analysis of data points (refer Table 3.1) received via the company representative, as mentioned above (hereinafter, CR group, as in Company Representative), and those received from direct collection by the candidate (hereinafter, DC group, as in Direct Collection), finds the two groups are similar. The mean age of the sample population, combined CR and DC groups, was 47.15

years old (refer Appendix 13). The mean age of CR group was 47.0 years old, and DC group was 47.44 years old. The sample population consisted of 52.8% Generation 1 (over 47 years old) and 47.8% Generation 2 (equal/under 47 years old) employees (refer Section 3.6). The CR group consisted of 53.49% Generation 1 and 46.52% Generation 2; and, the DC group consisted of 55.55% Generation 1 and 45.45% Generation 2 employees. The sample population consisted of a total 69.8% of employees in management positions; and, 30.2% in administration/line positions. The CR group consisted of 65.12% management and 34.88% administration/line positions; while the DC group consisted of 72.73% management and 27.27% administration/line positions. Therefore, there does not appear to be any bias between the data sets collected by the aforementioned company representative (the CR group) and, those collected directly, the DC group.

Table 3.1. Demographic analysis of collected data points.

	Company Representative Group	Direct Collection Group	Sample Population
Mean Age	47.0 years	47.44 years	47.15 years
Generation 1	53.49%	55.55%	52.8%
Generation 2	46.52%	45.45%	47.8%
Management	65.12%	72.73%	69.8%
Administration/Line	34.88%	27.27%	30.2%

3.4 JUSTIFICATION FOR THE PARADIGM AND METHOD

Guba & Lincoln define paradigm as "the belief system or worldview that guides the investigator, not only in choices of method but in ontological and epistemologically fundamental ways" (1994, p. 105) that provide foundation for practice (Kuhn, 1996). Four competing paradigms exist in informing and guiding qualitative enquiry: positivism, post-positivism, critical theory, and constructivism. Positivist methodology provides verification, while post-positivist methodology provides falsification of a priori hypotheses through quantitative propositions or mathematical functions. The critical theory paradigm calls for dialogic (discussion) and dialectical (logical discussion of ideas) methodology, whereas constructivism provides

hermeneutic (interpretation) and dialectical (logical discussion of ideas) methodology.

When dealing with human participants, and cultural and social considerations, qualitative methodologies provide contextual information not possible through positivist and post-positivist methods. Qualitative methodologies can also redress context stripping (Guba & Lincoln, 1994) through exclusionary analysis. This enables an inside view of individuals, groups, societies, and cultures to be observed and experienced by the researcher (Glaser & Strauss, 1967). Consequently, consideration of Guba and Lincoln's questions of ontology (nature of being), epistemology (theory of knowledge), and methodology lead this research to adopt a constructivist approach. In doing so, the metaphysics of ontology, specifically multiple social realities that are the products of human intellect and are dynamic; epistemology, or knowledge resultant of researcher and participants; and, methodology, or the hermeneutic and dialectical reconstruction of constructs (1994, p. 112) have been considered.

3.5 UNIT OF ANALYSIS AND SAMPLE

The unit of analysis is the Japanese worker operating within the bounds of Japanese manufacturing organisations. Field research collected data from 53 participants (n=53), aged from 23 to 61 years old, during the period February to October 2009. The organisations concerned are all domain companies of Japanese-brand corporations, and duly domiciled in the automobile, electronics, industrial equipment, and chemical industries.

3.6 OPERATIONAL PRECEPTS

The emphasis of this study is the exploration of potential generational differences in how Japanese workers acknowledge and exercise kaizen. It was necessary to create generational samples, resulting from the research objectives, as opposed to the analysis of each annual age group. Statistical enquiry identified two generational groups: Generation 1 (over 47 years old) and Generation 2 (equal/under 47 years

old). This provided a sample cut of Generation 1 of 52.8%, and Generation 2 of 47.2% of participants. The split was seen as acceptable as the mean age of the sample population was 47.15 years old, as noted above and in Appendix 13. Subsequent consultation with Japanese practitioners supported this cut-off age – it was noted that Japanese employees tend to move from process-oriented to result-oriented between 45 and 50 years of age. All of which was supported by the data collected and conversations with respondents.

3.7 PROCEDURES

Field research data collection employed a 15-item questionnaire set (refer Appendix 10 for English language version, and Appendix 11 for Japanese language version), within a framework of deductive and inductive research methodology. To provide more data samples and facilitate robust data analysis, and following data collection from participants, the 15-item questionnaire set was condensed to a nine-item questionnaire set (refer Appendix 12).

3.8 TREATMENT OF DATA

Data collected from participants was in hardcopy, electronic, and audio formats. These were collated into an Excel spread sheet, with coding developed for statistical analysis as per Miles & Huberman (1994). During data collection and processing, the utmost attention was paid to data security and participant privacy. All copies of Participant Consent Forms, audio, email, and hardcopy data were securely stored.

3.9 VALIDITY ISSUES

This research is exploratory in nature and unique in perspective, however, it remains subject to the universal principles of scientific enquiry, namely rigour of enquiry and robustness of method. Research design ensured the highest levels of rigour and robustness were maintained throughout the procedure. The literature – both English and Japanese – was rigorously researched and cross-referenced; the data collected in

genba was allowed to *speak for itself*; and, the candidate operated as the non-influential researcher. The only influence contributable to the candidate is the inherent positive opportunity made available to the research subjects to tell their story. The only issue of validity relates to the weight of Management (70%) to Administration/Line Workers (30%). However, this was not seen to be significant due to the structure of Japanese domestic manufacturing organisations.

3.10 STATISTICS

PASW Statistics 18.0 (hereinafter PASW) software was employed to run statistical analysis queries on data collected in the course of this research.

Statistical queries were as follows:

1. Frequency statistics for all categories, using pre-set PASW conditions
2. Descriptive statistics for all categories, using pre-set PASW conditions
3. Crosstabs with Generation and Position as independent variables against other categories as dependent variables

For statistical query outputs, refer Appendix 13 Analysis of Frequencies, Appendix 14 Analysis of Descriptives, and Appendix 15 Analysis of Cross-Tabulations. PASW software was employed to run cross-tabulation queries. The research methodology identified independent variables Generations, specifically Generation 1 and Generation 2, as described below. The data provided dependent variables as follows:

- Acknowledge kaizen (Values: Process-oriented, Result-oriented)
- Exercise kaizen (Process-oriented, Result-oriented)
- Kaizen understanding (Changed a lot, Not changed a lot)
- Other generations view kaizen (Definitely differently, Not definitely view kaizen differently)
- Organisational kaizen activity (Facilitation-oriented, Guidance-oriented)
- Organisation kaizen activity (Employee-oriented, Management-oriented)

- Parent company kaizen activity (Guidance, No guidance)
- Kaizen expected to develop further in the future (Definitely, Not definitely)
- Kaizen expected to develop further in the future, in your organisation (Definitely, Not definitely)

Cross-tabulation queries were set up as follows: Independent variables were applied to Rows and dependent variables were applied to Columns. Within Cells, Observed and Expected Counts were selected, along with Row, Column, and Total Percentages. All other settings were left as default values and selections. A commentary of cross-tabulations[25] query output follows.

3.11 CODING

The coding system employed herein was developed from grounded theory (Glaser & Strauss, 1967) methodology. A parallel coding methodology was adopted where independent coders coded the data; comparative analysis of coding outputs was then performed to provide the resultant data codes provided in this thesis. An outline of the purpose of each question is given, followed by each specific question, the codes that were applied, and representative participant responses may be found in Section 4.2. Research subject feedback codes may also be found in Appendix 16.

3.12 TRANSLATION

All documentation was initially developed in the English language, and translated into Japanese in accordance with the principles outlined in Appendix 1. Here, the secondary translator took the role of lead translator as Japanese was their native language; they fully understood meaning and intent (Wild et al., 2005); and, they were fully aware of the need to incorporate both linguistic and contextual meaning, as described in Chapter One. Upon final confirmation of translation accuracy,

[25] Data collection labels and output labels have been employed throughout this descriptive, as identified by upper-case first letters. To take into account non-data points, data reduction output has been quoted in percentages of valid participants.

Japanese national academics and practitioners conversant with the research further evaluated the questions. This resulted in confirmation of accuracy and richness of the questions being presented in a Japanese (language and context) environment.

Field research data was collected from questionnaires; in hardcopy, electronic (e-mail), and audio formats, in both Japanese and English. Feedback received in English audio format was transcribed and checked for accuracy by the primary translator. Feedback in Japanese audio format was not transcribed before translation, but translated directly from Japanese audio format to English text format in accordance with Appendix 1. All Japanese text format feedback too was translated in accordance with Appendix 1. Final English language transcripts are available in Appendix 16.

Japanese academic and practitioner literature was obtained in hardcopy and electronic (PDF) formats from libraries in Japan, New Zealand, and on the Internet. Some Japanese hardcopy literature was received from the Japanese authors directly. Japanese literature obtained in electronic format was copied and pasted into a text document before translation; literature obtained in hardcopy was transcribed into a text document. These were subsequently translated as per Appendix 1.

3.13 ETHICS

As this research required data collection from human participants – Japanese workers in Japanese companies – data collection procedures were developed and executed as stipulated by the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants developed and administered by Massey University. The rights of research participants, as guided by ethics principles, were adhered to, namely:

- ✓ Respect for persons
- ✓ Minimisation of harm to participants, researchers, institutions, and groups
- ✓ Informed and voluntary consent
- ✓ Respect for privacy and confidentiality

- ✓ The avoidance of unnecessary deception
- ✓ Avoidance of conflict of interest
- ✓ Social and cultural sensitivity to the age, gender, culture, religion, and social class of the participants
- ✓ Justice

As the research participants were all located in Japan, the research paid no attention to the requirements of New Zealand's Treaty of Waitangi. Additionally, and all documentation (Information Sheet, Participant Consent Form, and Interview Questions) was made available to participants in both the Japanese and English languages. Further, research participants were advised they were free to provide enquiry and questionnaire responses in either language. The research was identified as being Low Risk (refer Appendix 4 Ethics Approval) and approved by the university (refer Appendix 5 Receipt of Low Risk Notification) on this basis. A copy of the Massey University Code of Ethical Conduct for Research, Teaching, and Evaluations Involving Human Participants is available at http://www.massey.ac.nz/massey/fms/Human%20Ethics/Documents/MUHEC%20Code%202010.pdf.

3.14 RESEARCH BENEFITS

The purpose of this research and resulting thesis is to *fill in the gaps* regarding the underpinning psychology of kaizen, the cultural aspects, and enablers and drivers to provide deeper understanding and enablement of successful diffusion and development of kaizen in the Anglosphere. For Japan, this thesis hopes to provide domain companies practising kaizen with insight to current and future trend changes and shortcomings so that kaizen may be improved – *kaizen may be kaizened* – for effective existence in Japan. It is hoped this research will provide deeper insight, understanding, and appreciation of kaizen philosophy and practice to academics and practitioners in the Anglosphere and Japan alike.

3.15 SUMMARY

The fieldwork research setting of this thesis is a unique environment, but very fitting for the topic at hand – the bounds of Japanese industry. Although research methods and undertakings need to be replicable to ensure robustness, immediate replication of the research methods may prove difficult. Access to research participants was made possible by the embedded nature of the candidate in Japanese culture and society. Further, neither the services of external interpreters nor translators were required due to the candidate's cultural competency and language skill set. This provided for formal and casual follow-up consultations as required. Finally, the research problem effectively bridged the cultural and knowledge gap that exists between Japan and the Anglosphere.

CHAPTER FOUR: RESULTS AND ANALYSIS

4.1 INTRODUCTION

This Chapter presents the data obtained from participant interviews; and, immediate analysis by way of data reduction and cross tabulations in order to address the primary and secondary research questions stated in Chapter One which asked What is kaizen in the Japanese environment; How is it diffused; Is it sustainable; and, What are the implications for the Anglosphere? This is seen to provide a proxy site for further exploration of kaizen, its meaning, and embeddedness in Japan. The results of fieldwork research, discovery of patterns, and emergent themes are reported. The emergent themes identify of kaizen: it is dominantly exercised as Process-oriented; individuals' understanding changes significantly over time; other workers hold different views; parent companies provide Guidance-oriented activity while domain companies undertake Facilitation-oriented activity; it is dominantly Management-oriented; and, is seen to develop in the future. (Detailed statistical query outputs are presented in Appendix 13 (Analysis of Frequencies), Appendix 14 (Analysis of Descriptives), and Appendix 15 (Analysis of Cross-tabulations).

4.2 CODING

An outline of the purpose of each questionnaire item is now given, followed by each specific question, and the codes that were applied; and, representative participant responses (in italics, including subject position and age). The participant responses were selected on the basis of being representative of the accumulative data sample; and, provide anecdotal weight to the data being presented.

The research questionnaire included two initial questions involving participants' kaizen acknowledgement and kaizen exercise as a means to test a priori knowledge. Questions 1 and 2, "How do you currently acknowledge kaizen?" and "How do you currently exercise kaizen?" were developed to test Imai's concepts of Process-Oriented Management and Result-Oriented Management (1986). Imai identifies

differences between Japanese and Anglosphere management styles. Japanese management resonates with Process-Oriented Management, and provides support and stimulation for efforts to make improvements. In contrast, Anglosphere management employs Result-Oriented Management, and seeks control-directed performance. Although both of these management styles hold the same result-based objectives, the prior takes a behavioural approach. Question 1 enquires of Japanese worker acknowledgement of kaizen; and, question 2 moves to enquire of how workers exercise kaizen. Both questions were coded a priori as Process-oriented and Result-oriented. Questions 1 and 2, coding, and example responses received from participant feedback now follows.

Question 1: How do you currently acknowledge kaizen (implicitly or explicitly)?

Code: Process-oriented (n=25)

"Regardless of the result, any kind of change." – Division Chief, 53 years old

"I take a technical approach to items before me that are related to various problems (productivity, quality, safety), and then undertake analysis and the appropriate measures." – Administration Worker, 45 years old

Code: Result-oriented (n=28)

"The improvement of job performance through efficiency, the reduction of waste, and the establishment of work procedures." – Division Manager, 53 years old

"Through active improvement of productivity and quality." – Section Chief, 37 years old

Question 2: How do you currently exercise kaizen?

Code: Process-oriented (n=35)

"To establish work procedures, developing business process flows." – Division Manager, 53 years old

"Looking at things from different perspectives. Observing the same workplace everyday with all five senses." – Division Chief, 53 years old

Code: Result-oriented (n=13)

"In order to reduce wasted work and wasted expenses, I undertake maintenance and support as required in the workplace." – Division Manager, 55 years old

"As my job involves the maintenance of machinery and equipment, the elimination of machinery and equipment breakdowns, and do repairs when failure occurs. I am also involved in energy saving initiatives." – Section Chief, 44 years old

Questions 3 through 7 seek to modify a priori knowledge of kaizen. The codes were developed from the data to allow for elaboration and the development of grounded theory; conforming to Glaser and Strauss' Grounded Theory approach (1967). As the design of the questionnaire has changed from deductive theory testing to inductive theory development, participants' responses are seen to change from responses that were mechanical to responses more exploratory in nature.

Question 3 moves to enquire of the participant cognitive changes to over time, and is subsequently coded as either *Yes, a lot* or *Not a lot, or Not at all*.

Question 3: Has your understanding of kaizen changed during your career (implicitly and explicitly)? If so, how?

Code: Yes, a lot (n=39)

"Of course it has. Currently, we are implementing kaizen along the guidelines of the TPS (Toyota Production System). However, as we are in the

construction equipment industry we are unable to implement all aspects of TPS, only aspects that relate to our business; there is also equipment involved in TPS that we do not use. When this situation occurs, we attempt to remove that aspect of TPS from our minds, thus it is necessary to think how we can develop a workaround. However, the base contents of kaizen are the same." – Department Manager, 49 years old

"My thinking has changed as I moved through the ranks from general worker up to management. When I was a general worker, I improved my own work operations. When I became a manager I began to educate, guide other general workers." – Division Manager, 45 years old

Code: Not a lot, or Not at all (n=11)

"No change." – Division Chief, 53 years old

"My basic understanding of kaizen has not changed." – Division Manager, 43 years old

Question 4, moving from enquiry of the worker direct, commences a line of enquiry of people and organisations around the participant, specifically other workers, the participant's immediate employing organisation, and subsequent parent organisation. It enquires to whether workers hold a universal view of kaizen, or not. Feedback data were coded as either *definitely different* or *definitely not different*.

Question 4: In your opinion, do other workers (generations) in your organisation view kaizen differently? If so, in what way?

Code: Definitely different (n=26)

"Kaizen activity undertaken by upper management is viewed as an essential activity to strengthen the management structure. In Head Office, kaizen activity is considered to be nurturing of subordinates. For rank and file

employees, kaizen activity is seen as the transmission of work knowledge from seniors to subordinates." – Director, 60 years old

"Higher-level positions demand larger results. Lower-level positions tend to think about the pros and cons of undertaking kaizen before results. In the higher ranks, judgment is based on results only. The lower ranks want the effort of the execution of kaizen to be seen by senior management. This is the same even for interdepartmental cases. People who undertake kaizen are not excited only about the results, but also about the trouble of the implementation phase and sense of accomplishment." – Group Leader, 43 years old

Code: Definitely not different (n=7)

"I believe there isn't much difference." – Section Chief, 44 years old

"I believe not." – Team Leader, 32 years old

Question 5 moves the line of enquiry from the participant's co-workers to their immediate employing organisation by enquiring of organisational kaizen activity the participant has direct contact with. Feedback data were coded as either *facilitation-oriented* or *guidance-oriented.*

Question 5: What kaizen activities (including education) does your organisation undertake?

Code: Facilitation-oriented (n=34)

"QC circle activity is undertaken in each work place. During the morning meetings, problems are shared and measures are proposed." – Administration Worker, 51 years old

"In the Production Technology Division, we undertake kaizen activity through the preparation and distribution of easy-to-use shop-floor kaizen

feedback forms, and the subsequent selection and implementation of kaizen activities from these feedback forms. QC circle activity undertaken at the gemba (production line) level." – Group Chief, Division Chief, 50 years old

Code: Guidance-oriented (n=11)

"Currently, once a month, a Toyota advisor, who was previously an assistant CEO, comes to our company for 2 days to view our production lines, talk with our staff to find out what they have been doing. He advises on kaizen weak and strong areas, and what needs to be implemented within our [company kaizen programme name] kaizen activity." – Department Manager, 49 years old

"Consciousness is heightened throughout the whole company through monthly reviews and reporting." – Division Manager, 28 years old

Continuing enquiry of kaizen activity of the participant's immediate employing organisation, question 6 seeks to establish if such activity is universal across the organisation. Feedback data were coded as either *employee-oriented* or *management-oriented*.

Question 6: Do organisational kaizen activities appear to differ for people at different 'levels' of the organisation?

Code: Employee-oriented (n=10)

"Yes. There are problems with the degrees of achievement but there are on-going genba kaizen meetings, and a suggestion system." – Post-retirement Employee, 60 years old

"By making effort to improve the quality of employees, their motivation naturally increases, I believe, quality of products and cost reductions can be seen as kaizen results." – Administration Worker, 59 years old

Code: Management-oriented (n=17)

"We implement kaizen activity that targets all employees, with the objective of the stability of quality and the improvement of productivity." – Division Manager, 53 years old

"I believe it is one of the pillars of company management. I believe employees benefit from kaizen." – Division Chief, 53 years old

Question 7 once again moves the line of enquiry, but this time from the participant's immediate employing organisation to their parent organisation; and, seeks to establish what role, and to what extent the parent organisation contributes to domain companies. Feedback data were coded as either *guidance* or *no guidance*.

Question 7: What kaizen guidance, feedback etc. does your organisation receive from your parent company?

Code: Guidance (n=23)

"Promotion of [company kaizen programme name], and guidance from outside advisors." – Post-retirement Employee, 60 years old

"Currently, we have an in-house education/training company where new employees are educated about the mentality, methodology and basic procedures of kaizen. Further, these procedures flow through divisional meetings to departmental meetings to office meetings to company-wide meetings, where at company-wide meeting level they become advanced kaizen activity announcements." – Director, 60 years old

"The company provides support from its technology base and knowledge base, along with awareness." – Administration Worker, 45 years old

"Once a month we undertake [company kaizen programme name] activity (with instruction from the Central Japan Industrial Association)." – Section Chief, 38 years old

Code: No guidance (n=7)[26]

Two final questions, 8 and 9, enquire of the participant regarding the future of kaizen, both in general terms, and in terms of the participant's employing organisation. Feedback data were coded as either *definitely yes* or *not definitely yes*.

Question 8: Do you expect kaizen to develop further in the future?

Code: Definitely yes (n=28)

"As kaizen never ends, it will evolve, and should continue." – Section Chief, 57 years old

"I think kaizen will evolve and develop depending upon the time and circumstances. I do not really think that the act or mind-set behind doing kaizen activity will change so much. But I feel the methodology will probably change." – Senior Vice President, 53 years old

Code: Not definitely yes (n=13)

"I think change will occur but I think no development, but continuous." – Patent Officer, 45 years old

"I don't really think so. (But I think it needs to be developed)." – Group Leader, 43 years old

[26] No supplementary contributions from participants were forthcoming except for direct responses to the question posed.

Question 9: Do you expect kaizen to develop further in the future, in your organisation? If so, how?

Code: Definitely yes (n=20)

"Through the expansion and promotion of kaizen activity to our suppliers and customers. To our suppliers and customers, the presentation of specific kaizen items based on quality information of goods supplied, and kaizen activity support." – Division Manager, 53 years old

"The energising of kaizen activity. Through greater employee kaizen awareness ('you think, you do')." – Administration Worker, 46 years old

"In the first place, in the order of regular business, employees' awareness of kaizen relating to how they will resolve issues, if and when found; if other organisations are included in the process; if kaizen is used at all. I think it is important to make employees recognise the importance, necessity of this. I don't think it will go as far as evolution, but from awareness and motivation, kaizen activities will begin to advance in different forms as specific management activities." – Head Engineer, 45 years old

"At some time in the future, all the small kaizen activities will result in something large." – Division Manager, 36 years old

Code: Not definitely yes (n=6)[27]

4.3 PATTERNS IN THE NUMBERS

Phenomenological enquiry within the bounds of domain companies of large Japanese corporations, developed from the primary and secondary Research Questions,

[27] No supplementary contributions from participants were forthcoming except for direct responses to the question posed.

examined how Japanese workers in active kaizen environments acknowledge, exercise, identify, and diffuse kaizen in a sustainable manner. Field research collected data from participants (n=53) across a range of ages from recent-hires to retirees (23 to 61 years of age), ranking from the factory floor to executive management, and employed in a cross-section of departments.

Content analysis of participant responses indicated that age and seniority influences the acknowledgement of kaizen – kaizen drifts through generations within the bounds of active kaizen environments. Senior employees tended to acknowledge kaizen as a means to achieve results, yet exercise kaizen as a means to undertake daily tasks. By contrast, more junior employees tended to acknowledge and exercise kaizen as a means to undertake daily tasks. Such acknowledgement by the older generation provided evidence of intergenerational drift as perspectives are differentiated between junior and senior employees. A vast majority of participants observed their understanding of kaizen has changed over the course of their career, irrespective of length. In making comparative judgements of understanding, participants acknowledged their awareness of the explicit aspects of kaizen. All participants noted other employees within their organisations hold differing conceptual views of kaizen, which further provided evidence of this awareness.

4.3.1 Independent Variables

As this research concerns itself with intergenerational kaizen drift, two generational groups were identified: Generation 1 (over 47 years old, n=28) accounted for 52.8%, and Generation 2 (equal/under 47 years old, n=25) accounted for 47.2% of the sample population (refer Table 4.1). Age-based research methodology was not viable as data points would have been present in 27 individual categories. The generational cut-off age of 47 years old was considered significant, as it corresponds to the sample population mean age of 47.1 years old. Forty seven years old was further supported as the average age of participants holding Management positions is 46.8 years old, and Administration/Line positions is 47.9 years old, after rounding to zero decimal places (refer Table 4.1). In addition to this mean age, a standard

deviation of 9.394 years provided a reasonable normal distribution of ages, with exception of the 55-60 year old age group (refer Appendix 13).

Table 4.1. Demographic analysis of generations and positions.

	Average Age	Frequency	Percent
Generation 1	54.5	28	52.8
Generation 2	38.9	25	47.2
Total	47.1	53	100.0
Management	46.8	37	69.8
Administration/Line	47.9	16	30.1
Total	47.1	53	100.0

Table 4.2. Demographic analysis of generations and positions.

	Management Frequency	Management Percentage	Administration/ Line Frequency	Administration/ Line Percentage
Generation 1	19	67.9	9	32.1
Generation 2	18	72.0	7	28.0
Total	37	69.8	16	28.0

Both Generation 1 and Generation 2 participants held Management positions and Administration/Line positions. As noted in Table 4.1, the mean age of Management participants was 46.8 years old, and Administration/Line participants was 47.9 years old. However, the average age of Generation 1 participants was 54.5 years old, and Generation 2 was 38.9 years old, which acknowledged that hierarchical position within the organisation was not necessarily directly related to seniority.[28] As observed in Table 4.2, Management provided 37 participants, and

[28] This would have been the case if the mean age of Management had been within an acceptable range to the mean age of Generation 1 participants.

Administration/Line workers 16 participants, or 69.8% and 30.2% respectively. Of Generation 1, 19 participants (67.9%) held Management positions, and nine participants (32.1%) were Administration/Line workers. Generation 2 provided 18 (72.0%) Management and seven (28.0%) Administration/Line participants.

4.3.2 Acknowledging and Exercising Kaizen by Generations

Generation 1 and Generation 2 participants equally acknowledged that kaizen was a means to achieve results (Result-oriented, 52.8%) and that kaizen was used to undertake daily tasks (Process-oriented, 47.2%). While Generation 2 participants similarly acknowledged kaizen as Process-oriented (56.0%) over Result-oriented, Generation 1 participants marginally placed greater emphasis (60.7%) on objectives by acknowledging kaizen was Result-oriented rather than Process-oriented. This difference is anecdotally supported by participant feedback through the reoccurrence of an *employee: duty, management: results* theme.

Table 4.3. Acknowledgement of kaizen across generations.

			Process-oriented	Result-oriented	
Generations	Generation 1	Count	11	17	28
		% within Generations	39.3%	60.7%	100.0%
	Generation 2	Count	14	11	25
		% within Generations	56.0%	44.0%	100.0%
Total		Count	25	28	53
		% within Generations	47.2%	52.8%	100.0%
		% of Total	47.2%	52.8%	100.0%

Moving from kaizen acknowledgement to kaizen exercise, the equilibrating Result-oriented element of kaizen acknowledgement is eliminated. Categorically, all participants, Generation 1 and Generation 2 participants, dominantly exercise kaizen as Process-oriented (72.9%, 63.0%, and 85.7% respectively) over Result-oriented (refer Table 4.4). Such a switch suggests participants' attention moving from away from organisational results to operational processes in the day-to-day operations of the company and their jobs, or from long-term results to short-term tasks. Cross-tabulation of how Japanese workers acknowledge and exercise kaizen, refer Table

4.5, provides three-quarters (75.0%) of participants who acknowledge kaizen as Process-oriented also exercise it as Process-oriented, and a similar number (70.8%) of those who acknowledged kaizen as Result-oriented exercise it as Process-oriented. This further supports the importance of kaizen in organisational operations.

Table 4.4. Exercise of kaizen across generations.

			How do you currently exercise kaizen?		
			Process-oriented	Result-oriented	Total
Generations	Generation 1	Count	17	10	27
		% within Generations	63.0%	37.0%	100.0%
	Generation 2	Count	18	3	21
		% within Generations	85.7%	14.3%	100.0%
Total		Count	35	13	48
		% within Generations	72.9%	27.1%	100.0%
		% of Total	72.9%	27.1%	100.0%

Table 4.5. Exercise of kaizen across acknowledgement of kaizen.

			How do you currently exercise kaizen?		
			Process-oriented	Result-oriented	Total
How do you currently acknowledge kaizen?	Process-oriented	Count	18	6	24
		% within How do you currently acknowledge kaizen?	75.0%	25.0%	100.0%
	Result-oriented	Count	17	7	24
		% within How do you currently acknowledge kaizen?	70.8%	29.2%	100.0%
Total		Count	35	13	48
		% within How do you currently acknowledge kaizen?	72.9%	27.1%	100.0%
		% of Total	72.9%	27.1%	100.0%

4.3.3 Kaizen Understanding

A majority of participants (78.0%), as noted by Table 4.6, express their understanding of kaizen has changed over their career, with similar numbers (76.9%

and 79.2%, respectively) of Generation 1 and Generation 2 participants reporting the same. This majority remains significant as confirmed by participants of all approaches (those who acknowledge kaizen as Process-oriented, 69.6%, and Result-oriented, 85.2%; those who exercise kaizen as Process-oriented, 77.1%, and Result-oriented, 81.8%).

Table 4.6. Changes in kaizen understanding across generations.

			Has your understanding of kaizen changed during your career?		
			Yes, a lot	Not a lot, or Not at all	Total
Generations	Generation 1	Count	20	6	26
		% within Generations	76.9%	23.1%	100.0%
	Generation 2	Count	19	5	24
		% within Generations	79.2%	20.8%	100.0%
Total		Count	39	11	50
		% within Generations	78.0%	22.0%	100.0%
		% of Total	78.0%	22.0%	100.0%

4.3.4 Differing Views of Kaizen

Individual workers tend to hold their own conceptual understanding of kaizen, which may be similar, yet most often, different to other workers (see Section 2.1.1). Most significantly, those participants working within active kaizen environments acknowledge difference. Such awareness of kaizen is verified as a large number (78.8%) of participants note that other workers definitely view kaizen differently. Similarly, a vast majority (88.9%) of Generation 1 participants acknowledged this, as did two-thirds (66.7%) of Generation 2 participants, as noted in Table 4.7. Such significance of participants identifying differences in conceptual views provides: firstly, those participants hold and are aware of their own personal conceptual views, which act as a proxy for comparison. Secondly, participants identify other employees holding conceptual views of kaizen. Finally, participants are able to differentiate these views. Resultant of this, kaizen may be seen as not of a standardised perception across generations and positions within the organisation.

Table 4.7. Differing views of kaizen across generations.

			Do other workers (generations) in your organisation view kaizen differently?		
			Definitely different	Not definitely different	Total
Generations	Generation 1	Count	16	2	18
		% within Generations	88.9%	11.1%	100.0%
	Generation 2	Count	10	5	15
		% within Generations	66.7%	33.3%	100.0%
Total		Count	26	7	33
		% within Generations	78.8%	21.2%	100.0%
		% of Total	78.8%	21.2%	100.0%

4.3.5 Kaizen Facilitation and Guidance

Japanese parent companies tend to provide directives and knowledge, with domain companies facilitating kaizen environments that allow for employee kaizen activity. Such a situation is justified, as it may not be viable for parent companies to facilitate kaizen environments in distant domain companies. It is more practical to allow the domain companies to develop their own (individualised) kaizen environments through parent company guidance and support. Participants' immediate organisations predominantly undertake Facilitation-oriented kaizen activity, as acknowledged by three-quarters (75.6%) of participants, over Guidance-oriented (refer Table 4.8). This is in contrast to that of the parent company, which provides Guidance-oriented activity, as verified by a similar number (76.7%) of participants, over Facilitation-oriented activity. This notion is further supported as three-quarters (76.0%, and 75.0%, respectively) of Generation 1 and Generation 2 participants acknowledge this in similar fashion. Further, as observed in Table 4.9, corporate Head Office Guidance-oriented activity remains significant as viewed by a larger majority (80.0%) of Generation 1 participants, and lesser (73.3%) of Generation 2 participants.

Table 4.8. Organisational approach to kaizen across generations.

			What kaizen activities does your organisation undertake?		
			Facilitation-oriented	Guidance-oriented	Total
Generations	Generation 1	Count	19	6	25
		% within Generations	76.0%	24.0%	100.0%
	Generation 2	Count	15	5	20
		% within Generations	75.0%	25.0%	100.0%
Total		Count	34	11	45
		% within Generations	75.6%	24.4%	100.0%
		% of Total	75.6%	24.4%	100.0%

Table 4.9. Parent company approach to kaizen across generations.

			What kaizen guidance, feedback etc. does your organisation receive from your parent company?		
			Guidance	No guidance	Total
Generations	Generation 1	Count	12	3	15
		% within Generations	80.0%	20.0%	100.0%
	Generation 2	Count	11	4	15
		% within Generations	73.3%	26.7%	100.0%
Total		Count	23	7	30
		% within Generations	76.7%	23.3%	100.0%
		% of Total	76.7%	23.3%	100.0%

4.3.6 Management and Employees

Japanese kaizen environments appear to be managed very much the same way as the military – management provides *what* directives and the boots-on-the-ground employees provide *how* methodology (refer Section 2.2.1). This allows for the creation and development of tools and methodology specific to each industry, company, division, product, and even employee. This notion is corroborated by almost two-thirds (63%) of participants who identify domain company kaizen activity to be Management-oriented over Employee-oriented (refer Table 4.10).

