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Explaining the Difference on CI Behavior in HK and
Sweden by using Hofstede's Culture Theory

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Abstract

Continuous improvement (CI) is a well-known approach within total quality management. Based on it, Continuous Improvement Behavior Model (CIBM) is a model that put behavioral patterns in work practice in focus, and is associated with learning process and routines across the whole organization. **The purposes** of this thesis are twofold: firstly, to analyse the differences in CI behavior between firms in Sweden and Hong Kong (HK); secondly, to analyse the reasons for these differences by using Hofstede's culture theory. This study was based on data from the 2nd international CINet survey and IBM questionnaire survey, limited to the culture in Hong Kong (HK) and Sweden. **The finding** of this comparative study showed that there are significant differences in CI behavior in the following aspects:

- The view in HK is that the interest of the group should prevail over the individual's, because there has a proverb "unity is power" in Chinese culture. Firms in Sweden are more concerned with the interests of individual's.
- Employees in Hong Kong would like to use organizational formal tools and techniques to deal with a problem, although it is a society characterized by weak uncertainly avoidance. But firms in Swedish believe that problems can be solved without formal rules.
- Employees in HK emphasizes cooperation and relationship in the process of working, while it is influenced by the culture of "guanxi" and collectivism. In comparison, Swedish employees care less about relationship.
- People in HK pay much attention to the personal development, due to a competitive environment and a long-term orientated culture manifested as: "it is never too old to learn". Swedes, however, want to study when it is necessary.
- Managers in HK are willing to support CI activities by provide sufficient resources and self-discipline influenced by the Chinese culture of "set an example". Correspondingly, Swedish firms don't have the regulation about what manager necessary should do.

This is the first study that tries to explain the difference on CI behavior by using Hofstede's culture theory in HK and Sweden, using a statistical method to test 34

behaviors in CI Behavior Model. It has to mention that there have 17 behaviors in the total behaviors which have been proved to be different, and 11 of these behaviors can be explained by Hofstede's model in this thesis. There are also some other factors that can explain the differences in CI behaviors.

In this thesis, it is shown that size of company matters. Possible explanations provided by other cultural theories are also presented.

Keywords: Continuous Improvement (CI), Cultural Difference, Hofstede's Culture Theory, Hong Kong (HK), Sweden

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1 Introduction

In this chapter it will give the background of the research, present the motive, the purpose and research questions.

1.1 Background

The culture in Sweden and Hong Kong has many differences, so the way of people's working must has some differences. This thesis choose Sweden as one of western regions and Hong Kong as one of eastern regions, to compare them in CI Behavior Model, want to find the cultural influence in the way of working, especially in the behaviors of continuous improvement in a company. So in the part of background, it will introduce the concept of culture and short history about HK and Sweden.

1.1.1 Definition Culture

Culture is an all inclusive system of communications which incorporates the biological and technical behavior of human beings with their verbal and nonverbal systems of expressive behavior¹. In a country or a region, culture is the sum total of a way of life: it is the pattern of values, traits, or behaviors shared by the people, at the same time, behavior practices that have a social meaning greater than the activity itself and which by their nature reinforce the culture², so the function of culture is to establish modes of conduct, standards of performance, ways of dealing with interpersonal and environmental relations that will reduce uncertainty and increase predictability, thereby it can promote survival and growth among the members of any society, Culture influences behavior and explains how a group filters information³. Different cultures may have different values; different cultural theories also have different ways to analyse. But in this thesis, based on the a previous research named "Managing Continuous Improvement in Different Culture"⁴, which was related Hofstede's culture model to CI, will continue to study Hofstede's model, especially on Bessent& Caffyn's CI Behaviors Model in HK and Sweden.

¹ Paul and Steve, (1998)

² Michael, (2004)

³ Paul and Steve, (1998)

1.1.2 Hong Kong

Hong Kong (HK), the coastal island which located in southern China, due to its rich resource, the favorable geographical position and strong links with Mainland and other economies, was always the place where other countries wanted to contend for. The territory was incorporated into China dated back the Qin Dynasty and was occupied by Japan from 1941 to 1945, it had become the colony of United Kingdom several times from the 19th century, but through the *Treaty of Nanjing* and *Second Convention of Beijing*, Hong Kong became the territorial colony of United Kingdom formally. Till the year of 1997, Hong Kong was handed over to China by United Kingdom. Today Hong Kong was built on its rapid response to the world market, became one of the increasingly important economies in the world⁵.

The culture of Hong Kong was began with China, and leaned from West for much of the 20th century under constructive British colonialism, so HK is a Chinese city with British characteristics⁶, on various social aspects, traditional Chinese cultural influence is everywhere, the bottom-line Chinese values of "*family solidarity*", "*courtesy*" and "*saving face*" carries significant weight in the culture. People in Hong Kong deeply have the China tradition value on one hand, but they also followed many ways of Europe on aspect of living and working, this is the special aspect of this region. This is one reason why Hong Kong, as a region of China, has been chosen to be compared with Sweden.

1.1.3 Sweden

Sweden, after winning wars against Denmark-Norway, Russia, and Poland during the 17th century. In early nineteenth century⁷, Sweden was still a poor country, from the mid-19th century to 1930, about 1.5 million Swedes emigrated, industry did not begin to grow until the 1890s, though it then developed very rapidly between 1900 and 1930 and transformed Sweden into one of Europe's leading industrial nations after World War II. it remained neutral during World War I, II., so it had benefited from world-wide demand to become welfare state.

⁴ Martunsuo and Riitta, (2000)

⁵ Floyd, (1998)

⁶ Sui, Zhu and Kirby (2003)

⁷ The History of Sweden (2008)

The culture of Sweden partly occurred in close contact with France. Sweden is well known as egalitarian country. There is a strong drive for more individualist values, and notably there is a very strong support for tolerance towards same-sex relationships compared to most European countries. Today, as a result of economic and political changes, many different cultures are represented in the population, although some people regard this as a form of 'cultural imperialism', but it is hard to imagine what life would be like in the "purely Swedish" culture.

1.2 Purpose and Research Question

The purpose of this research is to analyse the differences in CI behaviors between Sweden and Hong Kong by using Bessant et al's evolution model and Hofstede's culture theory. The purpose is divided into two research questions:

- A. What differences in CI behaviors are there in the companies of Sweden and Hong Kong?

- B. How may the differences between Sweden and HK be explained by Hofstede's culture theory?

2 Theoretical Framework

This chapter will define what CI is and introduce some previous researches, moreover, it will describe the details about Bessant et al's CI behavior model and Hofstede's culture theory. Finally, it will have a short summary of cultural characters in two regions'.

2.1 Definition CI

Continuous improvement is an ongoing effort to improve products, services or processes, which always get better through continuous and incremental improvements. In Chinese it has been pronounced as “gai shan”. Gai means “change for the better”. Shan means “benefit”. It is often the case that means "to take it apart and put back together in a better way". Among the most widely used tools for continuous improvement is a four-step quality model—the PDCA⁸:

1. Plan: Identify an opportunity and plan for change.
2. Do: Implement the change on a small scale.
3. Check: Use data to analyze the results of the change and determine whether it made a difference.
4. Act: If the change was successful, implement it on a wider scale and continuously assess your results. If the change did not work, begin the cycle again.



Figure1. Plan-do-check-act cycle

2.2 Continuous Improvement Behavior Model

The continuous improvement behavior model was posed and detailed described by Bessant & Caffyn(1997) in the paper named “An evolutionary model of continuous improvement behavior”⁹ at the University of Brighton, based on the research which had 103 organizations participated in experience sharing research aimed at improving the practice of Continuous Improvement (CI). Bessant and

⁸ Slack, Chambers, Johnston and Betts, (2006)

⁹ Bessant, Caffyn and Gallagher (2001)

Caffyn's CI behavior model¹⁰ based a unique thinking which is “the way we do things around here”, they suggested that CI can be characterize as an evolutionary learning process associated with acquiring key behavioral patterns, putting these patterns into practice so that they can become routines and diffusing them across the whole organization, correspondingly, Six Sigma used the statistical method which has six standard deviations between the mean of nearest specification limit, but CI behavior pay more attention to practical behavior; and Kaizen is a complex system of improvement which includes some methods such as TQM, PDCA, TPM, LP, whereas CI behavior model is clearly consider about culture difference relate to continuously implementations. This thesis is focus on this model to anaylse CI. The paper argued that the phenomenon needs to be viewed as a cluster of behavioral changes which established innovation routines in the organization, thus CI in this model was involved six abilities and a series of constituent behaviors, as well as five capability levels to impact on business performance. Details on each ability and its behaviors are given in Table 1

Table 1 CI Behavior Model (based on Bessant&Caffyn, 1997)

Organizational ability	Constituent behaviors
(A) Getting the CI habit. Developing the ability to generate sustained involvement	A.1 People make use of some formal problem finding and solving cycle A.2 People use appropriate tools and techniques to support their improvement activities A.3 People use measurement to shape the improvement process A.4 People initiate and carry through to completion, improvement activities, they participate in the process A.5 Ideas and suggestion for improvement are responded to in a clearly defined and timely fashion A.6 When something goes wrong the natural reaction of people at all levels is to look for reasons why rather than to blame the individual involves
(B) Focusing CI. Generating and sustaining the ability to link CI activities to the strategic goals of the company	B.1 individuals and groups use the organization's strategy and objectives to focus and prioritize their improvement activities B.2 everyone understands what the company's or their department's strategy, goals and objectives B.3 before embarking on initial investigation and before implementing a solution, individuals and groups assess the improvements they proposed against strategic objectives to ensure consistency B.4 individuals and groups monitor the results of their improvement activity and their impact on strategic or departmental objectives B.5 improvement is an integral part of the individuals' or groups' work, not a parallel activity
(C) spreading the word Generating the ability to move CI activity	C.1 Individuals and groups are effectively working across internal (vertical and lateral) and external divisions at all levels C.2 People understand and feel ownership of the company's processes C.3 People are oriented towards internal and external customers in their improvement activity C.4 Specific improvement projects are taking place with customers and/or

