THE UNIVERSITY OF NEWCASTLE

DOCTOR OF BUSINESS ADMINISTRATION

**Investigating the Recognition and Adoption
of the Qualifications Framework
in the Hong Kong Logistics Industry**

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TABLES OF CONTENTS

CHAPTER 1 - INTRODUCTION

CHAPTER 2 - THE LOGISTICS INDUSTRY IN HONG KONG

CHAPTER 3 - LITERATURE REVIEW

CHAPTER 4 - HYPOTHESIS AND CONCEPTUAL FRAMEWORK

CHAPTER 5 – RESULTS AND ANALYSIS

CHAPTER 6 – CONCLUSIONS AND RECOMMENDATION

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

The logistics sector of Hong Kong is one of the four strong pillars upon which the Region's income depends. These four economic pillars being of course the logistics industry, the financial services sector, the real estate industry and travel and tourism. The administration of the Hong Kong Special Administrative Region introduced a Training Qualifications Framework to the sector in 2008 to initiate skill building tasks so as to enhance the sector's level of international competitiveness. The framework comprises seven levels, with each one enriching the candidate with a new skill. However, there seems little empirical research examining stakeholder perceptions of how far the programme has benefited the logistics workers in Hong Kong and the sector itself.

The purpose of this study is to identify methods to facilitate the adoption of the Qualifications Framework in Hong Kong's logistics industry by examining the perceptions of the Qualifications Framework of the industry's primary stakeholders which are its employees and firms. The logistics industry is made up of a variety of different modalities: sea freight, airfreight, land transportation, international courier, IT, and the value-added services of third / fourth party logistics. Surveys comprising 27 Likert scale items and associated free-response questions were distributed to 212 logistics workers and managers, randomly chosen from 35 logistics sector companies which responded from the 200 chosen as a representative sample of the 2000 companies comprising the sector. ANOVA techniques were used to compare measures of central tendency in distributions of participant response. Levene's test of homogeneity was used to test for the population significance of the sample output estimate.

The results of the investigation indicate that both employees and employers recognised the importance and advantages of the Qualifications Framework in the local logistics sector within the Hong Kong market. While employees identified the exact aspects through which they might build up their competency levels and help them to improve their employment positions over time, employers identified desirable professional features in new recruits and recognised the usefulness of the Qualifications Framework in identifying them. Ultimately, this could enhance the competitiveness of the Hong Kong logistics industry within the Pearl River Delta Region.

CHAPTER 1 – INTRODUCTION

1.1 Background , Objectives and Theoretical Framework

Background

The government the Hong Kong Special Administrative Region, People's Republic of China, has been developing a qualifications framework policy in vocational training for the Special Administrative Region since 2005. The qualification framework in the "Accreditation of Academic and Vocational Qualification" Ordinance was established in May 2007. The aim of the policy was to provide a qualification framework for each industrial sector, within which the past working experience and academic knowledge accumulated and acquired by workers in the industry could be recognized and utilized as a measure of competence for promotion and career advancement. The ultimate goal was to encourage workers to further their studies through life-long learning so as to improve industrial competence (Vocational Training Centre 2008). Workers could use the qualification framework to identify their level and scope of competence, and thus be able to select the most adequate training courses or programs to advance their personal competence in the industry. The framework would have the advantage of preventing repetition of focus on similar competencies as training progressed, which could save tremendous social and worker resources. The qualification framework was applied to three different industries in 2006; electrical work, car repair and beauty care; and to five other industries in 2008; logistics, timepiece manufacturing, hairdressing, printing, and publishing (Hong Kong Economic Times 2008). The first phase of the qualification framework for the above five industries was launched on 5th May 2008. Since the application of the qualification frameworks is still fairly new in the Hong Kong context, it has

yet to be widely accepted by employers, workers, academic institutions, professional organisations, and the society at large.