Generation 1 participants actively acknowledged (70.6%) Management-oriented activity, and Generation 2 viewed such organisational kaizen activity as an equal 50/50 Management-oriented/Employee-oriented split.

Table 4.10. Organisational orientation of kaizen across generations.

			Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?		
			Employee-oriented	Management-oriented	Total
Generations	Generation 1	Count	5	12	17
		% within Generations	29.4%	70.6%	100.0%
	Generation 2	Count	5	5	10
		% within Generations	50.0%	50.0%	100.0%
Total		Count	10	17	27
		% within Generations	37.0%	63.0%	100.0%
		% of Total	37.0%	63.0%	100.0%

4.3.7 Kaizen Future Development

Japan is in the midst of a quality movement that is both successful and sustainable, and seen to continue. As noted in Table 4.11, two-thirds (68.3%) of participants foresee kaizen to definitely develop in the future, with remaining participants anticipating some degree of development. Three-quarters (76.9%) of all participants foresee kaizen to develop in the future within their organisation. A significant number (81.8%) of Generation 1 participants, entrenched in the kaizen movement for many years, anticipate future development of kaizen, as do half (52.6%) of Generation 2 participants. Further, a majority (86.7%) of Generation 1 and almost two-thirds (63.6%) of Generation 2 participants foresee kaizen definitely developing in the future within their organisation (refer Table 4.12). These observations are significant, and are seen to contribute to the future success and sustainability of kaizen.

Table 4.11. Future development of kaizen across generations.

			Do you expect kaizen to develop in the future?		
			Definitely yes	Not definitely yes	Total
Generations	Generation 1	Count	18	4	22
		% within Generations	81.8%	18.2%	100.0%
	Generation 2	Count	10	9	19
		% within Generations	52.6%	47.4%	100.0%
Total		Count	28	13	41
		% within Generations	68.3%	31.7%	100.0%
		% of Total	68.3%	31.7%	100.0%

Table 4.12. Organisational development of kaizen across generations.

			Do you expect kaizen to develop in the future in your organisation?		
			Definitely yes	Not definitely yes	Total
Generations	Generation 1	Count	13	2	15
		% within Generations	86.7%	13.3%	100.0%
	Generation 2	Count	7	4	11
		% within Generations	63.6%	36.4%	100.0%
Total		Count	20	6	26
		% within Generations	76.9%	23.1%	100.0%
		% of Total	76.9%	23.1%	100.0%

4.4 SUMMARY

The data provide evidence that kaizen is actively acknowledged, while those working with it make conceptual differentiation. Kaizen moves from generation to generation through loosely bounded conceptualisation, acknowledgement, and exercise. Kaizen diffusion is actively managed by the organisation through parent company/head office Guidance-oriented activity; and, is Management-oriented over Employee-oriented, which enables active Facilitation-oriented activity by the immediate company. Resultant of these circumstances, kaizen drift occurs within the organisation in a passive and pervasive manner, providing means to common predetermined outcomes as directed by kaizen philosophy and organisational requirements. Further, although kaizen practice stems from common kaizen philosophy, those working in active kaizen environments acknowledge and exercise kaizen differently. This completes the philosophy-practice loop as workers hold similar organisational/operational objectives yet differing conceptual understanding and viewpoints of kaizen.

Research data collected from participant interviews, and the output of statistical enquiry found the six emergent themes: kaizen tends to be dominantly exercised as a process-oriented phenomenon; individuals' understanding of kaizen changes significantly over time; other workers within participants' organisations hold different views of kaizen; parent companies provide guidance while domain companies undertake facilitation of kaizen; kaizen is dominantly management oriented; and, kaizen is seen to develop in the future. This thesis now posits that kaizen, that which is observed, is the interplay of active and passive processes in genba; and that, kaizen drift is actively managed in an environment where it is passively acknowledged, and pervasive. The interplay between the active and passive processes of kaizen is found to occur with the individual worker. The passive processes stem from the activities of management within the organisation – incentive by social and economic stimulus, personnel management, and behavioural sciences – while the active processes emerge as the worker responds in a positive contributory manner – utilisation of tools and methods, and contribution of ideas. In addition, within the individual worker, there is a secondary virtuous cycle occurring

– the development of skills, creativity, confidence, and pride – that feeds back to further positive contribution to the organisation.

The emergent themes and definitions of kaizen are discussed in detail in Chapter Five.

CHAPTER FIVE: DISCUSSION AND IMPLICATIONS

5.1 INTRODUCTION

Through cross-cultural phenomenological enquiry (Dreyfus & Dreyfus, 2005; Goulding, 2005) this thesis asked one primary research question and three secondary research questions to explore and understand the utility of kaizen. Research design (Tashakkori & Teddlie, 2003) required a set of data-collecting questions be developed that enquired of Japanese workers, who perform their jobs in active kaizen environments, their acknowledgement and exercising of kaizen; changes in their understanding of kaizen over time; their view of other workers' interpretations of kaizen; activities undertaken by their employing domain and parent companies; and, their future view of kaizen. This Chapter addresses each of the data-collecting Research Questions, and (six) emergent themes (refer Chapter Four) of kaizen acknowledgement and practice in Japan. A researcher-inspired definition of kaizen in Japan is then offered prior to exploration of the implications for Japan, and in extension, business in the Anglosphere. Finally, this Chapter closes with an exploration of the dominant logic of transfer of kaizen into domains beyond Japanese industrial settings so to discover implications for the Anglosphere.

5.2 THEMATIC DISCUSSION

The following Section presents and explores each of the data-collecting questions (refer Appendix 10 and Appendix 11), and emergent themes resultant of data reduction methodology (see Chapter Three). The themes were identified in Chapter Four as:

1. While kaizen tends to be acknowledged as both Process-oriented and Result-oriented, it is dominantly exercised as Process-oriented.
2. Individuals' understanding of kaizen changes significantly over the course of time.
3. Other workers hold different views of kaizen.

4. Parent companies provide Guidance-oriented kaizen activity while domain companies undertake Facilitation-oriented kaizen activity.
5. Kaizen is dominantly Management-oriented.
6. Kaizen is seen to develop in the future.

Questions one and two, in testing a priori knowledge, asked how participants currently acknowledge kaizen; and, how they currently exercise kaizen. The data provided Theme One, being:

Theme One: *While kaizen tends to be acknowledged as both Process-oriented and Result-oriented, it is dominantly exercised as being Process-oriented.*

Research participants, somewhat evenly, acknowledged kaizen as being both Process-oriented and Result-oriented; yet dominantly exercise it as being process. The concept of process- and result-orientation was utilised by Imai (1986) as a means to differentiate between the Japanese and US management approaches of the time, refer Section 4.2.1. It was observed that although kaizen holds a different meaning for many individuals and can serve different purposes, ultimately, it is the tools and methodology of kaizen that are employed on a daily basis.

While participants actively acknowledge and exercise kaizen in similar manners, they did not provide any explicit definition of kaizen, but repeatedly spoke anecdotally of kaizen as an approach and activity within the bounds of the organisation. Such occurrence mirrors Japanese academic (Saruta, 2006) and practitioner literature (JRS, 2006a), as precise definitions are not made, but loose conceptual iterations of change and improvement suffice. However, as soon as the subject of defining kaizen was discussed, the participants' conceptualisation was noted to shift from the tools and methods to the underpinning philosophy.

The occurrence of near equivalent Process-oriented and Result-oriented activity identified two equally important elements of kaizen. The first, being the elimination of all waste that adds cost without adding value, as noted by Liker (2004); and, the second being the means, mind-set, tools, and methods to achieve this objective. As noted, the data displayed attention to Process-oriented exercising of kaizen by a

majority of participants, effectively completing the conceptual kaizen loop. The loop is observed to be underpinned by philosophy through active cooperation and collectivism within the Japanese workplace, as noted by Ohmae (1982), Haitani (1990), and Flynn and Saladin (2006).

Question three, and onwards, in attempting to modify a priori knowledge, asked if participants' understanding of kaizen had changed over their careers. This provided Theme Two, being:

Theme Two: *Individuals' understanding of kaizen changes significantly over the course of time.*

Japanese workers are noted to hold loose conceptual iterations of change and improvement (JRS, 2006a; Saruta, 2006). Analysis of research data also reveals that participants understanding of kaizen significantly changes over the course of their careers. This suggests that the participants hold and are aware of their own perception of kaizen over time through change agents. These may be in the form of deeper enablers and/or drivers such as underlying Japanese culture and the culture of the organisation. Passive drivers may be identified as the accumulation of workers' experiences, and attitude towards work where, active drivers exist in the form of organisational education and promotion programmes, and daily activities undertaken within the bounds of the organisation. These passive and active drivers subsequently become determinants of changes in workers' kaizen understanding.

The precursors of these enablers and drivers are observed to be facilitation and guidance afforded by workers' organisations and subsequent parent organisations. Ultimately, these processes are seen to develop the human resources (Iizuka, 1998) and systems of the organisation in the pursuit of organisational objectives. Active management of enablers and drivers denotes short-term vision and activity within the genba. By contrast, the passive enablers and drivers denote longer-term vision and the development of long-term relationships, as noted by Ohmae (1982), Baba (1991), Itoh (2000), and Fukunaga (2004), dominant in Japanese organisational management. Enquiry of the universality of kaizen across the organisation enquired of other workers' views of kaizen in question four. This provided Theme Three, being:

Theme Three: *Other workers in participants' organisations hold different views of kaizen.*

A majority of research participants acknowledge that other workers within their organisations hold different views of kaizen to that of their own. This, in addition to actively acknowledging significant changes in their own understanding of kaizen, further supports the view that participants are fully aware of their own perceptions of kaizen, and those of other workers. This suggests there is tolerance towards a broad understanding of kaizen so that individual interpretations may be accommodated; and, that kaizen is seen as an integral part of individuals' jobs and the operations of the organisation, as noted by Hackman and Wageman (1995), Iizuka (1998), Itoh (2000), Bessant et al. (2001), Huntzinger (2002), Brunet and New (2003), Saruta (2006), and Lander and Liker (2007). Beyond the awareness of kaizen, Japanese workers are able to use their own perceptions of kaizen as a proxy from which to undertake some form of comparative analysis of other workers' views in genba. The implications of this phenomenon are explained later in this Chapter.

Enquiry was made of the perceived bottom-up approach to business excellence kaizen provides by asking of activities undertaken by participants' organisations in question five. Notably, this provided Theme Four, being:

Theme Four: *Parent companies provide Guidance-oriented kaizen activity while domain companies undertake Facilitation-oriented kaizen activity.*

Research participants acknowledged, repeatedly, that corporate parent companies provide Guidance-oriented kaizen activity; and, domain companies undertake Facilitation-oriented kaizen activity. The driver for this observation is based on the following attributes of genba: parent company demands of control over domain companies; parallels to the military approach to organisational and resource management; and, that the parent company is the guardian of corporate knowledge. Guidance-oriented kaizen activity enables dispersion of autonomy, the genba approach, and the advent of monotsukuri and monogatari. As kaizen philosophy and methodology effectively blanket the organisation, the management of kaizen through parent company Guidance-oriented kaizen activity creates an avenue of control over

domain company management through direct and indirect explicit and implicit coercion.

Facilitation-oriented kaizen activity at the domain company level, bounded by parent company Guidance-oriented kaizen activity, provides adequate autonomy at the domain company level. Such a management approach, in addition to nurturing of employees, provides an ontological platform for knowledge creation (Takeuchi & Nonaka, 1995) through *genba-ism*, monotsukuri, and monogatari. Crane (2005) notes that this approach resonates with the military context and provides workers the opportunity of developing company-specific tools and methodology, the *how*, through genba experience (see Senoo, 2004), monotsukuri and monogatari, and QC circle activity, directed only by management's *what*. It is here that the intangible kaizen philosophy and intrinsic knowledge move to explicit knowledge and tangible tools and methods (Nonaka, 1994; Nonaka & Takeuchi, 1995) observed in the Japanese workplace.

Although the Anglosphere literature identifies kaizen as being a bottom-up, employee-initiated approach to work, question six asked of kaizen activity undertaken by different people within the organisation, and question seven asked of parent company activity, which overwhelmingly provided Theme Five, being:

Theme Five: *Kaizen is dominantly Management-oriented.*

Research participants predominantly acknowledged and exercised kaizen as being Management-oriented. This is in stark contrast to Anglosphere academic literature (Bessant & Francis, 1999; Anand et al., 2009) and Japanese academic literature (Katsundo, 1985); both which identify kaizen as a bottom-up participation approach to business development and efficiency processes. Anglosphere and Japanese academic conceptualisation would be correct should kaizen be exhibited as having an employee orientation. However, it appears that kaizen is more than the duty of workers; it is the responsibility of management to fulfil organisational requirements, as guided by their embedded kaizen philosophy. In the same fashion that the parent company maintains *control* over the domain company through Guidance-oriented kaizen activity, domain company management maintains control of its respective

subordinates – employees through what amounts to be a near local-level kaizen activity and philosophy. This is achieved through the Guidance-oriented activity equivalent of *facilitation-oriented kaizen activity that is notably Management-oriented*. Such an observation of participants reiterates the contrasts of Theme Four, where kaizen is realistically observed to be top-down management in the guise of bottom-up management, a perspective strongly advocated by Saruta (2006).

Enquiry of perceived future developments of kaizen, through questions eight and nine, provided Theme Six, being:

Theme Six: *Kaizen is seen to develop in the future.*

The final theme states that kaizen will continue to develop in the future, both in general terms and within research participants' organisations. Kaizen has a documented history of some 60 years, taking the Toyota Production System as a proxy for kaizen in Japan. The kaizen philosophy and subsequent tools and methods have proven themselves as being effective and able to make a sustainable contribution to Japanese industry. Participants noted that kaizen philosophy will not change, as supported by extant literature, but existing tools and methods will be adapted to changing circumstances, and new tools and methods develop as required. The visible outputs of kaizen so readily consumed by Anglosphere companies. Two further noteworthy aspects from research participants include the integration of IT technology and heightening of individuals' consciousness and awareness. However, only time will tell as to whether any future development of kaizen, from its current shape and form, will provide equivalent successful outcomes.

Summary of the Six Themes

Summary of the six emergent themes provides insight into how kaizen is acknowledged and exercised within the bounds of active kaizen environments in Japan. Specifically Japanese workers view kaizen as a philosophical approach to work, whereby individual interpretations of kaizen are tolerated, and are subject to change over the course of workers' careers. In addition, kaizen is seen as a management tool, a means to engage the organisation in a top-down fashion. This is

clearly in contrast to the Anglosphere's interpretation of kaizen as a bottom-up worker-inspired approach to organisational life. Theme One: *Kaizen tends to be acknowledged as both process-oriented and result-oriented yet dominantly exercised as being process-oriented* identifies that kaizen serves different purposes for different people, being loose conceptual iterations of proactive change and improvement. Holistically, this enables understanding of *what kaizen is*. Theme Two: *Individuals' understanding of kaizen is observed to change over time*, further legitimises the proposition that a universal view of kaizen does not, or need to exist, and perhaps cannot exist, implying tolerance for individual interpretations. Seeking drivers for change identifies organisational education, and promotion programmes, and the accumulation of worker experience. Theme Three: *Other workers hold different views of kaizen* ties back directly to Theme One, in that no one universal definition of view of kaizen exists; and, Theme Two, where individual interpretations are tolerated. Theme Four: *Parent companies exercise guidance-oriented (control) activity while domain companies exercise facilitation-oriented (controlled) activity* ties directly into Theme Five: *Kaizen was observed to be dominantly management-oriented*. This observation is in contrast to the Anglosphere literature that hypothesises that kaizen is pre-dominantly a bottom-up, worker driven phenomenon. Theme Six: *Kaizen is expected to develop both in the wider-sense and within the organisation in the future* supports the notion that from the bottom-up worker perspective kaizen will continue to *be*, provided the top-down management perspective continues to view kaizen as a legitimate means to achieve business excellence objectives.

5.3 A RESEARCHER-INSPIRED DEFINITION OF KAIZEN

The following Section contributes a researcher-inspired definition of kaizen, as it appears to exist in Japan, and in the Anglosphere, so to modify a priori knowledge. Sections 2.1.1 and 2.1.2 explored literature-based definitions of kaizen in Japan and the Anglosphere. While Japanese literature contributed no formal definition of kaizen, Anglosphere literature contributed nothing more than mechanical interpretations. The major difference between this researcher-inspired definition of kaizen and definitions found in extant literature is that the former has been

developed, not through identifying explicit kaizen outputs, but through awareness and understanding of the underpinning philosophy.

The Macpherson Definition of Kaizen in Japan

The Japanese commonly observe two manifestations of kaizen philosophy. In daily life, kaizen literally refers to improvement and ingenuity. In industrial settings, as this thesis defines, *kaizen is the result of management's engagement of the organisation to pursue business excellence*. Kaizen, as exemplified by Toyota, is achieved through the interplay between enterprise-side pursuit of profit and competition, and employee-side skills, creativity, confidence, and pride. The enterprise- and employee-sides are intertwined through the development and acquisition of various tools and methods – the more tangible outputs. Kaizen creates an energy that permeates the organisation, and drives a shared state of mind among employees to achieve proactive change and innovation. The level of kaizen energy, and subsequent kaizen activity, appears to be dependent upon the proximity of these enterprise- and employee-side elements. Kaizen is, therefore, both culturally bounded and contextually dependent, and far more than just continuous improvement. In the Anglosphere, in contrast, kaizen is usually nothing more than the simplistic transplant of Japan-centric tools and techniques, with little or no regard for underpinning cultural implications.

Explanation of the Macpherson Definition of Kaizen in Japan

Kaizen, as noted in Section 2.1.2, is a term used in daily settings, and more specifically industrial settings in Japan. Each commonly references improvement and ingenuity, however, kaizen in industrial settings is employed as a management tool (as branded by Toyota in The Toyota Way and Toyota Production System). This research finds that for kaizen to exist in any domain, a number of elements are found to be necessary: enterprises' pursuit of competition and competitive spirit; and, employees' skills, creativity, confidence, and pride. The lessening or elimination of any one of these elements is seen to weaken kaizen. On the enterprise-side, management ultimately requires financial profit as a means of sustainability of the organisation; and, competition as motivation. On the opposing side, employees

require skills from which to draw knowledge and understanding; creative output as a response to social and cultural boundaries, but within organisational boundaries; confidence in their own abilities, and confidence in future prospects; and, pride channels the employee's talents and contributions into the individual's organisation. In addition to these human traits, kaizen also requires the means in which to operate, tools and methods, for which to enable the generation and implementation of improvement. The culmination of these elements – enterprise-side, employee-side, and tools and methods – results in the generation of an energy within the organisation that is translated into kaizen activity. It appears that changes in proximity, even the elimination of one or more of these elements has bearing on the level of energy and level of kaizen activity in the organisation. Therefore, being effected by circumstances within the organisation kaizen is a contextually dependent phenomenon. Further, kaizen is culturally bounded, as Japanese culture provides the directives for the acquisition and development of resultant Japan-centric tools and methods, and the enabling kaizen environment. This research, therefore, finds that more than kaizen being *continuous improvement*, as often quoted in Anglosphere literature; kaizen is the means and the result of the demands of management, and the management of human and non-human resources in the organisation's pursuit of business excellence.

5.4 IMPLICATIONS FOR JAPAN

The teachings of Confucianism, Buddhism, Taoism, and Shintoism have changed little over time. Kaizen philosophy too has changed little over time. However, changes that are witnessed are amidst the explicit tools and methods, both active and passive, which are in turn affected by changes in user interpretations. Here, two interdependent issues come to light: the philosophy, both the intangible and tangible aspects; and, change. This research finds that the tools and methods of kaizen develop from the philosophy and are largely task specific; however, the philosophy can go unobserved. In Japan, not observing the philosophy of kaizen appears to have little impact of its effectiveness because it is embedded in the nation's culture.

Cumulative of extant Japanese literature, the research data, and themes, the following Section presents and explores implications for Japan by way of the following categories: Defining Kaizen (section 5.4.1); Kaizen Means Change (section 5.4.2); Kaizen Tools and Methods (section 5.4.3); and, Kaizen Diffusion (section 5.4.4). The first category, Defining Kaizen, found that no universal definition of kaizen exists, providing support for the idea that Japanese workers prescribe to kaizen as a metaphor for understanding. The second category, Kaizen Means Change, found that more than a set of operating efficiency measures, kaizen provides the means to accept change in the pursuit of business excellence. The third category, Kaizen Tools and Methods, found the tools and methods of kaizen are not universal in design and application, but are dependent on circumstance. The final category, Kaizen Diffusion, found that the diffusion of kaizen is actively managed through both the passive and active drivers of kaizen.

5.4.1 Defining Kaizen

The Japanese conceptualisation of kaizen in daily life, and in industrial settings, is now explained. Consideration is given to the psychological aspects of human motivation as they relate to kaizen. The Japanese approach to work, and life in general, is very much holistic and contextual; and, is resultant of the four underpinning philosophies of Confucianism, Buddhism, Taoism, and Shintoism. These lifestyle philosophies have instilled the virtues of *on* (reciprocity), *gimu* (piety), *giri* (duty), and *ninjo* (empathy) within Japanese culture, resulting in a society that benefits from collectivism, harmony, and homogeneity. The incidence of cultural requirements stemming from these philosophies has resulted in a set of *high social expectations*, and *tight social boundaries* of conformity in Japan.

Maslow's (1970) study of human motivation notes that people have an inherent need to satiate high level needs – through improvement and creativity. However, it appears that conformity in Japan may suppress such individual creativity. Herzberg's (1968) study of human physiology and psychology posited that motivators and hygiene factors were a means of human motivation. In an organisational context, this approach to human psychology has provided

management with a set of tools through incentives and coercive means (see Saruta, 2006). Coupled with Japan's national culture, as categorised by Hofstede's quantitative study of cultural proximity, the industrial organisation appears able to provide a counter-point to Japan's rigid conformity, and with that an avenue for creativity in the form of kaizen. As top management of the organisation provides kaizen facilitation and guidance through education and promotion, kaizen philosophy moves from being implicit to an explicit nature, resulting in the tangible tools and methods in genba. (Those in the Anglosphere often attempt to adopt these tangible manifestations.)

Kaizen is not limited to being an approach to work in the industrial context, but has always existed in Japanese daily life. Whether embedded in daily life, or in active kaizen environments (industry), the diffusion of kaizen philosophy and practice over the long term occurs by way of intergenerational drift. This is in parallel, yet in contrast, to Snook's (2000) organisational drift. Kaizen drift occurs by way of tacit and explicit knowledge exchange between generations through both active and passive means. This perspective is fully supported by anecdotal evidence provided by participants, as follows:

> *"A means to achieve: mieruka [visualisation of work], reduction of work volume; achievement of work requirements." – Post-retirement Employee, 60 years old*

> *"To bring together growth and development of the company through planning workplace activity, and improving division workers' skills and productivity." – Section Chief, 57 years old*

> *"By not being satisfied with the status quo, on a daily basis." – Administration Worker, 57 years old*

> *"There are 2 definitions of kaizen. The first being the business of the company: planned kaizen activity. That is planned kaizen in the form of PDCA, and forms the base of the management system. The second, which is probably what past Japanese made use of, is unplanned kaizen activity. This is*

spontaneous employee kaizen, which is particularly characteristic of the Japanese … one that is voluntarily in nature." – Retired Mechanical Designer; General Manager JQA, 55 years old

"Activity that develops a person." – Division Chief, 55 years old

"Looking at things with different perspectives, observing the same workplace everyday with all five senses." – Division Manager, 53 years old

"The improvement of job performance through efficiency, the reduction of waste, and the establishment of work procedures." – Division Manager, 53 years old

"Regardless of the result, any kind of change." – Division Chief, 53 years old

"A means to tie-up operating efficiency, quality improvement, and safety." – Division Manager, 51 years old

"In regard to repetitive duties within regular duties, developing my own work patterns, and making use of these the following time. Even then, there still are more places to be improved, more waste to be eliminated, and more efficiency to be aimed for." – Section Chief, 49 years old

"Through the simplicity of operations, and improvement of quality." – Division Manager, 45 years old

"Kaizen is basically activities for companies and people who work for companies, to make improvement, and to make the work effective and speedy. To keep continuing to do this kaizen, it becomes the competence of the company and system, and a skill for employees." – Head Engineer, 45 years old

"I take a technical approach to items before me that are related to various problems (productivity, quality, safety), and then undertake analysis and the appropriate measures." – Administration Worker, 45 years old

"Activities to better a situation, and at the same time, activities to improve oneself." – Chief Engineer, 41 years old

"Activity that improves added-value content, safety, quality, and delivery times." – Section Chief, 38 years old

"It's not about solving a problem in front of you, but the pursuit and elimination of the root cause." – Administration Worker, 33 years old

"Kaizen is activity, irrespective of the size of the content or frequency of the activities, to remedy unsatisfactory work." – Engineer, 29 years old

"Activity that promotes easy production, simplicity of steps, cost reduction, and efficiency." – Administration Worker, 23 years old

Analysis of the research data produces results congruent with the literature. There was no observed universal definition or conceptualisation of kaizen in the Japanese workplace because kaizen tends to be a philosophy of change.[29] Further, kaizen is not limited to just the workplace, but is evident in the daily lives of the Japanese people; and, is resultant of underlying philosophies, social boundaries and expectations. Researchers from the Anglosphere are unlikely to have ever noted this distinction, namely, kaizen in genba and kaizen in the home and family.

5.4.2 Kaizen Means Change

Kaizen as an active and pervasive agent of change is explored in the following section, with consideration given to the influences of culture and globalisation.

[29] This is explored further in section 5.4.2.

Kaizen philosophy provides no necessity or contractual requirement to operate within the kaizen paradigm. Therefore, this non-necessity factor implies that participation in improvement or problem solving kaizen activity is largely voluntary. This is supported by the following participant feedback:

"By not being satisfied with the status quo, on a daily basis." – Administration Worker, 57 years old

"Activity that develops a person." – Division Chief, 55 years old

"The more experienced you are the more you are able get involved with kaizen activity to improve the efficiency of your job. In my 20s, the content of my work was what I was told to do. In my 30s, I thought about how to understand the content of my job and how to do it better. From my 40s, I thought about how to make my job easier." – Administration Worker, 55 years old

"Regardless of the result, any kind of change." – Division Chief, 53 years old

"I recognise that my understanding of kaizen has changed due to the prioritisation of requirements based on the needs (of senior management)." – Division Manager, 53 years old

"Initially, when I was a division manager and then a department manager, I thought to undertake kaizen activity. Now, becoming a group leader and a manager, I now concentrate on, devise ways of how I can enable others to undertake kaizen activity; how I can make others feel kaizen, and how I can make kaizen activity easy to undertake?" – Department Manager, 49 years old

"With regard to repetitive duties within regular duties, developing my own work patterns, and making use of these the following time. Even then, there are more places to be improved, more waste to be eliminated, and more efficiency to be aimed for." – Section Chief, 49 years old

"I believe that the contents of TPS will not change in any great manner. Even since the days of Sakichi Toyoda and Taiichi Ohno, the content of kaizen activity has not changed to this day. The only changes that have occurred are the likes of the kanban system moving from paper to electronic systems, and further evolution will be in the form of the adoption of IT, but the thinking behind kaizen will not change." – Department Manager, age 49

"My thinking has changed as I moved through the ranks from general worker up to management. When I was a general worker, I improved my own work operations. When I became a manager I began to educate, guide other general workers." – Division Managed, 45 years old

"Improvement in quality, safety; and the elimination of muri [unreasonableness], muda [waste], and mura [inconsistency]." – Team Leader, 42 years old

"Activities to better a situation, and at the same time, activities to improve oneself." – Chief Engineer, 41 years old

"Activity that improves added-value content, safety, quality, and delivery times." – Section Chief, 38 years old

"Through experience, I have slowly become able to view situations from differing points of view. Further, I am able to view a situation in its relation to the whole as opposed the situation only by itself." – Division Manager, 28 years old

"I believe there has been a change between when I joined the company and today. In my first year in the company I had absolutely no understanding nor interest in kaizen. Now I have moments of 'wouldn't it be good if I did this?'" – Team Leader, 32 years old

Research participants observe that while participation in kaizen activity is voluntary, it results in opportunity to work within the tangible framework of the tools and

methods of kaizen. Further, as any improvement or problem solving activity will result in change, kaizen may ultimately be seen as the *opportunity to make change*.

Cultural and Social Boundaries

Culture is noted to be resultant of philosophy, and for culture to exist, the underpinning philosophy must be accepted. When a philosophy is not accepted, that is it fails, alternative philosophies are sought (Kuhn, 1996). The culture of Japan is underpinned by the philosophies of Confucianism, Buddhism, Taoism, and Shintoism. Kaizen philosophy too is rooted in these four philosophies (refer Section 2.4) and through acceptance has become a social, organisational, and industrial culture in its own right.

Social demands and expectations of society are the result of the underlying culture. Japanese society is collectivist in nature and demands conformity to a relatively tight set of social boundaries and expectations. Kaizen has provided a means of balance to this creativity need and conformity requirement. Therefore, those operating within the kaizen environment implicitly accept its philosophy and the attendant tools and methodology.

The culture of most Japanese organisations mirrors that of society, including: respect for authority with the deference to hierarchy, titles, and seniority; trust and relationship orientations; conflict avoidance; conformism; group orientations; consensus decision-making; and, paternalistic management processes. These elements have created environments for nurturing relationships between the individual, organisation, and society, including bottom-up, top-down, and intra-strata. Management has provided the enablers and drivers of kaizen methodology through understanding of its philosophy; and, workers utilise kaizen methodology through understanding and acceptance of its philosophy. It is here where the agents of success or failure appear to lie.

Sustainable diffusion of kaizen will be dependent upon human understanding and acceptance of the underpinning philosophy, and the development of appropriate tools and methodology. This understanding and acceptance includes the acceptance of

change beyond the bounds of organisational and employment contracts. However, in the short-term, attention may need to be paid, not to the in-Japan cultural enablers and drivers, but to the impact and influence of external factors such as globalisation, and naturally information technology.

Globalisation

The advent of globalisation has, and will continue to influence the way people approach their work, and the way people work. Globalisation, more specifically Westernisation, tends to influence the way people think, while technology provides for more timely information and means to communicate and work. In consideration of this, managers and employees in active kaizen environments need to be conscious of the dynamic nature of the explicit aspects while maintaining the static intrinsic aspects of kaizen.

The rapid globalisation of business that resulted in Japan's Lost Decade – the 1990s – forced big changes on Japanese management. During this period, Japanese academics and practitioners cite major changes, with the most influential being long-term employment practices, including: part-time long-term contract employees, part-time annual-contract workers, freeters,[30] and temporary employees. Through adoption from within, and pressure from outside, the impact of globalisation on Japan's society is evident. This is sensed in the following participant feedback comment:

> *"The management style of Japanese companies is moving toward that of Western companies, there are good points in this, but on the downside employees are losing their company spirit. Therefore, at such times, employees' sense of, or motivation for, kaizen too is lost." – Retired Mechanical Designer; General Manager JQA, 55 years old*

[30] *Freeter* is a Japanese term that refers to members of the workforce who are not attached to any one company, and freely move between jobs.

Hofstede (1983) notes that culture is the result of numerous factors over time and is very difficult to change over the short-term. Over the longer term, however, changes in Japan's culture and society may lead to some form of disequilibrium between kaizen philosophy and kaizen practice. Failure to implicitly, or explicitly, address this may result in kaizen becoming less effective, and therefore increasingly less important to manufacturing.

5.4.3 Kaizen Tools and Methods

The tools and methods of kaizen in Japan are observed to be the explicit outcomes of the underpinning philosophy. Utilisation and application of kaizen in Japanese environments is now explored.

The Utilisation of Kaizen within Company Units and Departments

Although kaizen philosophy and practice are observed in the industrial sector in Japan, it is not utilised to the extent that Anglosphere academics and practitioners would like to think. Even within Japanese companies that advocate kaizen, true utilisation appears to occur less than an expected 100%, as noted in the participant feedback below. This is due to a miss fit between available tools and company undertaking; and, company failure to achieve total utilisation.

> *"Currently, we are implementing kaizen along the guidelines of the TPS [Toyota Production System]. However, as we are in the construction equipment industry we are unable to implement all aspects of TPS, only aspects that relate to our business; there is also equipment involved in TPS that we do not use. When this situation occurs, we attempt to remove that aspect of TPS from our minds, thus it is necessary to think how we can develop a workaround." – Department Manager, 49 years old*

> *"There is the tendency for kaizen to easily become slightly top-down, but currently, not all employees at the bottom of the company structure think kaizen activity is necessary." – Administration Officer, 46 years old*

"Up until now, the older generation have not wanted to break with traditional work practices; new ways are troublesome." – Section Chief, 57 years old

Participants of one company observe that while their company has an active kaizen promotion and education system, it is not truly organisation-wide.

"Kaizen has not infiltrated one third of general employees, we do not have all employee infiltration." – Department Manager, 49 years old

Beyond utilisation through promotion and education, the utilisation of kaizen practice is also influenced by production output. That is, kaizen philosophy is static in nature, but the tangible tools and methods of kaizen practice are responsive to circumstance, in this case production volume.