¹⁰ Bessant and Caffyn (1997)

across organizational boundaries	suppliers C.5 Relevant improvement activities involve representatives from different operational levels C.6 The organisation uses supplier and customer feedback as a means to improving company performance s
(D) CI on the CI system Generating the ability to manage strategically the development of CI	D.1 Ongoing assessment ensures that the organisation's processes, structure and systems consistently support and reinforce improvement activities D.2 Senior management make available sufficient resources (time, money, personnel) to support the continuing development of the company's improvement system D.3 When a major organisational change is planned, its potential impact on the organisation's improvement system is assessed and adjustments are made as necessary
(E) leading the way Generating the ability to lead. Direct and support the creation of and sustaining of CI behaviors	E.1 Managers support improvement processes by allocating sufficient time, money, space and other resources E.2 The organisation recognises in formal but not necessarily financial ways the contribution of employees to continuous improvement E.3 Managers lead by example, becoming actively involved in the design and implementation of systematic ongoing improvement E.4 Managers support experimentation by not punishing mistakes, but by encouraging learning from them E.5 Managers at all levels display leadership and active commitment to ongoing improvement
(F) Building the learning organization Generating the ability to learn through CI activity	F.1 Everyone learns from their experiences, both good and bad F.2 Individuals seek out opportunities for learning/personal development (e.g. active experimentation, setting own learning objectives) F.3 Individuals and groups at all levels share (make available) their learning from all work and improvement experiences F.4 The organisation articulates and consolidates (captures and shares) the learning of individuals and groups F.5 Managers accept and, where necessary, act on all the learning that takes place F.6 People and teams ensure that their learning is incorporated into the organisation by making use of the mechanisms provided for that F.7 Appropriate organisational mechanisms are used to deploy what has been learned across the organisation

In the view of this model, the organizations enhanced their capabilities by developing their constituent behaviors. In summary, organizations often make improvements through changing the behaviors result from developed abilities.

2.3 Hofstede's Culture Theory

Hofstede¹¹(1980) established a culture model which includes four dimensions and *long-term & short-term orientation* as the fifth dimension to analyze the different cultures in different places, which is developed based on four fundamental issues in human societies, exploring how national cultures differ and reveals the unexamined rules by which people in different cultures thinking, feel, and act in business, family, schools and organization.

2.3.1 Power Distance¹²

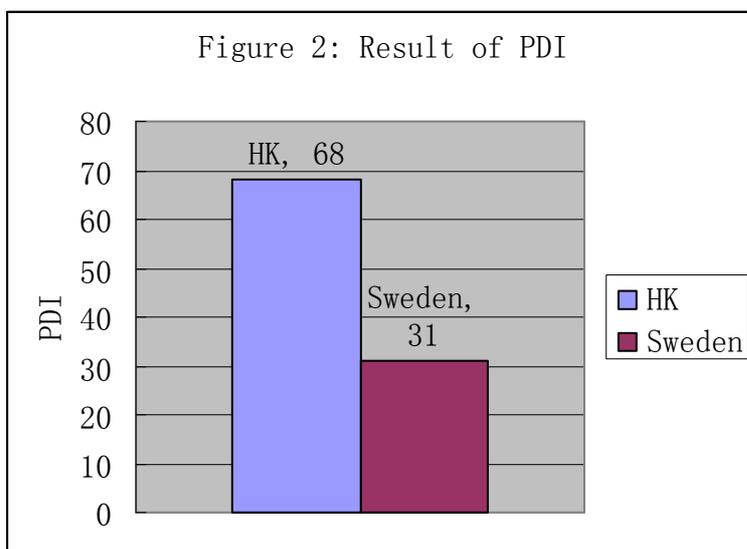
Power distance can be defined as the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. Inequality within a society is visible in the existence of different social classes. The formula of PDI is:

$$\text{PDI} = 135 - 25 \times (\% \text{ employ afraid}) + (\% \text{ perceived manager 1+2}) - (\% \text{ preferred manager 3})$$

Hofstede computer the power distance index (PDI) on the basis mean scores for the these questions, which used mean scores on a five-point scale (1=very frequently, 5=very seldom)¹³:

- 1 Are **employees afraid** to express disagreement with their manager?
- 2 How do the **subordinates' perception** of their boss's actual decision-making style?
- 3 How do the **subordinates' preference** for their boss's decision-making style?

The PDI scores in HK and Sweden thus composed can be read from Figure 2:



It is obvious that PDI of HK is higher than that of Sweden, which showed in the HK's company, and the hierarchy reflects the existential inequality between higher-ups and lower-downs and wide salary range between top and bottom, at the same time, the ideal boss is a benevolent autocrat and privileges and status

¹¹ Hofstede and Hofstede, (1997),

¹² ibid

¹³ Low and Shi,(2002)

symbols for managers and both expected and popular. But in Sweden, inequalities among people should be minimized.

2.3.2 Uncertainty Avoidance¹⁴

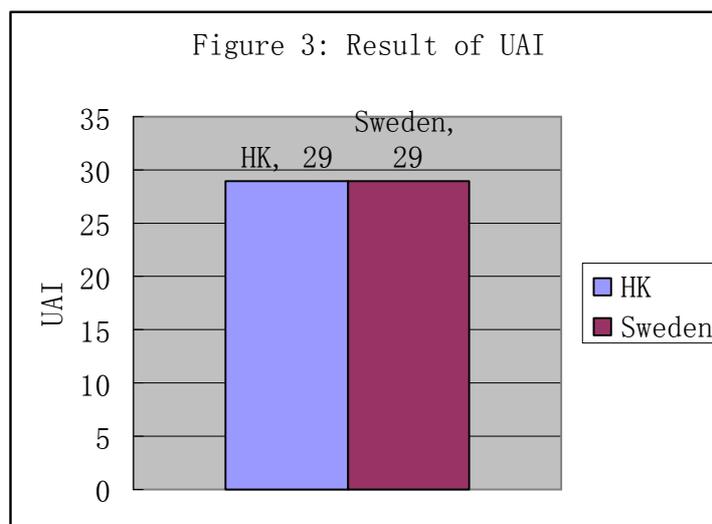
It is the extent to the members in the organizational society feel threatened by and try to avoid future uncertainly situations. Hofstede pointed out that uncertainty avoidance index (UAI) can measure:

UAI=300-30×(mean score rule orientation)-(%intending to stay less than five years)-40×(mean stress score)(The calculative method is same as PDI)

1 **Rule orientation** means that the degree of agreement with company rules by employees.

2 **Employment stability** means the percentage of employees expressing their intent to stay with the company for a long-term career.

3 **Job stress.**



2.3.3 Individualism & collectivism¹⁵

It described the relationship between the individual and collectivity. Individualism pertains to societies in which everyone was expected to look after himself or herself, collectivism pertained to societies in which people from birth onwards were integrate into strong, cohesive in-groups, which throughout people's lifetime

¹⁴ Hofstede and Hofstede, (1997),

¹⁵ Hofstede and Hofstede, (1997)

continue to protect them in exchange for unquestioning loyalty. The formula of IDV is according to following six work goals:

$$\text{IDV} = 78.921 + 0.071 \times \text{challenge} - 0.134 \times \text{training} + 0.089 \times \text{freedom} - 0.126 \times \text{physical conditions} - 0.093 \times \text{use of skills} + 0.13 \times \text{personal time}$$

1 **Personal time**, this means whether you have sufficient time for your personal or family life when you leave job.

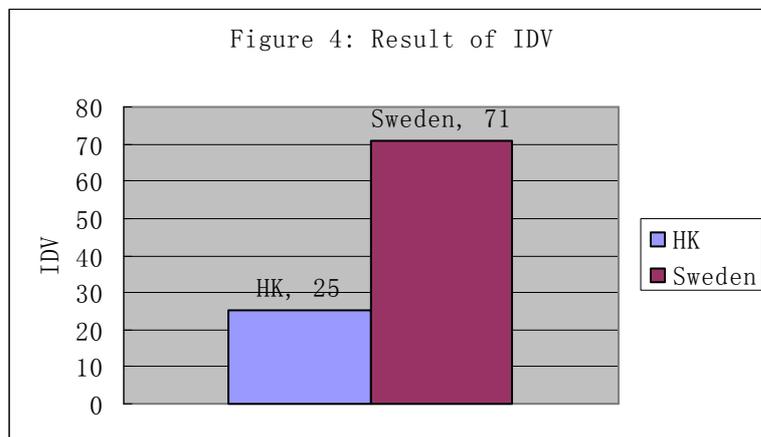
2 **Freedom** means that whether there has considerable freedom to adopt your own approach to the job.

3 **Challenge** means if your have the challenging works to do.

4 **Use of skills** means whether you use the skills and abilities on the job fully.

5 **Physical conditions** mean if you have good physical working conditions.

6 **Training** are the opportunities to improve your skills.



2.3.4 Masculinity & Femininity¹⁶

Masculinity & femininity described the extent of roles division between sexes to which people in a society put different emphasis on work goals. Masculinity pertains to social gender roles are clearly distinct (i.e., men are supposed to be assertive, tough whereas women are supposed to be more modest, tender) (Hofstede Geert 1991), but femininity pertains to social gender roles overlap, both men and women are supposed be modest, tender and concerned with the quality of life. The formula of MAS according to following question:

$$\text{MAS} = 64.318 - 0.067 \times \text{cooperation} - 0.065 \times \text{desirable area} - 0.029 \times \text{employment security} + 0.091 \times \text{challenge} + 0.056 \times \text{promotion} - 0.182 \times \text{manager} + 0.097 \times \text{earnings} + 0.056 \times \text{recognition}$$

¹⁶ Hofstede and Hofstede, (1997),

1 Earnings mean “masculine role”, which indicates if it is possible to get the high earnings.

2 Recognition is you deserve to do a good job.

3 Advancement means “masculine role”, which indicates if it is possible to get the higher level job.

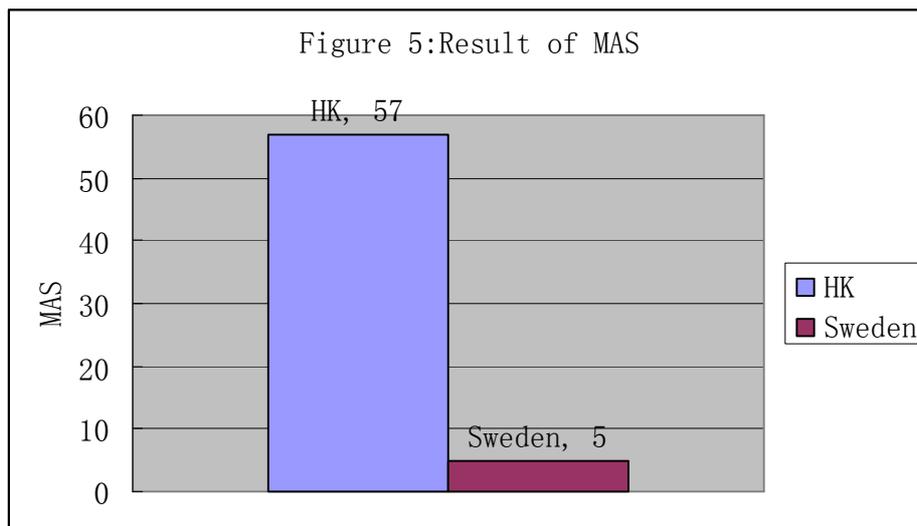
4 Challenge means when you have the challenging work, whether you can get a personal sense of accomplishment.