Logistics services include sea-freight, airfreight, land transportation, international courier services, Information Technology, and the value-added services of providing such services for third or fourth parties (Chartered Institute of Logistics and Transport in the UK, 2007). The supply chain activities of each logistics company include booking cargo slots for customers, providing customs and legal assistance for customers, collecting, sending, dispatching and receiving goods for customers, maintaining fleets, and providing real-time processing information for customers. It can be seen that logistics companies at large must deploy sufficient man-power to perform each duty within the supply chain (Emmett & Sood, 2010).

According to a survey conducted by the Transport Logistics Training Board of the Vocational Training Council, while the import/export trade value and tonnage moving through Hong Kong continued to rise from 1992 to 2001, the manpower in the transport logistics sector steadily declined (Vocational Training Council 2002). There are three probable reasons for this,

1)   the industry had much higher efficiency and so demanded less operating manpower;

2)   some of the transport logistics workers were employed in mainland China, leading to a drop in the total logistics manpower employed in Hong Kong; and/or

3)   some of the transport logistics workers, regardless of education, moved north and were stationed in mainland China for new employment or due to a regional transfer.

Some logistics industry workers (such as truck drivers) employed from mainland China had a labour cost advantage over those recruited in Hong Kong. If this was the cause for the decline in logistics manpower, the workforce that remained in the industry in Hong Kong would be more at a supervisory or managerial level rather than at the lower-paid, less skilled worker level.

Most of the logistics companies in Hong Kong are small to medium size enterprises with less than 50 employees, within which the understanding/knowledge of a well-trained workforce is a valuable asset (Ng, 2003). However, it is well known that small to medium size firms face market contractions with limited organizational resources (Hill & Stewart, 2000). A paradox occurs as limited organizational resources might lead such companies to prioritise sales and marketing activities as their revenue sources, rely on them to keep the company competitive within in the market and consequently regard training as an expense which would increase their costs. This would discourage them from subsidising employee training (Huat & Torrington, 1998).

In addition, owners of those companies might also fear that well-trained employees would either join other companies where their skills are needed or request a higher salary after being trained (Vocational Training Council, 2010). This may well explain why small to medium size enterprises rarely provide proper training activities for their employees (Panagiotakopoulos, 2011). The decline in logistics manpower in Hong Kong may encourage experienced supervisory or managerial employees to join international logistics conglomerates. This may well lead to a shortage of staff at the supervisory or managerial level, as well as meaning that only less skilled employees would be available for small and medium size logistics companies. This would put them in a difficult position within the competitive business environment. On the one hand, such companies

that wish to maintain their service quality would pay more to recruit skilled employees while, on the other, the local low-skilled logistics workers lose competitive advantage as more low-wage workers are employed from Mainland China, which would then lead to loss of employment within the Special Administrative Region.

The economic indicators related to trading activities provide an insight into the future growth of the logistics industry. This business prospect gives the basis for the projection of future manpower demand in the logistics industry. According to Census and Statistics, there had been a declining trend in Hong Kong cargo throughput from 2005 to 2007 while import and export has soared, as has re-export through Hong Kong. Table 1.1 contains extracts from data available from the Department of Census and Statistics, the Government of the Hong Kong SAR.

2005	2006	2007
Table 085: Port Cargo Throughput		
+4.2%	+3.5%	+3.0%
Table 061: Total Exports to Ten Main Destinations		
+9.3%	+9.4%	+9.2%
Table 062: Re-exports through Hong Kong by Ten Main Origins		
+9.7%	+10.0%	+10.8%
Table 057: External Merchandise Trade Statistics by Ten Main Countries/Territories – Imports from Ten Main Suppliers		
+10.5%	+11.6%	+10.3%
Table 059: External Merchandise Trade Statistics by Ten Main Countries/Territories – Re-export to Ten Main Countries/Territories		
+9.9%	+10.0%	+10.8%

Table 1.1: Port Cargo Throughput and Import/Export Value in Hong Kong SAR

Source: Census and Statistics Department, the Government of the Hong Kong SAR (2008)

The data on Table 1.1 demonstrates that, although the import/export and in/out re-export trade through Hong Kong rose by around two digits between 2005 and 2007, the port cargo throughput did not keep the same pace. Some cargo might have been shipped through neighbouring ports, which could also lead to a

drop in transport logistics manpower. These trading figures suggest that the appropriate strategies for the Hong Kong logistics industry should be related to moving from a labour intensive towards a more knowledge-based operation, which requires more skilled employees.