"Kaizen changes with the number of production units. If production increases, kaizen is omitted we cannot afford the time. If production decreases, we actively conduct kaizen to reduce costs." – Section Chief, 37 years old

The above participant observations note three instances where kaizen may not be explicit: the first occurs due to the mismatch between the industries for which kaizen was originally developed, the automotive industry, and those where it is implemented; the second, that kaizen may not be fully utilised within an organisation even in light of education and promotion programmes; and, the third, while kaizen was previously noted to be responsive to necessity, is also responsive to limitations within the organisation, for example, time. This provides evidence that the anecdotal description of *kaizen blanketing the organisation* appears to be false.

Application to Company Units

Although the kaizen philosophy is generalist in nature, there appear to be some quarters of the organisation where kaizen cannot effectively operate. Kaizen undertakings, however, may not be applicable or possible, due to a mismatch between underpinning philosophy and organisational operations. For example, in the Sales Division of an organisation, sales figures are predominantly determined by

external factors; the development and application of kaizen activity may provide no tangible benefit, as future activity is quantifiably unknown.

> *"We sales people do not have an image of kaizen. We do not use the word kaizen. Kaizen in other parts of the company is an activity of the production division or related divisions, such as service or design. Kaizen doesn't fit the sales business model." – Division Chief China, 50 years old*

> *"We do not have kaizen meetings or discuss about kaizen activity because the sales division doesn't need kaizen. Maybe the production section do, everyday all workers, do repetitive work. However, people in the sales division everyday every week every year is different; we can change how we achieve." – Division Chief China, 50 years old*

This same instance occurs in other sectors such as the medical industry, as noted in Section 5.5.4 following. While the research notes that kaizen philosophy is infused into the daily and work lives of the Japanese, there are instances where kaizen does not, or cannot become explicit, that is there is no genba, due to the very nature of organisational activity.

5.4.4 Kaizen Diffusion

The research finds that in-house exchanges between knowledgeable, experienced experts and up-coming employees provide two major advantages to the organisation: up-coming employees are instructed in a manner that is common to local organisational culture and tailored to the needs and requirements of the organisation; and mentoring provides renewed learning experiences for the experts (Saruta, 2006). The employment of external kaizen gurus provides opportunity to bring new and tested approaches in-house. Diffusion of kaizen in Japanese environs through consideration of worker-organisation discipline and loyalty, relationships, security of knowledge, and unions is explored in the following section. Although the literature observes kaizen activity to be a bottom-up approach to organisational management and operations, the research finds that while there is worker contribution, ultimately,

kaizen activity within the organisation is for the benefit of management and achieving organisational strategy.

Discipline and Loyalty

Japanese society, as noted in Section 2.4, is rooted partly in the social hierarchy teachings of Confucianism. The resulting senpai-kohai (senior-junior) hierarchy is dependent on factors such as age, position, skill, and experience. The relationship between the Japanese worker and the organisation develops, as noted in this research, in genba through the articulation of implicit philosophy to the explicit tools and methodology of organisational systems.

Convergence Theory (Hofstede, 1983; Flynn & Saladin, 2006), as noted in Section 2.7, states a tendency towards norms. Continued globalisation, and Westernisation, of Japanese social and organisational culture to norms considered not Japanese, may result in breakdown of the unique intrinsic aspects of kaizen, including conflict avoidance, conformism, ambiguous job descriptions, and maintaining harmony. This appears to already be in motion, as supported by the following participant observations:

> *"The company's way of thinking ... which is now similar to that of the West ... if it does not change radically then company spirit (loyalty, love) will be lost, employee motivation will be lost … young people are losing their company spirit, their ability to think is weakening." – Retired Mechanical Designer/ General Manager JQA, 55 years old*

> *"Baby-boomer engineers are thinking about kaizen activities daily, and thinking all the time. Because, when they entered this company, their bosses educated them always about kaizen, quality, practice, and to work hard. But, now when a new engineer enters this company, the bosses and young engineers are like friends, there is no discipline." – Chief Engineer, Team Leader, 51 years old*

Such an observed shift in corporate and employee thinking away from the hierarchical systemised thinking of corporate Japan of the past to a more Westernised approach to work has already resulted in the loss of individuals' company spirit and discipline (Hill, 2007). This loss will have a bearing on long-term relationships between employee and corporate, and ultimately the effectiveness of kaizen philosophy.

Long-term Relationships

The Japanese social-economic system of companyism (Baba, 1991), and resultant Japanese management model, holds at its core the long-term relationship between the worker and the organisation (Ohmae, 1982; Baba, 1991; Itoh, 2000; Fukunaga, 2004). The existence of long-term relationships, through environments of harmony, equality, and genba, have resulted in the Japanese lifetime employment and seniority systems (Iizuka, 1998; Itoh, 2000; Itoh, 2007), that has allowed the organisation to nurture its employees in the pursuit of strategy, and notably a long string of successful products. Itoh (2000) notes that employee motivation would probably not be so high if it were not for the lifetime employment system that provides stability for employees' and their family's lifestyles, and trust in the company. The foundation of Japanese management is one where the acquisition of trust is possible from all employees (Itoh). However, through recent discontinuation of the Japanese lifetime employment system by corporations in their pursuit of cost reductions, employees' loss of lifetime stability may create environments of lower trust, motivation, and even anxiety. This would, in turn, have negative effects on employee-management relations. Participants too, make this observation:

> *"In the past there was lifetime employment and people thought when they entered a company that the company was theirs. Not 'I work for this company', but 'this is my company'. The company and the employee were one in the age of lifetime employment, that is if you worked hard the company did well, if the company did well your lifestyle improved. The company and the employee were equal. If you worked hard the company would turn a profit, the customers would be happy, your boss would praise you, and thus the feeling of*

unity was very strong." – Retired Mechanical Designer/General Manager Japan Quality Assurance Organisation (JQA), 55 years old

"Company spirit, which is 'love of the company', is being lost and employees are finding it more difficult to find enjoyment outside of work, therefore the motivation for kaizen, too, is being lost. People adaptively think that companies exist only to provide an income, and that lifestyle enjoyment must be found outside the company. The reason for this change is that Japanese companies are becoming westernised…. Companies do not exist for the sake of profit. If companies realised they exist to add value to customers, and for the benefit of society and employees, I believe the kaizen movement would progress forward. [Result-oriented] kaizen is becoming stronger and stronger, and [process-oriented] kaizen is becoming weaker and weaker. [Process-oriented] kaizen is very important." – Retired Mechanical Designer/General Manager (JQA), 55 years old

The literature and research feedback both note that current breakdown of the Japanese lifetime employment system can only have negative effects on all concerned as there is no basis for which to establish long-term relationships. This may result in instability for employees, issues of trust between employees and the organisation; and, eventual loss of motivation for organisational activity as any contribution to the company may be seen only as for the company's benefit and not for the individual.

The Organisational Black Box

Buffers exist in Japan between those in power and those who wish to gain knowledge or make change (Van Wolferen, 1990). Buffers, whether people, laws, or understandings, operate to maintain distance between parties where any formal relationship is undesirable to one party, or where conflict may arise through direct association. These ultimately enable the protection of the underlying system and subsequently specific organisations and persons in Japan; and, appear to operate within the arena of kaizen knowledge diffusion – what the Japanese are prepared to

share with the Anglosphere and what they are not. That is, Japanese organisations appear to maintain a *kaizen black box*.

Toyota is often cited as *throwing open its doors* to Anglosphere researchers from early on in the peace on the premise of free exchange of knowledge and understanding (Imai, 1986). However, kaizen creates competitive advantage by incorporating organisational learning with organisation-specific tools and methodologies. Such public provision of organisational knowledge may provide for direct competition and loss of competitive advantage to the lead organisation. Even to this day, Toyota provides access to the highly visible tangible outcomes of the philosophy, in the form of the Toyota Production System, safe in the knowledge that there are aspects the Anglosphere cannot replicate. This provides evidence of the above-mentioned buffers in operation, and the effectual black box. Further, time spent by Anglosphere academics and practitioners in trying to replicate kaizen reinforces the competitive advantage of Toyota, and Japan.

Circles of Friends

To enable active and managed diffusion of knowledge, Japanese organisations dispatch officers to domain and group companies with the task of education, instruction, and instilment of philosophy and practice. The existence of the organisational black box necessitates that the lead organisation apply different levels of security, and diffuse knowledge based on the level of security of the circle the recipient organisation inhabits. Research data noted that Toyota dispatches kaizen gurus to *insider* companies, including some companies outside the Toyota Group. This research undertaking was exposed to such exclusion first-hand. There were times when companies could not grant the candidate permission to attend in-house kaizen meetings and seminars when attended by Toyota gurus, citing attendance was impossible due to the company's privacy policy. This provides empirical evidence of the existence of *circles of friends* within Japanese industry. In extension of the black-box notion, the circle of friends sits in parallel within the security of organisational knowledge. For both Japanese and Anglosphere researchers undertaking data collection within the environs of Japanese industry, such a situation will only jeopardise the intentions of good research.

Unions

Chapter Two noted Japan's utilisation of corporate unions and union-management cooperation (Recht & Wilderom, 1998; Hayashi, 2002; Itoh, 2004a; Saruta, 2006; Barnwell, 2007) to promote corporate philosophy to employees. Influence of Anglosphere management practice and resultant changes in Japanese management practice, however, may undermine the corporation's ability to continue to do so in the future, particularly in employing the intrinsic value of kaizen.[31] Such influence appears to stem directly from globalisation as corporations seek to reduce costs as a means to remain competitive (Shuto & Urata, n.d.). This is witnessed in the dismantling of the lifetime and fulltime employment systems; and, to the employment of more and more contract and dispatch workers by the corporations. Ultimately, this has reduced the unionisation rate from a peak of 37% in 1970 to 18% in 2008 (MHLW, 2012). With the loss of the unions as the corporation-employees go-between body, the mechanics of kaizen diffusion and corporate control weaken. Shuto and Urata (n.d.) note that recent research finds that unorganised workers view unionism as necessity, providing grounds for future union activism. Even in light of growth in union membership numbers, the influence of globalisation and the effect of individualism may see corporations not wielding the same influence as they did through the corporate unions and union management cooperation systems of past.

5.4.5 Summary

Review of the implications for Japan through categories of definition, change, tools, and diffusion first finds that kaizen has, to date, provided Japanese workers with a philosophical approach to operational efficiency through a dynamic set of tools and methods that are diffused through generations. However, a secondary conclusion may be drawn: while the underpinning kaizen philosophy will not change in the short term, shifts in the mechanics of individual behaviour, culture, and society may have negative effects and influences on the effectiveness of kaizen in Japanese organisations.

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[31] Refer Sections 2.2 and 2.3.

5.5 IMPLICATIONS FOR THE ANGLOSPHERE

The primary aim of the research, as discussed in Chapter One, was cross-cultural exploration through a set of primary and secondary Research Questions. The research questions were developed to provide a framework to explore intergenerational kaizen drift; and a proxy site for the exploration of kaizen, its meaning, and embeddedness in Japan. Initially, the outputs of such research were not seen to provide a major contribution to kaizen knowledge and understanding in the Anglosphere and, therefore, a metaphysical elaboration was required. However, from analysis of the literature and research data, progressing through to exploration of implications for Japan identified that kaizen in Japan is significantly contextually dependent and culturally bounded. Yet, Japan-centric kaizen tools and methodology have been transplanted into Anglosphere organisations with no consideration for local cultural or requirements. The following key arguments, as identified through literature and research data analysis, form the basis for the secondary dependent output of this research – the implications for the benefit of the Anglosphere.

5.5.1 Misinterpretation and Misunderstanding

Analysis of extant literature and research data observes that the tools and methods of kaizen in Japan are the explicit outcomes of the underpinning philosophy; and, the tools and methods of kaizen embraced in the Anglosphere mirror those developed and employed in Japan. This was seen to stem from the Anglosphere's development of a simplistic definition of kaizen, being their observations of kaizen as practised in Japan, and failure to recognise the importance of the underpinning kaizen philosophy. Subsequently, this resulted in the adoption of nothing more than Japanese-centric quality management tools and methods. Although some instances of success have been noted, kaizen implemented in the Anglosphere, for the most part, appears to have been in vain.

As noted in the researcher-inspired definition of kaizen in Japanese industrial settings, kaizen is the result of management's engagement of the organisation to pursue business excellence, through the interplay between enterprise-side pursuit of

profit and competition, and employee-side skills, creativity, confidence, and pride. While this interplay may exist in environments outside of Japan, the key fundamental difference, something that cannot be matched, is underpinning philosophy and local culture. On the enterprise side of this interplay, executive management the world over appear to operate in this common realm of the pursuit of profit and competition. However, the employee side of the interplay is where stark differences may be identified through the works of Hofstede on cultural proximity. Exploring the employee-side elements finds that skills and creativity play fundamental roles in the generation of ideas and knowledge; and, confidence and pride provide the motivation for participation in the generation of ideas and knowledge within the bounds of the organisation. Moving from the people of the organisation, instances of stark differences between organisational life in kaizen-originating Japanese organisations and kaizen-recipient Anglosphere organisations that may need to be addressed are now explored.

An adhocracy is operationally the opposite of a bureaucracy – it cuts across traditional bureaucratic lines of authority and communication. Its goal is to capture opportunities, resolve problems, and ultimately achieve results (Mintzberg & McHugh, 1985; Waterman, 1993). The form and function of an adhocracy is essentially that of a kaizen environment: the host organisation is organic, and employs a decentralised, cross-functional, team-based structure, with informal job descriptions. Although not necessary but beneficial, the adoption of such hierarchy appears impossible for traditional Anglosphere organisations. Doing so, however, provides for cross-functional movement of communication, knowledge, and workers, all which are noted as necessary elements of an active kaizen environment.

5.5.2 Long-Term Thinking

The adage – *old habits die hard* – provides that attempts to diffuse kaizen philosophy and practice into Anglosphere organisations may be met by opposition from hard-line management and unions. Management may adopt aspects that provide immediate results in the short-term, yet not be so open to change over the longer-term. Kaizen philosophy essentially concerns itself with an alternative approach to

production, management, and human resource management. While an organisation may see some benefits in the short-term, organisations operating active kaizen environments tend to reap benefits over the long-term (Ohmae, 1982). This would ultimately require change to Anglosphere corporate culture away from short-term fiscal thinking.

Anglosphere job descriptions, in providing an outline of the employee's contractual role within the organisation, stipulate explicitly what duties and tasks the employee can and cannot undertake. This taken to extreme will result in "rigid job description and the bureaucratic organisational structure" (Yokozawa et al., 2010b, p. 6) where employees do not work "above and beyond their job description[s]" (Yokozawa et al., p. 7), and are "not eager to do the work that is outside their job description" (Yokozawa et al., p. 9). This conflicts with the essence and application of kaizen, as identified by Brunet and New, "to consist of pervasive and continual activities, outside the contributor's explicit contractual roles, to identify and achieve outcomes he believes contribute to the organisational goals" (2003, p. 1428). Here it is necessary to place emphasis on *outside the contributor's explicit contractual roles*. Schonberger's findings also emphasized, "[the] versatility and involvement that [Just-in-Time/Total Quality Management] requires of shop-floor associates was in direct conflict with rigidities of Western job descriptions, solidified as work rules in unionized plants or just entrenched otherwise" (2007, p. 411).

5.5.3 Union Cooperation

As noted in Section 5.4.4, Japan's utilisation of corporate unions and union-management cooperation (Hayashi, 2002; Itoh, 2004a; Saruta, 2006; Barnwell, 2007) provides an avenue for the corporation to promote and instil its philosophy, or organisation-centred doctrine. However, as Anglosphere unionism tends to promote conflict rather than cooperation between employees and employers, Japanese corporations are "setting up greenfields in non-unionized areas" (Yokozawa et al., 2010a). This allows corporations to establish Japanese-style unions,[32] and if proven

[32] Refer Section 2.3.3.

positive, undermine the existence of Anglosphere-style unions. More than just implementing operational change within the organisation, kaizen deals with attitude change. Unions in the Anglosphere may view the diffusion of kaizen as attempts to undermine their authority within the organisations they represent, as workers are required to work within the bounds of fuzzy job descriptions, and even outside of these bounds. For the employee, job insecurity may prevail as cooperating to implement kaizen in the workplace is associated with staff redundancy due to reductions in operational efficiencies (Redman & Grieves, 1999). Yet, in Japan, this has not been the case – the introduction of kaizen tools and methodology to the workplace has resulted in staff transfers, not staff reductions (Imai, 1986).

Investigation of the Anglosphere literature finds a universal perception of kaizen as a phenomenon that blankets the organisation (see Lillrank, 1995), and potentially the whole of business. This has resulted in Anglosphere attempts to transplant kaizen, beyond organisations in similar industries as the Japanese organisations where the tools and methods are sourced, to organisations in dis-similar industries. Radnor et al. (2012) note, public enterprise organisations, including government, healthcare, and education, have begun to adopt tool-level operation efficiency improvement programmes derived from private enterprise and manufacturing. The application of pre-existing tools does provide short-term localised productivity gains but not long-term organisation-wide sustainability due to two identified contextual differences between the public enterprise and manufacturing. These contextual differences include the definition of customer and customer value, and the ability to influence demand (Radnor et al.). In the manufacturing industry, the customer is clearly defined as the end-user of the product or service being produced. However, in the healthcare industry, for example, the customer may be defined as the patient, service-commissioners, internal hospital departments, or government regulators (Radnor et al.). This leads to confusion regarding customer requirements and value.

Following attempts to diffuse kaizen from Japanese industrial organisations to similar Anglosphere organisations, there has been the tendency to take kaizen to the next level, the service industry, and even as far as the public sector. Although it is possible, however, to make some cost savings, the development of an active kaizen culture in sectors outside industry may not be viable due to the trade-off between

input-effort and output-results, and culture. The best example of this is hospitals. Industrial organisations have accurate data on annual production and costs, and are able to implement programmes based on these. However, a hospital cannot know the future demand of its facilities and services, specifically, the number of patients. As hospitals operate on a fixed-cost framework with variable costs, there is only the opportunity to optimise variable costs, and only limited reduction in reoccurring costs. Further, hospitals are much departmentalised in their functions, which results in similar departmentalising of organisational culture. This creates barriers to the establishment of universal organisational quality culture based on kaizen philosophy.

5.5.4 Summary

While the Anglosphere has largely abandoned mass production and is yet to succeed at lean production (Found et al., 2006), it finds itself in limbo with less than desirable competitive advantage. The only way forward at this time is competency in quality management through kaizen tools and methods; or loss of competitive advantage and industrial capacity to the likes of Japan, Korea, China, and other newly industrialising countries. Review of the implications for the Anglosphere finds that while attempts have been made to diffuse kaizen in Anglosphere organisations, instant success is by no means guaranteed. Analysis of literature and research data finds a number of fundamental reasons, including: misinterpretation and misunderstanding of kaizen in Japan – a mistaken definition of kaizen; the employment of contextually dependent and culturally-bound Japan-centric tools and methods; fundamental differences in the human approach to work and the organisation; and, the diffusion of kaizen to dis-similar industries.

This research posits that full understanding and appreciation of kaizen, initially through a robust definition, as offered in Section 5.3, and deeper understanding and appreciation of intangible factors such as underpinning culture, would provide the means for the development of sustainable Anglosphere-centric kaizen tools and methodologies. Such tools and methodologies would not just entail the tangible, but would be developed on, and be infused with intangible elements too. By actively recognising that no two organisations are alike (Bennett & Harris, 1999), that no one

tool or methodology is guaranteed to provide repeated success (Kenney & Florida, 1995), and sustainability is achieved by different means, an organisation may be able to maintain the mind-set necessary to successfully adopt, adapt or abandon outside tools and methods, and develop tools and methods.

5.6 THE DOMINANT LOGIC OF TRANSPLANT

The dominant logic of transplant (diffusion) of kaizen to the Anglosphere is a comprehensible extension of the understanding of kaizen by both academics and practitioners in the Anglosphere, because if implemented successfully it ought to provide the Anglosphere with the means to compete directly with Japanese industry. Unfortunately, for organisations in the Anglosphere, extant literature in the Anglosphere notes that while numerous attempts at diffusion have been made, these have mainly resulted in few cases of limited success, and mostly failure. Where success has been observed, it has occurred over the short-term and not sustainable over the longer-term. One notable exception has been reported in Japanese transplant *greenfields* operations where Japanese manufacturing organisations, specifically Toyota Motor Corporation, have set up Japanese-style management and manufacturing operations in previously un-industrial regions of the United States (Recht & Wilderom, 1998).

Academics in the Anglosphere have conducted their research of kaizen, both in Japan and in the Anglosphere, and provided the knowledge base with only simplistic definitions and explanations of something that even the Japanese can provide only loose iterations and conceptualisations for. Practitioners in the Anglosphere have, in following this simplistic definition, picked up and attempted to transplant only the highly visible, explicit tools and methods of kaizen to Anglosphere organisations, in both similar and dis-similar industries. No consideration for underpinning philosophies of Confucianism, Buddhism, Taoism, and Shintoism, and in extension, kaizen philosophy has been made to date.

It would appear that in desperation to find a replacement for the Anglosphere's now failed mass-production methodology, and being in awe of something proven highly

successful in industries abroad, those in the Anglosphere have been seduced by the success of kaizen in Japan. However, this research finds, through analysis of Anglosphere and Japanese literature, and research data obtained from research conducted in Japan, that the Anglosphere's dominant logic of transplant to date is flawed, as is evidence in the cases of failure. Japanese literature and research data supports the argument of this thesis that only through the adoption of the underpinning kaizen philosophy – inclusive of the genba – would sustainable kaizen programmes be plausible in the Anglosphere. Considering Anglosphere culture, such adoption would be unlikely due to the underlying cultural drivers, most notably individualism and short-term time horizons.

This research also finds that there is no reason, other than coincidence, for the transplant of kaizen from Japan to domains in the Anglosphere to be successful over the longer term. Success over the short-term is seen as possible – in most cases, the introduction of kaizen provides opportunity to eliminate soon-realisable inefficiencies. Success over longer terms is seen to require environments that mirror those of Japanese organisations driven by underpinning organisational, industrial, and national culture – ones that appear to have few commonalities with those in the Anglosphere. In asking what does all this mean, this thesis posits that kaizen, as is in Japan, cannot work in the Anglosphere; and, that those in the Anglosphere have been seduced, and in turn plied much time, effort, and money on something that is not clearly understood.

5.7 SUMMARY

Content analysis of data collected within medium to large-side Japanese industrial organisations that operate as active kaizen environments found that kaizen is largely an approach to organisational life for workers, and a motivational toolbox for management; influenced by age and seniority of individuals. Data provides that as individuals move up the corporate ladder, a shift occurs in the manner in which they acknowledge kaizen – from process-oriented to result-oriented – leading to the notion of interplay between management and workers (refer Section 5.3). However, all workers dominantly exercise kaizen in a process-oriented manner – that is, a way to work. The data also displays that no one universal definition of kaizen exists as

individuals' understanding of kaizen shifts over time; allowing for differing conceptual views that are tolerated within the organisation. To ensure the sustainability of kaizen within the organisation, domain companies are found to facilitate kaizen activity, whereas corporate head offices are seen to provide guidance to domain companies. This reaffirms the notion outlined in Chapter Four that kaizen is a top-down management tool, where diffusion is actively managed and passively acknowledged, and above all pervasive.

CHAPTER SIX: CONCLUSION

This Chapter, the final and concluding, provides reiteration of the relationships between the literature and the research data. In addition, limitations of the research, areas where improvement could have been made, and opportunities for further research are identified. Strength of the research is then outlined. Finally, implications for business in Japan and the Anglosphere are identified, followed by recommendations to practitioners in both regions are provided.

6.1 METHODOLOGICAL OVERVIEW

This research identified that kaizen, the Japanese approach to quality, contributes significantly to Japan's competitive success through an engrained philosophy of continuous improvement. A set of primary and secondary Research Questions provided the framework for which to explore intergenerational kaizen drift in the Japanese workplace; which then provided a proxy site for the exploration of kaizen's meaning; the underlying enablers and drivers; and, its embeddedness in Japan. However, undertaking such research in Japan was seen to provide little benefit to academics and practitioners in the Anglosphere. Therefore, an inductive process of identification and discussion of the implications for the benefit of the Anglosphere was later undertaken. The outcome of this research is subsequently seen to provide organisations in the Anglosphere an opportunity to improve their competitiveness in the global marketplace through better insight and understanding of the source of Japan's competitive success.

6.2 RESEARCH QUESTIONS

Development of primary and secondary Research Questions provided a gateway to explore the meaning and intergenerational transfer of kaizen in the Japanese workplace, as a means to diffuse kaizen to environments beyond Japan. Analysis of the literature found that kaizen in the Anglosphere is a largely mechanical approach of tools and methodologies used to reduce costs and increase productivity. In Japan,

however, kaizen is a philosophy: a way of life that creates different outcomes, some of which are tangible while others are intangible. The analysis of the data collected in the Japanese workplace found that Japanese employees working in active kaizen environments clearly acknowledged kaizen both as a real philosophy and resultant methodology. Synthesis of extant literature and research data finds kaizen, as defined in this research, to be the result of management's engagement of the organisation to pursue business excellence through the interplay between enterprise-side and employee-side interests; and, the subsequent shared state of mind among employees to achieve proactive change and innovation.

In Japan, as in the Anglosphere, tangible kaizen outcomes are easy to identify. However, the identification of intangible enablers and drivers was much more difficult. This has resulted in kaizen in the Anglosphere largely being misunderstood and misinterpreted; and, although it has provided some benefit to some companies in the short-term, it has often failed to provide sustainable benefit over the longer-term. Cases of success and failure appear to be resultant of underlying culture, whether at the national or organisational level; and, given that culture changes little over the long-term, kaizen may be almost impossible to diffuse successfully, given the current mind-set and level of understanding of Anglosphere practitioners.

6.3 CONCLUSION AGAINST RESEARCH AIM

This research found that the Japanese workers surveyed hold varying perceptions of kaizen, which appears to result in *kaizen drift* through generations of employees. Beyond the formal training by the organisation, this observation is also due to Japanese philosophy and kaizen philosophy that permeates culture and society. Kaizen context was explained as a *way* or an approach to life held by the Japanese in daily and work routines. Extrapolation has resulted in tools and methodology, in genba, driven by this underpinning philosophy. The Anglosphere has attempted to diffuse these tangible kaizen outputs into its industrial sector, and even beyond into service and public sectors. Kaizen tools and methods were noted, to be outcomes of kaizen philosophy that adjust to the ever-changing needs and requirements of the organisation. Unfortunately for the Anglosphere, they have failed to comprehend the

necessity of the philosophy; and, mistakenly applied individual tools and methods directly from Japanese organisations to dissimilar Anglosphere organisations, with no consideration for form or function of the recipient organisation's philosophy, corporate culture, management style, production methodology, product line, and importantly surrounding society and culture.

6.4 LIMITATIONS OF THE RESEARCH AND FUTURE OPPORTUNITIES

Primary data collected from the Japanese workplace provided insight into how Japanese workers acknowledge and exercise kaizen. However, while this data was rich in content and context several limitations are identified. These provide the opportunity for future research. Limiting factors include access to sources of knowledge; scale of the research; and, the cultural setting.

Moving beyond the knowledge of workers in active kaizen environments, tapping knowledge held by the *gurus* of Japanese industry could provide greater insight into kaizen in Japan, in addition to the driver-perspective (the employee), through the enabler-perspective and the suggested top-down reality of kaizen. Unfortunately, it is impossible to access such knowledge from the original practitioners of kaizen, namely Sakichi Toyoda, Kiichiro Toyoda, Eiji Toyoda, Taiichi Ohno, and Shigeo Shingo. Therefore, to circumvent this situation it is proposed that the future research of the Japanese entrepreneur and famed kaizen guru Shigenobu Nagamori be conducted. Nagamori-san is the founder of Nidac Corporation, the world's largest manufacturer of brushless DC motors. In Japan, he often appears in business documentaries and other media. His approach to kaizen is referred to as Nagamori-ism, and has a large following in business and non-business circles.

The scale of the research, while providing insightful results, may be viewed as being relatively small (n=53). Conducting this research with a larger number of participants would have allowed for greater confidence in the results. In addition to participant numbers, greater robustness could have been achieved through sourcing participants from a wider cross-section of Japanese industries. Therefore, it is recommended to replicate this research methodology on a larger and broader scale as

a means to develop greater knowledge and deeper insight by way of the Research Questions.

The questionnaire developed and employed in this research was designed by Anglosphere-natives, yet targeted an audience residing in a very different cultural setting. Japanese associates knowledgeable in kaizen, Japanese industry, and this research project reviewed the questions. However, a questionnaire designed by Japanese nationals may have taken a subtly different approach to seeking knowledge from Japanese workers, and produced slightly different results. At this time, no further action is proposed.

While this research makes a significant contribution to extant Japanese and Anglosphere knowledge, a potentially greater contribution is possible through the replication of this research out-of-Japan, and change in research design. Three opportunities for future research follow. The replication of this research in offshore subsidiaries of Japanese industrial organisations, could provide the opportunity to identify manifestations of kaizen in Japanese-managed yet non-Japanese environments, specifically, to identify the effects of non-Japanese workers and their cultures on the Japanese culturally based kaizen. Secondly, replication of this research in non-Japanese (read: Anglosphere) industrial organisations could provide insight into the Anglosphere take-up of Japanese kaizen knowledge and techniques, or the lack thereof, and to identify other contributors of the Anglosphere's inability to develop sustainable kaizen over the longer-term. Lastly, a shift from cross-sectional to longitudinal research design could provide insight into changes in intergenerational variables and constructs over a period, rather than a snapshot of a single point in time, as was the research method employed in this research.

6.5 STRENGTH OF THE RESEARCH

This research was undertaken within the bounds of Japanese industrial organisations where active kaizen environments exist. Unlike much of the research undertaken by Anglosphere academics and practitioners in such environments to date, the candidate's unique position – a gaijin (foreigner) embedded in Japan – has allowed

him, through first-hand knowledge and experience, un-paralleled access to Japanese society and culture, and research participants and their organisations – usually unobtainable to non-Japanese (read: Anglosphere) researchers. Above and beyond undertaking research in a foreign environment and reporting findings at home, this research clearly bridges the cultural-gap between Japan and the Anglosphere.

Residing in Japan for some 20 years, undertaking post-graduate study, and being employed by several Japanese industrial organisations, the candidate is fluent in the Japanese language, culturally competent, and a practitioner who holds a deep understanding of and appreciation for Japanese work ethic, society, and culture (as is possible for a foreigner). Such linguistic and cultural fluency allowed the candidate to, through the support of supervisors and Japanese nationals, design and develop the research methodology, and conduct the required research in an unobtrusive manner to the host organisations; directly liaise with host organisations; translate Japanese language participant feedback data, documentation received from host organisations, and Japanese language academic and practitioner literature to English; and, interpret participant feedback data in context. This research notes that other research is often undertaken through third parties (refer Section 1.2), ultimately contaminating or sanitising the data compiled.

In contrast to other research on Japanese practice and organisational life, while sometimes conducted in Japan is dominantly reliant on English language literature. However, this research explored both Japanese and English language academic and practitioner literature (refer Chapter Two). This provided opportunity to conduct comparative analysis and report areas of commonality; but more importantly gaps between the Japanese and Anglosphere models of kaizen. Identifying gaps between the Japanese and Anglosphere perspectives provided insight into where and why Anglosphere academics and practitioners have both misinterpreted and misunderstood kaizen in Japan. Additionally, more than just meeting and greeting with the aim of undertaking research, and reciprocal token gestures by Japanese organisations, the candidate was, through his practitioner network, freely able to access research participants' knowledge through daily contact in genba[33] and

[33] Genba included the office, production line, shop floor, and restaurant after hours.

research methods; access organisations' knowledge through genba tours;[34] access all levels of management to CEOs and owners; and, receive documentation used by the organisation in both kaizen education and kaizen activity.

In addition to the candidate's language and cultural fluency, although a Westerner, he is able to comprehend the holistic approach of the Japanese, and can even amend his worldview accordingly (refer Biography). This allows for the examination and reflection from both Anglosphere and Japanese perspectives, and competently bridges the gap between the two. Through the course of this thesis, exploration of the literature and data observed kaizen, not as a deterministic model of business excellence, but a non-deterministic heuristic for organisational life. This approach resulted in a definition of kaizen: *the result of management's engagement of the organisation to pursue business excellence*; achieved through the interplay between enterprise-side pursuit of profit and competition, and employee-side skills, creativity, confidence, and pride; where the enterprise- and employee-sides are intertwined through the development and acquisition of various tools and methods – the more tangible outputs. The success of kaizen now paves the way for future research and education, not in the field of reductionist deterministic business models, but in the untapped field of non-deterministic holistic perspective of heuristics.

This research, while bridging the cultural-gap between Japan and the Anglosphere through both academic and practitioner orientation, has the potential to promote deeper and possible transformation of academics' thinking and their approach to their future research topics, especially those that relate to daily life, organisational life, society, and culture in Japan; and, practitioners' thinking and approach to their future business practice.