5 Manager, which means if you are a manager, what relationship you will keep with your superior.

6 Cooperation: work with people who cooperate well with one another.

7 Living area is the place where is desirable to you and your family.

8 Employment securities are that whether you have the security to work for your company as long as you want to.



It is very clear that Sweden has the smallest MAS in the world, which means there is no difference between men and women, at the same time, women can learn to function in a masculine way and men in a feminine way, moreover, people pay more attention to equality, solidarity and quality of work life, manager is less visible, intuitive and accustomed to seeking consensus, both, should be resourceful. On the contrary, people in HK do things efficiently and fast, men and women have differ along a tough-tender dimension, men are supposed to be assertive whereas women are supposed to be tender, manager expected to be decisive and assertive.

2.3.5 Long-term & Short-term Orientation (Confucian Dynamism)¹⁷

It's a very important dimension which IBM studies were missing so that Hofstede wanted to add it: Long-term orientation (LTO) stands for the fostering of virtues oriented toward future rewards; short-term orientation is its opposite pole, which related to past and present, respecting for tradition, preservation of "face", and fulfilling social obligations (Hofstede 1991). Both of them contain Confucian dynamism which influenced on the whole world especially in East Asian deeply on the cultural traditions such as China, Korea, Japan and Vietnam and so on.

Table 2 Comparison of Long-term and Short-term Orientation

Short-term orientation	Long-term orientation
Effort should produce quick results	Perseverance, sustained efforts toward slow results.
Social pressure toward spending	Thrift, being sparing with resources
Respect for traditions	Respect for circumstance
Concern with personal stability	Concern with personal adaptiveness
Concern with social and status obligations	Willingness to subordinate oneself for a purpose
Concern with "face"	Having a sense of shame

Source: Hofstede(1991)

It is necessary to mention that some principles in Confucian Dynamism such as "network" "set an example" are the basis of long-term & short-term orientation. *Wu lun* is a concept which describes the unequal relationships between people (ruler-subject, father-son, older brother-young brother, husband-wife and senior friend-junior friend). At the same time, in Confucian Dynamism, it has the value which consists of trying to acquire skills and working hard

Table 3 Results of LTO

region	LTO
Hong Kong	96
Sweden	33

¹⁷ Hofstede and Hofstede, (1997),

2.4 The summary of culture in Sweden and HK

HK and Sweden had their distinguishing features, according to Hofstede's study, you can clearly see in the Table 4:

Table 4 Character of HK and Sweden on the Cultural Dimension

Hong Kong	Sweden
masculinity	femininity
collectivism	individualism
large power distance	small power distance
weak uncertainty avoidance	weak uncertainty avoidance
long-term orientation	short-term orientation

2.5 Comparing CI and Hofstede model

2.5.1 Previous research

There is one article named "Managing Continuous Improvement in different culture"¹⁸ which was written by Mila Martinsuo et al talked about CI can relate to Hofstede's culture theory. This is the only research which can be found about this topic. This article said the influence of national culture on the implementation and practices of CI can operationalised using two dimensions in Hofstede's theory: power distance and uncertainly avoidance. It used the data from EuroCINet survey which including six counties and 629 questionnaire responses and Hofstede's IBM survey, through statistics method and theory discussion to analyze their connection. The finding of this research is that: in low power distance country, CI is more widely spread within the organization and it has higher involvement of middle-management and employees in CI, whereas high power distance country has central role of top management and lower participation in CI across the organization, they may focus more on roles for each group meaning. At the same time, low uncertainly avoidance country maybe more creative and informal systems of CI in use, but high uncertainly avoidance country have less progress made with CI and more formal and standardized CI in use.

¹⁸ Mila and Riitta(2007),

This article only compared the CI and Hofstede’s theory, but not Bessant & Caffyn’s CI behavior model. Moreover, it just related CI to two dimensions of Hofstede’s theory, the other three dimensions have not been mentioned. In spite of this, the article is still as an important foundation of this thesis.

2.5.2 Comparing CI Behaviors and Hofstede’s Culture Dimensions

According to Hofstede’s cultural dimensions, some CI constituent behaviors which can be explained by the culture model had been presented in the follow Table 12, it had to mentioned that in the total 17 CI behaviors which were SD less than 0.05, there were only 11 CI behaviors can be explained by Hofstede’s model, so the highlight in this research is to analysis these 11 CI behaviors in the later chapter.

Table 5 Comparison of CI Behavior and Hofstede’s Culture Dimension

CI Constituent behaviors	Explain reasons
A.1(1.23) People make use of some formal problem finding and solving cycle A.2(1.25) People use appropriate tools and techniques to support their improvement activities A.3(1.26) People use measurement to shape the improvement process A.5(1.6) Ideas and suggestion for improvement are responded to in a clearly defined and timely fashion	1. Uncertainty avoidance
B.1(1.12) individuals and groups use the organization’s strategy and objectives to focus and prioritize their improvement activities F.2 (1.13) Individuals seek out opportunities for learning/personal development	1. Individualism & collectivism
C.1(1.9) Individuals and groups are effectively working across internal (vertical and lateral) and external divisions at all levels F.2 (1.13) Individuals seek out opportunities for learning/personal development	1. Masculinity & femininity
C.6(1.32) The organisation uses supplier and customer feedback as a means to improving company performances D.2(1.28) Senior management make available sufficient resources (time, money, personnel) to support the continuing development of the company’s improvement system E.1(1.18) Managers support improvement processes by allocating sufficient time, money, space and other resources E.3(1.16) Managers lead by example, becoming actively involved in the design and implementation of systematic ongoing improvement F.2 (1.13) Individuals seek out opportunities for learning/personal development	1. Long-term & short-term orientation

3 Methodology

In this chapter it will present the way of data collection, how the data be analyze and the validity and reliability of the thesis.

3.1 Data Collection

There were three parts of data collection. This research used the data from the section 1 in “CI survey 2002” survey and “CI 2003 survey combined countries”, the data collection was conducted in 2004 and included from 2002, 2003 relating to a whole range of CI-related issues, the survey form section 1 consists 34 behaviors according to 1=“I fully agree” to 5=“I disagree”, 2,3,4 which indicates the levels from high to low about “agreement” and comprise data from about 536 companies in Asia, Australia and Europe. However, only regions which including Sweden (N=77) and Hong Kong (N=29) were selected in the two periods including three years ago and today (2003).

Table 6 the Number of Company in Participating Regions

Region	N (company)
Sweden	77
Hong Kong	29

One important thing to be concerned was that the participated companies have different sizes and different productions. In “section 2 and 3” of the survey, it conducted four questions: How long has your organization been actively engaged in improvement activities (2a)? What was the company’s annual turnover for the last fiscal year (16)? How many employees are there in the company (17)? How would you describe the product mix for your business unit’s most important product line (20)? The employees in these companies should answer these questions which can show the different situations in the companies. The data collection should also include the questionnaire. This thesis used those CI behaviors survey data to measure cultural differences.

The other part of data used was from the results of Hofstede’s IBM survey¹⁹. The survey was created according to its previous formulations. The participants came from 50 countries located in 3 world regions. They are of same job status, and they get same questionnaires to answer. The scores of questions were calculated

¹⁹ Hofstede and Hofstede, (1997),

by 5 scales (1=very frequently, 5= very seldom). *Long-term & short-term orientation* was added in his theory in later years based on the *Chinese value survey*(CVS)²⁰ which designed with non-western bias by Michael Bond²¹, the CVS resulted from 100 students- fifty men and fifth women in 23 countries around the world as same as IBM survey.

3.2 Analytical Approach

The steps of data analysis process in this research were as follows:

- Collection of data from CINet survey forms just in Sweden and HK.
- Related the questions in CINet survey forms to CI behaviors model.
- Collection of data to get the Mean value, Standard Deviation and T-test value.
- Results of T-test values which were less than 0.05.
- Collection of data from Hofstede's IBM survey only in Sweden and HK.
- Related the CI behaviors in Model to Hofstede's culture theory.

3.3 Data Analysis

The research results have been obtained after data collection, as the investigated problem was similar to CI behavior. And then the research calculated the data to get the mean value, standard deviation and T-Test, through rounded down these numerals to two decimals on mean values and SD (standard deviation), and three decimals on T-test values. Mean values were averaged in the survey form, the lower the numerals are, the better they can explain the situation. The T-test values and Standard deviation were obtained by using statistical method. The figure was valuable as the difference on CI behavior has been proved to be existed only when the T-test is less than 0.05.

In section 2, this research averaged the data from the four questions (2a, 16, 17, 20) in Sweden (77) and HK (29) companies to got the mean values and calculated SD values and T-test value to analyze the distinction. In order to avoid affect the data analysis, it had been taken away a numeral which for "Overnight Shipping" who has 140000 employees in HK in the question 17 since there is an abnormal

²⁰ Hofstede and Hofstede, (1997),

²¹ Michael(1987),

case. Of course, the T-test values which less than 0.05 were indicated there had the differences between HK and Sweden's companies. The results were shown in the table below:

Table 7 Result of Company Comparison

	SWE		HK		T-test
	Mean	SD	Mean	SD	
2a/year	5.04	3.97	6.35	5.75	0.296
16/US\$(million)	74.85	5.16	1218.42	2222.36	0.039
17/employee	255	75.85	4363	826365	0.014
20	2.10	0.95	2.25	0.97	0.506

The other part of data analysis were just picked out the data from IBM survey on PDI, UAI, IDV, MAS and LTO in Sweden and HK to help the analysis in later chapter on why they have differences.