Consequently, it becomes clear that, in order to be competitive, the industry has to raise the qualifications of its workforce. This requires a solid foundation from schools on which vocational training institutions, or universities build, with the foundation being further strengthened by on-the-job training, development and education (Paloniemi, 2006). Therefore, the 2007 qualifications framework has been advanced as providing the parameters within which the qualifications for a particular industry should be expressed. Although a qualification framework may be contingent upon a particular industry, the premise is to establish a commonly accepted worker standard for qualification and practical working experience.

In theory, human resource development, training and education should be familiar to industry practitioners as there are many academic journals and books embracing such an idea and stressing the importance of doing so to remain competitive from a strategic human resource perspective (Hassan, 2007) and industry practitioners are encouraged to join hands to build and sustain strategic capabilities and competences (Garavan, 2001). It can be seen that the process is normative, noble, two-way, linear and strategic, leading to long-term positive win-win outcomes (Hassan, 2007).

It is however seriously argued that there is always a stakeholder paradox involved in human resource training, development and education, which means that the process is not deeply embedded (Saru, 2007). In too many contexts, the process of human resource training, development and education in the workplace is ad-hoc and reactive at best, absent at worst. Guest (2002), McCracken and

Wallace (2000) and May (2003) argue that the stakeholder, two-way and collective approach in human resource training, development and education is barely effective given that human beings tend to take a short-term perspective; human nature is about protecting and furthering their own interests and benefits, unless the benefits of cooperation clearly outweigh costs of individualism (May, 2003). Otherwise, cooperation is hardly realized. In other words, employers and employees (i.e. two major stakeholders in the industry) defend and advance their distinct self-interests, employers tend to regard human resource training, development and education as operating costs hindering financial performance while employees see human resource training, development and education as a part of career opportunities (Edgar, 2005). So the two major stakeholders hold different philosophies of human resource training, development and education, and certainly, a differing philosophy towards the qualification framework.

It is apparent that implementation of the qualifications framework is largely associated with the two major stakeholders (i.e. employers and employees) in the industry as the process is said to be collaborative and collective (Paloniemi, 2006). Hence, stakeholder views and opinions regarding the qualifications framework are vital. Such views and opinions can help both academic researchers and industry practitioners to understand how effective the qualification framework is and most importantly, to understand how the qualification framework can better suit the needs of different stakeholders.

Since the study of the qualifications framework investigation (Hong Kong Education Bureau, 2008) is rather new, the peer-reviewed literature might not provide enough theories and concepts readily established for reference and discussion. In addition, most international discussion concerns national policies of quality assurance, articulation and credit transfer but there appears to have been

little work done on stakeholder views towards the qualifications framework particularly in the context of Hong Kong. Thus the knowledge gap gives rise to this research.

This research will study the impact of this qualifications framework on stakeholders of the logistics industry in Hong Kong. How would the logistics workforce benefit from the establishment of a qualifications framework? What kind of strategies should be formulated when establishing such a qualification framework? These questions are still open for resolution and investigation.

Objectives

The objectives of this research are to examine the newly enforced qualifications framework for the logistics industry in Hong Kong, and to investigate the different opinions of logistics stakeholders, as these views could be expected to have an impact on the extent to which implementation of the framework will help the workforce to enhance their employability, improve their staff recruitment effectiveness, and ultimately help Hong Kong to sustain its role as a logistics hub within the Pearl River Delta region.