[34] Genba tours often included in-depth explanations and discussions of both factory floor production and kaizen activity.

6.6 IMPLICATIONS FOR BUSINESS IN JAPAN

This research was conducted in the bounds of Japanese industrial organisations and provided the opportunity to explore the implications for business in Japan going forward. Chapter Five presented a detailed definition of kaizen, human psychology, kaizen tools, and kaizen diffusion to provide insight, not just for those in Japan, but equally, for academics and practitioners in the Anglosphere. The most significant implication for Japanese organisations is the influence of globalisation; resulting in a possible organisational shift away from the shape and form of the initial kaizen organisations to some organisational shape and form that may not provide the effectiveness required to sustain kaizen over the long-term, especially in subsidiaries held offshore. While Japanese organisations of the future may not mirror those of the past, underlying kaizen philosophy is not expected to change significantly, if at all; and, a comprehensive understanding of the enablers and drivers, as well as the inhibitors, of kaizen is necessary to develop effective and sustainable kaizen environments, or allow such environments to develop.

6.7 IMPLICATIONS FOR BUSINESS IN THE ANGLOSPHERE

In parallel to the exploration of implications for business in Japan, the inductive phase of the research identified and discussed implications of research findings as they relate to the Anglosphere. Chapter Five presented a parallel definition of kaizen, human psychology, kaizen tools, unionism, and kaizen diffusion, contextualised for the Anglosphere. Most notably, this research found that academics and practitioners in the Anglosphere, while attempting to understand and subsequently diffuse kaizen, appear to have misunderstood and misinterpreted it, with little appreciation of what it means to those practitioners. This is the result of an absence of research into underpinning kaizen philosophy, yet forthcoming explicit research into the tangible outputs of kaizen. Comprehensive understanding of, and appreciation for the underpinning philosophy of kaizen is seen as a prerequisite to any attempts to diffuse kaizen, whether in Japan or to domains beyond. This is evident in that the methodology employed to diffuse kaizen to the Anglosphere has invariably by-passed the development and tailoring of kaizen tools and methodology

to organisational needs and requirements of recipient organisations. Recipient Anglosphere organisations have only adopted a derivative, lean production, which focuses on removing waste from value streams through factory-wide efficiency tools. The successful diffusion of kaizen from Japanese to Anglosphere environments, and sustainable kaizen movement over the long-term would stand as evidence that kaizen is an independent methodology, as championed by Womack et al. (1990). However, research shows that Anglosphere organisations have achieved less than desirable results, and even failure, which suggests that kaizen is to some degree people dependent, and as this research shows, culturally dependent.

6.8 FOR PRACTITIONERS

This research journeyed through the Japanese and Anglosphere kaizen literature; through the practice of Japanese kaizen and its supposed equivalence in the Anglosphere; and through the emerging themes from data collection in genba; subsequent analysis; and, the metaphysical elaboration – practitioner sensemaking – of the phenomenon in practice. A summary of the cultural output for practitioners follows.

Content analysis of Japanese literature found two threads of kaizen: one within the tacit knowledge of the individual (what people know); while, the second, refutes to planned daily activity (what people do). Shewhart (Lillrank, 1995; Recht & Wilderom, 1998) adapted the latter into the PDCA cycle – something that has been avidly consumed by those in the Anglosphere. Within the organisation, formal and informal education programmes were found to operate to both affirm and reaffirm the legacy of kaizen as both a *way* to business excellence and an approach to organisational life. Note that organisational life, and the heterogeneity and conformance of Japanese society restricts self-expression and creativity. On the other hand, Anglosphere literature, with the exception of a few authors (e.g., Deming, 1982; Womack, Jones, & Roos, 1990; and, Brunet & New, 2003), predominantly identifies kaizen as a deterministic model for the organisation to attain business excellence through financial benefit. Comparative analysis of these two bodies of literature identifies a significant gap in the Anglosphere's knowledge.

This gap is somewhat crudely attributable to *what is not understood by Anglosphere practitioners, academics, and researchers of Japanese kaizen.* The implication being that what has not been picked up has not been understood. The gap identified in this research refers to what has been missed in the Anglosphere. The focus of this section is to provide recommendation on how that may be overcome. Data analysis conducted in this research produced six emergent themes (refer to Section 5.2), which supported the view that kaizen is both a philosophical approach to work; and, a management tool through which to engage the people of the organisation. A researcher-inspired definition reports that kaizen within the organisation results from the *interplay between enterprise-side pursuit of profit and competition, and employee-side skills, creativity, confidence, and pride:* Where kaizen is both *culturally bounded and contextually dependent* (refer Section 5.3). So what do practitioners need to do next?

First, kaizen finds its roots deep within the realm of Japanese culture, society, and organisational life. Management practitioners in the Anglosphere who wish to successfully diffuse the equivalent of kaizen into their organisations for business excellence and sustainable competitive advantage in the global marketplace must develop home-organisation-specific tools and methods. These tools and methods must be infused with full consideration and awareness of the underlying kaizen philosophy, and organisational culture, needs, and requirements at the root of any proposed programme. Simplistic *copying and pasting* of Japanese kaizen output templates is highly unlikely to provide benefit-bearing Anglosphere kaizen input templates that are sustainable over the longer term. The miss fits of underpinning philosophy, and cultural and social norms between Japan and the Anglosphere are simply too great.

Second, identifying the existence of philosophical, cultural, and social miss fits; and, acknowledging that kaizen tools and methods can not be simply imported but must be developed from the ground up, calls on the role, and competencies, of leadership in the organisation as the enabler and driver of sustainable kaizen programmes. While it is most likely impossible to eliminate the miss fits identified, acknowledging their very existence becomes the first step in reducing them to a degree that may provide workable means of developing tools and methods that fit

Anglosphere norms yet have their roots in Japanese norms. Here, it is the role of management to initiate such organisational strategic undertakings, and maintain momentum of programmes to ensure sustainability going forward. Sources in Japan identify the importance and necessity of worker education- and experience-based knowledge acquisition, both within and outside the organisation. In the case of Anglosphere organisations, this would require local in-house Japan-centric training; and, trips to Japan, or Japanese environments closer to home.

Third, kaizen means different things to different people, groups, and levels of the organisation – there is kaizen for them (the workers), and there is kaizen for us (kaizen to motivate, and kaizen to work). Kaizen is able to provide a place for individuals to be creative and satiate their needs – give them a sandpit to play in, and play they will, and they will likely play well. Within these aspects of kaizen, there is the need for mutual tolerance within the organisation to allow the interplay between management and workers to evolve; management needs to allow this interplay to develop naturally and evolve, without forcing it to be something management wants when the culture is anything other than collaborative.

Fourth, kaizen is more than just the education and training of workers (generally on the shop floor or production line). It appears to be necessary for management to implement what may be labelled *reciprocal education* programmes for both themselves and their workers. Management needs to be educated about the systems, methods, and workers employed in the organisation; and in balance, workers need to be educated about the management (systems & people) of the organisation. Through this approach, both management and workers are able to understand each other's goals, objectives, and expectations; appreciate the other's views; and, open the way to clearer and more effective cross-functional communication and cooperation.

In summary, the road to successful implementation of kaizen programmes in Anglosphere organisations – through the tie-up of tailored organisational tools and methods; organisational leadership; motivation and means of work; and, mutual appreciation (First, Second, Third, and Fourth above) may only be achieved through the implementation of both formal and informal education and training. Formal education in the form of sit-down seminars and workshops conducted in-house and

outside the organisation; and, informal on-the-job mentoring and leadership (both top down and bottom up) needs to be both regular and consistent at all levels of the organization. In this manner, Toyota has inculcated the Toyota Way upon its workers and affiliate organisations; subsequently the Toyota Production System is pervasive throughout the organisation and beyond.

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APPENDIX 1: TRANSLATION

The translation of language is not just the transposition of words, but movement between cultures (Bassnett & Lefevere, 1998). A wide variety of translation techniques are available to the translator, and some even see translation as an art. The skills (awareness and willingness) of the translator and proofreader – linguistic, cultural, and personal factors – direct the accuracy and quality of the final product. The translator is required to hold knowledge of the source and target languages and cultures; translation skills and techniques; and related ethical consideration. It is ethically necessary for the translator to:

1. Be aware of the complexity of the translation process.
2. Be aware and tolerant of ambiguity.
3. Be aware of and willing to use a spectrum of translation techniques.
4. Be willing to indulge in lateral thinking.
5. Use intuitions that have been systematically validated.
6. Insist on precision, both of the translation and proofreading.

Translators use direct translation techniques when transposition of structural and conceptual elements of the source language to the target language is possible. Such techniques include (Interpro):

1. Borrowing – words taken directly from the source language to the target language without translation, e.g., kaizen used as kaizen.
2. Calque – a phrase borrowed from source language and translated word-for-word, e.g., kaizen translated as “change for the better.”
3. Literal translation – when word-for-word translation is possible across languages due to grammatical structure, e.g., kaizen as kai “change” and zen as “virtuous” to become “virtuous change.”

Translators use oblique translation techniques when direct translation of structural or conceptual elements of the source language to the target language is not possible

without altering meaning or upsetting the grammatical and stylist elements of the target language. Such techniques include (Interpro):

1. Transposition – change of word sequence due to required position of word categories in target language.
2. Modulation – use of a phrase that is different in the source and target languages, used to convey the same idea.
3. Equivalence – expressing the source language meaning in a completely different way through idioms, proverbs, and lexical terms.
4. Adaption – expression of target language is very different to source, often used when there is shift in cultural environment.
5. Compensation – used when something is not translatable, particularly in reference to nuance and formality.

To provide accurate target language translations, the translators utilised a multitude of techniques, as outlined above, while working within an accepted ethical framework. Borrowing techniques were utilised when use of the source language Japanese word allowed the author to create more than just literal meaning, e.g. the use of the word "kaizen." As it is one of the objectives of this thesis to develop the meaning of kaizen in its true essence, the translation of *kaizen* to the common usage *continuous improvement* may create an atmosphere of systemised vision created from predetermined definition of the two words, and definition developed by Anglosphere literature. Calque and literal translation techniques were utilised, namely in the translation of names and titles. When translating sentences from the Japanese to English languages, transposition is necessary due to the differing grammatical structures of both languages; they are literally grammar-order opposite to each other with the exception of the subject. The translation process kept the use of modulation, equivalence, adaption, and compensation to a minimum, as it was possible to utilise other techniques.

The Translation Process

The translation process for hardcopy and electronic formats:

1. Reading and understanding of original text by primary and secondary translator.
2. Confirmation of content and context between primary and secondary translator.
3. Development of keyword list.
4. Confirmation of keyword definitions, undertones, and context between primary and secondary translator.
5. Draft translation of source language to target language material.
6. Second draft of target language material.
7. Reverse translation of second writing from target language to source language.
8. Confirmation of accuracy between primary and secondary translator.
9. Final writing to target language.
10. Final confirmation between primary and secondary translator .

The translation process for audio format:

1. Listening to audio track by primary and secondary translator.
2. Confirmation of content and context between primary and secondary translator.
3. Development of keyword list.
4. Confirmation of keyword definitions, undertones, and context between primary and secondary translator.
5. Draft translation of source language to target language material[35].
6. Second draft of target language material.
7. Reverse translation of second writing from target language to source language.
8. Confirmation of accuracy between primary and secondary translator.

[35] Feedback in audio format was translated directly to Japanese text without transcription.

9. Final writing to target language.
10. Final confirmation between primary and secondary translator.

Accuracy of Translation

A professional translator (neither primary nor secondary translator) in Japan proofed a sample of translated material, and feedback and recommendation was received. Differences in meaning and nuance were negligible.

Qualification of Primary and Second Translator

The primary translator (the DBA candidate) is a native English speaker who has resided in Japan for more than 20 years. He holds a Master of Commerce degree from a Japanese university where coursework was conducted, and final dissertation was published in Japanese. After graduation, the candidate undertook project work assignments at several name Japanese corporations where day-to-day routines were conducted in both English and Japanese.

The secondary translator is a Japanese national who has more than 15 years senior-position foreign government diplomatic experience, and is fluent in the English language.

Doing Cross-Cultural Research

Discovery of and utilizing commonalities such as language and culture between the candidate and research participants provides for added rigour to this research. Although this does not guarantee rigour per se, demonstration of the researchers awareness will. In the case of this research project, beyond effective data capture, "translation and interpretation…[was seen to provide] facilitate rigorous cross-cultural research" (Irvine et al., 2008, p. 36). To provide culturally competent research methodology (Kitayama & Duffy, 2004), both language and cultural awareness by a researcher and supporting translators is paramount, and can provide

insightful interpretation of captured data. Analysis of the translators' auto-ethnographies provided for identification of balancing constructs. Specifically, these were:

Primary Translator:	Secondary Translator:
New Zealander	Japanese
Worked in Japanese companies	Worked for foreign governments
English first language	Japanese first language
Japanese second language	English second language
Fluent in second language	Fluent in second language

This ensures the primary and secondary translators are sufficiently cross-culturally and linguistically competent to undertake the required translation function for this research, and final thesis.

Lost in Translation

In normal terms, the phrase "lost in translation" implies loss of meaning, emphasis, or emotion during movement from source to target language. In other instances, it may include an equivalent loss when moving from source to target culture. Any incidences of loss resulting from translation techniques employed or the ability of the translation team are seen to be minimal. Further, participant incidences of loss too appear to be minimal. What also needs to be contemplated, as is done here, is loss in translation that may occur when the participant is articulating their tacit knowledge.

Chapter Two notes that the Japanese language is holistic in nature and open to interpretation. In this research, participant responses occasionally consisted of set phrasing, and at other times, longer articulated explanations. In order to counter the occurrence of *lost in translation*, participants were furnished with the questionnaire prior to data collection, and were provided ample time to deliver their responses during collection meetings. Occasionally, when responding in English and facing linguistic barriers, participants reverted to their native Japanese; on rare occasions,

when responding in Japanese, participants switched to English as a means to respond.

APPENDIX 2: JAPANESE ACADEMIC CONFORMITY

Japanese culture exhibits strong social expectations, social boundaries, and intuitive nature (Hofstede, 1983; Sugimori et al., 1977; Goncalo & Staw, 2006). These dictate the undertaking of an individual or group within the greater organisation in which they inhabit. These also apply to Japanese academia. The following provides informal phenomenological enquiry of Japanese and non-Japanese academics within the confines of the Japanese public university system. Japanese academic literature is not available on the subject of academic conformity for obvious reasons. Limited Anglosphere literature does exist, but not referenced in this exercise.

In the Anglosphere, ethics committees and agendas stipulate undertakings and transparency to protect the research subject, researcher, and overseeing organisation. This does not seem to be the case in Japan. There appears to be an unofficial rulebook that states what academics, and others within academic circles, can and cannot do. Some of these include:

1. Membership to cliques
2. Relationships
3. Freedom to communicate
4. Research topics (problems)
5. Writing subjects (topics)

There appears to be the establishment of (feudalistic) cliques (Marshall, 1978) established by individual professors, and extending to groups of professors in similar academic fields. Each professor appears to build their own fiefdom, taking in promising research candidates to build future inner circles of academics. Once the said fiefdoms are established, the professor will decide a student's research problem and topic, providing advice on direction and methodology. These students, in turn, provide many hours of research for the professor's research output.

Within a student's research problem, there appears to be conformity as to what sub-topics are and are not taboo. An example best explains this. Discussion with a literature PhD candidate disclosed that including topics such as sex and drugs in their thesis might be disadvantageous. This particular student was writing a thesis on a recent South East Asian military event and required insight from such topics. However, the candidate's supervisor requested removal of these sections, citing it was not permissible by Japanese academia. This also appears to extend to religion, where topical discussion about Shintoism, the national religion of Japan, is acceptable, yet publication about it can lead to accusations of an author's political leaning.

In the Anglosphere, it is the student's responsibility to seek out higher authorities regarding their research. It is acceptable, and even recommendation by a student's supervisors, to contact a *guru* within one's field of research and commence discourse. However, in Japan this appears to be taboo. A student may communicate with a select group of outsiders, as directed by their supervisory professor. Non-adherence to this, or the initiation of discussion outside of the student's immediate academic circle, can result in penalties.

Non-conformity to Japanese academic culture can result in warnings from a student's inner circle or supervisor; being dismissed by their supervisory professor; and, rumour mongering that be damaging to future employment prospects. For academics, this may ultimately result in being placed incommunicado or academic refuge status.

Finally, conformity among academics bounds Japan's normal science, as opposed the *process* of normal science (Kuhn, 1996). Such closed nature of some elements of Japanese academia raises the question, to what extent is Japanese academia sterilised in the name of protectionism?

APPENDIX 3: CULTURAL PROXIMITY

Table A3.1.

Influencing Philosophies of Japan – Buddhism, Confucianism, and Taoism

Buddhist Principles	Societal Effects	Business Effects
Four noble truths: Relief from "dukkha," (suffering) when wisdom, compassion, understanding and love replace negative desires, pleasure, lust, greed, anger	Defines appropriate personal dispositions: Compassion, understanding. Striving for the right values	Corporate commitments to society and towards employees
Noble eightfold path: Right Purpose, The Right Thought, Speech, Actions, Livelihood, Endeavor, Mindfulness, Concentration	Saddah: Strong moral, spiritual values: Charity	Lasting commitments to work/profession, to friends, to frugal lifestyles
Six relationships worthy of Respect	Respect for authority and hierarchies; commitments to relationships	Attitudes towards work Employers (*masters*) worthy of respect from employees (*servants*) Guanxi-style relationships
Ten duties of the King	Leadership attributes– Benevolent authoritarianism: Patience, understanding, concern for followers	Paternalistic management style; lifetime employment (*iron rice bowl*)

Confucian Principles	Societal Effects	Business Effects
Individual behaviors determined by values, not by law	Defined character in terms of behavioral ideals	Relationships based on social ties rather than legal contracts
JEN: Relationships based on benevolence, kindness, unselfishness	Relationships are the core of society	Corporate relationships among businesses and executives
CHUN TZU: The concept of the ideal or superior person	Defined ideal behaviors	Relationships among executives (guanxi) based on character and trust
LI: Rectification of names, titles	Formality of relationships	Respect for corporate hierarchies
Doctrine of the Mean	Avoidance of extreme behaviors	Eastern stoicism
Five Constant Relationships Respect for family and seniority	Defined relationships and patterns of respect at all levels of society, for family and seniority	Relationships are valued, as are family/kin relations (e.g., nepotism); respect accorded to seniority
TE: Mutual respect between leaders and followers	Governments and politicians must behave benevolently and honorably towards followers	Paternal management style towards employees; positive effects on work ethic

Taoist Principles	Societal Effects	Business Effects
Wu Wei: Non-opposition to natural forces	Change is accepted	Same as societal–consensus decisions accepted; change is normal
Downgrading of pomp, extravagance	Humility, modesty valued	Same as societal
Emotions as "wasted energies"	Non-emotional dispositions	Eastern Stoicism
Chiao (Yin-Yang) Relativity Principle	Opposites viewed as complements (e.g., warm-cold)	Different viewpoints are reconcilable

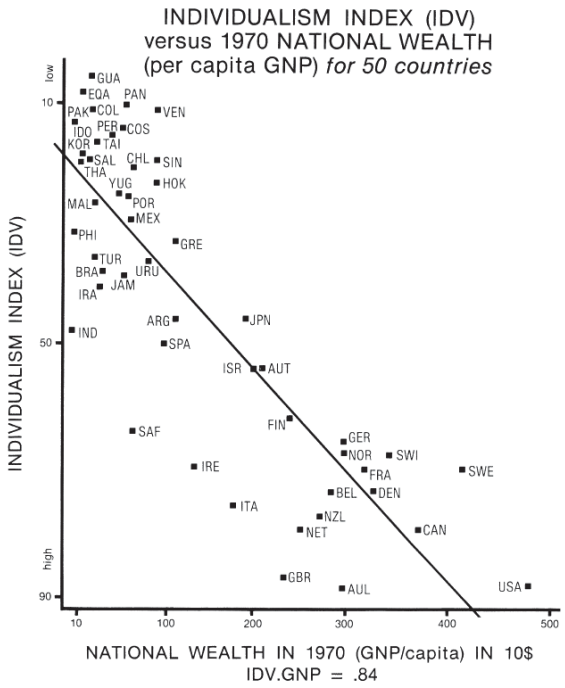
Note: From "Religion and the shaping of East Asian management styles: A conceptual examination" by J. S. Hill, 2007, *Journal of Asia-Pacific Business, 8*(2), pp. 73, 75, 76.

Table A3.2. Underpinnings of East Asian Management

East Asian Management Style Characteristic	Religious and Cultural Underpinnings
Face-to-face interpersonal relations	
Emphasis on trust, relationship-building and face-to-face interactions	• *Confucian Jen*: Be diligent, courteous, unselfish in dealings with others; also *Chun Tzu*: Ideal host in relationships, pleasant air, good graces. • *Confucian Li*: Specifies five relationships worth of respect, as does Buddhism's six relationships
Conflict avoidance	• *Confucianism*: Creation of harmonious society based on *Jen*–virtue, benevolence and humanity. • *Taoism*: Rejection of all forms of self-assertiveness and competitiveness
Eastern stoicism: Avoidance of displays of affection, emotion	• *Taoism*: Minimize energies wasted on emotions such as joy, anger, revulsion, desire, delight • *Buddhism*: Enlightenment occurs when negative desires of the world (those that cause Dukkha) are replaced with wisdom, understanding and compassion
Conformism and avoidance of individual or extreme behaviors	• *Buddhism's middle path* between indulgence and asceticism. • *Confucian principle of Li*: The Doctrine of the Mean and the avoidance of extreme behaviors
Respect for titles and seniority	• *Confucian principle of Li*: Accord respect and demonstrate appropriate behaviors to those in authority–but must be reciprocated and must be worthy of respect • *Confucian Te*: Power by which men rule but leader must be benevolent and respected. *Buddhism's ten duties* of a King reinforces this relationship and top-down reciprocity
Guanxi: Relationships require obligations	• *Confucianism*: (1) *Jen and Chun Tzu* require human heartedness and courtesy in relationships (2) *Confucius' Golden Rule*: "Do unto others as you would have done to yourself." Non-reciprocity is an anti-social activity (3) *Buddhist caga*: Generosity without attachments to wealth
The individual and the group	
Group interests over individual interests	• *Buddhism*: Selfishness, egotism, and self-interest subordinate to the group; total "other-orientation" • *Historically*, wet rice cultivation required 20 + people for survival. Reflected in (1) team/group orientations of Asian management; and in (2) Keiretzus: Corporate group power superior to individual firms
Decision-making (1) Centralized, authoritarian approach (China, South Korea) (2) Decentralized (by consensus-Japan)	• *Confucian principle of Li*: Five relationships worthy of respect • *Buddhism's* six relationships worthy of respect, especially the master-servant relationship • *Confucian principle of Te*: Leaders should respect the will of subjects. • *Buddhism: Ten duties of a King:* Non-opposition to the will of the people. • *Taoism:* Wu Wei (action-less action): Leader allows group to determine the best path–may "steer" but that is all
The individual and the company	
Employee commitment to company and to work	• *Buddhist work ethic*: Commitment to work and to friends a key to happiness; total worker commitment/loyalty in response to corporate loyalty to workers (Li and Te in Confucianism). • *Li and Te in Confucianism*: Rulers/leaders should be obeyed but must be worthy of respect.
National and corporate full employment policies	• *Buddhism*: Buddha taught that unemployment leads to immorality: The "Iron Rice Bowl" in Japan and Korea
Paternalistic management	• *Buddhism's six relationships: Master-servant relationship*–loyalty in return for being looked after; life-time employment and many corporate facilities and perquisites being available to employees.

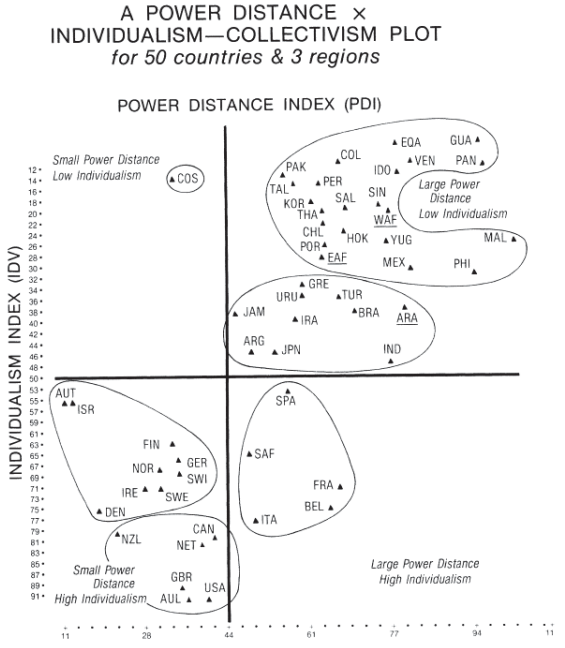
Note: From "Religion and the shaping of East Asian management styles: A conceptual examination" by J. S. Hill, 2007, *Journal of Asia-Pacific Business, 8*(2), pp. 77-78.

Figure A3.1. Hofstede's Individualism versus Collectivism



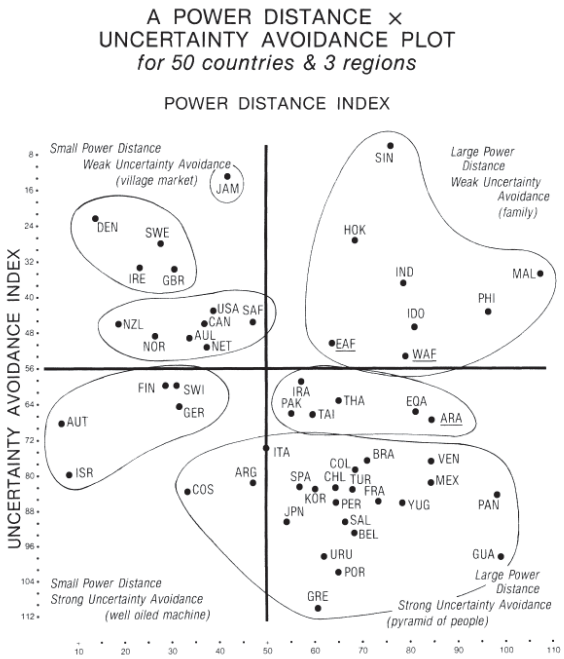
Note: From "The cultural relativity of organisational practices and theories" by G. Hofstede, 1983, *Journal of International Business Studies, 14*(2), p. 80.

Figure A3.2. Hofstede's Power Distance



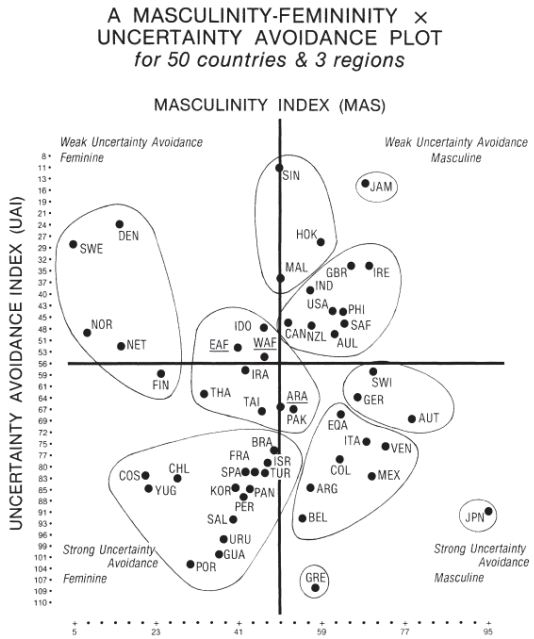
Note: From "The cultural relativity of organisational practices and theories" by G. Hofstede, 1983, *Journal of International Business Studies, 14*(2), p. 82.

Figure A3.3. Hofstede's Uncertainty Avoidance



Note: From "The cultural relativity of organisational practices and theories" by G. Hofstede, 1983, *Journal of International Business Studies, 14*(2), p. 84.

Figure A3.4. Hofstede's Masculinity versus Femininity



Note: From "The cultural relativity of organisational practices and theories" by G. Hofstede, 1983, *Journal of International Business Studies, 14*(2), p. 86.

Table A3.3. Hofstede's Short-Term versus Long-Term Orientation

Rank	Country/region	Score	Rank	Country/region	Score
1	South Korea	100	47	Turkey	46
2	Taiwan	93	49	Brazil	44
3	Japan	88	50	Malaysia	41
4	China	87	53	Poland	38
5	Ukraine	86	54	Israel	38
6	Germany	83	55	Canada	36
7	Estonia	82	56	Saudi Arabia	36
8	Belgium	82	61	New Zealand	33
9	Lithuania	82	62	Thailand	32
10	Russia	81	68	Philippines	27
16	Singapore	72	71	USA	26
22	Netherlands	67	73	Iraq	25
23	Kyrgyzstan	66	77	Australia	21
26	Indonesia	62	78	Argentina	20
31	Hong Kong	61	82	Jordan	16
32	Azerbaijan	61	83	Venezuela	16
36	Vietnam	57	84	Zimbabwe	15
37	Sweden	53	85	Morocco	14
40	Great Britain	51	86	Iran	14
41	India	51	89	Nigeria	13
42	Pakistan	50	91	Egypt	07
45	Bangladesh	47	93	Puerto Rico	00

Note: From "Long- versus short-term orientation" by G. Hofstede and M. Minkov, 2010, *Asia Pacific Business Review*, *16*(4), p. 499.

APPENDIX 4: ETHICS APPROVAL

Massey University
Te Kunenga ki Pürehuroa

NOTIFICATION OF LOW RISK RESEARCH/EVALUATION INVOLVING HUMAN PARTICIPANTS

(All notifications are to be typed)
(Do not modify the content or formatting of this document in any way)

SECTION A:

1. Project Title An Intergenerational Study of Kaizen in the Japanese Workplace

Projected start date for data collection 1/4/2010 **Projected end date** 31/3/2011

(Low risk notifications will not be processed if recruitment and/or data collection has already begun.)

2. Applicant Details *(Select the appropriate box and complete details)*

ACADEMIC STAFF NOTIFICATION

Full Name of Staff Applicant/s

School/Department/Institute

Region *(mark one only)* **Albany** ☐ **Palmerston North** ☐ **Wellington** ☐

Telephone **Email Address**

STUDENT NOTIFICATION

Full Name of Student Applicant Wayne Gordon Macpherson, 86003384

Postal Address 7-2-5-603 Nishijin, Sawara-ku, Fukuoka City, Japan 814-0002

Telephone +81-92-210-3988 **Email Address** wayne@gol.com

Employer (if applicable) Kyushu University

Full Name of Supervisor(s) James Lockhart, Heather Kavan, Tony Iaquinto

School/Department/Institute College of Business

Region *(mark one only)* **Albany** ☐ **Palmerston North** x **Wellington** ☐

Telephone 356-9099 x81065 **Email Address** J.C.Lockhart@massey.ac.nz

GENERAL STAFF NOTIFICATION

Full Name of Applicant

Section

Region *(mark one only)* **Albany** ☐ Palmerston North ☐ **Wellington** ☐

Telephone **Email Address**

Full Name of Line Manager

Section

Telephone **Email Address**

3 Type of Project *(provide detail as appropriate)*

Staff Research/Evaluation:		**Student Research:**		**If other, please specify:**
Academic Staff		**Name of Qualification**	DBA	
General Staff		**Credit Value of Research**	120	
Evaluation		**(e.g. 30, 60, 90, 120, 240, 360)**		

4. Describe the process that has been used to discuss and analyse the ethical issues present in this project.

(Please refer to the Low Risk Guidelines on the Massey University Human Ethics Committee website)

Consultation with supervisors, and assessment by way of MUHEC Screening Questionnaire to determine that a Low Risk Notification was appropriate.

5. Summary of Project

Please outline the following (in no more than 200 words):

1. **The purpose of the research, and**
2. **The methods you will use.**

(Note: ALL the information provided in the notification is potentially available if a request is made under the Official Information Act. In the event that a request is made, the University, in the first instance, would endeavour to satisfy that request by providing this summary. Please ensure that the language used is comprehensible to all)

This research proposes the question, is kaizen relevant to young managers and business leaders in Japan today? So to discover if kaizen is dying out (decaying) or if it is so embedded that it doesn't need to be spoken about, or even acknowledged. The study will provide the opportunity to redefine kaizen and explore the extent to which kaizen is pragmatic or idealistic.

This research will initially centre on subjects employed at Panasonic Corporation Ltd. (previously Matsushita Electric Industrial Limited) in Japan, including management, administration staff, and engineers. Research will be expanded to subjects employed at other Japanese organisations and in other industries, available through the author's business and personal contacts.

Data will be gathered from individual interviews, focus group discussions, questionnaires, and documentation analysis.