3.4 Validity

Validity²² can be defined as representing a good fit between theory and reality in the sense that when a description of a process is evaluated there are occasions when intuitively there is an aspect which does not fit with reality. The following quality criteria were chosen:

Construct validity²³, is a criteria that in attempt to evaluate it that we must consider both the theory of which the construct is part and the measurement instrument being used. Testing for it should classify three parts. The first part was the data which came from 2nd international CINet survey, it had been conducted by a global organization in the year of 2002 and 2003, comprising from about 536 companies in Asia, Australia and Europe and using some questions about CI behaviors. The participants came from different levels in different organizations of different countries. The results indicate the different opinions of workers, so the construct validity which had been tested was high. The second part was the IBM survey data which came from the Hofstede's survey the participants came from 50 countries located in 3 world regions. They are of same job status, and they get same questionnaires to answer according to the factors in its previous

²² Remenyi et al (2002),

²³ Emory and Cooper(1991),

formulations. So it can be said with certainty that it is high construct validity. The third part of it was the connection between CI and Hofstede's culture theory. Related to the previous study "Managing Continuous Improvement in different culture", it is confirmed that they can connect to each other, and the CI behavior itself concerns whether TQM is a universal approach applicable across nations and cultures. Dahlgard et al ²⁴(1998) found clear differences in CI behaviors between organization in Western and Eastern countries, at the same time, Hofstede's culture theory studies the impacts of different cultures so that they can be related to analysis the CI behaviors impact by using Hofstede's theory.

External validity refers to the possibility of generalizing finding beyond the studied sample to a greater population. In this research, high response rates were obtained which means it has the effective and sufficient data.

3.5 Reliability

Reliability²⁵ are similar observations which are made on different occasions and the concern is therefore how replicable the research is. Replication is a way of getting reliability since the case is done over again in order to reach the same result. This research could be repeated because it referred to many theories and analysis about CI behaviors and Hofstede's theory, at the same time, the foundation for the argument which was supported by the sufficient data. However, since the investigations were done in that period of 2000--2003, and the IBM survey was conducted in ten years ago, it is possible that the later study may come to the different conclusion because time flows away, things always change, the data could different. But as long as based on these data, it will be believed that results will be replicated.

²⁴ Dabhikar, Bengtsson and Bessant, (2007)

²⁵ Edvinson and Hellman, (2004)

4 Results

This chapter will present the finding of CI behaviors testing and the comparison result of CI behaviors and Hofstede's theory. Moreover, it will try to explain the reason of they related to each other.

4.1 CI behaviors in HK and Sweden

The research results have been obtained after data collection, as the investigated problem was similar to CI behavior; you can find them in the table below. On the other hand, it is necessary to mention that the numbers beside the constituent behaviors in the parenthesis were the sequence number in the survey form.

Moreover, in this table, you can find three kinds of numerals: mean values, SD and T-test values; mean values came from the data what were averaged in the survey form, and the lower the numbers are, the better it will be; because they depended on the response to the survey item from 1 to 5 point, according to "I fully agree"(=1) to "I disagree"(=5). At the same time, by using statistical method, the T-test values and Standard deviation were obtained; through rounded down, these numerals to two decimals on mean values and SD (standard deviation), and three decimals on T-test values. It was worth noting that the numerals in the T-test less than 0.05 which indicated the two data sets were distinct (the red numerals), so that it can be concluded that there are the differences between HK and Sweden on the CI behaviors.

Table 8 Results of CI Behavior Survey Testing

Constituent behaviors	Today					Three yeas ago				
	Sweden		HK		T-test	Sweden		HK		T-test
	me an	SD	me an	SD		me an	SD	me an	SD	
(A) Getting the habit										
A.1(1.23) People make use of some formal problem finding and solving cycle	3.38	1.03	2.86	1.20	0.00 2	4.00	0.99	3.41	1.28	0.00 1
A.2(1.25) People use appropriate tools and techniques to support their	3.00	0.99	3.00	0.98	0.740	3.86	0.92	3.41	1.02	0.01 7

improvement activities											
A.3(1.26) People use measurement to shape the improvement process	3.26	1.03	3.14	1.15	0.543	4.09	0.88	3.67	1.14	0.028	
A.4(1.20) People initiate and carry through to completion, improvement activities, they participate in the process	2.69	0.98	3.07	1.02	0.130	3.59	0.96	3.41	1.04	0.414	
A.5(1.6) Ideas and suggestion for improvement are responded to in a clearly defined and timely fashion	3.28	1.13	3.00	1.37	0.161	3.80	1.09	3.19	1.32	0.004	
A.6 (1.34) When something goes wrong the natural reaction of people at all levels is to look for reasons why rather than to blame the individual involves	2.60	1.07	3.00	1.26	0.165	3.30	1.10	3.22	1.07	0.550	
(B)Focusing CI											
B.1(1.12) individuals and groups use the organization's strategy and objectives to focus and prioritize their improvement activities	3.16	0.97	2.86	1.14	0.030	4.08	0.86	3.30	0.94	6.847	
B.2 (1.5) everyone understands what the company's or their department's strategy, goals and objectives	2.61	0.91	2.64	1.03	0.993	3.39	0.94	3.35	1.07	0.789	
B.3 (1.3) before embarking on initial investigation and before implementing a solution, individuals and groups assess the improvements they proposed against strategic objectives to ensure consistency	2.68	1.10	3.30	1.17	0.302	3.53	1.05	2.32	1.11	0.173	
B.4 (1.11) individuals and groups monitor the results of their improvement activity and their impact on strategic or departmental objectives	3.23	1.06	2.89	1.13	0.124	4.13	0.87	3.50	0.89	0.007	
B.5(1.8) improvement is an integral part of the individuals' or groups' work, not a parallel activity	2.93	1.01	2.59	1.19	0.458	3.59	1.08	2.92	1.22	0.001	
(C) Spreading the word											
C.1(1.9) Individuals and groups are effectively working across internal (vertical and lateral) and external divisions at all levels	2.72	0.97	3.00	1.22	0.244	3.69	0.91	3.18	0.96	0.005	

C.2(1.24) People understand and feel ownership of the company's processes	2.49	0.93	3.14	0.91	0.00 7	3.29	0.92	3.29	0.84	0.660
C.3(1.22) People are oriented towards internal and external customers in their improvement activity	2.66	1.00	2.79	1.01	0.719	3.36	1.00	3.22	1.06	0.417
C.4(1.29) Specific improvement projects are taking place with customers and/or suppliers	2.56	1.06	2.93	1.02	0.246	3.51	0.99	3.26	1.11	0.230
C.5 (1.27) Relevant improvement activities involve representatives from different operational levels	2.38	1.04	3.04	1.01	0.00 7	3.52	1.02	3.44	1.07	0.857
C.6(1.32) The organisation uses supplier and customer feedback as a means to improving company performance s	2.30	0.93	2.36	0.97	0.720	3.05	0.98	3.00	1.13	0.02 7
(D) CI on the CI system										
D.1(1.19) Ongoing assessment ensures that the organisation's processes, structure and systems consistently support and reinforce improvement activities	3.04	0.93	2.86	1.25	0.234	3.71	0.86	3.15	1.05	0.00 2
D.2(1.28) Senior management make available sufficient resources (time, money, personnel) to support the continuing development of the company's improvement system	2.84	1.06	2.93	1.26	0.884	3.60	0.98	3.26	1.23	0.05
D.3(1.33) When a major organisational change is planned, its potential impact on the organisation's improvement system is assessed and adjustments are made as necessary	3.31	1.13	2.79	1.16	0.04 3	3.82	1.04	3.11	1.14	0.00 5
(E) Leading the way										
E.1(1.18) Managers support improvement processes by allocating sufficient time, money, space and other resources	2.94	0.96	3.07	1.30	0.741	3.59	0.99	3.22	1.22	0.03 0
E.2 (1.31) The organisation recognises in formal but not necessarily financial ways the contribution of employees to continuous improvement	2.99	1.16	2.71	1.21	0.239	3.56	1.13	3.15	1.28	0.077
E.3(1.16) Managers lead by example, becoming actively involved in the	2.66	0.94	2.96	1.06	0.386	3.57	0.87	3.26	1.00	0.02

design and implementation of systematic ongoing improvement										7
E.4(1.17) Managers support experimentation by not punishing mistakes, but by encouraging learning from them	2.35	0.98	2.67	1.17	0.299	3.17	0.98	3.00	1.06	0.362
E.5(1.15) Managers at all levels display leadership and active commitment to ongoing improvement	2.49	1.01	2.86	1.16	0.120	3.44	0.96	3.11	1.10	0.076
(F) Building the learning organization										
F.1(1.4) Everyone learns from their experiences, both good and bad	2.45	0.89	2.32	1.04	0.279	2.96	1.04	2.78	0.92	0.306
F.2 (1.13) Individuals seek out opportunities for learning/personal development	3.31	1.07	2.75	1.03	0.01 8	3.95	0.96	3.30	1.09	0.00 6
F.3(1.10) Individuals and groups at all levels share (make available) their learning from all work and improvement experiences	2.99	0.96	3.14	1.11	0.568	3.72	0.93	3.41	0.99	0.152
F.4(1.30) The organisation articulates and consolidates (captures and shares) the learning of individuals and groups	2.82	1.10	3.14	1.17	0.302	3.55	1.05	3.37	1.11	0.173
F.5(1.14) Managers accept and, where necessary, act on all the learning that takes place	2.53	0.88	2.86	1.04	0.164	3.35	0.93	3.26	1.14	0.507
F.6 (1.21) People and teams ensure that their learning is incorporated into the organisation by making use of the mechanisms provided for that	3.04	1.00	2.89	1.24	0.486	3.77	0.84	3.41	1.01	0.719
F.7(1.2) Appropriate organisational mechanisms are used to deploy what has been learned across the organisation	2.69	1.04	3.07	1.23	0.124	3.59	1.04	3.41	1.32	0.621

Through T-test, it can be commented that the 17 constituent behaviors (A1, A2,A3, A5, B1, B4, B5, C1, C2, C5, C6, D1, D2, D3, E1, E3, F2) had distinctions between HK and Sweden. Even they are in the same region, the numerals also had distinctions in the period of three years ago and today (2003). The detailed discussion will be presented in the later chapter.

4.2 CI Behaviors and Hofstede's Cultural Dimension

4.2.1 CI behavior A.1, A.2, A.3, A.5 and Uncertainty avoidance

The definition of Uncertainty Avoidance is the extent of members of culture feel threatened by unknown situation. In weak uncertainty avoidance region, people would not like to show their aggression and emotion, and they pride themselves that many problems can be solved without formal rules, furthermore, people work hard if there need to do, but they prefer to relax, whereas in strong uncertainty avoidance region, there are many formal laws or rules controlling the duties of employees and employers, people always like to work hard and busy, life is hurries, time is money. In behavior of A1, A2, A3, A5, you can find their common points are whether people like to use a formal way to deal with the problems, in another word, it is very important in these behaviors that if they use the systemic method to support the improvement activities. That is the reason why they can be explained by using uncertainty avoidance.

4.2.2 CI behavior B.1, F.2 and Individualism & collectivism

A region culture which can be called *collectivism* means the interest of the group prevail over the interest of the individual, or *individualism* vice versa. The way of work in a company in collectivism prefer to team work and cross-department activities, at the same time, in individualism society, people also pay attention to themselves interest and want to develop self-ability. In the behavior of B1, there are some notions about individuals and groups to describe whether people in the workplace focus on organization's strategy and whether they work across all levels. In behavior F.2, people would like to develop personal ability, which also can relate to if the culture is *collectivism* or *individualism*.

4.2.3 CI behavior C.1, F.2 and Masculinity & femininity

Masculinity & femininity describe the extent of roles division between sexes to which people in a society put different emphasises on work goals. In generally, masculine pole is associated with earnings, recognition, advancement and challenge, they want to show their ability to public which means they must develop they self-ability(behavior F.2); for the opposite, feminine pole is

associated with the manager, cooperation, living area and employment security. Related to C.1 which described as “individuals and groups are working across different divisions” can be explained by cooperation. In feminine society, both men and women are supposed to be modest and tender, they are requested to communication well and focus on relationship, whereas masculine society would like to be assertive and ambition, men don’t take care of relationship. So behavior C.1 and F.2 can relate to Masculinity & femininity.

4.2.4 CI behavior C.6, D.2, E.1, E.3, F.2 and Long-term & short-term orientation

The characters of long-term orientation are perseverance, highlight relationships, and thrift, associating with Confucian. High-LTO society companies pay more attention to the payment of supplier and services on their customer, corresponding to C.6. At the same time, managers in high-LTO are allowed time and resource to make their own contribution (Hofstede 1991), they would like to support their department improvement (D.2, E.1). In the long-term orientation, people are more care about future rewards, they would like to pay a lot of costs to gain a good result, so in this society, people are all like to seek out opportunities for personal development (F.2). Moreover, in Chinese tradition, the impact of the leader is very huge; long-term orientation is also focus on this point(E.3). However, short-term orientation on these aspects is different from long-term orientation. So these CI behaviors will be explained by them.

5 Discussion

This chapter will discuss the research questions: one is “what’s the difference between HK and Sweden”, another is “how the difference can be explained”, by using the results, and then to discuss the connection of the previous research.

5.1 The Differences in CI Behavior

It has been analyzed according to every constituent behavior which was described as 34 improvement activities in the organizations in these two regions, the data have been found to be different; even in the same region, the data also have distinctions between three years ago and today (2003). The analysis is noteworthy because Sweden and Hong Kong are two different regions, which have totally different customs and cultures. One is typical western country, and the other belongs to eastern. But in this research, only the T-test value that is less than 0.05 behaviors will be analyzed.

5.1.1 Getting the CI Habit

Table 9 Testing for “getting the CI habit” (based on Bessant& Caffyn)

Constituent behaviors	Today					Three yeas ago				
	Sweden		HK		T-test	Sweden		HK		T-test
	me an	SD	me an	SD		me an	SD	me an	SD	
A.1(1.23) People make use of some formal problem finding and solving cycle	3.38	1.03	2.86	1.20	0.002	4.00	0.99	3.41	1.28	0.001
A.2(1.25) People use appropriate tools and techniques to support their improvement activities	3.00	0.99	3.00	0.98	0.740	3.86	0.92	3.41	1.02	0.017
A.3(1.26) People use measurement to shape the improvement process	3.26	1.03	3.14	1.15	0.543	4.09	0.88	3.67	1.14	0.028
A.5(1.6) Ideas and suggestion for improvement are responded to in a clearly defined and timely fashion	3.28	1.13	3.00	1.37	0.161	3.80	1.09	3.19	1.32	0.004

The organizational ability “getting the CI habit” is classified into six constituent behaviors, but only four behaviors were shown in the table above because these T-test values are less than 0.05 which means they have differernces. In the behavior of A.1, A.3 and A.5, the mean values in Hong Kong are lower than that of

Sweden no matter three years ago or today. You also can find in A1, there have difference in today (2003) and three years ago which means people in Hong Kong's organization would like to face with problem finding and solving; but in A2, A5, there only have the distinction in three years ago, which means in these years, Sweden grows up quickly, they gradually improve the way of improvement to find out a formal method about measurement and suggestion. In the behavior of A.2, there haven't any difference in the two regions nowadays because the mean value and T-test today is the same, people in the organization would like to use the formal tools and techniques to support their improvement activities.

You can see all the mean values in three years ago are higher than that of today (2003) both Sweden and Hong Kong, which indicate that people in the organization are paying more and more attention to the improvement. It has to mention that today the differences between them are decrease.

5.1.2 Focusing CI

Table 10 Testing for "focusing CI"(based on Bessant& Caffyn)

Constituent behaviors	Today					Three yeas ago				
	Sweden		HK		T-test	Sweden		HK		T-test
	me an	SD	me an	SD		me an	SD	me an	SD	
B.1(1.12) individuals and groups use the organization's strategy and objectives to focus and prioritize their improvement activities	3.16	0.97	2.86	1.14	0.030	4.08	0.86	3.30	0.94	6.847
B.4 (1.11) individuals and groups monitor the results of their improvement activity and their impact on strategic or departmental objectives	3.23	1.06	2.89	1.13	0.124	4.13	0.87	3.50	0.89	0.007
B.5(1.8) improvement is an integral part of the individuals' or groups' work, not a parallel activity	2.93	1.01	2.59	1.19	0.458	3.59	1.08	2.92	1.22	0.001

In the organization ability "Focusing CI", three constituent behaviors have some distinctions. In behavior B1, three years ago there have too much gaps between Sweden and HK, so the T-test is noneffective. Today, the difference is decrease,

but there still have some distances between them, people in HK emphasize much more on organization's strategy, when the individual's conflict with organization's, they may choose organization's; whereas employee in Sweden don't. Even in B4, B5, although people in Sweden had improved a lot these three years, you can find people on the aspect of monitor improvement group activities and working across the department have some distances than HK's.

5.1.3 Spreading the Word

Table 11 Testing for "spreading the word"(based on Bessant& Caffyn)

Constituent behaviors	Today					Three yeas ago				
	Sweden		HK		T-test	Sweden		HK		T-test
	me an	SD	me an	SD		me an	SD	me an	SD	
C.1(1.9) Individuals and groups are effectively working across internal (vertical and lateral) and external divisions at all levels	2.72	0.97	3.00	1.22	0.244	3.69	0.91	3.18	0.96	0.005
C.2(1.24) People understand and feel ownership of the company's processes	2.49	0.93	3.14	0.91	0.007	3.29	0.92	3.29	0.84	0.660
C.5 (1.27)Relevant improvement activities involve representatives from different operational levels	2.38	1.04	3.04	1.01	0.007	3.52	1.02	3.44	1.07	0.857
C.6(1.32) The organisation uses supplier and customer feedback as a means to improving company performance s	2.30	0.93	2.36	0.97	0.720	3.05	0.98	3.00	1.13	0.027

In this organizational ability "spreading the word", four behaviors have distinctions. If you observe on mean values overall, you will find HK are lower than Sweden three years ago, but the situation overturn today (2003), values are all higher in HK. It indicates employees in Sweden learn fast, for example, in behavior C1, three years ago, employee in Sweden didn't know how to effectively work across different levels; however, today the people in Sweden changed a lot so that the difference decreased. In C2 and C5, there have the obvious value that illustrate Sweden go ahead, Sweden adjust their abilities, following the demand of

customer, people in the organization feel themselves as the host, which is good for improvement behaviors no matter in different operational levels or specific projects, so the difference increased. On the behavior C6, both of them understand to use the feedback from supplier and customer as a means to improvement.

5.1.4 CI on the CI System

Table 12 Testing for CI on the CI system (based on Bessant& Caffyn

Constituent behaviors	Today					Three years ago				
	Sweden		HK		T-test	Sweden		HK		T-test
	mean	SD	mean	SD		mean	SD	mean	SD	
D.1(1.19) Ongoing assessment ensures that the organisation’s processes, structure and systems consistently support and reinforce improvement activities	3.04	0.93	2.86	1.25	0.234	3.71	0.86	3.15	1.05	0.002
D.2(1.28) Senior management make available sufficient resources (time, money, personnel) to support the continuing development of the company’s improvement system	2.84	1.06	2.93	1.26	0.884	3.60	0.98	3.26	1.23	0.05
D.3(1.33) When a major organisational change is planned, its potential impact on the organisation’s improvement system is assessed and adjustments are made as necessary	3.31	1.13	2.79	1.16	0.043	3.82	1.04	3.11	1.14	0.005

In the behavior D1, HK went ahead three years ago and T-test indicates it, but today (2003), although there are still have distance between mean values, the differences are decreased. People in Sweden and in HK understand ongoing assessment can help improvement activities. In D2, it is very clear that Sweden improved a lot today although it had long distance between HK before, senior manager would like to provide sufficient resources. In behavior D3, there is still a gap between Sweden and HK. Overall, HK pay attention to the ability of manages how to develop the CI strategically, which can reinforce the CI and adapt themselves to the organizational change. In comparison, Sweden is short of assessment ability.