Please submit this Low Risk Notification (with the completed Screening Questionnaire) to:

The Ethics Administrator
Research Ethics Office
Old Main Building, PN221
Massey University
Private Bag 11 222
Palmerston North

SECTION B: DECLARATION (*Complete appropriate box)*

ACADEMIC STAFF RESEARCH
Declaration for Academic Staff Applicant
I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. My Head of Department/School/Institute knows that I am undertaking this research. The information contained in this notification is to the very best of my knowledge accurate and not misleading.

Staff Applicant's Signature _____ Date: _____

STUDENT RESEARCH
Declaration for Student Applicant
I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and discussed the ethical analysis with my Supervisor. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. The information contained in this notification is to the very best of my knowledge accurate and not misleading.

Student Applicant's Signature  Date: 28/3/2010

Declaration for Supervisor
I have assisted the student in the ethical analysis of this project. As supervisor of this research I will ensure that the research is carried out according to the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants.

Supervisor's Signature _____ Date: _____

Print Name _____

GENERAL STAFF RESEARCH/EVALUATIONS
Declaration for General Staff Applicant
I have read the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and discussed the ethical analysis with my Supervisor. I understand my obligations and the rights of the participants. I agree to undertake the research as set out in the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants. The information contained in this notification is to the very best of my knowledge accurate and not misleading.

General Staff Applicant's Signature _____ Date: _____

Declaration for Line Manager

I declare that to the best of my knowledge, this notification complies with the Code of Ethical Conduct for Research, Teaching and Evaluations involving Human Participants and that I have approved its content and agreed that it can be submitted.

Line Manager's Signature _____ Date: _____

Print Name _____

APPENDIX 5: RECEIPT OF LOW RISK NOTIFICATION

MASSEY UNIVERSITY

13 April 2010

Wayne Macpherson
7-2-5-603 Nishijin
Sawara-ku
Fukuoka City
JAPAN 814-0002

Dear Wayne

Re: An Intergenerational Study of Kaizen in the Japanese Workplace

Thank you for your Low Risk Notification which was received on 31 March 2010.

Your project has been recorded on the Low Risk Database which is reported in the Annual Report of the Massey University Human Ethics Committees.

The low risk notification for this project is valid for a maximum of three years.

Please notify me if situations subsequently occur which cause you to reconsider your initial ethical analysis that it is safe to proceed without approval by one of the University's Human Ethics Committees.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

> *"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.*
>
> *If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Professor John O'Neill, Director (Research Ethics), telephone 06 350 5249, e-mail humanethics@massey.ac.nz".*

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to provide a full application to one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

J. O'Neill

John G O'Neill (Professor)
Chair, Human Ethics Chairs' Committee and
Director (Research Ethics)

cc Dr James Lockhart
Executive Education
PN252

Prof Larry Rose, PVC
College of Business
PN252

Dr Heather Kavan
Department of Communication,
Journalism and Marketing
PN254

Prof Frank Sligo, HoD
Department of Communication,
Journalism and Marketing
PN254

APPENDIX 6: INFORMATION SHEET – ENGLISH

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www.massey.ac.nz

An Intergenerational Study of Kaizen in the Japanese Workplace

INFORMATION SHEET

Researcher
This research is being undertaken by Wayne Macpherson as part fulfilment of a Doctorate of Business Administration at Massey University, New Zealand.

Research Objective
The objective of the research is to provide a systematic study of kaizen in the Japanese work environment over generations, including:

1. To what extent kaizen is acknowledged as an active activity,
2. How the concept of kaizen is interpreted,
3. What it means to those who work within the bounds of an active kaizen environment,
4. How firms maintain momentum for kaizen activities,
5. How kaizen fits with the overall management system of an organisation,
6. The uniformity of kaizen interpretations, approaches and activities, and
7. The transferability of kaizen beyond Japanese environments.

Invitation to Participate
As per guidelines set out the Massey University Human Ethics Committee (MUHEC), you are cordially invited to participate in the said research.

Participant Identification and Recruitment
Research participants are selected based on having work experience within the environment of Japanese industry, covering all ages and positions. Initially participants are selected from the researcher's own work and personal contacts, with further participants obtained by way of participant introduction. Data will be gathered from individual interviews, focus group discussions, questionnaires, and documentation analysis.

Risks to the Participant
It is foreseen that no harmful risks or discomforts exist to the participant and that full privacy is respected as set out by the MUHEC. Should at anytime during the interview or following procedures you wish to withdraw from the research, you request will be respected immediately.

Research Procedures
Participants will be involved in the research by way of individual interviews, focus group discussions, and/or questionnaires. Later, should necessity arise, follow up interviews and discussion may be undertaken.

Data Management
Data obtained during the research procedures will be securely held by the researcher at his personal residence. Backup copies will also be made. Should you wish to be excluded from the research, all relevant data will be returned to your or duly destroyed, thus unusable, by the researcher. Data obtained from your involvement in the research will be accessible at all times.

Participant's Rights
You are under no obligation to accept this invitation. If you decide to participate, you have the right to:
1. Decline to answer any particular question;
2. Withdraw from the study at any time;
3. Ask any questions about the study at any time during participation;
4. Provide information on the understanding that your name will not be used unless you give permission to the researcher;
5. Be given access to a summary of the project findings when it is concluded; and
6. Ask the recorder to be turned off at any time during the interview.

Researcher Contacts
If you have any enquiries regarding the research, please contact the researcher at the following:
Wayne Macpherson
7-2-5-603 Nishijin, Sawara-ku, Fukuoka City, Japan 814-0002
Telephone (H) 092-210-3988, (M) 090-9496-1968
Email: wayne@gol.com

Massey University Human Ethics Committee
This project has been evaluated by peer review and judged low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher named above is responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher, please contact Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics), telephone: 0064-6-350-5249, email humanethics@massey.ac.nz.

APPENDIX 7: INFORMATION SHEET – JAPANESE

Massey University
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日本の職場における改善についての世代間研究

案内書

研究者

この研究はニュージーランド、マセィ大学経営学博士の一課程として
ウェイン・マクファーソンにより行われるものである。

研究目的

この研究は改善について日本の職場環境で異なる世代間において系統だった
調査を目的としている。

1. 改善は日常作業のなかでどのくらい認識、実施されているのか、
2. 改善の内容はどのように解釈されているか、
3. 改善が実施されている環境で働く人々にとっての改善の意味とは、
4. 会社側がどのように改善活動の勢いを維持しているか、
5. 組織全体の経営システムに改善はどのように位置しているか、
6. 改善の解釈、アプローチ及び活動が一様であるか、
7. 日本での改善を国外で再現することが可能であるか、

研究参加案内

マセィ大学倫理委員会のガイドラインに従い、この研究に参加協力して
いただけるようお願いいたします。

参加者の選択と募集

研究参加者は日本産業界での全役職、全年代から職経験によって選択された。
初めに参加者は研究者自身の職場と個人的な知人から選択され、更に参加者
から推薦、紹介された人々である。研究データは個人別インタビュー、
グループディスカッション、アンケート、資料分析により収集されるものとする。

参加者に対してのリスク

マセィ大学倫理委員会のガイドラインによりプライバシーは尊重されていますので、
参加者が危害を加えられたり、参加者が不快感を覚えるようなことはありません。
インタビューの際、もしくは後に続く研究のどの段階においても、参加者が取り下
げを求めた場合には、直ちにその請求に応じるものとします。

調査方法

個人別インタビュー、グループディスカッション、アンケートにより研究に参加していただきます。後日、必要に応じて再度のインタビューやディスカッションが行われる可能性があります。

研究データ管理

収集された研究データは研究者の自宅で安全に保管され、バックアップコピーも作成される。参加者が取り下げを求めた場合は、関係データは個人に返却されるか、または破棄されるので、そのデータが研究に使用されることはない。参加者はその個人から収集された研究データにはいつでもアクセスすることができる。

参加者の権利

この研究への参加義務はありません。仮に参加していただける場合には以下の権利があります。

1. いかなる質問であっても回答を拒否することができる、
2. 研究のどの段階であっても回答を取り下げることができる、
3. 研究について、いつでも、どのような質問でもできる、
4. 参加者の許可がない限り、参加者の氏名が残ることはない、
5. 研究が終了した際には研究概要にアクセスできる、
6. 個人インタビューが録音される場合、インタビュー中いつでも録音中止を要請することができる、

研究者連絡先

研究に関しての質問はこちらにお願いします：

ウェイン・マクファーソン

814-0002　福岡市早良区西新 7-2-5-603

電話：（自宅）092-210-3988、（携帯）090-9496-1968

メール：wayne@gol.com

マセィ大学倫理委員会

この研究は在学研究者並びに指導者により査定され、リスクが低いと判断されましたので、大学倫理委員会に再審査されることはありませんでした。よってこの研究の倫理遂行は研究者の責任においてなされるものとします。

参加者がこの研究方法などに関し意見があり、研究者以外の大学関係者と連絡する必要がある場合はこちらにお願いします：

Professor Sylvia Rumball, Assistant to the Vice-Chancellor (Research Ethics)

電話：0064-6 350-5249

メール： humanethics@massey.ac.nz

APPENDIX 8: PARTICIPANT CONSENT FORM – ENGLISH

Massey University
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An Intergenerational Study of Kaizen
in the Japanese Workplace

PARTICIPANT CONSENT FORM – INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me.

My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded.

I wish/do not wish to have data placed in an official archive.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: ..... **Date:** .....

Full Name – printed .....

APPENDIX 9: PARTICIPANT CONSENT FORM – JAPANESE

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日本の職場における改善についての世代間研究

参加者同意書—個人

私は、案内書を読み、研究の詳細について説明を受けました。私の質問については納得のいく回答を得ることができ、更なる質問はいつでも尋ねることができると理解しています。

私はインタビューが録音されることに

同意いたします/同意いたしません。

私はインタビューのデータが公式に記録されることに

同意いたします/同意いたしません。

私は案内書にある条件に基づいて、この研究に参加することに

同意いたします/同意いたしません。

署名： ..... **日：** .....

氏名（ローマ字： .....

APPENDIX 10: INTERVIEW QUESTIONS – ENGLISH

Massey University
COLLEGE OF BUSINESS
Kaupapa Whai Pakihi

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An Intergenerational Study of Kaizen in the Japanese Workplace

INTERVIEW QUESTIONS

Please state your name, age, current work position, and number of years employed by your current organisation (or a short history if you have worked at more than one organisation).

Please answer the following questions where appropriate.

1. How do you currently acknowledge kaizen (implicitly and explicitly)?
2. How do you currently exercise kaizen?
3. Has your understanding of kaizen changed during your career (implicitly and explicitly)?
4. If so, how?
5. In your opinion, do other workers (generations) in your organisation view kaizen differently?
6. If so, in what way?
7. What kaizen activities (including education) does your organisation undertake?
8. Do these appear to differ for people at different 'levels' of the organisation?
9. What kaizen guidance, feedback etc. does your organisation receive from your parent company?
10. Do you expect kaizen to develop in the future?
11. In your organisation?
12. If so, how?
13. Outside of your organisation?
14. If so, how?
15. Do you have any other opinions or ideas that may contribute to this research?

Thank you.

APPENDIX 11: INTERVIEW QUESTIONS – JAPANESE

Massey University
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日本の職場における改善についての世代間研究

質問項目

あなたの氏名、年齢、現在の役職、現在の職場での勤続年数（2 社以上の職歴がある場合には経歴を）述べてください。

以下の質問事項から適当だと判断される事項についてお答えください。

1. 自分にとって「改善活動」とは、どのような意味ですか？
2. 自分にとって「改善活動」とは、何か工夫がなされていますか？
3. 「改善」についての認識は、時とともに変化がありますか？
4. どのように？
5. ポジション別、年代別の「改善活動」の認識・仕事への寄与度は？
6. どのように？
7. 貴社では「改善活動」を高めるために何か工夫がなされていますか？
8. 「改善活動」と経営の位置づけ、社員への影響は？
9. 親会社からの「改善活動」について指導、指摘、意見等はありますか？
10. 改善が将来的に進化すると思われますか？
11. 貴社内？
12. どのように？
13. 貴社外？
14. どのように？
15. その他に、この研究を支えられる意見や考えがありますか？

APPENDIX 12: CONDENSED QUESTIONNAIRE SET

The resulting 9-item questionnaire set, as condensed from the 15-item questionnaire set.

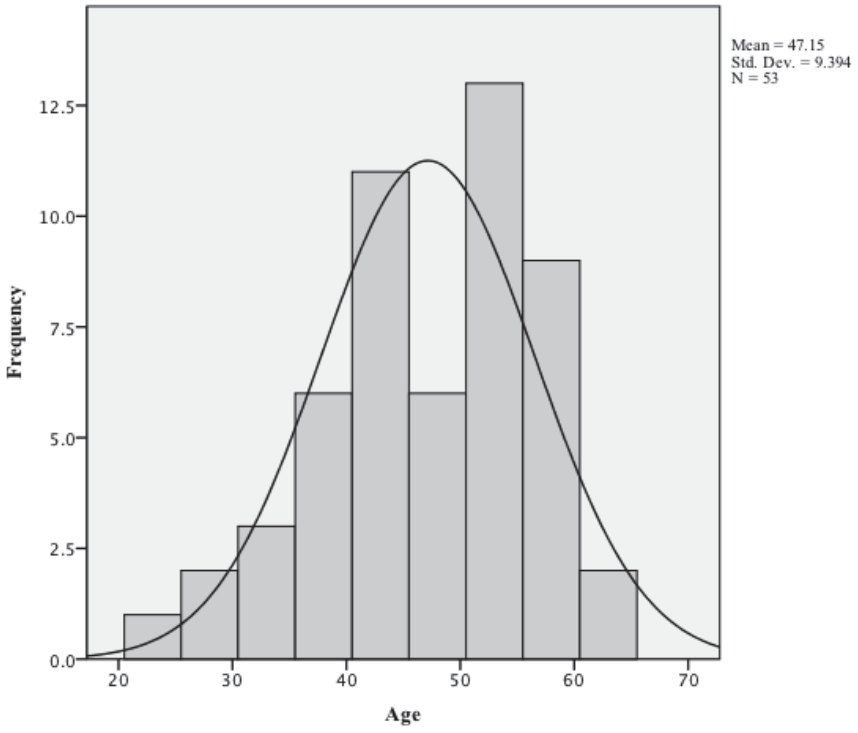
1. How do you currently acknowledge kaizen (implicitly or explicitly)?
2. How do you currently exercise kaizen?
3. Has your understanding of kaizen changed during your career (implicitly and explicitly)? If so, how?
4. In your opinion, do other workers (generations) in your organisation view kaizen differently? If so, in what way?
5. What kaizen activities (including education) does your organisation undertake?
6. Do organisational kaizen activities appear to differ for people at different 'levels' of the organisation?
7. What kaizen guidance, feedback etc. does your organisation receive from your parent company?
8. Do you expect kaizen to develop in the future?
9. Do you expect kaizen to develop in the future, in your organisation? If so, how?

APPENDIX 13: ANALYSIS OF FREQUENCIES

Participant Age

N	Valid	53
	Missing	0
Mean		47.15
Median		49.00
Range		38
Minimum		23
Maximum		61

Distribution of Participant Ages



Generations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Generation 1	28	52.8	52.8	52.8
	Generation 2	25	47.2	47.2	100.0
	Total	53	100.0	100.0	

Question 1 – How do you currently acknowledge kaizen?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Process-oriented	25	47.2	47.2	47.2
	Result-oriented	28	52.8	52.8	100.0
	Total	53	100.0	100.0	

Question 2 – How do you currently exercise kaizen?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Process-oriented	35	66.0	72.9	72.9
	Result-oriented	13	24.5	27.1	100.0
	Total	48	90.6	100.0	
Missing	0	5	9.4		
Total		53	100.0		

Question 3 – Has your understanding of kaizen changed during your career?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, a lot	39	73.6	78.0	78.0
	Not a lot, or Not at all	11	20.8	22.0	100.0
	Total	50	94.3	100.0	
Missing	0	3	5.7		
Total		53	100.0		

Question 4 – Do other workers (generations) in your organisation view kaizen differently?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely different	26	49.1	78.8	78.8
	Not definitely different	7	13.2	21.2	100.0
	Total	33	62.3	100.0	
Missing	0	20	37.7		
Total		53	100.0		

Question 5 – What kaizen activities does your organisation undertake?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Facilitation-oriented	34	64.2	75.6	75.6
	Guidance-oriented	11	20.8	24.4	100.0
	Total	45	84.9	100.0	
Missing	0	8	15.1		
Total		53	100.0		

Question 6 – Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employee-oriented	10	18.9	37.0	37.0
	Management-oriented	17	32.1	63.0	100.0
	Total	27	50.9	100.0	
Missing	0	26	49.1		
Total		53	100.0		

Question 7 – What kaizen guidance, feedback etc. does your organisation receive from your parent company?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Guidance	23	43.4	76.7	76.7
	No guidance	7	13.2	23.3	100.0
	Total	30	56.6	100.0	
Missing	0	23	43.4		
Total		53	100.0		

Question 8 – Do you expect kaizen to develop in the future?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely yes	28	52.8	68.3	68.3
	Not definitely yes	13	24.5	31.7	100.0
	Total	41	77.4	100.0	
Missing	0	12	22.6		
Total		53	100.0		

Question 9 – Do you expect kaizen to develop in the future in your organisation?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Definitely yes	20	37.7	76.9	76.9
	Not definitely yes	6	11.3	23.1	100.0
	Total	26	49.1	100.0	
Missing	0	27	50.9		
Total		53	100.0		

APPENDIX 14: ANALYSIS OF DESCRIPTIVES

	N	Range	Min.	Max.	Mean	Std. Dev.	Variance
Age	53	38	23	61	47.15	9.394	88.246
Generations	53	1	1	2	1.47	.504	.254
Position	53	1	1	2	1.30	.463	.215
How do you currently acknowledge kaizen?	53	1	1	2	1.53	.504	.254
How do you currently exercise kaizen?	48	1	1	2	1.27	.449	.202
Has your understanding of kaizen changed during your career?	50	1	1	2	1.22	.418	.175
Do other workers (generations) in your organisation view kaizen differently?	33	1	1	2	1.21	.415	.172
What kaizen activities does your organisation undertake?	45	1	1	2	1.24	.435	.189
Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	27	1	1	2	1.63	.492	.242
What kaizen guidance, feedback etc. does your organisation receive from your parent company?	30	1	1	2	1.23	.430	.185
Do you expect kaizen to develop in the future?	41	1	1	2	1.32	.471	.222
Do you expect kaizen to develop in the future in your organisation?	26	1	1	2	1.23	.430	.185

APPENDIX 15: ANALYSIS OF CROSS-TABULATIONS

Generations * Question 1 – How do you currently acknowledge kaizen?

Crosstab

			How do you currently acknowledge kaizen?		
			Process-oriented	Result-oriented	Total
Generations	Generation 1	Count	11	17	28
		Expected Count	13.2	14.8	28.0
		% within Generations	39.3%	60.7%	100.0%
		% within How do you currently acknowledge kaizen?	44.0%	60.7%	52.8%
		% of Total	20.8%	32.1%	52.8%
	Generation 2	Count	14	11	25
		Expected Count	11.8	13.2	25.0
		% within Generations	56.0%	44.0%	100.0%
		% within How do you currently acknowledge kaizen?	56.0%	39.3%	47.2%
		% of Total	26.4%	20.8%	47.2%
Total		Count	25	28	53
		Expected Count	25.0	28.0	53.0
		% within Generations	47.2%	52.8%	100.0%
		% within How do you currently acknowledge kaizen?	100.0%	100.0%	100.0%
		% of Total	47.2%	52.8%	100.0%

Chi-Square Tests

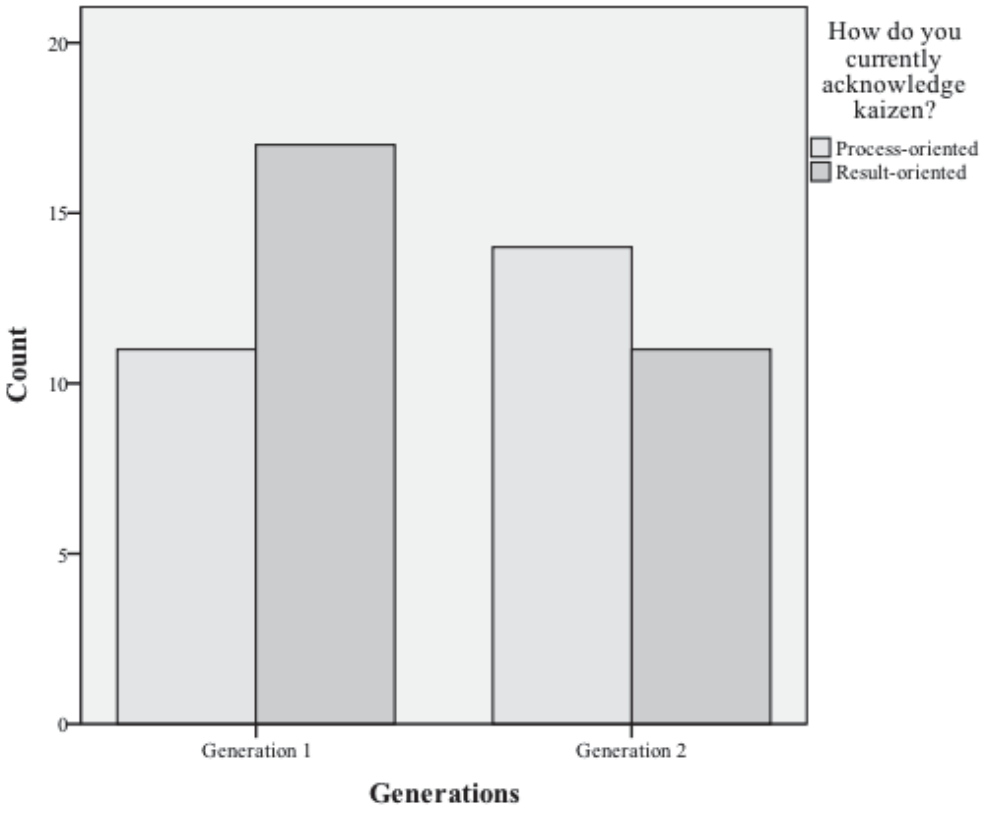
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.481[a]	1	.224		
Continuity Correction[b]	.886	1	.347		
Likelihood Ratio	1.487	1	.223		
Fisher's Exact Test				.276	.173
Linear-by-Linear Association	1.453	1	.228		
N of Valid Cases	53				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.79.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.167	.224
	Cramer's V	.167	.224
	Contingency Coefficient	.165	.224
N of Valid Cases		53	



Generations * Question 2 – How do you currently exercise kaizen?

Crosstab

			How do you currently exercise kaizen?		
			Process-oriented	Result-oriented	Total
Generations	Generation 1	Count	17	10	27
		Expected Count	19.7	7.3	27.0
		% within Generations	63.0%	37.0%	100.0%
		% within How do you currently exercise kaizen?	48.6%	76.9%	56.3%
		% of Total	35.4%	20.8%	56.3%
	Generation 2	Count	18	3	21
		Expected Count	15.3	5.7	21.0
		% within Generations	85.7%	14.3%	100.0%
		% within How do you currently exercise kaizen?	51.4%	23.1%	43.8%
		% of Total	37.5%	6.3%	43.8%
Total		Count	35	13	48
		Expected Count	35.0	13.0	48.0
		% within Generations	72.9%	27.1%	100.0%
		% within How do you currently exercise kaizen?	100.0%	100.0%	100.0%
		% of Total	72.9%	27.1%	100.0%

Chi-Square Tests

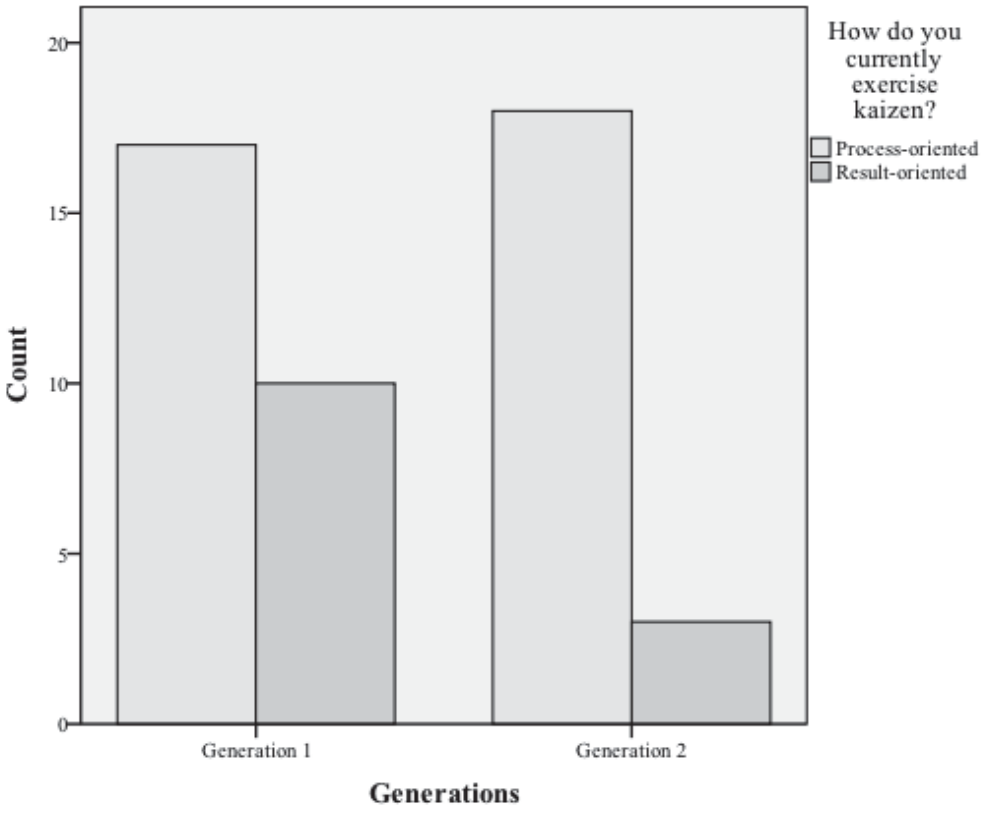
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.096[a]	1	.078		
Continuity Correction[b]	2.051	1	.152		
Likelihood Ratio	3.253	1	.071		
Fisher's Exact Test				.107	.074
Linear-by-Linear Association	3.032	1	.082		
N of Valid Cases	48				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.69.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.254	.078
	Cramer's V	.254	.078
	Contingency Coefficient	.246	.078
N of Valid Cases		48	



Generations * Question 3 – Has your understanding of kaizen changed during your career?

Crosstab

			Has your understanding of kaizen changed during your career?		
			Yes, a lot	Not a lot, or Not at all	Total
Generations	Generation 1	Count	20	6	26
		Expected Count	20.3	5.7	26.0
		% within Generations	76.9%	23.1%	100.0%
		% within Has your understanding of kaizen changed during your career?	51.3%	54.5%	52.0%
		% of Total	40.0%	12.0%	52.0%
	Generation 2	Count	19	5	24
		Expected Count	18.7	5.3	24.0
		% within Generations	79.2%	20.8%	100.0%
		% within Has your understanding of kaizen changed during your career?	48.7%	45.5%	48.0%
		% of Total	38.0%	10.0%	48.0%
Total		Count	39	11	50
		Expected Count	39.0	11.0	50.0
		% within Generations	78.0%	22.0%	100.0%
		% within Has your understanding of kaizen changed during your career?	100.0%	100.0%	100.0%
		% of Total	78.0%	22.0%	100.0%

Chi-Square Tests

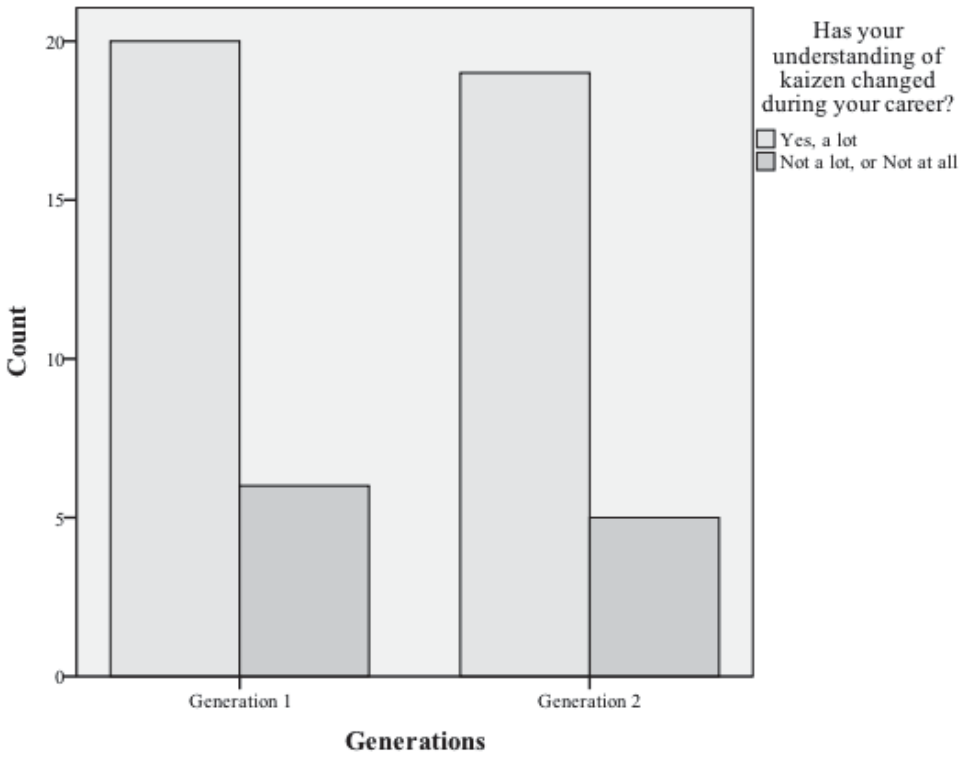
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.037[a]	1	.848		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.037	1	.848		
Fisher's Exact Test				1.000	.560
Linear-by-Linear Association	.036	1	.850		
N of Valid Cases	50				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.28.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.027	.848
	Cramer's V	.027	.848
	Contingency Coefficient	.027	.848
N of Valid Cases		50	



Generations * Question 4 – Do other workers (generations) in your organisation view kaizen differently?

Crosstab

			Do other workers (generations) in your organisation view kaizen differently?		
			Definitely different	Not definitely different	Total
Generations	Generation 1	Count	16	2	18
		Expected Count	14.2	3.8	18.0
		% within Generations	88.9%	11.1%	100.0%
		% within Do other workers (generations) in your organisation view kaizen differently?	61.5%	28.6%	54.5%
		% of Total	48.5%	6.1%	54.5%
	Generation 2	Count	10	5	15
		Expected Count	11.8	3.2	15.0
		% within Generations	66.7%	33.3%	100.0%
		% within Do other workers (generations) in your organisation view kaizen differently?	38.5%	71.4%	45.5%
		% of Total	30.3%	15.2%	45.5%
Total		Count	26	7	33
		Expected Count	26.0	7.0	33.0
		% within Generations	78.8%	21.2%	100.0%
		% within Do other workers (generations) in your organisation view kaizen differently?	100.0%	100.0%	100.0%
		% of Total	78.8%	21.2%	100.0%

Chi-Square Tests

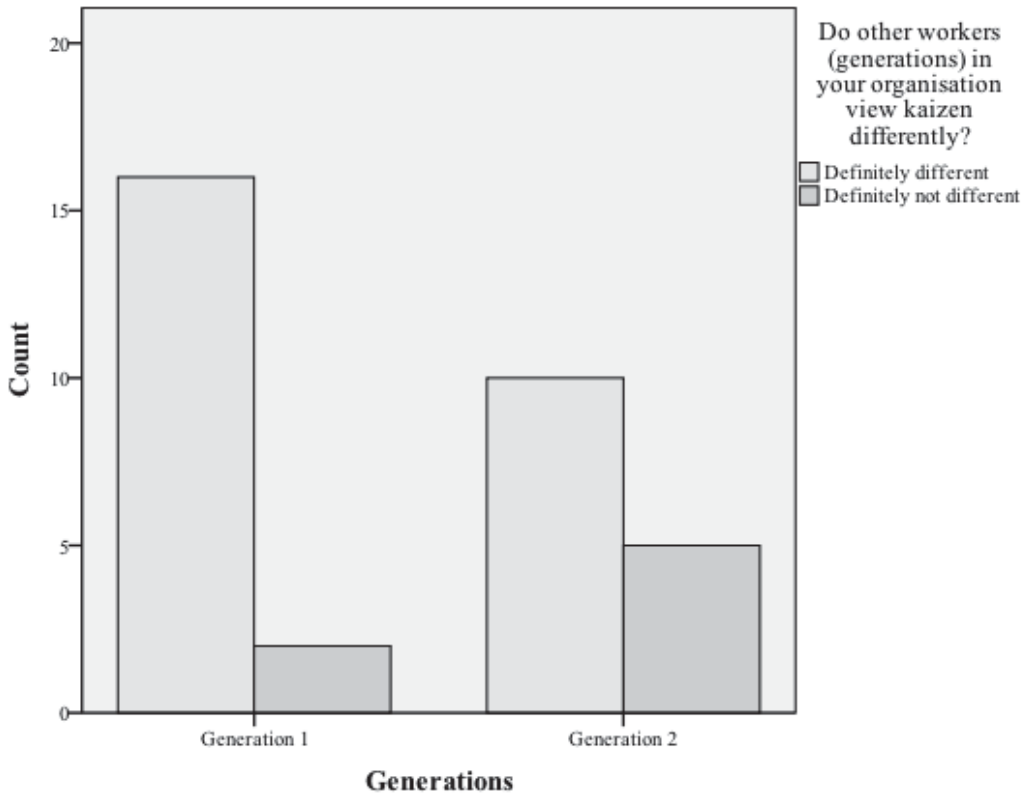
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.418[a]	1	.120		
Continuity Correction[b]	1.271	1	.260		
Likelihood Ratio	2.452	1	.117		
Fisher's Exact Test				.203	.130
Linear-by-Linear Association	2.344	1	.126		
N of Valid Cases	33				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.18.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.271	.120
	Cramer's V	.271	.120
	Contingency Coefficient	.261	.120
N of Valid Cases		33	



Generations * Question 5 – What kaizen activities does your organisation undertake?