5.1.5 Leading the Way

Table 13 Testing for "Leading the way"(based on Bessant& Caffyn)

Constituent behaviors	Today					Three yeas ago				
	Sweden		HK		T-test	Sweden		HK		T-test
	me an	SD	me an	SD		me an	SD	me an	SD	
E.1(1.18) Managers support improvement processes by allocating sufficient time, money, space and other resources	2.94	0.96	3.07	1.30	0.741	3.59	0.99	3.22	1.22	0.030
E.3(1.16) Managers lead by example, becoming actively involved in the design and implementation of systematic ongoing improvement	2.66	0.94	2.96	1.06	0.386	3.57	0.87	3.26	1.00	0.027

It can be summed up that the organization of Sweden did a good job in manager's role who support the improvement processes and become a actively role in implementation today (2003), at the same time, they encourage innovation and display leadership improvement. In this situation, there is a good environment to communication that people like to create, which is good for CI. But in HK today, the data are higher than Sweden, which indicates Sweden did a lot of improvement about CI these years.

5.1.6 Building the Learning Organization

Table 14 Testing for "Building the learning organization"(based on Bessant& Caffyn)

Constituent behaviors	Today					Three yeas ago				
	Sweden		HK		T-test	Sweden		HK		T-test
	me an	SD	me an	SD		me an	SD	me an	SD	
F.2 (1.13) Individuals seek out opportunities for learning/personal development	3.31	1.07	2.75	1.03	0.018	3.95	0.96	3.30	1.09	0.006

In the seven behaviors, only F2 needs to discusse. It can be seem that people in HK emphasize themselves' learning, studying from experience and personal

development; at the same time. they would like to seek out opportunities to develop themselves and enhance their competitive ability. But people in Sweden would like to relax and leisure time, they only do this when it is necessary.

Generally speaking, three years ago HK all went ahead than Sweden, but during three years, Sweden improved a lot and it catches up with HK even exceed on some behaviors. HK and Sweden both have done well in their respective aspects in the continue improvement behavior; people in HK are good at CI habit, use organizational formal strategy to support the goal, assessing roundly before improvement change, working well across departments and emphasize that individual learning and personal development. Relatively speaking, Sweden focuses more on internal and external environment, emphasize manager’s role in CI and supply resources to support improvement. These are a lot of possible reasons why these differences occurred, such as culture, custom, history, the development of economy and so on. In this research, it will mainly discuss the cultural reason.

5.2 How the CI Behavior Difference be Explained by Hofstede’s Culture Theory

5.2.1 Explained by Uncertainty Avoidance

Table 15 Result of T-test on CI Behavior A.1, A.2, A.3, A.5

CI Constituent Behaviors	T-Test		Mean value			
	today	3 years ago	today		3 years ago	
			SWE	HK	SWE	HK
A.1(1.23) People make use of some formal problem finding and solving cycle	0.002	0.001	3.38	2.86	4.00	3.41
A.2(1.25) People use appropriate tools and techniques to support their improvement activities	0.740	0.017	3.00	3.00	3.86	3.41
A.3(1.26) People use measurement to shape the improvement process	0.543	0.028	3.26	3.14	4.09	3.67
A.5(1.6) Ideas and suggestion for improvement are responded to in a clearly defined and timely fashion	0.161	0.004	3.28	3.00	3.80	3.19

Through T-test values and mean values, it can be found that HK and Sweden have some differences but also HK do better than Sweden in these behaviors.

Comparing with uncertainly avoidance in IBM survey, there are the same scores (29) in the two regions, it means both of them have weak uncertainly avoidance. But to some extent, it would not correspond with reality in HK: people in HK always feel competitive pressures because HK is a booming economy growth place (Jayantha S et al 2000), whereas Sweden is low stress and comfortable place, so that there are many formal laws and rules to control the right and duties in HK. As A1, A2, A3, A5, employees in HK used to use many internal rules and regulations controlling the work process, not only in improvement activities but also in problem solving; however people in Sweden believe many problems can be solved without formal rules.

The different extents of uncertainly avoidance cause the different ways of working, for example, people in HK are busy and work hard, they need rules even if these will not work and they have strong feeling of anxiety because the competition is very fierce. But it is not a bad thing, a formal problem finding and solving and defined improvement activities can make a systemic method to develop the competence of the organization quickly, which is consistent with CI behaviors model. On the contrary, people in Sweden are more relaxed and comfortable, hard-working only when needed²⁶, the efficiency is not high.

5.2.2 Explained by Individualism & Collectivism

Table 16 Result of T-test on CI Behavior B.1, F.2

CI Constituent Behaviors	T-Test		Mean value			
	today	3 years ago	today		3 years ago	
			SWE	HK	SWE	HK
B.1(1.12) individuals and groups use the organization's strategy and objectives to focus and prioritize their improvement activities	0.030	6.847	3.16	2.86	3.39	3.35
F.2 (1.13) Individuals seek out opportunities for learning/personal development	0.018	0.006	3.31	2.75	3.95	3.30

It can be found, the IDV value in HK (25) is lower than Sweden (71), in behavior B.1, F.2, the T-test also shows they have difference, which means the relationship in HK is more like a family, hiring and promotion decisions take employees' in-

²⁶ Hofstede and Hofstede, (1997),

group into account and the management is a group management, at the same time, the personal development is also important. In contrast to HK, employees in Sweden are expected to act according to themselves' interest, hiring are more supposed to be based on skills and rules and the identity is more based in the individual.

Collectivism occupies an important place in Chinese culture, there is a proverb in Chinese history that “unity is a power”; on traditional view, the cooperation is crucial in workplace when you want to do a work well, people can help each other together so that can they finish the assignment better. Chinese people are supposed to be harmony, humility and modest, employer-employee relationship is like a family link. If you work in a Chinese organization, you must understand how to communicate well across departments, and know the values that collective interest prevail over individual interest; if they are conflict, the collective will be put on the first place for ever. At the same time, the organization's goal is always the first objective that every employees must obey to; moreover, in Chinese company, private life is invaded by groups, but on the other hand, the Chinese also would like to pay more attention to peronal development, that's because the competition in China is fierce, so people who in work in HK want to success, they must to seek out opportunities to development. Whereas Swedish People take more care about themselves' interest and private life, subordinates usually be moved around individually, and they only want to develop when it's nesscessary to.

5.2.3 Explained by Masculinity & Femininity

Table 17 Result of T-test on CI Behavior C.1, F.2

CI Constituent Behaviors	T-Test		Mean value			
	today	3 years ago	today		3 years ago	
			SWE	HK	SWE	HK
C.1(1.9) Individuals and groups are effectively working across internal (vertical and lateral) and external divisions at all levels	0.244	0.005	2.72	3.00	3.69	3.18
F.2 (1.13) Individuals seek out opportunities for learning/personal development	0.018	0.006	3.31	2.75	3.95	3.30

In IBM survey, it is very clear that Sweden (5) is typically a feminine society but HK (57) is a masculine society. A feminine society prefer communication, but three years ago, Swedish companies didn't recognize this point in their work; however HK focused it, the collectivism is Chinese tradition, leading people to discuss with each other. During these three years, Sweden's manager became realize and developed it. At the same time, Sweden originally is a feminine society, so they grew up very quickly, people hear comments and working across department is not a hard change.

At the same time, HK also focus on communication even it is masculine society, although men don't like to take care of relationship generally in this society, the Chinese tradition and "guan xi" lead people to focus on relationship and maintain it. Furthermore, the masculine society always would like to show their abilities, so people in HK also like to challenge and hard work, in this situation, people must learn and learn, making themselves go ahead. While Sweden is totally different, the femininity society would like to enjoy the life, besides Sweden is a developed country which has a very sound welfare system; people do not have many pressures, they don't have to work hard that they can have a good condition of life, so they can have more time to relax and do not worry about the food and clothes.

5.2.4 Explained by Long-term & Short-term orientation

Table 18 Result of T-test on CI Behavior C.6, D.2, E.1, E.3,F.2

CI Constituent Behaviors	T-Test		Mean value			
	today	3 years ago	today		3 years ago	
			SWE	HK	SWE	HK
C.6(1.32) The organisation uses supplier and customer feedback as a means to improving company performances	0.720	0.027	2.30	2.36	3.05	3.00
D.2(1.28) Senior management make available sufficient resources (time, money, personnel) to support the continuing development of the company's improvement system	0.884	0.05	2.84	2.93	3.60	3.26
E.1(1.18) Managers support improvement processes by allocating sufficient time, money, space and other resources	0.741	0.030	2.94	3.07	3.59	3.22
E.3(1.16) Managers lead by example,	0.386	0.027	2.66	2.96	3.57	3.26

becoming actively involved in the design and implementation of systematic ongoing improvement						
F.2 (1.13) Individuals seek out opportunities for learning/personal development	0.018	0.006	3.31	2.75	3.95	3.30

In the behavior C.6, you can see there are difference in three years ago (T-test=0.027) which means on the aspect of supplier and customer feedback, HK did better than Sweden. In the long-term orientation region, people emphasize more on “network”, not only with their work partners, but also with their customer. In Chinese tradition, a good network is essential for success, which related to *wu lun*. This key concept is closely intertwined with Guanxi, which is known worldwide, this is an evident consequence of collectivism²⁷; HK (96) is a long-term orientation region indicates that they use the communication with the customer and supplier as a means of improving method. Keep the good relationship with supplier and customer is good for improvement. In contrast with HK, Sweden seemed haven't this notion about feedback, but three years later, Sweden's companies have developed a lot and realized it.

In the behavior D.2, E.1, they describe the same thing that managers are willing to support the improving activities by providing sufficient resources although long-term orientation region spare with resources. Hofstede described High-LTO companies' managers are allowed time and resource to make their own contribution²⁸, people like to develop their improving ability even pay costs as long as they think it is necessary.

In the behavior E.3, it relates to Confucianism called “set an example”, it is very important because the influence of a leader is invisible and huge power which can contribute their subordinates to improve. Long-term orientation mentions it too, Chinese people especially manager is suppose to be a model who has many virtues such as perseverance, thrift, confidence and so on. Thus HK's manager would like to lead by example in the design and implementation of improvement, because they want to encourage their employees to work harder. However the managers in Sweden where is short-term orientation region didn't emphasize it.

²⁷ Hofstede and Hofstede, (1997)

²⁸ Ibid.

The behavior F.2 fays in Long-term orientation in HK too. People in high LTO society are likely to study, respecting for learning and self-discipline, if they have chance to improve, they will try their best.

5.3 Other Possible Reasons to Explain the Differences (further research)

5.3.1 The Differences between Companies

In the CI behavior Model, 34 behaviors have been tested and 17 behaviors have been concluded that they have difference, but only 11 CI behaviors can be explained by Hofstede’s culture theory. There must be some other reasons can explain the 6 behaviors else; even in the 11 behaviors which can be explained by Hofstede’s culture theory, they still could have another reasons can explain them from the different view cause the phenomenon is complex. So at the end of the part of discussion, this research tries to analyze these CI behaviors in other aspects briefly.

As the previous chapter described, the companies who were participated in the survey have their own sizes and productions, the situation at the beginning maybe distinct. So considering of this aspect is necessary. There are the analysis data:

Table 19 Result of Company Comparison

	Sweden		HK		T-test
	Mean	SD	Mean	SD	
2a/ year	5.04	3.972	6.35	5.753	0.296
16/ US \$	74850746	51908490.7	1218415789	2222362485	0.039
17/employees	255	75.84636	4363	826365	0.014
20	2.10	0.956	2.25	0.967	0.506

2a) How long has your organization been actively engaged in improvement activities?

16) What was the company’s annual turnover for the last fiscal year?

17) How many employees are there in the company?

20) How would you describe the product mix for your business unit’s most important product line?

Through averaged data, it can be found that the time of the organization engaged in improvement activities in HK and Sweden which have not too much differences; but the company's annual turnover for last fiscal year in these two regions have a long distance, one was 74850746/ US \$, another was 1218415789/ US \$, and the T-test is 0.039 that is less than 0.05, but it is necessary to mention that there have four companies in HK which have huge annual turnover including "Public Transport (5000000000)", "Banking Service (4316000000)", "Electricity Generation (8100000000)" and "Telecom Service (2600000000)", however, they can not be taken away because these companies are important industries which have played particularly important role in HK, so the annual turnover in HK's company are much more than Sweden's; at the same time, the number of the employees in a company is also very different, HK's company have 4363 employees which is also more than Sweden's which only have 255 employees even the "overnight shipping" had been taken away. The kind of productions does not have a big gap between them. In summary, HK's companies usually have a lot of employees and a large amount of turnover, but Sweden's would like a simple structure and high velocity of money circulation. The difference in sizes in the two regions' companies lead to CI behaviors difference, it is known that the larger company must has more difficulty to control the process, such as CI behavior B2, it is harder for a big company to make everyone understands the company's strategy and goals, in the improvement resources, it is also a problem to make sufficient resources in every time and every activities, so the company size is a indispensable factor to consider about.

5.3.2 Other Culture Theory

There are many theories about culture, this thesis only introduce two of them:

1 Prof. Fanny Cheung²⁹ (1996) and her colleagues at the Chinese University of Hong Kong developed a Chinese Personality Assessment Inventory (CPAI) using self-referent statements about beliefs, attitudes, values and behaviors. The CPAI consists of 524 items, which make up 22 personality scales, 12 clinical scales, and three validity scales or indexes. By factor analysis, the 22 personality scales have

²⁹Chan, (2005)

been reduced to four personality factors, labeled as Dependability, Chinese Tradition, Social Potency, and Individualism. It has been found that the unique dimension of personality from the CPAI is Chinese Tradition. Cheung et al. regard some of its Facets – Ren Qing (Relationship Orientation), Harmony, and Face. This theory is very different from Hofstede’s while it consider of Chinese culture specific:

Renqing³⁰ is a kind of favor with the inclusion of a sentimental element. It can be interpreted as “human feelings” which covers not only sentiment but also its social expressions. This is deeply influenced on Chinese culture. Hwang (1987) describes Renqing as social favours that are exchanged in the form of money, goods, information, status, service, and affection according to an implicit set of rules. HK’s people are also dependent upon the social ties between the individuals involved in the interaction, which is closely intertwined with Guanxi. In the CI behaviors, employer and employee in HK tend to be more collectivist in the social group who like to make the best of special qualities of the mixed tie to be asked for distribute a resource or in benefit from any other’s network.

Harmony measures one’s inner peace of mind, contentment, as well as interpersonal harmony which is a deeply embedded value in Chinese culture. It can relate to uncertainly avoidance³¹, this aspect of social behavior has been discussed extensively by Chinese social psychologists in conjunction with uncertainly avoidance, just as this, people who are in HK are willing to do their job stably in their work but not like to job-hop.

Face³² is a dominant concept in interpreting and regulating social behavior in Chinese culture. It is an individual’s public image, gained by performing one or more specific social roles that are well organized by others. In generally, Face is closely associated with status in society, the higher social standing, the more dignity he or she has to maintain. In the process of improvement, HK’s manager emphasize on keep face too.

³⁰ Chan, (2005)

³¹ Hofstede and Hofstede, (1997),

³² Chan, (2005)

2 Another theory is Marx (1999)³³ advocated culture, this is a method to understand different business situations. In his theory, there are three dimensions in the cross-cultural management.

A. Orientation, which means switching from a more bureaucratic approach to a relationship building approach from individualism to collectivism approaches. This is similar as Hofstede's *Individualism & collectivism*. But it pays more attention to Guanxi which is best described as a network of contacts linked by varying degrees of mutual obligation in Chinese management. In CI behaviors of HK, the manager is also highlight it, the importance of relationship building in Chinese culture through *guanxi* should be commenced within the organizational family, using the relationships already established by local management and creating an internal set of mutual obligations. The western manager like Sweden will not be working in a vacuum if this network can be linked.

B. Task approach. The Chinese character for "crisis" is also the same character for "opportunity". As western managers are highly unlikely to have the same set of experiences as Chinese management, it is essential to consider prior intuitive approaches. These will allow a sense of common participation in problem resolution and enable the desired resolution when constructed from first principles to be internally acceptable. As the HK did, they would like to use a formal way to deal with the problems.

C. Communication. Communication is often best presented in anecdotal form. The way of communication in different regions is different, by using different word, different written, Chinese character is an amazing word, which western managers may think the Chinese written characters are pictographs. But HK' people are good at English and Chinese so that it is not a problem.

In this research, two additional theories are introduced, which possibly can close the gap which did not be explained by Hofstede's theory: there are many special culture custom in China such as "renqing", "face" "harmony", task orientation and communication, so people work in HK emphasize the relationship between colleagues, leaders and customers, just like in behavior C.1, C.6, E.3, E.5, F.5, no

³³ Liu, Mackinnon, (2001)

matter which position the worker is, he/she must play good role between superior and subordinate, at the same time, the good communication is necessary, for example, behavior F.3. it is just mention some behaviors which possibly can explained by the additional theories, It is believed that there must have other theories can explain the difference, the discussion will continue in future.

5.4 Connect with Previous research

As it mentioned earlier, there has an article named “Managing Continuous Improvement in different culture” did some researches on CI and Hofstede’s culture theory; of course, it is a very important research as a foundation of this thesis, but it is noteworthy that the research area of the article is differ from this thesis.

The article studies on the how the Hofstede’s culture two dimensions influence on CI, but not Bessant& Caffyn’s CI behavior model. It just talked about the normal activity of continuous improvement, as well as how can power distance and uncertainly avoidance impact on CI in different nations. Besed on the result of the article: CI in low power distance country is more widely spread and in low uncertainly avoidance country could more creative and less formal rules, this thesis highlights the CI behavior model to analyse HK and Sweden; HK and Sweden are weak uncertainly avoidance regions, but Sweden is low power distance and HK is high power distance. The findings in this thesis are according to the article and especially on CI behavior model.

6 Conclusion

This chapter will present the conclusion of the research and suggestion for further research.

6.1 Main Conclusion

By using survey data and Hofstede's theory, the research do find out there really exist the differences between HK and Sweden in CI behaviors. There are six abilities and a series of behaviors in CI behavior model, and **it had been found that these differences are:** people in Hong Kong's organization are doing better in problem finding and solving by using the formal tools; they more emphasize much on organization's strategy, and know how to effectively working across different levels, HK's senior manager would like to provide sufficient resources and people adapt themselves to the organizational change, moreover, people emphasize individual learning and personal development. Relatively speaking, Sweden is more considerable about individual's interest, feeling themselves as the host in the organization, and focus much on internal and external environment.

Through T-test value, 17 CI behaviors had been tested that they have difference both in 3 years ago and today(2003); furthermore, there are only 11 CI behavior which are in the 17 behaviors can be explained by Hofstede's culture theory.

Compared the 11 CI behaviors with five dimensions, **the conclusion can be drawn:**

- HK is weak in uncertainly avoidance, masculine, collectivism, and long-term orientation society which has deeply been influenced by Chinese culture, such as "unity is a power", "guan xi", "set an example" and so on, as its historical reason, the people also followed some ways of West on aspects of living and working,:
 1. the employees in HK always focus more on the organization's objective.
 2. they understand how to communicate well in a network and have a value that collective interest prevail over individual interest,
 3. at the same, since the fierce competition, people are suppose to work-hard and develop more and more.
 4. people like to use rules and regulations to control the process.

5. manager would like to lead by example in the process of work.
- Sweden is a weak uncertainty avoidance, femininity, individualism, and short-term orientation society:
 1. people who have low stress can be solve problem without formal rules.
 2. people are expected to act according to themselves' interest.
 3. they don't like to pay a lot of attention to relationship about the business.
 4. they only want to develop when it is nesscessary.

6.2 Further Research

It is possible that there are many other reasons can explain the gaps which can not be explained by Hofstede's theory. On one hand, there have the difference in production and organizational size between companies themseleves, on another hand, there also have the other theoies which can explain, this research introduced two other culture theories including Fanny Cheung (1996)'s theory which is about "Ren qing", "Harmony" and "Face" and Marx (1999)'s theory which is about orientation, task approach and communication. In these theories, they mentioned some aspects that Hofstede's theory did not have, such as "Renqing", "Face" and so on. They are typically Chinese types. So it must be believed that in the further research, they can close the gaps in Hofstede's theory while was explaining the CI behaviors.

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Appendix 1:

Continuous Improvement Survey 2002

An International Perspective

CINet: A Global Continuous Innovation Network

Column A in the Coding Sheet should be left blank as the data is consolidated. The researchers consolidating the data will assign a unique number to each survey in this column.

Column B - Please enter the Country name in this column.