Crosstab

			What kaizen activities does your organisation undertake?		
			Facilitation-oriented	Guidance-oriented	Total
Generations	Generation 1	Count	19	6	25
		Expected Count	18.9	6.1	25.0
		% within Generations	76.0%	24.0%	100.0%
		% within What kaizen activities does your organisation undertake?	55.9%	54.5%	55.6%
		% of Total	42.2%	13.3%	55.6%
	Generation 2	Count	15	5	20
		Expected Count	15.1	4.9	20.0
		% within Generations	75.0%	25.0%	100.0%
		% within What kaizen activities does your organisation undertake?	44.1%	45.5%	44.4%
		% of Total	33.3%	11.1%	44.4%
Total		Count	34	11	45
		Expected Count	34.0	11.0	45.0
		% within Generations	75.6%	24.4%	100.0%
		% within What kaizen activities does your organisation undertake?	100.0%	100.0%	100.0%
		% of Total	75.6%	24.4%	100.0%

Chi-Square Tests

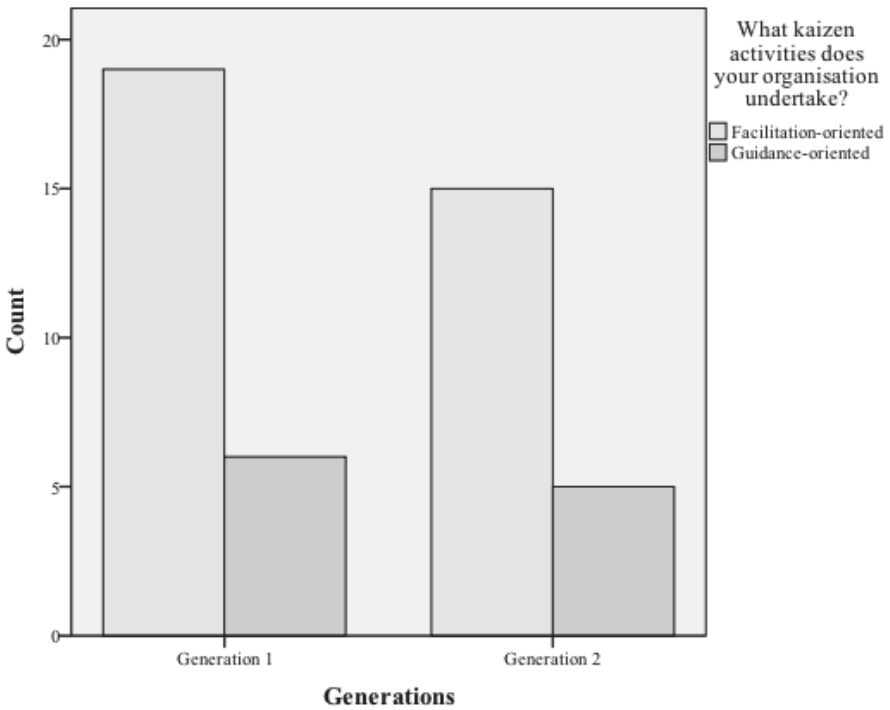
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.006[a]	1	.938		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.006	1	.938		
Fisher's Exact Test				1.000	.604
Linear-by-Linear Association	.006	1	.939		
N of Valid Cases	45				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.89.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.012	.938
	Cramer's V	.012	.938
	Contingency Coefficient	.012	.938
N of Valid Cases		45	



Generations * Question 6 – Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?

Crosstab

			Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?		
			Employee-oriented	Management-oriented	Total
Generations	Generation 1	Count	5	12	17
		Expected Count	6.3	10.7	17.0
		% within Generations	29.4%	70.6%	100.0%
		% within Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	50.0%	70.6%	63.0%
		% of Total	18.5%	44.4%	63.0%
	Generation 2	Count	5	5	10
		Expected Count	3.7	6.3	10.0
		% within Generations	50.0%	50.0%	100.0%
		% within Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	50.0%	29.4%	37.0%
		% of Total	18.5%	18.5%	37.0%
Total		Count	10	17	27
		Expected Count	10.0	17.0	27.0
		% within Generations	37.0%	63.0%	100.0%
		% within Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	100.0%	100.0%	100.0%
		% of Total	37.0%	63.0%	100.0%

Chi-Square Tests

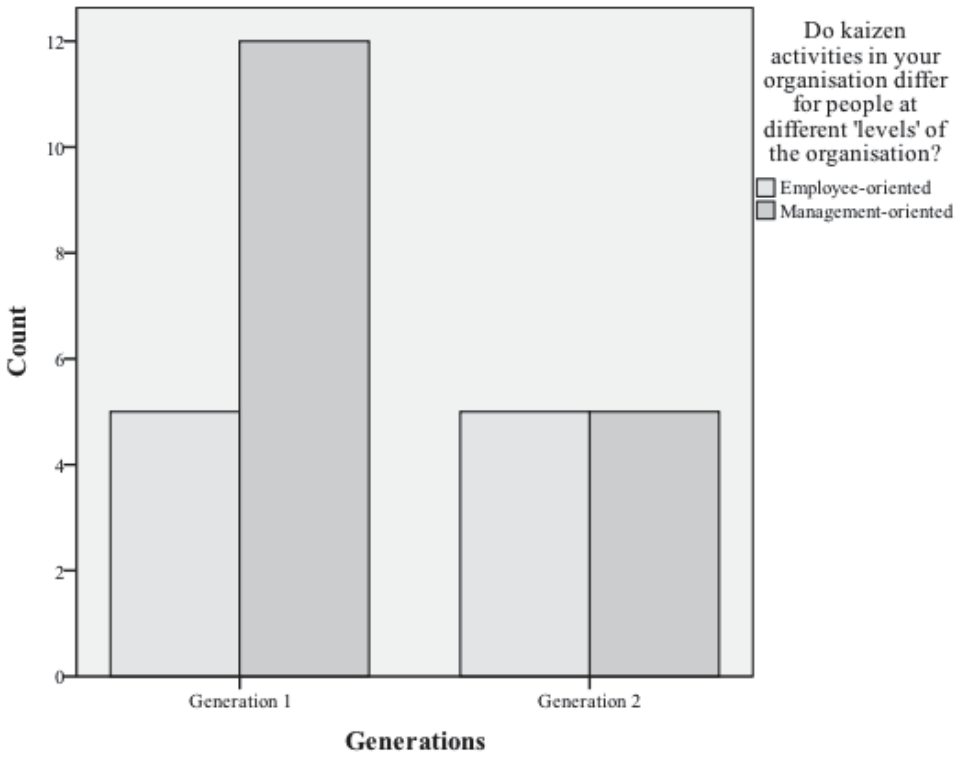
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.144[a]	1	.285		
Continuity Correction[b]	.432	1	.511		
Likelihood Ratio	1.134	1	.287		
Fisher's Exact Test				.415	.255
Linear-by-Linear Association	1.102	1	.294		
N of Valid Cases	27				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.70.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.206	.285
	Cramer's V	.206	.285
	Contingency Coefficient	.202	.285
N of Valid Cases		27	



Generations * Question 7 -What kaizen guidance, feedback etc. does your organisation receive from your parent company?

Crosstab

			What kaizen guidance, feedback etc. does your organisation receive from your parent company?		
			Guidance	No guidance	Total
Generations	Generation 1	Count	12	3	15
		Expected Count	11.5	3.5	15.0
		% within Generations	80.0%	20.0%	100.0%
		% within What kaizen guidance, feedback etc. does your organisation receive from your parent company?	52.2%	42.9%	50.0%
		% of Total	40.0%	10.0%	50.0%
	Generation 2	Count	11	4	15
		Expected Count	11.5	3.5	15.0
		% within Generations	73.3%	26.7%	100.0%
		% within What kaizen guidance, feedback etc. does your organisation receive from your parent company?	47.8%	57.1%	50.0%
		% of Total	36.7%	13.3%	50.0%
Total		Count	23	7	30
		Expected Count	23.0	7.0	30.0
		% within Generations	76.7%	23.3%	100.0%
		% within What kaizen guidance, feedback etc. does your organisation receive from your parent company?	100.0%	100.0%	100.0%
		% of Total	76.7%	23.3%	100.0%

Chi-Square Tests

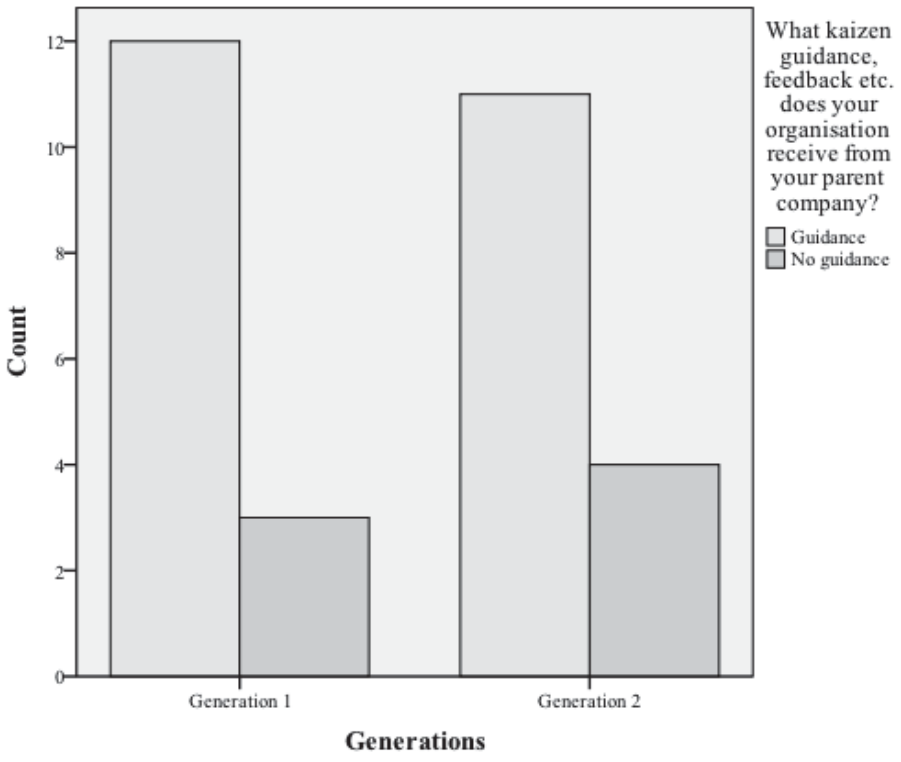
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.186[a]	1	.666		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.187	1	.666		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.180	1	.671		
N of Valid Cases	30				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.50.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.079	.666
	Cramer's V	.079	.666
	Contingency Coefficient	.079	.666
N of Valid Cases		30	



Generations * Question 8 – Do you expect kaizen to develop in the future?

Crosstab

			Do you expect kaizen to develop in the future?		
			Definitely yes	Not definitely yes	Total
Generations	Generation 1	Count	18	4	22
		Expected Count	15.0	7.0	22.0
		% within Generations	81.8%	18.2%	100.0%
		% within Do you expect kaizen to develop in the future?	64.3%	30.8%	53.7%
		% of Total	43.9%	9.8%	53.7%
	Generation 2	Count	10	9	19
		Expected Count	13.0	6.0	19.0
		% within Generations	52.6%	47.4%	100.0%
		% within Do you expect kaizen to develop in the future?	35.7%	69.2%	46.3%
		% of Total	24.4%	22.0%	46.3%
Total		Count	28	13	41
		Expected Count	28.0	13.0	41.0
		% within Generations	68.3%	31.7%	100.0%
		% within Do you expect kaizen to develop in the future?	100.0%	100.0%	100.0%
		% of Total	68.3%	31.7%	100.0%

Symmetric Measures

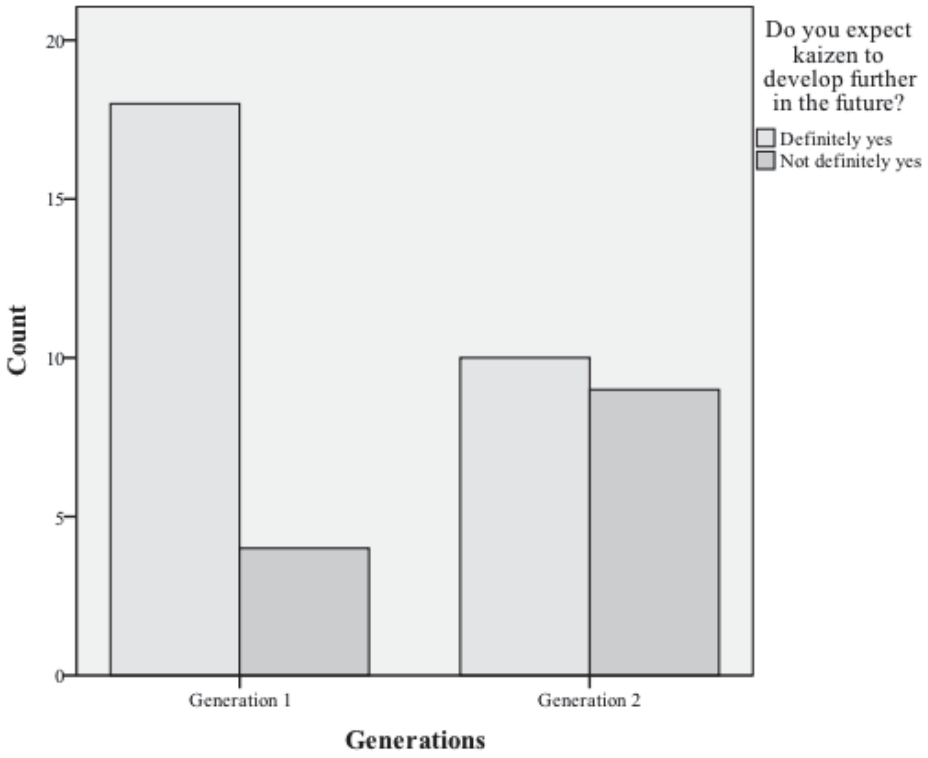
		Value	Approx. Sig.
Nominal by Nominal	Phi	.313	.045
	Cramer's V	.313	.045
	Contingency Coefficient	.299	.045
N of Valid Cases		41	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.011[a]	1	.045		
Continuity Correction[b]	2.776	1	.096		
Likelihood Ratio	4.072	1	.044		
Fisher's Exact Test				.091	.047
Linear-by-Linear Association	3.913	1	.048		
N of Valid Cases	41				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.02.

b. Computed only for a 2x2 table



Generations * Question 9 – Do you expect kaizen to develop in the future in your organisation?

Crosstab

			Do you expect kaizen to develop in the future in your organisation?		
			Definitely yes	Not definitely yes	Total
Generations	Generation 1	Count	13	2	15
		Expected Count	11.5	3.5	15.0
		% within Generations	86.7%	13.3%	100.0%
		% within Do you expect kaizen to develop in the future in your organisation?	65.0%	33.3%	57.7%
		% of Total	50.0%	7.7%	57.7%
	Generation 2	Count	7	4	11
		Expected Count	8.5	2.5	11.0
		% within Generations	63.6%	36.4%	100.0%
		% within Do you expect kaizen to develop in the future in your organisation?	35.0%	66.7%	42.3%
		% of Total	26.9%	15.4%	42.3%
Total		Count	20	6	26
		Expected Count	20.0	6.0	26.0
		% within Generations	76.9%	23.1%	100.0%
		% within Do you expect kaizen to develop in the future in your organisation?	100.0%	100.0%	100.0%
		% of Total	76.9%	23.1%	100.0%

Chi-Square Tests

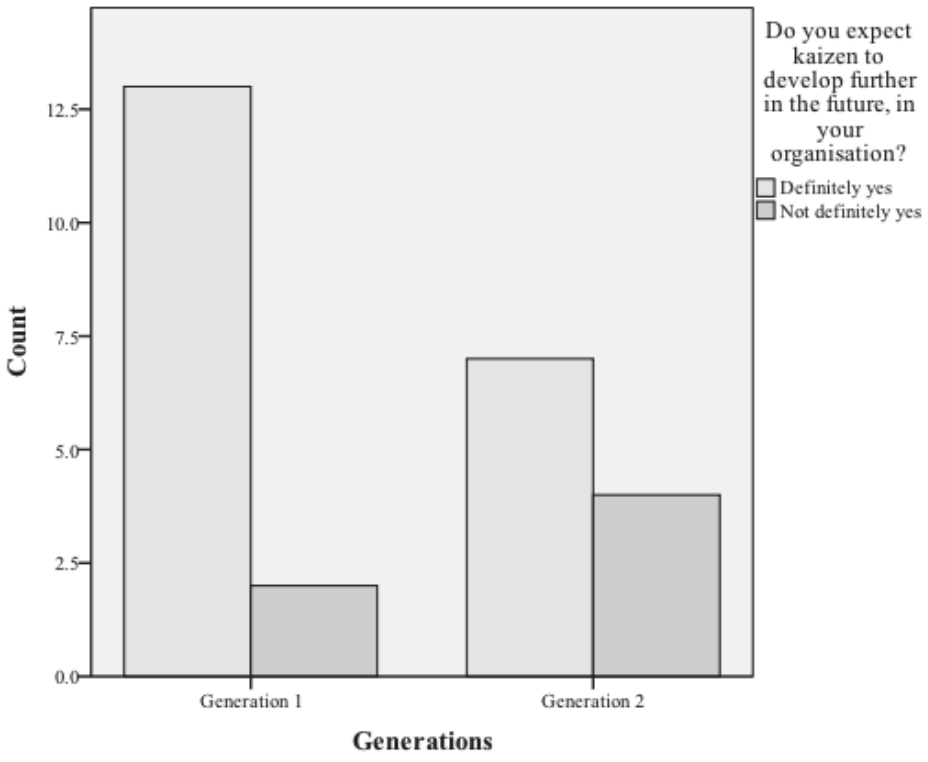
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.896[a]	1	.169		
Continuity Correction[b]	.821	1	.365		
Likelihood Ratio	1.890	1	.169		
Fisher's Exact Test				.348	.183
Linear-by-Linear Association	1.823	1	.177		
N of Valid Cases	26				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.54.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.270	.169
	Cramer's V	.270	.169
	Contingency Coefficient	.261	.169
N of Valid Cases		26	



Analysis of Pearson Correlation: Participant Population

		Generations	Position	How do you currently acknowledge kaizen?	How do you currently exercise kaizen?	Has your understanding of kaizen changed during your career?	Do other workers (generations) in your organisation view kaizen differently?	What kaizen activities does your organisation undertake?	Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	What kaizen guidance, feedback etc. does your organisation receive from your parent company?	Do you expect kaizen to develop further in the future?	Do you expect kaizen to develop further in the future, in your organisation?
Generations	Pearson Correlation	1	-.045	-.167	-.254	-.027	.271	.012	-.206	.079	.313*	.270
	Sig. (2-tailed)		.749	.232	.082	.852	.128	.940	.303	.679	.046	.182
	N	53	53	53	48	50	33	45	27	30	41	26
Position	Pearson Correlation	-.045	1	-.037	.066	-.242	-.088	-.183	-.108	.068	.022	.196
	Sig. (2-tailed)	.749		.791	.654	.090	.627	.229	.590	.720	.889	.337
	N	53	53	53	48	50	33	45	27	30	41	26
How do you currently acknowledge kaizen?	Pearson Correlation	-.167	-.037	1	.047	-.188	-.238	-.143	-.145	-.290	-.384*	.085
	Sig. (2-tailed)	.232	.791		.752	.191	.182	.350	.472	.121	.013	.679
	N	53	53	53	48	50	33	45	27	30	41	26
How do you currently exercise kaizen?	Pearson Correlation	-.254	.066	.047	1	-.048	.086	-.292	.104	.247	-.233	-.281
	Sig. (2-tailed)	.082	.654	.752		.750	.641	.061	.607	.197	.153	.174
	N	48	48	48	48	46	32	42	27	29	39	25
Has your understanding of kaizen changed during your career?	Pearson Correlation	-.027	-.242	-.188	-.048	1	.142	-.063	-.040	-.154	.019	-.167
	Sig. (2-tailed)	.852	.090	.191	.750		.431	.686	.845	.415	.908	.414
	N	50	50	50	46	50	33	44	26	30	41	26
Do other workers (generations) in your organisation view kaizen differently?	Pearson Correlation	.271	-.088	-.238	.086	.142	1	-.121	-.013	.111	-.208	.026
	Sig. (2-tailed)	.128	.627	.182	.641	.431		.504	.954	.605	.271	.910
	N	33	33	33	32	33	33	33	22	24	30	22
What kaizen activities does your organisation undertake?	Pearson Correlation	.012	-.183	-.143	-.292	-.063	-.121	1	.225	.043	.154	.350
	Sig. (2-tailed)	.940	.229	.350	.061	.686	.504		.258	.830	.355	.080
	N	45	45	45	42	44	33	45	27	27	38	26
Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	Pearson Correlation	-.206	-.108	-.145	.104	-.040	-.013	.225	1	-.081	-.021	.189
	Sig. (2-tailed)	.303	.590	.472	.607	.845	.954	.258		.735	.919	.453
	N	27	27	27	27	26	22	27	27	20	25	18
What kaizen guidance, feedback etc. does your organisation receive from your parent company?	Pearson Correlation	.079	.068	-.290	.247	-.154	.111	.043	-.081	1	-.240	.130
	Sig. (2-tailed)	.679	.720	.121	.197	.415	.605	.830	.735		.210	.595
	N	30	30	30	29	30	24	27	20	30	29	19
Do you expect kaizen to develop further in the future?	Pearson Correlation	.313*	.022	-.384*	-.233	.019	-.208	.154	-.021	-.240	1	.000
	Sig. (2-tailed)	.046	.889	.013	.153	.908	.271	.355	.919	.210		1.000
	N	41	41	41	39	41	30	38	25	29	41	25
Do you expect kaizen to develop further in the future, in your organisation?	Pearson Correlation	.270	.196	.085	-.281	-.167	.026	.350	.189	.130	.000	1
	Sig. (2-tailed)	.182	.337	.679	.174	.414	.910	.080	.453	.595	1.000	
	N	26	26	26	25	26	22	26	18	19	25	26

*. Correlation is significant at the 0.05 level (2-tailed).

Analysis of Pearson Correlation: Generation 1

		Position	How do you currently acknowledge kaizen?	How do you currently exercise kaizen?	Has your understanding of kaizen changed during your career?	Do other workers (generations) in your organisation view kaizen differently?	What kaizen activities does your organisation undertake?	Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	What kaizen guidance, feedback etc. does your organisation receive from your parent company?	Do you expect kaizen to develop further in the future?	Do you expect kaizen to develop further in the future, in your organisation?
Position	Pearson Correlation	1	.084	.271	-.365	-.158	-.031	-.334	.294	-.289	.294
	Sig. (2-tailed)		.671	.171	.067	.531	.882	.191	.287	.193	.287
	N	28	28	27	26	18	25	17	15	22	15
How do you currently acknowledge kaizen?	Pearson Correlation	.084	1	-.047	-.177	.000	-.115	-.167	-.200	-.567**	.320
	Sig. (2-tailed)	.671		.816	.387	1.000	.585	.521	.474	.006	.245
	N	28	28	27	26	18	25	17	15	22	15
How do you currently exercise kaizen?	Pearson Correlation	.271	-.047	1	-.185	.165	-.370	-.150	.452	-.258	-.237
	Sig. (2-tailed)	.171	.816		.377	.527	.075	.566	.091	.258	.396
	N	27	27	27	25	17	24	17	15	21	15
Has your understanding of kaizen changed during your career?	Pearson Correlation	-.365	-.177	-.185	1	.125	.111	.333	.075	.026	.139
	Sig. (2-tailed)	.067	.387	.377		.621	.605	.207	.789	.910	.622
	N	26	26	25	26	18	24	16	15	22	15
Do other workers (generations) in your organisation view kaizen differently?	Pearson Correlation	-.158	.000	.165	.125	1	-.189	.123	-.167	-.203	-.123
	Sig. (2-tailed)	.531	1.000	.527	.621		.453	.689	.569	.436	.689
	N	18	18	17	18	18	18	13	14	17	13
What kaizen activities does your organisation undertake?	Pearson Correlation	-.031	-.115	-.370	.111	-.189	1	.133	-.258	.230	.294
	Sig. (2-tailed)	.882	.585	.075	.605	.453		.610	.373	.316	.287
	N	25	25	24	24	18	25	17	14	21	15
Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	Pearson Correlation	-.334	-.167	-.150	.333	.123	.133	1	-.400	.302	.135
	Sig. (2-tailed)	.191	.521	.566	.207	.689	.610		.198	.275	.676
	N	17	17	17	16	13	17	17	12	15	12
What kaizen guidance, feedback etc. does your organisation receive from your parent company?	Pearson Correlation	.294	-.200	.452	.075	-.167	-.258	-.400	1	-.250	-.100
	Sig. (2-tailed)	.287	.474	.091	.789	.569	.373	.198		.369	.770
	N	15	15	15	15	14	14	12	15	15	11
Do you expect kaizen to develop further in the future?	Pearson Correlation	-.289	-.567**	-.258	.026	-.203	.230	.302	-.250	1	-.154
	Sig. (2-tailed)	.193	.006	.258	.910	.436	.316	.275	.369		.584
	N	22	22	21	22	17	21	15	15	22	15
Do you expect kaizen to develop further in the future, in your organisation?	Pearson Correlation	.294	.320	-.237	.139	-.123	.294	.135	-.100	-.154	1
	Sig. (2-tailed)	.287	.245	.396	.622	.689	.287	.676	.770	.584	
	N	15	15	15	15	13	15	12	11	15	15

**. Correlation is significant at the 0.01 level (2-tailed).

Analysis of Pearson Correlation: Generation 2

		Position	How do you currently acknowledge kaizen?	How do you currently exercise kaizen?	Has your understanding of kaizen changed during your career?	Do other workers (generations) in your organisation view kaizen differently?	What kaizen activities does your organisation undertake?	Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	What kaizen guidance, feedback etc. does your organisation receive from your parent company?	Do you expect kaizen to develop further in the future?	Do you expect kaizen to develop further in the future, in your organisation?
Position	Pearson Correlation	1	-.194	-.289	-.103	-.107	-.378	.218	-.107	.263	.134
	Sig. (2-tailed)		.353	.204	.630	.705	.100	.545	.705	.277	.695
	N	25	25	21	24	15	20	10	15	19	11
How do you currently acknowledge kaizen?	Pearson Correlation	-.194	1	.000	-.225	-.354	-.182	-.218	-.364	-.169	.134
	Sig. (2-tailed)	.353		1.000	.289	.196	.444	.545	.183	.490	.695
	N	25	25	21	24	15	20	10	15	19	11
How do you currently exercise kaizen?	Pearson Correlation	-.289	.000	1	.149	.139	-.189	.500	.055	-.149	-.327
	Sig. (2-tailed)	.204	1.000		.521	.622	.453	.141	.852	.555	.356
	N	21	21	21	21	15	18	10	14	18	10
Has your understanding of kaizen changed during your career?	Pearson Correlation	-.103	-.225	.149	1	.213	-.289	-.408	-.364	.027	-.463
	Sig. (2-tailed)	.630	.289	.521		.446	.217	.242	.183	.912	.152
	N	24	24	21	24	15	20	10	15	19	11
Do other workers (generations) in your organisation view kaizen differently?	Pearson Correlation	-.107	-.354	.139	.213	1	-.107	.060	.167	-.386	.000
	Sig. (2-tailed)	.705	.196	.622	.446		.705	.879	.645	.193	1.000
	N	15	15	15	15	15	15	9	10	13	9
What kaizen activities does your organisation undertake?	Pearson Correlation	-.378	-.182	-.189	-.289	-.107	1	.333	.278	.182	.386
	Sig. (2-tailed)	.100	.444	.453	.217	.705		.347	.358	.485	.241
	N	20	20	18	20	15	20	10	13	17	11
Do kaizen activities in your organisation differ for people at different 'levels' of the organisation?	Pearson Correlation	.218	-.218	.500	-.408	.060	.333	1	.293	-.200	.316
	Sig. (2-tailed)	.545	.545	.141	.242	.879	.347		.482	.580	.541
	N	10	10	10	10	9	10	10	8	10	6
What kaizen guidance, feedback etc. does your organisation receive from your parent company?	Pearson Correlation	-.107	-.364	.055	-.364	.167	.278	.293	1	-.316	.149
	Sig. (2-tailed)	.705	.183	.852	.183	.645	.358	.482		.271	.725
	N	15	15	14	15	10	13	8	15	14	8
Do you expect kaizen to develop further in the future?	Pearson Correlation	.263	-.169	-.149	.027	-.386	.182	-.200	-.316	1	.048
	Sig. (2-tailed)	.277	.490	.555	.912	.193	.485	.580	.271		.896
	N	19	19	18	19	13	17	10	14	19	10
Do you expect kaizen to develop further in the future, in your organisation?	Pearson Correlation	.134	.134	-.327	-.463	.000	.386	.316	.149	.048	1
	Sig. (2-tailed)	.695	.695	.356	.152	1.000	.241	.541	.725	.896	
	N	11	11	10	11	9	11	6	8	10	11

APPENDIX 16: RESEARCH FEEDBACK TRANSCRIPTS

Q1 How do you currently acknowledge kaizen (implicitly and explicitly)?

Coding: P=Process-oriented, R=Result-oriented

P It is the base of business activity, as a competitive approach ‘kaizen activity’ will continue forever.

P My department, the Production Planning Department, is a place where kaizen takes place. Currently, we are working so that kaizen activity is being undertaken by the whole company (by all areas). Therefore, to me, kaizen activity is, indeed, but one part of my job at this company.

P Activity that develops a person.

R Workers can work more effectively. (Reduce waste).

R Through the simplicity of operations, and improvement of quality.

R Through of improvements in productivity.

R Through active improvement of productivity and quality.

R Through undertaking activity that improves added-value content, safety, quality, and delivery times.

R Through improvement in quality, safety; and the elimination of muri (unreasonableness), muda (waste), and mura (inconsistency).

R Through activity that removes the disincentive of establishing stable production based on the required production number, which in turn ensures high quality products. Activity that improves people.

R The improvement of job performance through efficiency, the reduction of waste, and the establishment of work procedures.

R To bring together growth and development of the company through planning workplace activity, and improving division workers' skills and productivity.

P As activity that links work efficiency, 3S, and profit.

R As cost reduction, quality improvement, and productivity improvement.

R Improvement of work and quality, and cost reducing activity.

R General cost reduction activity through attention to quality, cost and time.

R means to achieve: 1. Mieruka – visualization of work; 2. The reduction of work volume; 3. The achievement of work requirements.

P The necessary activity to increase work efficiency in both my workplace and other workplaces. I feel that the accumulation of such activity becomes one's experience, and builds confidence.

P Regardless of the result, any kind of change.

R Through the elimination of waste and unreasonableness, and the creation of a safe workplace.

P One part of small group activity that is undertaken in the workplace is the solution of various problems where everyone in the workplace generates opinions through brainstorming, and activity to solve such problems is formulated. *The remodelling of machinery and equipment and making of tools for the prevention of industrial accidents and inferior quality.

P To my make work easy, I endeavour to produce our products as simply as possible.

P The brainstorming of ideas; discussion and development of even one kaizen activity so to find how kaizen can be applied to particular problems.

P Where all employees discuss and brainstorm to solve various problems that occur in the workplace.

R Raising my work skills; reducing costs by improving quality.

R By raising the efficiency of my work, achieving production targets through post-processing, the proposing new ways to work.

R Even the slightest imperfection is not overlooked; the raising of added value; and the underlying support for the company's continued growth. If this becomes obsolete the company will one-day decline. So, I believe, if this corporate culture is in place, or not, will be a factor that determines if a company has future

foresight. Further, there is the enjoyment of the daily accumulation of results; this is one of the cornerstones of the company's growth.

R It is activity that aims to improve quality.

P I take a technical approach to items before me that are related to various problems (productivity, quality, safety), and then undertake analysis and the appropriate measures.

R Activity that promotes easy production, simplicity of steps, cost reduction, and efficiency.

R As a means to tie-up operating efficiency, quality improvement, and safety.

R By improving work efficiency, reduce workload, and improve quality of products.

R Because of what I do in my section (Quality Control) I understand kaizen activity as a means to pursue accuracy, promptness and safety, etc.

R By viewing shipping inspection criteria properly, and finishing inspections within the given period of time.

R As the raising of work efficiency and the improvement of quality.

P As job efficiency and reduced work time. Kaizen activity is undertaken continuously, and to develop the work place.

P As greater awareness of problems. Contribution and development of the company. Making difficult jobs (mental or physical) easier.

P The activity to improve the efficiency of my job, and make it easier to do.

R As the efficiency of duties, the elimination of waste.

P Regarding problems that occur around me (both own-processing [employee owns his processing stage] and post-production processing), clarifying the cause of these problems, and removing it.

R The main part of my work is kaizen. Improvement of company profit.

R Activity that makes the improvement of safety, quality, cost, logistics, work methods, etc. priority.

R Cost reduction and company profitability.

P 1. Activity that makes my job and work, in general, easier to do, and reduces work time. 2. Depending on the accumulation of the above kaizen, kaizen is something that can be spread out to people in the workplaces, divisions and the whole company.

P Activities to better a situation, and at the same time, activities to improve oneself.

P I think kaizen is, basically, part of work. All people have to do. But Matsuki says the same thing, for freshmen, it is their duty, but managers require results: cost down, quality up, and time cut. Results, I think. Kaizen is creation – making and design. So we have to cut costs and cut time, but quality is maintained or raised. I record the know-how, the method, so all people can realise this know-how, the kaizen method.

P Kaizen is basically activities for companies and people who work for companies, to make improvement, and to make the work effective and speedy. To keep continuing to do this kaizen, it becomes the competence of the company and system, and a skill for employees. It's very important to be competitive in the market.

R To reduce my workload or make my work more efficient, the small meaning. But the big meaning is that the customer will select our Chip Mounter, Bonder (PFSC products), for that, what can I do? What can I do for sales? It's all about sales.

P My job involves development of systems for plasma machines. In my case, kaizen means developing machines with, for example, new processes, new variations, and measurements. That is kaizen activities for me. Kaizen includes many meanings, sometimes cost down activities, sometimes safety activities, and sometimes quality improvement activities. In total, kaizen activity means daily improvements, and daily watching something in the job.

P Kaizen is activity, irrespective of the size of the content or frequency of the activities, to remedy unsatisfactory work.

P I hold two definitions of kaizen. The first being the business of the company: planned kaizen activity. That is planned kaizen in the form of PDCA, and forms the base of the management system. The second, which is probably what past Japanese made use of, is unplanned kaizen activity. This is spontaneous employee kaizen, which is particularly characteristic of the Japanese. Deming, the Deming Cycle, and an American way of thinking developed the theory behind PDCA. In Japan there is, for example, the Matsushita way of thinking: when a plan is developed, it is without fail, a prerequisite is that it produces benefit. Without kaizen the plan would not be achievable, so naturally the position is taken that kaizen must be undertaken, which is planned kaizen, which the Japanese have continued to embrace so to improve quality. This, as we know, does not differ from that of the West. However, the second kaizen I mentioned is a characteristic of the Japanese, one that is voluntarily in nature. This was particularly a Japanese characteristic. I say 'was' because due to the generation gap that exists in the Japanese population (baby boomers), where difference between the young people and older generation has become so vast, I now feel that young people do not understand of this second kaizen. Further, the thinking of young people today and the older generation in their youth is considerably different. So, why do the Japanese voluntarily undertake kaizen activity? is the centre of Wayne's research theme, but this is very difficult and I do not have an answer. I do not know the reason. What I can say though is for Japanese of my generation work is a very large part of life, we think in order to enjoy life we must do our job thoroughly. For example, for a baseball player, baseball becomes more fun the more proficient they become. The same goes for work, the more proficient one becomes in their job the more enjoyable life becomes. So, personally I feel that in improving my job and becoming more proficient in it equals a more enjoyable life. Therefore, instead of working for money, the older generation holds a kaizen mind-set whereby in doing their job well, they are able to enjoy life. However, through the ages, this thinking has changed. Even in my generation, we now tend not to think only of work, but must take care of family, and want to look for enjoyment outside of work. The weight placed on this is significantly greater for the younger generation. I feel that work itself has become uninteresting. In the past there was lifetime employment (shushinkoyou) and people thought when they entered a company that

the company was there's. Not "I work for this company, but this is my company". The company and the employee were one in the age of lifetime employment. If you worked hard the company did well, if the company did well your lifestyle improved. The company and the employee were equal. If you worked hard the company would turn a profit, the customers would be happy, your boss would praise you, thus the feeling of unity was very strong. However, these companies have all but disappeared. Panasonic is one such company that has lost its company employee unity. Company spirit, that is, Love of the Company is being lost, employees are finding it more difficult to find enjoyment outside of work, therefore the motivation for kaizen, too, is being lost. People adaptively think that companies exist only to provide an income, and that lifestyle enjoyment must be found outside the company. The reason for this change is because Japanese companies are becoming westernised. The founder of Matsushita (now Panasonic) Group would never have laid-off employees, but now, in making a cut with the past, as Panasonic is going through rough times, is doing so. If employees know that even in the worst of times they won't lose their jobs they will work hard for the company, for the company not to go bankrupt. However, today, with the possibility of employees being laid off, their motivation becomes lost. One thing, the management style of Japanese companies is moving toward that of Western companies, there are good points in this, but on the downside employees are losing their company spirit. Therefore, at such times, employees' sense of, or motivation for kaizen too is lost. However, my work within the company's management system...do you know of the Malcolm Baldridge Award? The Japanese equivalent to this is the Japan Quality Award. Companies that aim/compete for this award follow its guidelines and undertake research on the matters of: How raise a company's quality standards; which equals how to raise the merit of employees; How employees can enjoy working for the company and its customers; and, How to encourage voluntary contributions to kaizen? Influence of the award should spread through industry and cause changes in current trends. Companies do not exist for the sake of profit. If companies realised they exist to add value to customers, and for the benefit of society and employees, I believe the kaizen movement would progress forward. The first kaizen is becoming stronger and stronger, and the second kaizen is becoming weaker and weaker. The second

kaizen is very very important. If companies remain as they are they will not be able to tap into the second kaizen.

P Recently, I feel there are two types of kaizen, 1 is just a haphazard kaizen, when we do the daily job, sometimes we may have a difficulty and then we consider how to overcome the situation and then find the way to solve. That is quite normal kaizen. The other one is the way to make clear the idea of a target, what we want to achieve, and then we make a plan, or we may have a kind of milestone after 6 months of which level we want to be at after 1 or 2 years.

R In my case, kaizen activity involves continuously performing my job efficiently, at low cost, and with maximum output; without any form of innovative activity.

Q2 How do you currently exercise kaizen?

Coding: P=Process-oriented, R=Result-oriented

P Additionally, I attend company-wide 'small group kaizen meetings' (kaizen conferences) as a representative (of MCC).

P Initially, when I was a division manager and then a department manager, I thought to undertake kaizen activity. Now, becoming a group leader and a manager, I now concentrate on, devise ways of how I can enable others to undertake kaizen activity; how I can make others feel kaizen, and how I can make kaizen activity easy to undertake.

P We make time for meetings at workplace, division, and group level to discuss safety, productivity, quality, defective painting, performance, etc. by conducting QC circles and kaizen activity.

P I try to survey the other workers with a wide perspective.

P By thinking about how to enable easy operation of tasks for workers.

R Through the elimination of wasteful and unreasonable movements of workers.

R Through undertaking activity that eliminates customer complaints. (QC circle activity).

P To establish work procedures, developing business process flows.

P Through attentive listening when division workers have problems and working

with them to consolidate teamwork effort and to undertake kaizen activity.

R Through the elimination of unreasonableness and waste, and quickly making available quality products.

R Through striving for easy-to-implement production in the workplace.

P I am in the Production Management Planning office; we plan based on production planning levels.

P Practice on a daily basis.

P It's not about solving a problem in front of you, but the pursuit and elimination of the root cause.

P Looking at things with different perspectives. Observing the same workplace everyday with all five senses.

R In order to reduce wasted work and wasted expenses, I undertake maintenance and support as required in the workplace.

R My job involves the maintenance of machinery and equipment; I exercise kaizen through the elimination of machinery and equipment breakdowns, and do repairs when failure occurs. I am also involved in energy saving initiatives.

R Following on from the above mentioned [To my make work easy, I endeavour to produce our products as simply as possible.], I approach my work so to achieve such outcome.

P I am involved in the making of jigs so I ask myself “Is these jigs really easy to use in the workplace?” etc. I am able to apply thoughts that relate to the workplace.

P My work involves maintenance of machinery. Therefore I exercise kaizen by way of the prevention of plant and machinery breakdown, and if breakdown does occur, through repair support.

R I put as many parts on one painting-hanger as possible so to reduce electricity and fuel costs, this kaizen raises my paint line skills. I redesign the painting-hanger shape, which allowed for easier hanging and painting of parts. This in turn reduced the paint cost and raised the painting quality.

R Post-processing in the workplace raises productivity; ensuring quality; the promotion of jig design and the promotion of workflow.

P We are able to get hints by examining similar cases in different companies in the same industry, and motor vehicle industry.

P Where possible, to take into consideration the opinions of workers.

P By deciding the approach, either technical or skilful, to a problem that has come about, so to provide the best kaizen outcome.

P When kaizen is undertaken it is necessary to see the thing and place related to that kaizen event.

P By basing it on daily occurring problems.

P By resolving workplace problems and submitting suggestions.

P By not being satisfied with the status quo, on a daily basis.

P By not wasting movement, and undertaking inspections in predetermined order.

P I think about it in my daily work but don't exercise it.

R By reducing lead-time, and improving productivity.

R The reduction of work time by moving far away objects closer to the worker. Making hard work easy by making tools and equipment, and using ingenuity. Making complicated work simple.

R By improving my work environment. (Lighting, etc.).

R Regarding repetitive duties within regular duties, developing my own work patterns, and making use of these the following time. Even then, there are still more places to be improved, more waste to be eliminated, and more efficiency to be aimed for.

P Clarify the facts of each occurring matter: don't undertake work based on estimated causes of problems; build a hypothesis and test it.

P The improvement mechanism of kaizen is priority.

P The activity of operating a suggestion system, as a main activity, based on kaizen activity (YWK (Yanmar Way by Kaizen)).

P 1. Not just looking from the outside, but actually undertaking the tasks myself and applying these to kaizen. (Kaizen cannot be undertaken if there is not real work done). 2. Accumulating many small kaizen actions, listening carefully to people's opinions, and carrying out the necessary action. (I am of the opinion of making decisions last, after carefully listening to people's opinions).

P Priority of activities is determined by cost effectiveness.

P Difficult, difficult Japanese. Currently, I work in the Documentation Department. Sometimes the documents have mistakes – characters, type misses, a lot of type misses. We have to correct the mistakes, so in this case, it is best to check and automatically thinking. We have to use special tools to correct the mistakes.

P Kaizen means...almost everything relating to the job, almost everything, when I think about it, when I work.

R Currently, our members' motivation is so low. I am now making these motivations to one. We can do it; we can make new documents for the customers' merit.

P For me, kaizen means cost down and quality control. Kaizen is not a time, but a system, accountability, measure, a method. These are very important. These are common issues in all companies, but it depends on the companies, divisions. So this is very important. System meaning is personal connections, rules, and particularly rules. A major part is the tools. Tools means Japanese engineers invest in many kinds of tools. For example, sakana no hone, fish bone. And a lot of ideas. Very important. These tools change at any time and in any case for improvements. And so, kufu (ingenuity) means I try to change the rules in our team and our group and invest and improve tools of quality management and cost down methods. I believe this is the meaning.

P I make it a point to take notes, so not to forget, when I discover such unsatisfactory work.

P I make use of PDCA in my work. It is always my intention to consider how to make improvements to my job, whether I don't have any such ideas is a different matter. It is always my intention to be thinking kaizen.

P Last year, I was in charge of a production group as a GM, where kaizen was one of my main jobs during that year. Everybody tended to do the haphazard kaizen without having any plan. So, last year I tried planning and doing kaizen visually. Every month we had a closed meeting looking at our goal, and what we achieved, why we couldn't achieve or what we were able to achieve. We did it monthly.

P The most important aspect is how to see and how to view work on the shop floor (genba) because if work cannot be seen it cannot be improved upon (= mieruka). The most important aspect is how to see or view a situation. Not just myself being able to see what is happening, but for all people on the shop floor, or people concerned, to be able to see such. To enable all to see accurately and precisely.

Q3 Has your understanding of kaizen changed during your career (implicitly and explicitly)? If so, how?

Coding: N=No, Y=Yes

Y Yes. As kaizen is always a continuous activity, there are not large changes.

Y Of course it has. Currently, we are implementing kaizen along the guidelines of the TPS (Toyota Production System). However, as we are in the construction equipment industry we are unable to implement all aspects of TPS, only aspects that relate to our business; there is also equipment involved in TPS that we do not use. When this situation occurs, we attempt to remove that aspect of TPS from our minds, thus it is necessary to think how we can develop a workaround. However, the base contents of kaizen are the same.

Y Yes, it has. It changes due to seasonal temperature and humidity, and it changes for workers at different levels

Y Kaizen changes with the number of production units. If production increases, kaizen is omitted. (We cannot afford the time). If production decreases, we actively conduct kaizen to reduce costs.

Y My thinking has changed as I moved through the ranks from general worker up to management. When I was a general worker I improved my own work operations. When I became a manager I began to educate, guide other general workers.

Y Yes, I believe my understanding of kaizen has changed. Kaizen undertaken by myself, from when I became a manager, is guidance of each worker individually.

Y Yes, there are changes with the level of production.

Y Yes, I believe so. The way of thinking and sentiment are different for different people and different age groups.

Y Yes.

Y Looking from the viewpoint of the Production Technology Division, a focus for solving comparatively large equipment related problems. However from the viewpoint of the Production Management Group, emphasis moves to matters that immediately obstruct daily production.

Y I recognise that my understanding of kaizen has changed due to the prioritisation of requirements based on the needs (of senior management). Changes in requested content of fiscal policy and related production schedules are different each time.

Y Yes, there has been a change in my thinking, and the way I undertake kaizen due to guidance from YWK (Yanmar Way by Kaizen). When undertaking (one) kaizen activity, I concentrated all my efforts on that one activity. However, it is very important not to focus on individual kaizen activities, but consider the whole flow.

Y I think it has changed with changes in my job content. When I was working on the genba (shop floor), process time reduction and the elimination of inferior products was my number one priority.

N My basic understanding of kaizen has not changed.

Y When I undertook outside company training, lectures, and by visiting and seeing other factories with my own eyes.

Y Yes, same as #9 [To meet the needs of the market and customers]. It is dependent on the requirements of increased or decreased production quantity, quality, costs, the delivery system, etc.

Y Yes. Through the accumulation of experience, I feel the means to solve problems increases

N No change.

Y I believe so. With regard to production, the reduction of expenses in the production plant.

N My understanding of kaizen hasn’t changed much, however I pay attention to new technology, products and services. I pay attention to new technology, products and services.

Y Yes, there have been changes. Through experience, I have slowly become able to view situations from differing points of view. Further, I am able to view a situation in its relation to the whole as opposed the situation only by itself.

Y I believe there has been a change between when I joined the company and today. In my first year in the company I had absolutely no understanding nor interest in kaizen. Now I have moments of ‘Wouldn’t it be good if I did this?'

N There hasn't been much change in my understanding of kaizen. I apply previous kaizen to future ones.

Y Yes, it has. The characteristics of paint change daily with seasonal temperature and humidity. This temperature and humidity change decides the volume of

thinner (dilution), and the optimization of paint viscosity

Y I believe it changes on a daily basis. For example, parts are made in the workplace on jigs made by us. In the workplace, on a daily basis, workers are able to work using their kaizen understanding to make better products

Y In the midst of the reality of growth of emerging countries and the contrasting results of domestic companies, I have, in recent years, come to realize the importance of kaizen. By not deeply deliberating about whether the current situation is good or bad, but conducting one's work as usual, and expanding sections of production activity. I believe this should not be applied only to production activity but company-wide.

Y In the beginning, I thought kaizen was the investigation, the implementation and realization of how to make low cost products. Currently, I think the aim to improve quality is kaizen. I believe the ultimate aim of kaizen is profit. I think aiming to improve quality, making products that will satisfy customers, and establishing a brand name is the best way to profit.

Y Of course, yes. Of course, such understanding depends on the degree to which people grow. The most important is how to view a multilateral matter. (The achieving, or not, of results is a different matter).

Y Yes. In the beginning, cost reduction was my No. 1 priority. However, now I think that cost reduction is dependent upon how easy it is for people in the workplace to perform their jobs, and the ability to raise efficiency.

N Nothing special.

Y Yes, it has. I have become proficient in my job and I think about how to do the job at hand.

Y It always changes. It depends on market information at the time.

Y I believe products with many accessories, compared to standard goods, require more thought to inspection method. Inspection criteria, and their order, should be decided for smooth worker movement flow.

Y I believe it has. As I have experience in various work areas, I now have multilateral views.

Y Yes

Y Yes, I think it has. In my 20s, the content of my work was what I was told to do. In my 30s, I thought about how to understand the content of my job and how to do it better. From my 40s, I thought about how to make my job easier.

Y Yes. When surrounding situations, if kaizen is necessary then undertaking kaizen. If there is a usable system or arrangement, then making use of it.

Y There definitely is. The methodology is different each time manufactured goods and final products change. The basic thinking is the same, but depending on the aim, the procedure will change, and so cognition changes.

Y Yes, it has. It changes from genba job kaizen to kaizen that blankets the whole company. (Thinking about total optimization).

Y Yes, it has. Undertaking kaizen that causes moment-by-moment change in operations, just like changes in the world.

Y Yes, it has. Not through time, but through the building of experience. Kaizen activity that is imposed upon a workplace has no use, and makes people doing kaizen too complacent. I believe real kaizen is from the workplace. (Respondent suggests kaizen is coming from above, and not from the genba, thus are requests and not suggestions).

Y Yes. In order to change the scope, effect and effect of kaizen, we need to change the content.

Y I think the creation, making method purpose will change, but cost down, cutting costs, cutting time quality up, there will be no change – continuous.

Y I think, that on an individual basis, kaizen changes over time. However, in regard to the original purpose or intended purpose of kaizen, basically, I think there will be no change. However, on a continuous basis, various 'normal' aspects: flow of work, products – there will be continuity in reviewing and improving these. This what I believe kaizen will continue to be. I believe, for the word kaizen, its meaning, its purpose, its objective, will not change. However, for people who use kaizen as a tool, some change in their recognition (of what kaizen is) is only natural. Maybe...IT, in pursuing business services, kaizen is a tool that can be used in relation to systems and mechanisms within the company. The recognition of kaizen won't change. I have no answer.

Y Yes, kaizen changes in time because tools are developing quickly, compared to competitors and other companies. How is very difficult because kaizen is sometimes small, sometimes big, sometimes like a cluster, it depends on the target. We are always considering about the target. Some days I hit the target; sometimes I have no time.

Y Yes. When I first entered the working world (from the student world) I thought kaizen was only a visible activity.

Y There are contents and process kaizen...the important point is that the process is continuously being improved. Up until now, we have only seen the contents kaizen, but it is the process that is important. For example, in making products, if I was the manager in charge of developing this voice recorder (Wayne's), I would ask how could we improve its performance, how would we include a particular feature, how could we charge a particular price...this kaizen is contents kaizen. However, in thinking about how to reduce the cost, what process must we apply; to make the customer happy by adding new functions, what process must we apply? The improvement of such processes is even more important. If the process is good then the result of contents kaizen is also good. So, it is from this point of view that I concentrate on process kaizen. This is very difficult but the company needs to know how to spread this way of thinking among employees. This is difficult. For example, one particular business unit where business was not going well, the person responsible for this business unit was also the business unit director. Usually, the business unit director would be changed, would be fired. But, instead of changing the business unit director, the business unit director selection process must be changed. What business unit director selection process must be implemented? If the process is not changed, no matter who is selected as the next business unit director, the same result will occur. The selection process must be studied to find why such mis-selection is occurring. In the case of my company, such penetration is not possible. This very difficult, but by not doing this the company will not improve performance.

Y Please refer to #1 [Recently, I feel there are two types of kaizen, 1 is just a haphazard kaizen, when we do the daily job, sometimes we may have a difficulty and then we consider how to overcome the situation and then find the way to solve. That is quite normal kaizen. The other one is the way to make clear the idea of a target, what we want to achieve, and then we make a plan, or we may have a kind of milestone after 6 months of which level we want to be at after 1 or 2

years.].

Y Yes. Kaizen activity of the past in Japan involved QC circles, where people on the genba would get together after work hours and discuss problem areas, improvements that need to be made, and make appropriate decisions. This was the traditional form of kaizen activity. Recently, the use of QC circles has almost been done away with. In addition to mieruka, as I mentioned before, is ITka, making use of computers and data obtained from real situations, or the application of IT to traditional roles and functions. This involves analysis and interpretation of data. Through the IT function, although people don't not meet and discuss issues they are able to clearly understand what is happening and the situation at hand. Based upon this, kaizen proposals/suggestions are now made by email. Daily QC circle meetings have become very few in number. This is one of the changes of kaizen activity. We do, however, hold regular meetings, not every day but once a week or once a month. Holding meetings involves time constraints so to reduce the time in meetings IT has been implemented. This is one of the most obvious changes to kaizen.

Q4 In your opinion, do other workers (generations) in your organisation view kaizen differently? If so, in what way?

Coding: N=No, Y=Yes

Y Kaizen activity undertaken by upper management is viewed as an essential activity to strengthen the management structure. In Head Office, kaizen activity is considered to be nurturing of subordinates. For rank and file employees, kaizen activity is seen as the transmission of work knowledge from seniors to subordinates.

Y So, what are the differences, as mentioned above? The recognition of kaizen activity and the contribution it makes to work, as it relates to different positions (ranks) and different age groups within the company, as mentioned before, division managers and department manages actively think to undertake kaizen activity. But, as this group grows older in age considers how to implement kaizen activity, how create an environment where kaizen activity is easy to implement, as one of the roles of their job description. In asking how this is done, as I have said before, production planning is undertaken in a kaizen workplace (environment). Therefore, our kaizen activity is implemented under the umbrella of YWK, Yanmar Way by Kaizen. Within this, various schedules are developed, each side, future, we meet half yearly to decide how kaizen will be implemented. Each department, each division develops and puts forward their intentions for kaizen content, what will be undertaken. This is what we are doing now.

Y Workers in any positions or age groups who have little understanding do not participate in kaizen activity. They cannot see how other workers perform as their connection with colleagues is shallow.

Y Workers with a few years experience have little understanding. They have no idea of how, what, where to improve.

Y Looking from the viewpoint of the Production Technology Division, a focus for solving comparatively large equipment related problems. However from the viewpoint of the Production Management Group, emphasis moves to matters that immediately obstruct daily production

Y Outlandish ideas from young workers are considered, whereas the old hands tend to harbour vigilance with regard to breaking the norms. Up until now, the older generation has not wanted to break with traditional work practices; new ways are troublesome.

Y It is related to the range of responsibility and authority. Yes. On a daily basis, in the pursuit of improving work quality, and meeting requests (delivery deadlines) from other departments.

Y With increased seniority and age, it becomes necessary to expand the range of kaizen activity. Through experience I have gained to date, I teach my subordinates by way of kaizen hints.

Y I have over 30 years' experience in plant maintenance. [Respondent misread the question]. I implement improvements and remodelling so when repairs are made to plant and equipment there is no reoccurrence of breakdown.

N I believe there isn't much difference.

Y I believe that more than half of those undertaking kaizen activities are benefiting. I also feel that the old hands are slower to take on kaizen activity. Prior work schedule management and construction of flow charts provides for easier calculation of man-hours for a job.

N I believe not.

N I believe there isn't much difference.

Y As people age, they think the seriousness of the younger generation is not good enough. In QC circle activity (small group activity), the younger staff members are present and whispering, not listening to what their leader is saying

Y In considering the content of my job, I realize that a large part, other than the preparation of production for new models, is kaizen.

Y Greater effort and understanding comes with age.

Y The genba is an easy place to contribute kaizen activity. The deterioration of seniors' natural activity.

Y The more experienced you are the more you are able get involved with kaizen activity to improve the efficiency of your job. In my 20s, the content of my work was what I was told to do. In my 30s, I thought about how to understand the content of my job and how to do it better. From my 40s, I thought about how to make my job easier.

Y Higher-level positions demand larger results. Lower-level positions tend to think about the pros and cons of undertaking kaizen prior to results. In the higher ranks, judgment is based on results only. The lower ranks want the effort of the execution of kaizen to be seen by senior management. This is the same even for interdepartmental cases. People who undertake kaizen are not excited only about the results, but also about the trouble of the implementation phase and sense of accomplishment.

Y It is different for each. It depends on the level of management and workplace. People in high positions have more possibility to make contributions.

Y In particularly, working consciously. In order to become exemplary.

Y Workplace – Job Content – Contribution Percentage: 1. Working in Production Technology Division – making injection tools for making cylinder bottom caps – 30%; 2. Working in 3rd Development Department – supporting the amalgamation of three factories into one – 80%; 3. Working in Painting Division – kaizen planning for electroplating masking materials – 90%: i. In reference to 4.1, the tool was completed but not used to its full capacity; ii. We make standard designs, but couldn't use them due to company restructuring; iii. Electroplating masking materials, roughly 100%, but the number of tanks was not enough.

Y More than those in management, those who are working at the gemba (on the shop floor etc.) are more able to make better contributions to kaizen. Quantitative evaluation is difficult to make because of individual differences.

Y I said in #1, it is the freshman's duty, for the manager it is result.

Y Yes, I think recognition of kaizen changes dramatically. Why? For example, for managers, while undertaking their management of, one by one, work status of the subordinates of the whole organization, speed of business operations, if any issues arise, they are dealt with by kaizen measures. With regard to management, if issues arise concerning subordinates' status in the workplace, so carefully, with regard to workflow, naturally they undertake kaizen type responses, such as PDCA (Plan – Do – Check – Act), being the proper course of action, which in turn becomes part of the same as kaizen activity in the workplace. Naturally, if we compare managers and related subordinates, no matter the height of the position within the organization, the importance of kaizen holds high recognition. I don't think there

are any differences in changes in work behaviour and the recognition of kaizen activity on an age differential basis. The reason being that the recognition of kaizen activity is the same as what is learned in school. It is not the individual that makes decisions but the culture of the organization, the directives and education of the worker's superior, which in turn establish differences in recognition of and contribution to kaizen, kaizen thinking, and the strength of work initiatives. Therefore, in conclusion, I don't think there is any affect on the recognition of kaizen and contribution to work on an age differential basis.

Y For me, in my 30s, I had a big thinking for kaizen, in my 20s and 30s, for me. In my 30s I knew the 4 tasks of how to do kaizen, responsibility and rights. I could do any job. I could control the job, the organisation, and management. In my 40s, I had team members; if these people were fit for their jobs it would have been a very good team. But, control was very difficult. In my 30s I was a player, in my 40s I was a manager. (People in their 30s are players, people in their 40s and 50s are managers). If I could control all the members then it is very good. Older people are more, very difficult to manage. Could you control a 50-year-old employee? They have long experience, and knowledge also. It's very difficult.

Y I am a team leader, and in team management. Each day, I have to say what issues we have to improve, typically quality. Quality is a big problem at any time. There are many quality issues, even in one day. There are many issues. So I make consultation and then distribute orders depending on people’s positions.

Y Young people today do not love their job or their company. Even most people of my generation (in my company) no longer love Panasonic. This has gradually occurred because of the way the company operates, discipline in the home, the Japanese education system - Japan has a big education problem resulting from having a rote learning education system. I was somewhat shocked when I saw a programme on TV about the education system in Finland where pupils are encouraged to think. I was very shocked to learn that in Japan to calculate the volume of something we teach the pupils the formula, whereas in Finland they

encourage the pupils to think how to calculate the volume. These are totally different approaches. The students are thinking to capacity how to calculate, they are always trained how to think. This is exactly what kaizen activity is. This is something Japan isn't doing. Japanese pupils remember only. Individual ingenuity is disappearing. Young people's ability to think is gradually weakening. For example, it is believed that in order to be a Tokyo University graduate one must be elite. This is proof of the generation gap, and this is very dangerous for Japan. Japan's education system must be rebuilt from scratch, if not Japan will fail.

Y I feel that most likely the elderly people don't want to change the job-flow and tend to follow the way they used to do for a long time, I can say that the elderly people are conservative compared to the younger ones. So, it is difficult to get the elder people to join these activities.

Y Basically, kaizen is different for each job and level. For people on the shop floor, basically, they would make improvements to their job on a direct basis. In the case of management, basically, they would make improvements to organisational efficiency and practice. In the case of Japan, the contribution made to work is very high; kaizen activity fits very well with the Japanese people. Therefore, the contribution to kaizen in the workplace is very big.

Q5 What kaizen activities (including education) does your organisation undertake?

Coding: F=Facilitation, G=Guidance

F To stimulate awareness, groups from both Japan and overseas participate in company-wide events, which every year are becoming more and more popular. Further, company-wide kaizen meetings/conferences provide a reception opportunity for the President and top executives to hear of the hardships of kaizen activity, and eat and drink with employees, and propose appropriate action.

G Currently, once a month, a Toyota advisor, who was previously an assistant CEO, comes to our company for 2 days to view our production lines, talk with our staff to find out what they have been doing. He advises on kaizen weak and strong areas, and what needs to be implemented within our YWK kaizen activity.

F We conduct QC circle activity twice a month. We participate in kaizen meetings with themes on inferior quality, performance and safety.

F QC circle activity, small group activity.

F Through QC circles, TPM (Total Productive Maintenance) education and practice.

F QC circles.

F In the Production Technology Division, we undertake kaizen activity through the preparation and distribution of easy-to-use shop-floor kaizen feedback forms, and the subsequent selection and implementation of kaizen activities from these feedback forms. QC circle activity undertaken at the gemba (production line) level.

F One part of YWK (Yanmar Way by Kaizen) activity involves the promotion of the visual presentation of a course of action (planned v's actual) for each individual workplace.

F Raising workplace quality through QC circles, and participating in regular workplace kaizen meetings.

F Within the division, workers are receiving more than half of the kaizen suggestion reward (the remaining goes to the division).

F Same as #6 [Yes. There are problems with the degrees of achievement but there are on-going genba (workplace) kaizen meetings, and a suggestion system]. QC circle activity, OJT (on the job training), participation in out-of-department kaizen meetings. Kaizen activity is undertaken in surplus time within the working hours, not overtime.

F In daily after work meetings we discuss the day's events and try to find the direction of kaizen activity.

F The execution of 5W1H (who, what, when, where, why & how), focusing on genba products.

F Through the promotion of YWK (Yanmar Way by Kaizen).

G Consciousness is heightened throughout the whole company through monthly reviews and reporting.

F We undertake YWK (Yanmar Way by Kaizen) activity.

F The promotion of YWK (Yanmar Way by Kaizen) activity.

F QC circle activity (small group activity)

F The implementation of OJT (On The Job training).

F Currently, our aim is to increase QC circle activity by way of publically awarding proposals and holding kaizen meetings. Previously, (when Yanmar HQ received the Deming Award (1968)) the TQC Promotion Department was established, QC education was extensive, and in-house instructors, with unlimited enthusiasm, conducted regular education.

F The running of kaizen activity meetings.

F QC circles are set up to raise the quality consciousness of each individual employee.

F YWK (Yanmar Way by Kaizen) kaizen activity.

F Our company has a suggestion system, and once a month holds genba kaizen meetings.

F QC circle activity.

F The promotion of suggestions from rank and file workers. The implementation of QC circle activity.

F QC circle activity is undertaken in each work place. During the morning meetings, problems are shared and measures are proposed.

F Genba kaizen meetings and QC circle activity.

F The improvement of production facilities, and making new tools.

F Public recognition system.

F QC circle activity to boost awareness in each workplace.

F YWK (Yanmar Way by Kaizen) activity, and TPS (Toyota Production System) practice activity with subcontractors.

G A promotion department/promotion manager is decided upon, and each month action items are followed.

F In the group, we have a kaizen activity system.

F Kaizen suggestion quotas YWK kaizen meetings, and QC circles, etc.

F We have a cash reward system for suggestions, and the promotion of workplace kaizen meetings.

F Efforts are made to make improvement to organisational unit costs.