Column C - It is up to the in-country researchers to assign an ISIC code, based on their expert judgement, to each responding organisation. Only a two digit code is required (see attached ISIC code list).

Column D is to allow the researchers in each country to assign a unique number to each respondent.

For each question, please indicate the response(s) by ticking the corresponding box(es), or by writing in the answer.

I should like to receive a copy of the findings of the survey. Please sent to:

Name: _____
Position: _____
Organisation: _____
Street or Box: _____
Zip code: _____ City: _____
Country: _____
Telephone: _____ Fax: _____

SECTION 1: The Organisation and Operation of CI

1. To which degree do you agree with the following statements, describing the improvement activities in your organisation? Please indicate the present situation at the left-hand side, and the situation as it was three years ago at the right-hand side.

Today						Three years ago				
I fully agree	a			I disagree	IMPROVEMENT ACTIVITIES	I fully agree	b			I disagree
<input type="checkbox"/> 1	2	3	4	5		<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.1 A Continuous Improvement (CI) or equivalent formal improvement system (e.g. Total Productive Maintenance) has been introduced to involve all employees in ongoing improvement.	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.2 Appropriate organisational mechanisms are used to deploy what has been learned across the organisation ³¹	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.3 Before embarking on initial investigation and before implementing a solution, individuals and groups assess the improvements they proposed against strategic objectives to ensure consistency ⁹	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.4 Everyone learns from their experiences, both good and bad ²⁶	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.5 Everyone understands what the company's or their department's strategy, goals and objectives are ⁸	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.6 Ideas and suggestions for improvement are responded to in a clearly defined and timely fashion – either implemented or otherwise dealt with ⁵	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.7 Improvement activities and results are continually monitored and measured	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.8 Improvement is an integral part of the individuals' or groups' work, not a parallel activity ¹¹	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.9 Individuals and groups are effectively working across internal (vertical and lateral) and external divisions at all levels ¹²	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.10 Individuals and groups at all levels share (make available) their learning from all work and improvement experiences ²⁷	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.11 Individuals and groups monitor/measure the results of their improvement activity and their impact on strategic or departmental objectives ¹⁰	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.12 Individuals and groups use the organisation's strategy and objectives to focus and prioritise their improvement activities ⁷	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.13 Individuals seek out opportunities for learning/personal development (e.g. active experimentation, setting own learning objectives) ³²	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.14 Managers accept and, where necessary, act on all the learning that takes place ²⁹	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.15 Managers at all levels display leadership and active commitment to ongoing improvement ²⁵	<input type="checkbox"/> 1	2	3	4	5

<input type="checkbox"/> 1	2	3	4	5	1.16 Managers lead by example, becoming actively involved in the design and implementation of systematic ongoing improvement ²³	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.17 Managers support experimentation by not punishing mistakes, but by encouraging learning from them ²⁴	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.18 Managers support improvement processes by allocating sufficient time, money, space and other resources ²¹	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.19 Ongoing assessment ensures that the organisation's processes, structure and systems consistently support and reinforce improvement activities ¹⁸	<input type="checkbox"/> 1	2	3	4	5

Please continue Question 1 overleaf

Question 1 continued To which degree do you agree with the following statements, describing the improvement activities in your organisation? Please indicate the present situation at the left-hand side, and the situation as it was three years ago at the right-hand side.

Today					IMPROVEMENT ACTIVITIES	Three years ago				
I fully agree	a			I disagree		I fully agree	b			I disagree
<input type="checkbox"/> 1	2	3	4	5	1.20 People (individuals/groups) initiate and carry through to completion, improvement activities – they participate in the process ⁴	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.21 People and teams ensure that their learning is incorporated into the organisation by making use of the mechanisms provided for that ³⁰	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.22 People are oriented towards internal and external customers in their improvement activity ¹⁴	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.23 People make use of some formal problem finding and solving cycle ¹	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.24 People understand and feel ownership of the company's processes ¹³	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.25 People use appropriate tools and techniques to support their improvement activities ²	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.26 People use measurement to shape the improvement process ³	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.27 Relevant improvement activities involve representatives from different operational levels ¹⁶	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.28 Senior management make available sufficient resources (time, money, personnel) to support the continuing development of the company's improvement system ¹⁹	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.29 Specific improvement projects are taking place with customers and/or suppliers ¹⁵	<input type="checkbox"/> 1	2	3	4	5
<input type="checkbox"/> 1	2	3	4	5	1.30 The organisation articulates and consolidates (captures and shares) the learning of individuals and groups ²⁸	<input type="checkbox"/> 1	2	3	4	5

Appendix 2: The Survey Database

Table 1³⁴ The mean value of "Continuous Improvement Survey 2002" section 1

	Sweden		HK	
	a	b	a	b
11	2.59211	3.90541	2.64286	3.22222
12	2.4026	3.39189	2.82143	3.33333
13	2.67532	3.53333	2.92857	3.2963
14	2.44595	2.9589	2.32143	2.77778
15	2.61333	3.39437	2.64286	3.34615
16	3.28	3.8	3	3.18519
17	2.68831	3.74667	3.10714	3.44444
18	2.72368	3.70667	2.59259	2.92308
19	2.72727	3.69333	3	3.18519
110	2.98701	3.72	3.14286	3.40741
111	3.23377	4.13333	2.88889	3.5
112	3.15584	4.08	2.85714	3.2963
113	3.31169	3.94667	2.75	3.2963
114	2.53247	3.34667	2.85714	3.25926
115	2.49351	3.44	2.85714	3.11111
116	2.66234	3.57333	2.96429	3.25926
117	2.35065	3.17333	2.67857	3
118	2.93506	3.58667	3.07143	3.22222
119	3.03947	3.71233	2.85714	3.14815
120	2.68831	3.59459	3.07143	3.40741
121	3.04	3.77027	2.89286	3.44444
122	2.65789	3.36	2.78571	3.22222
123	3.38158	4	2.85714	3.40741
124	2.48684	3.29333	3.14286	3.2963
125	3	3.86486	3	3.40741
126	3.26316	4.09459	3.14286	3.66667

³⁴ CI 2003 Survey Coding Sheet, "CI2003 Survey Combined Countries "

127	2.37662	3.52	3.03571	3.44444
128	2.84211	3.6	2.92857	3.22222
129	2.55844	3.50667	2.92857	3.25926
130	2.81579	3.54667	3.14286	3.37037
131	2.98701	3.56164	2.71429	3.14815
132	2.2987	3.05333	2.35714	3
133	3.30667	3.81944	2.78571	3.11111
134	2.5974	3.30667	3	3.22222

Table 2³⁵ The result of survey from "Continuous Improvement Survey 2002" in question "2a, 16, 17, 20"

HK					Sweden				
Company number	2a	16	17	20	Company number	2a	16	17	20
301	3	50,000,000	1,100	4	401	10	28,000,000	70	3
302	3		700		402	5	375,000,000	275	3
303	3	40,000,000	1,500	1	403	1	33,000,000	350	3
304	5	100,000,000	4,000	1	404	4			1
305	3	70,000,000	500	3	405	10	130,000,000	320	1
306				2	406	8	50,000,000	340	1
307	5		120	3	407	3	150,000,000	600	1
308	2		50	3	408	2	60,000,000	200	1
309	1.5	3,000,000	2,500	2	409	16	30,000,000	230	3
310	2	50,000,000	110	3	410	3	60,000,000	270	3
311	20	5,000,000	100	3	411	2	100,000,000	450	3
312	10	5,000,000,000	1,500	2	412	0	200,000,000	150	1
313	3.00		3,000	2	413	5	100,000,000	330	3
314	3	4,316,000,000	40,700	4	414	1	170,000,000	500	2
315	5		2,000	1	415	8		350	4
316	5	1,000,000,000	10,000	1	416	3	5,000,000	100	2
317	1.5		60	2	417	5		480	1
318	10	20,000,000	94	3	418	15		2,000	1

³⁵ CI 2003 Survey Coding Sheet, "CI2003 Survey Combined Countries"

319	8	3,000,000	3,000	2	419	3		205	2
320	10		15,000	2	420	10	230,000,000	190	1
321		900,000	17	2	421	5	15,000,000	120	2
322	1		80	3	422	1		950	3
323		721,000,000	10,000	1	423	15	100,000,000	600	1
324	1		5	2	424	15	200,000,000	1,200	1
325	10	60,000,000	2,000	1	425	3	1,300,000,000	4,250	3
326	9	2,600,000,000	13,500	1	426	12	505,000,000	75	1
327	25	1,000,000,000	6,500	2	427	0	8,000,000	54	2
328	6	11,000,000	4,000	4	428	2	9,000,000	65	2
329	10		25	3	429	6	8,000,000	80	3
					430	5	10,000,000	110	
					431	4	46,000,000	60	1
					432	2	10,000,000	75	3
					433	5	9,000,000	60	3
					434	8	5,000,000	26	3
					435	10	10,000,000	120	1
					436		7,000,000	70	3
					437	1	15,000,000	150	2
					438	1		60	1
					439	10	13,000,000	60	2
					440	0	14,000,000	77	3
					441	5	1,000,000	65	1
					442	10	7,000,000	60	2
					443	5	8,000,000	58	1
					444	2		100	3
					445	4	50,000,000	64	1
					446	2	33,000,000	70	1
					447		9,000,000	35	1
					448	5	10,000,000	60	1

					449	0	6,000,000	54	1
					450	3	6,000,000	48	4
					451	5	8,000,000	68	3
					452	1	2,000,000	50	3
					453	3	10,000,000	70	3
					454	10	8,000,000	75	3
					455	15	6,000,000	60	3
					456	0	60,000,000	60	3
					457	1	9,000,000	58	3
					458	10	110,000,000	90	1
					459	2	55,000,000	50	3
					460	2	8,000,000	70	4
					461	4		120	2
					462	8	10,000,000	110	3
					463	3	30,000,000	113	1
					464	10	20,000,000	100	3
					465	1	30,000,000	200	2
					466	5	50,000,000	150	2
					467	2	30,000,000	130	2
					468	3	16,000,000	148	1
					469	0	10,000,000	105	1
					470	7	100,000,000	450	1
					471	2	250,000,000	140	1
					472	10	8,000,000	70	3
					473	0	10,000,000	90	
					474	5	3,000,000	100	2
					475	8	13,000,000	145	3
					476			120	3
					477	1	24,000,000	140	3