F I think kaizen exists in the group, team and the person – small kaizen, middle-sized kaizen and big kaizen. Once a year, or half year, we compete with kaizen themes and results. We have to write a report about kaizen. At the beginning of the year we have to decide the theme of kaizen...'???-kaizen': time is cut 30%, cost cut 10%. I have to decide the purpose. So, we consider the method or design, redesign of anything. So we do it for half or for one year, and we write a report, and make a presentation, and compete. The managers judge number one, number two, and number three prizes. So, our motivation is continuous. But, for half the people motivation is continuous, and for half the people is normal, I think. Manufacturing workers are realistic, but design people and people unrelated to manufacturing, their spirit is low, I think. For manufacturing people, the account of cost down is big, big money, but for non-manufacturing its small kaizen, I think. For example, in non-manufacturing, we use paper in the copiers, if we aim to cut 10% a day, then this is small, small money. But in manufacturing, are making 100 or a few hundred machines at any one time so, this is part of the mechanism of kaizen, so it is big money, I think.

F There are a number of crosswise-all-organization initiatives. The substance of these include: examples of group or team cost down and quality kaizen activities being posted on the company intranet so these can be known and shared on an inter-organizational basis, and that expansion of such activities known. Although such initiatives are being undertaken, I don't think they are overly effective.

G Kaizen directives come from JQA (Japan Quality Award). Spiritual kaizen is very weak in this company. That is the reason that managers really want to do kaizen. If he wants to do kaizen and aim at the ideal situation, he will do big kaizen: do this one, do this one, so that we can do this one. There is no schedule, just thinking that I am aiming at this one. That's all. I am one of the assessors of this JQA and I have to clarify 'what do you want to do'? The situation, what we are now, what we have to do for this, this year and next year, next month, tomorrow, specifically.

G Our company's kufu, in Matsushita there is TQC. There are many tools. So every time, the Quality Department tells us to try to study, try to invest in quality management, tools and measurements. So we have to learn to use such tools.

F Kaizen activities at PFSC tend to concentrate of what we call Cost Busters, which is a cost reducing activity. Further, results from Cost Busters activities are posted on the company's intranet.

G In order to implement the PDCA system, we operate under the ISO framework, and that of the Japan Quality Assurance Organisation.

G Yes, on the production side, definitely yes. At the beginning of the year we report what we are going to do and what level we are going to achieve. Then, every 6 months we get, not exactly surveillance, but kind of, and we have to report. And we can also get the quite unique way the domain company did it, yes, we can learn from such a sample.

F There are a variety of kaizen activity mechanisms. For example, within the kaizen suggestion system, with regard to the job, traveling to the workplace, the individual's well-being, etc., in order to make these aspects easier to change, to make work easier to do, there is a suggestion format in place whereby a suggestion can be written and submitted to a suggestion committee, which are then reviewed and the very best suggestions are publicly commended and put into action. This is a system to enable easy collection of suggestions from the workplace/genba. Make use of the IT infrastructure to provide as much statistical analysis as possible, to take as little time as possible to share the status of an issue.

Q6 Do these appear to differ for people at different 'levels' of the organisation?

Coding: N=No, Y=Yes

N In the case of Mitsubishi Chemical Corporation, kaizen activity is, within the realm of general kaizen activity, safety is a part, and is considered an important part of our business. Following this, employees are positive and have kaizen initiative; Group (including foreign affiliates) employees too are encouraged (guided) to hold the same concepts. Further, employees who were able to achieve notable results from kaizen activity are promoted accordingly. Also, employees gain confidence to raise their work skill level.

N In regard to the position of kaizen activity in management and the influences on employees, YWK activity is undertaken as a company, even as far as the CEO/President. Therefore, the position of management views kaizen activity as company management. Of course, this is not the case in totality, but is for the most part. The company equals kaizen activity, so kaizen is the result of the company. In regard to the influence of kaizen activity on employees, YWK activity was first implemented 6 years ago (circa. 2004), the same time when I joined the Production Planning Department. Over the past 6 year, continuously, genba, guidance, and YWK for the customer thinking has penetrated all parts of the company. In exception, YWK has not infiltrated 1/3 of general employees, we do not have all employee infiltration.

N If workers (employees) understand the fun part of kaizen, they become active.

N We implement kaizen activity that targets all employees, with the objective of the stability of quality and the improvement of productivity.

Y Yes. There are problems with the degrees of achievement but there are on-going genba (workplace) kaizen meetings, and a suggestion system.

N I believe it is one of the pillars of company management. I believe employees benefit from kaizen.

Y By making effort to improve the quality of employees, their motivation naturally increases, I believe, quality of products and cost reductions can be seen as kaizen results.

Y I think employees in high positions have greater awareness.

Y There is the tendency for kaizen to easily become slightly top-down, but currently, not all employees at the bottom of the company structure think kaizen activity is necessary.

Y Adopted kaizen activities will only be profitable in companies with effective management. No sense of achievement is obtainable if there is no clear feedback from the company to the individual.

Y This is the same as #1 [I think kaizen is, basically, part of work. All people have to do. But Matsuki says the same thing, for freshmen, it is their duty, but managers require results: cost down, quality up, and time cut. Results, I think. Kaizen is creation – making and design. So we have to cut costs and cut time, but quality is maintained or raised. I record the know-how, the method, so all people can realise this know-how, the kaizen method.].

N With regard to my current place of work, target expense reduction awards and a variety of activities, taking the thinking behind ISO90001 as a base, kaizen activities are incorporated into the mechanism of one year's business. However,

personally, I don't recognize, believe this situation as working well. In saying this, more than the business mechanism, individuals' awareness of kaizen and reform on a daily basis, at this stage, has not fully infiltrated into company wide initiatives. The question is how is this being recognised? That is, current initiatives are weak.

Y But the managers are not specific; I want to make this company like this, that's all. There is no direction from the top. People at the bottom are waiting to be told what to do; what to make; they have no idea. The managers can do big kaizen, but the employees' responsibilities and rights are limited. So we can do small kaizen. If we aim at this one, it is so small, too small. The managers have to do big kaizen. The managers don't know the good methods. It is one reason I think. In this company, almost all of the employees think that our president will bankrupt this company. He has no idea of how to remain in this market.

Y Kaizen activity is very important to employment. Recently, in the case of our company, Cost Busters (CB). CB very much depends on cost/profit. It is easy to measure improvements on a monetary basis. So, in our company's kaizen activities, CB holds a high position in daily activities.

Y Regarding #1, company's management system is a base where all employees must develop annual plans, and the PDCA system must operate within these plans. Therefore, every employee employs PDCA. Duplicating what was done the year before will result in a bad employee evaluation, a 5% improvement will result in an average evaluation, whereas a 10% improvement would be considered excellent. This is the evaluation method we use, and in Panasonic duplicating the year before is not allowed. It is difficult to know if this method works perfectly. Setting goals is difficult, and knowing if they are the right goals is difficult.

Y The position of management is, as I mentioned in the beginning, to fully understand and pursue efficiency of current work at hand, and not to directly develop new business. As new business is creative in nature, there is no meaning in applying kaizen activity to it. The Japanese soon become confused, or lost,

when faced with a new extremely creative project, they soon want to attempt to apply kaizen activity. Before that, necessary elements that must be considered, such as the development of strategy and establishment of positioning for hitting the market, are overlooked. They will consider how to make the work in front of them more efficient and lose sight of the long view. And this is one of the positions of kaizen within the organisation, that is, to concentrate on and improve what is in front of you, what can be seen. Young employees and employees with only a few years service tend to contribute much to kaizen activity and many kaizen suggestions. And..., in line with years of service, moving through to middle and long term employees, they tend not to contribute so much kaizen activity but move to more strategic planning. The biggest effect upon employees would be that a suggestion made by an employee provides that employee with motivation.

Q7 What kaizen guidance, feedback etc. does your organisation receive from your parent company?

Coding: F=Facilitation, G=Guidance

F Currently, we have an in-house (in-company) education/training company where new employees are educated about the mentality, methodology and basic procedures of kaizen. Further, these procedures flow through divisional meetings to departmental meetings to office meetings to company-wide meetings, where at company-wide meeting level they become advanced kaizen activity announcements.

G Of course, YWK has infiltrated positions and is regular business for all positions above department manager, division manager, squad (team) leader, chief. Further, regarding kaizen activity from our parent company (Yanmar Corporation Limited), once a year, 5 members of the parent company Monozukuri Production Planning Department come and conduct a factory inspection, and provide guidance and an audit. A Toyota adviser and his manager accompany them. They, in turn, visit each of the Yanmar factories. Upon this visit, they provide review and advice, including a rating for the progress and level of kaizen attained. Unfortunately, of about 12 factories in the Yanmar group, we rate about 9th place. Within the group, this is not a good ranking. On the basis of how far a factory has progressed from the year before, this year we are at #2 position. That is, second position on the basis of annual kaizen activity content. As I mentioned before, regarding kaizen activity guidance from our parent company, currently we have a member of our parent company Monozukuri Production Planning Department regularly visit our factory/company, to give advice, contribute to and undertake kaizen activity with our employees. It is through this that our parent company and our company (Yanmar Corporation and Yanmar Construction Equipment) have kaizen activity integration.

G Yes, they provide us with very strict opinions.

G Once a month we undertake YWK (Yanmar Way by Kaizen) activity (with instruction from the Central Japan Industrial Association).

G Yes, there is. Within the realm of kaizen there is cost structure kaizen. When undertaking this activity, our parent company methodology and makes suggestions to promote very positive benefit.

Q8 Do you expect kaizen to develop in the future?

Coding: N=No, Y=Yes

Y Management: Recently, many who graduate university and enter the workforce hate to work in a factory environment. The reason for this is Japanese 3K (kitsui=difficult, kitanai=dirty, kiken=dangerous [to be known as 3D]) workplaces; therefore new employees often choose R&D positions. Following this, new employees have the knowledge but don't know how to apply it, thus there are increasing numbers of management people who cannot guide in a practical manner. Staff: Due to the demanding economic conditions, employees who have recently joined the company participate in an active manner. However, although they have a lack of learning in university, once they join the company they learn from their supervisors and team leaders. Supervisors: Within leaders in the company there are those who have natural talent for their jobs and those who don't. As a result of this, in different areas of the company, there are large differences in results from kaizen activity. Rank and File Employees: These people have the willingness to learn from kaizen activity. They are taught from their supervisors that kaizen activity is the source of workplace competitiveness, and therefore work seriously.

N I believe that the contents of TPS will not change in any great manner. Even the days of Sakichi Toyoda (founder) and Taichi Ohno, the content of kaizen activity has not changed to this day. The only changes that have occurred are the likes of the kanban system moving from paper to electronic systems, and further evolution (development) will be in the form of the adoption of IT, but the thinking behind kaizen will not change.

Y I am not sure but I think it will.

Y I must progress through my own ability.

Y It will develop as long as it is continued.

Y The continuation of kaizen activity gives rise to development.

Y Yes.

Y I believe kaizen activity involving equipment and facilities progresses through technological progress; on a daily basis, kaizen will remain steady, and will not develop dramatically.

Y I believe kaizen will remain to be continuous in nature and will expand through the continuous implementation of kaizen targets and the PDCA cycle. How to heighten the commitment to individual kaizen? I believe the way for kaizen to evolve is by not spreading the steps of kaizen too much.

Y As kaizen never ends, it will evolve, and should continue.

Y Yes, I think so.

Y Yes.

Y I think we must make it develop (Joke： shinka = develop, deepen. Hahaha).

Y I believe is must develop.

Y Through the adoption of new technology, products and services.

Y Kaizen will develop as individuals' consciousness is heightened.

Y The adoption of new technology.

Y Yes, I think so.

Y I believe development is essential for monotsukuri (manufacturing, craftsmanship).

Y 1. I believe if eternal continuation is possible, a higher level and wider spread is achievable. 2. A company’s prosperity requires reducing waste, adding value and raising efficiency through the improvement of senselessness and inefficient aspects of the organization. Therefore, daily development is necessary.

Y Yes, I think so.

Y I believe it will not stagnate and will develop.

Y I believe it will develop. It must progress develop!

Y Yes, as long as companies exist.

Y Every time there are changes in work procedures, kaizen occurs.

Y Yes.

N I don't really think so. (But I think it needs to be developed).

Y I believe it will change.

Y This would appear so.

Y Externally, I believe it will develop. Internally, I don't think it will change.

Y Yes. I think kaizen will adapt to suit changes in business.

N I think change will occur but I think no development, but continuous.

Y Yes.

Y Kaizen is always evolving in Matsushita, Panasonic because Panasonic has a 90-year history, and everyday improving. So, in the future, if the situation deteriorates, Panasonic deteriorates.

N Currently, the word kaizen encompasses very large meaning, and as it is an activity with a steady base I do not think it will develop.

Q9 In your organisation? If so, how?

Coding: N=No, Y=Yes

Y Refer #8 [Management: Recently, many who graduate university and enter the workforce hate to work in a factory environment. The reason for this is Japanese 3K (kitsui=difficult, kitanai=dirty, kiken=dangerous [to be known as 3D]) workplaces; therefore new employees often choose R&D positions. Following this, new employees have the knowledge but don't know how to apply it, thus there are increasing numbers of management people who cannot guide in a practical manner. Staff: Due to the demanding economic conditions, employees who have recently joined the company participate in an active manner. However, although they have a lack of learning in university, once they join the company they learn from their supervisors and team leaders. Supervisors: Within leaders in the company there are those who have natural talent for their jobs and those who don't. As a result of this, in different areas of the company, there are large differences in results from kaizen activity. Rank and File Employees: These people have the willingness to learn from kaizen activity. They are taught from their supervisors that kaizen activity is the source of workplace competitiveness, and therefore work seriously.].

Y I mentioned before, there are aspects of the TPS that our factory (YCE) are unable to adopt, and it is the adaption of TPS to, and the establishment of the YK (Yanmar Construction) production system that I see as the evolution of kaizen. We have adopted the TPS as much as possible, those aspects that we are unable to adopt we adapt to our conditions and requirements. A very good example of this is, currently in our factory we produce construction equipment in the range of 0.5 to 10 tons on just 1 line. This would be the equivalent of Toyota producing from Kei cars (light weight, 660cc, mini-car) through to trucks on one line. This is something Toyota does not do. For us (YCE), there are many many merits in running a 1-line production system. Is this not an exemplary case of something Toyota cannot do? This is not really evolution of kaizen, but outside the factory YCE also undertakes kaizen activity in the form of YWKS (supplier) kaizen activity. As it happens, today

from 1:30 to 4:00pm we are conducting a kaizen seminar for 30 of our supplier companies about cost accounting and how to improve and make it most effective. This is just one aspect of our YWKS activity. Further, within our factory kaizen activity, we also run study groups and conduct practice tests whereby members of each line and each workstation undertake thorough instruction to obtain kaizen (production) related targets. This follows the TPS. At the moment, we only undertake this activity in company, this is the 4th time, and are run every 3 months. From next year, the beginning of 2010, we will include suppliers. It is through this new inclusion of suppliers in our kaizen activity that we plan to move forward on the kaizen front. In addition to what I have talked about so far, we have implemented QC circles, with 41 QC circles, each of about 7-12 members, in all work areas of the company. Each circle is able to find kaizen points and implement the necessary kaizen activity autonomously. This does not only relate to quality, but also to safety, and 3S (seiri arrangement, seton order, seiso cleaning).

Y Yes. Through the reduction of work-in-process inventory.

Y Yes. I don't know specifically, but if in the future no changes are made, things will be as with now, people and companies will not grow.

Y Through the expansion and promotion of kaizen activity to our suppliers and customers. To our suppliers and customers, the presentation of specific kaizen items based on quality information of goods supplied, and kaizen activity support.

Y At some time in the future, all the small kaizen activities will result in something large.

Y To meet the needs of the market and customers.

Y We need to energise (Joke; deepen) YWK (Yanmar Work by Kaizen) activity. Through the use of small group activity, advocating (explaining) the necessity of kaizen.

Y The improvement of quality through kaizen. Improve facilities, by changing workers' thinking toward quality.

Y Through the adoption of new technology, products and services.

Y From within the company. I believe kaizen activity will become second nature.

Y The adoption of new technology. The adoption of new technology from various equipment catalogues.

Y Through the optimization of production instructions in outsource product tickets. The reduction of parts inventory and handling.

Y Productivity will improve, and defective goods will decrease. Quality consciousness will not deteriorate, but will be maintained.

Y It will achieve original development. If tradition, technology and creativity are embraced, then total development.

Y Yes. Changes must be made to adapt the surrounding environment.

Y The repetition of development and deepening. Probably through systematic kaizen.

Y The energising of kaizen activity. Through greater employee kaizen awareness ('You think, you do').

Y Yes. I think kaizen will adapt to suit changes in business.

Y In the first place, in the order of regular business, employees' awareness of kaizen relating to how they will resolve issues, if and when found?; if other organisations are included in the process?; if kaizen is used at all? I think it is important to make employees recognise the importance, necessity of this. I don't think it will go as far as evolution, but from awareness and motivation, kaizen activities will begin to advance in different forms as specific management activities.

N No.

Y #9 is the same answer as #8. How? It's difficult but through new technology and methods. The development of TQC and other tools are not completed now. The tools I use are difficult to use and arrange. I propose improvement changes. If my idea produces better results then I propose to my colleague and other engineers. That is a typical case.

N This year, I am in charge of the Service Department, and I feel that when we do service we need service infrastructure like information, but not only information, we need the technical skills, tools, and documentation. I believe that our company used to do such kaizen to improve the service organisation on the front-side. But it was not enough. Now, what we are about to do is, I had a meeting just now, there are so many points we have to review like tools, whether we have enough tools, or only a few tools, the condition of the tools, the skills which can optimise the data on the equipment well, whether the front serviceman is doing regular maintenance well, or if they are doing just on a call basis. I believe our front-side service organisation is improving yearly, but they just face the difficulty and then overcome it, then face another difficulty and then overcome that. They are just repeating just like this, so

the speed of the kaizen is quite slow. They don’t have the ideal plan, so I feel it’s our makers-side job to make the level clear. For example, level 1 is low level, and number 5 is high level, and then identify. Level 3 like this, and level 5 is like this. Then undertake surveillance of the front-side organisation and then advise, or make them promise what they are going to do this year. I won’t say they are not doing kaizen. They are, but the speed is not enough. This includes Panasonic distributors overseas.

Y As I just mentioned, the methodology behind kaizen activity will probably change.

N This is quite difficult. As I said before, the company's way of thinking...which is now similar to that of the West...if it does not change radically then company spirit (loyalty, love) will be lost, employee motivation will be lost. This is quite difficult. As I said before, the PDCA that operates within the management system...young people are losing their company spirit, their ability to think is weakening, ...this is #1…#2, this is very difficult. Given the situation we have today, I cannot imagine what Japan will be like when the young people of today take the reins of Japanese business and industry. Things will not be so good, maybe bad for companies. Most companies will become worse. When I was 30 years old, Japanese children were very innocent but recently Japanese young people, teenagers are very different. They are scary. This is because their parents are different from previous generations. Parents are not adults; they are still children.

Y I think kaizen will evolve and develop depending upon the time and circumstances. I don't really think that the act or mind-set behind doing kaizen activity will change so much. But I feel the methodology will probably change.

Q10 Outside your organisation? If so, how?

Coding: N=No, Y=Yes

Y Yes, at outsourcing factories. I do not know.

Y Request support to respond to demands. Requests...guidance, clarification of range of demands.

Y I believe it will develop. I believe we can reduce costs only through kaizen.

Y Through the adoption of new technology, products and services.

Y The adoption of new technology. The adoption of new technology from various equipment catalogues.

Y Optimisation of purchase quantity.

Y A system needs to be developed where products that have been inspected by Yanmar Construction Equipment Ltd. can be relied on (He wrote: guaranteed) 100%. By creating a Yanmar brand equivalent to JIS (Japan Industrial Standards).

Y The pursuit of equal treatment of clients.

N Outsourcing companies are many (and complicated), even though kaizen activity can be undertaken together, it cannot result in friendly relationships, and thus it cannot truly develop.

Y It will become kaizen with an environmental emphasis. People-friendly and eco-friendly. Kaizen of the Administrative Division.

Y Yes. I think kaizen will change to suit the changing times and society.

Y Looking outside of the company (PFSC), at companies one by one, there are companies that undertake initiatives to the same degree (as PFSC, Panasonic), there are companies that don't, but, basically, the meaning of the word kaizen, as I see it, by making use of PDCA as it was intended, and within normal business, and by recognising the task at hand, even when daily work is going smoothly, to do even better, when looking to see if whether there is waste or not, implementing PDCA...is what I am thinking. I think it's not necessarily about evolution from an outside perspective, but more of kaizen as an mechanism. Taking this mechanism and applying it to an organisation, it may be the evolution, consolidation, rejection that results in variability of kaizen.

Y Yes. If there is a good manager who has high motivation, the company will improve, there will be lots of kaizen atmosphere and activities) in the company.

Y We use affiliate/joint management companies to assemble our machines, and in turn buy machines from such companies. So, kaizen needs to be improving. We supply kaizen tools. We provide monthly kaizen quality report and get feedback. This is a typical cycle.

Y Looking at Toyota, kaizen activity as a weapon is definitely becoming stronger but they do have a different perspective. Panasonic has a different perspective again; there are several areas under consideration to enable company strengths to be developed. This would be very different for workers in different industries, for example, in thinking about cars as products, Toyota continuously produces many different models of cars from which a variety of data is obtained, which allows Toyota to know with high probability which car is ideal for which customer, which

car will sell well, etc. With regard to producing cars, priorities such as how to quickly increase efficiency will become higher. In contrast to this, in the case of a new business venture producing robots for home use, there is no way to apply kaizen activity because no record of past history exists. In the case of this company (PCC), we produce telephones, and there are many opportunities to improve the product line. But, if and when we start a new business venture, say, to produce a network camera or others, we consciously take a different perspective before kaizen, compared to producing existing products. This is quite different for different companies with Panasonic.

Q11 Do you have any other opinions or ideas that may contribute to this research?

If kaizen activity were not undertaken, I believe, within the severity of the business environment, the current financial difficulties would be worse. MCC too, to survive the current recession, attempted to build new business on management principles of 'human dignity', where each individual person working for the company is seen as a valuable asset. For Mitsubishi Chemical Corporation, company-wide meetings, held as small group meetings, are held annually where officials participate, kaizen results are announced and honoured, with the highest achieving groups receiving achievement awards small remuneration from the company president rather than just cash.

I believe daily kaizen activity educates people, and is, to a certain extent, like a revolving door. As long as there is the need to educate people I believe kaizen is necessary.

The starting point for inter-generational research of kaizen, it is to know what kaizen is, and to question the definition of kaizen.

Rather than just through this questionnaire, I believe it is necessary for you to see the workplace for yourself. (I apologise if you have done so).

Nothing special.

I believe that even outside the scope of kaizen activity, individuals are continuously thinking while doing their jobs, which is beneficial to the company.

Nothing special.

Through the daily progression of technology, if we don't reduce costs production will leave Japan to China etc.

One issue does not finish with one kaizen activity. So, kaizen occurs daily due to everyone’s consciousness of it.

I believe kaizen activity that everyone is involved in is the source of energy for the company and the employees. I believe it is very important to understand how to stimulate this. A company with vitality should have high morale and kaizen motivation among all employees. Further, it is believed such a company always focuses on the next generation, makes changes, and continues to raise predominance.

I believe with certainty, regardless of the guidance system and leadership of the management ranks of the time, if consciousness of making changes as the corporate culture deeply takes root, the direction of the organization will rest on the next generation and the fruits of kaizen will accumulate.

Each person has a good idea of kaizen in each situation; it doesn't show but is embedded.

There are many types of kaizen in kaizen activity (quality, workplace, environment, etc.). I believe it’s easier to understand by breaking it down into pieces and reassembling it.

I think the wisdom of kaizen is that if there is no trouble it doesn't emerge. The key is how to produce this trouble. Further, the people who understand people, and can overcome people, enable kaizen.

While kaizen is continued, even with the changes of generations, can the DNA of the company itself be maintained? A mechanism is necessary. It is necessary to

have systems and opportunities where there is kaizen exchange between the generations.

I think everyone does not think of kaizen as something special but as routine.

I would like to give you an example. In my case, I work in Documentation and I use Microsoft Word. Word has a lot of special functions, but most people don't use these special functions. People can make a New Year's greeting cards with Word, a good skill but I think it's bad. Word is a special tool, a special tool with many special functions, with Visual Basic 4 included. I use the special functions and VBA (Visual Basic Application), and in doing so I try to cut costs and cut time. And use automatic layout or automatically transfer from Excel to Word where layout is changed automatically. I do this every day. And this is kaizen in my documentation work. And searching the Internet for information about how to use Word more effectively enables me to have kaizen in my documentation work. And other people say, “Time is required to implement kaizen”. Managers say every few minutes, every few hours “Let's implement kaizen”. But we consider kaizen activities for a week or a month, and save five minutes. Is that good? I don't think so. So other people say, “Implementing kaizen requires time”. I think a balance is important.

No, not at this time.

Your theme, between generations is very important. Not just PFSC, but in all Japanese companies, there are many baby boomers. Now, in this high-tech age, young engineers are not so disciplined and not so hungry, so the activities are very different, the generation gap is very wide. It is an important issue/problem, even in our company. Baby boomer engineers are thinking about kaizen activities daily, and thinking all the time. Because, when they entered this company, their bosses educated them always about kaizen, quality, practice, to work hard. But, now when a new engineer enters this company, the bosses and young engineers are like friends, there is no discipline. This is no good. So, the consciousness, thinking is

different. Kaizen is not money for the baby boom generation engineers; it is the blood and meat of their own body. Young people think of money and skill. So, their understanding is different. So, we have to try to instil in the young engineers the baby boomers' understanding of kaizen. But, this is very difficult.

I think risk assessment may also be included as an activity within kaizen. In my opinion, kaizen is a passive activity that occurs naturally to soothe frustration that occurs naturally in everyday life. However, through this questionnaire, I now feel that risk assessment as an active activity may, in the end, have relation with kaizen.

In our company and in our sales division there are no kaizen activities, so I don't know kaizen, maybe. We do improvement activities in our regular jobs; we don't have any special activities or projects. But, some parts of our jobs are like kaizen. In all companies, there are many sections, and each section has a special purpose, and each purpose is different. We always try to get our organisation or section purpose. This is an important purpose of kaizen activities. In our sales division, we need to improve order accuracy and order numbers, from 120 units to 130 units. This is a big problem in our division, and our company. It is impossible, but an important job to increase numbers. But, it is very difficult because we cannot always defeat our competitors, and our customers situations change, things are up and down. We don' think of it as kaizen but as a small achievement, that it is just part of our job. The kaizen activities, such as those, of Toyota do not seem to apply to sales. Sales are part of the job and I don't think of it as kaizen. Yet, other people think of it as kaizen. In the sales division, we do not use the word kaizen. Sales division meetings, etc., I do not think is kaizen but part of the job. In my job, achievement and level up of our job is my regular work, regular job. I cannot separate kaizen and my job. We sales people do not have an image of kaizen, for all sales people. We do not use the word kaizen. Kaizen in other parts of the company, I think, is an activity of the production division or related divisions, such as service or design. Kaizen doesn't fit the sales business model. Kaizen is in the manufacturing process. I think kaizen is not a special activity or job because we achieve in our regular work, it is what we do usually in our job. Achievement for

sales people is natural, nothing special. In our sales division we cooperate. We do not have kaizen meetings or discuss about kaizen activity because the sales division doesn't need kaizen. Maybe the production section do, everyday all workers, do repetitive work. But people in the sales division everyday every week every year is different, we can change how we achieve. Kaizen is not a new style. Achievement is ordinary. Kaizen is part of the production division, repetitive job work.

Instead of this question, I would like to ask you a question. Why kaizen? (Explanation by Wayne). I see, I see. Probably, in the case of this iPhone here, a Japanese person too had the same idea to produce such a device, but as is a tendency of the Japanese, it is not our intention to be the first to produce new product the world does not have. The same goes with the Walkman. Before that, the tape recorder existed but somewhere some Japanese person thought to make it would be good to make it smaller and portable. Such a prototype probably did exist. But in the case of the tape recorder, Japanese probably could not have developed such a device from zero. The Japanese tend to take a product that already exists and then apply kaizen activity (smaller, faster, better, add functions) to it to satisfy the needs of users. It would almost be impossible for Japanese to start from zero and produce the tape recorder, CD, or DVD. Improving is a specialty of the Japanese people. The Japanese were originally an agricultural people that lived in villages. In such a society, anyone who was extremely different was not liked. For example, even if doing something that is good, they suddenly start doing something that is different from others in the village, for example, parents would say to such a child that they will laughed at by people, they will be not liked by people, the parents would warn the child. Where possible, in Japanese village society, common activity is the pursued method adopted to ensure survival. In such a society, the development of homogeneous ideas is norm, and new ideas become almost impossible. In the case when such new ideas come about, the perpetrator is looked upon as strange by others in the village; causing difficulties for the village. And because, as is said in Japanese, MARUKU OSAMERU, that happiness can be found by not standing out from the crowd, by walking within the set boundaries, people are kept in line. However, this is not so true for Japanese today, but traditionally so. For example, in a horticultural society where everyone grows rice,

if one farmer was to change his operations to, say, farming, buy a cow milk or meat; others would not appreciate this. In a society where everyone grows rice, through cooperation, it is possible to discover improvement of techniques where more rice can be grown and harvested. This leads to riches for everyone. This thinking is at the root of Japanese thought and flows through to how people act. It is probably through this that provides the energy for Japanese to undertake kaizen. In their jobs people don't doubt anything about their jobs or what they are doing; they suspect nothing; they are unquestioning. They join the company and began to work, they never questioned whether they are right for the job, it was right for them, if the job provided any real benefit. Japanese people have the energy to question the methodology of the work that is in front of them, to look for ways to make the job easy or faster. In a community based society this is acknowledged by all members. For example, in a company producing telephones, if workers were suddenly asked to produce cars, say in Panasonic, the workers would be totally against this idea. The workers would say, “cut the crap”. As I said before, we were not raised to become one who stands out from the crowd by expressing astounding ideas. So nobody speaks up with such new ideas when they start working for a company. When the company decides to move in a new innovative direction, it is then difficult to gather the workers to carry the same flag. Probably, after the War, the reason for Japanese progress was because Japan copied products from The US and Europe, labour costs were cheap, then exported. Japan wasn't able to produce original products but import foreign goods and make improvements to quality and cost, and then export. Following with the dramatic development of the country. However, in continuing this way, in the end there is nothing else to copy. As is the situation in Japan, there isn't really anything else to copy, so we don't know what to produce. I may be wrong in my thinking but, everyone probably has the same amount of applicable energy, Americans, European, Japanese etc., but there is probably a difference in where a persons energy is used. For example, the Japanese tend to expend a lot of energy in finding easy to make car seats more comfortable and easy to use. Americans may be just satisfied with the fact that there is somewhere to sit. Then, look for other places to develop and improve and expend the same amount of energy. It is the difference in perspective that results in differences in outcome. For example, as a car has a seat, the Japanese are able to

improve it. If a car didn't have a seat, the Japanese wouldn't know what to do. To the Americans, although there is a seat that is uncomfortable, as long as they can get from A to B they are happy. Taking it further, producing a plane would allow for even faster travel, however, Japanese would not think to develop the airplane. This is the difference (between Japanese and Westerners), the Westerners tend to direct their creative energy in to new areas. Why aren't Japanese satisfied with attaining benchmarks? This then leads to energy being directed in to development of existing products. I feel this is the difference. When we (PCC) are planning and developing (electric) products we think that any kaizen made to the product is a feature of the product. For example, improving the sound clarity of a telephone. Taking this to, say, America and making a presentation may result in no reaction. But, in adding new functions like a large or bright LCD display results in incredible reaction. The difference is in what is seen, i.e., visual change is more important than non-visual change. Japanese hold value in improving what already exists; where as, for example Americans or Europeans, especially Americans, don't place the same importance on such values. As long as a telephone can do what it was designed for, talking to people, then Americans are happy. Improving sound clarity would only result in them asking "So what"? I strongly feel this difference. This, in turn, results in small changes (in a product) along the way. If this year a small improvement is made, then the following year, and the following year, after 5 years there is a large difference between the model of 5 years before and today. It is the Japanese who are able to provide these small but steady changes. If small improvement changes are made over a 5-year period, Westerners won't realise the year on year changes (but only the change between year 1 and year 5). These small annual changes won't contribute to sales. These differences (in cultures) are large. The difference between agricultural and hunting people is that by living in the same village and working in the same field, and growing something, will result in being able to eat. Through ingenuity, more and more can be harvested; a family becomes wealthy (as in, is able to improve their lifestyle). For hunting peoples, no hunting results in no food. If by being somewhere results in a kill then there is value, if nothing is killed then there is no value being in that place. They must move to another location, and take their family with them. If this is repeated over and over again, it is difficult to continue this existence. If a larger kill (animal) is seen for the

following year, this may result in competition from other hunters. This all may be resultant of the difference in food culture (gourmet), lifestyle environment, and education. I feel it is only natural for me to clean my office and workplace. For example, in China, if you wanted to drink a coffee, you would ask someone to make it or go and buy it for you. If the coffee in the office runs out, there is someone to go and buy more. This is their manner. Such differences are due to differences in a country (culture, history) and differences in economic strength. Such a country (as China) exists. In the case of Japan, she currently has no gun (weapon) in which to face the future with.