Theoretical Framework

A three-level need analysis cycle was used to structure this investigation. Such a learning cycle approach is often used to structure the key aspects of planning human resources development within an organization (Beardwell & Claydon, 2007). The cycle consists of four processes: identify the learning needs of individual employee and the organization, develop appropriate objectives, design and deliver the learning program and evaluate the learning results. There are three levels of analysing the learning needs of an organization: organization, job and individual. The identification of needed skills of employee learning is related to corporate and business strategies. This process provides the link

7

between human resources development and the organization's strategy, and ensures that the learning program can support organizational development. The purpose of the job level analysis is to identify the skills, knowledge and attributes of the job. The results of the levels are job specification and consequent training specification. Individual level analysis considers the areas where employees do not have sufficient knowledge and skills, or where they are not performing effectively (Ashworth, 2006). These three levels of learning needs analysis will be applied in this project.

There are four general approaches to employee professional development. These four general approaches are typically listed as the following: formal education, assessment, job experiences and interpersonal relationships (Noe, 2007). Most organizations use a combination of these approaches in their training programs. Training programs are designed to improve employees' competencies and capabilities in their positions as core competencies in each position are established (Gerhart, Holleneck, Noe & Wright, 2006). Formal education includes on-site programs, off-site programs and short courses designed for employees. Assessment is information collected and fed back to employees about their skills and working attitudes. Employee development could review prior job experiences, focusing on problems, tasks, demands and relationships that employees face in their work. Regarding interpersonal relationships, employees could learn skills and enhance their knowledge about their job and the company by being under the mentorship of an experienced member. All of these approaches are concerned with employee skill development. Their impact will be explored in the course of this investigation although in large part of these have been discounted as being somewhat lacking in terms of standardization, ability to be integrated into a national framework and general lack of transparency to employees.

1.2 Outline of the Thesis

There are six chapters in this thesis:

Chapter I is the Introduction that provides the rationale for this research and describes its value. The chapter introduces the background and theoretical framework for the investigation. It then moves on to the objectives of the dissertation with a brief outline of the various chapters that describe the different phases of this research.

Chapter II discusses the general business and working environment of the logistics industry in Hong Kong. It describes the trends and issues faced by both businesses and the workforce in the logistics industry at this time.

Chapter III is the Literature Review. It explores the theories and concepts that previous scholars in human resources, organizational behaviour and industrial relations have developed that bear upon qualifications framework strategies. Particular attention will be paid to work in vocational training and education enhancement, workforce qualification and personal competencies, competitive advantage of a nation, unification of qualification and practical experience. The literature selected will form the framework for development of the succeeding chapters.

Chapter IV highlights the hypotheses, the conceptual framework of the research, and the research questions (see also Section 1.5). The hypothesis tests form the foundation on which the conclusion could be drawn. This chapter also presents the methodology, which provides the philosophical basis of the research methodology and describes the "how's" and "why's" of the study. It elaborates the importance of quantitative and qualitative approaches in this particular study. It further explains the rationale for choosing quantitative instead of qualitative approach for this particular research. The different stages of the research will be

described in full detail. It further explains why and how the questionnaires are designed. This chapter also explains how the research is conducted, how primary data are collected, and how the results are analysed.

Chapter V presents the findings and analysis of the data collected for this research. It further tests the hypotheses relating to qualifications framework and the quality of the logistics workforce, employment opportunities and the competitiveness of the Hong Kong logistics industry, as a preparation for discussions and conclusion in later chapters. This chapter summarizes the empirical results of this thesis. It further reviews the objectives that have or have not been achieved in this project and explains the results and implications of the hypothesis testing in support to the achievement in this project. The discussions in this chapter will seek support from, or contradiction to, the theories and concepts mentioned in the literature review.

Chapter VI summarizes the Conclusion that compares the evidence of the research and the articles of the Literature Review in Chapter III. The Conclusion further recommends main areas which could be informed by stakeholder views of qualifications framework strategies on the workforce of the logistics industry in Hong Kong. Courses of action would also be recommended.

1.3   Qualifications Framework Development

Aims

The Qualifications Framework forms an extensive and planned network of learning tracks that is intended to provide lifelong learning pathways for the workforce through different vocational, continuing education and academic institutes. The framework encourages individuals to seek goals based on their own career paths, and ensure they would have sustainable development in their

positions to meet the rapid changing situation in Hong Kong (Hong Kong Education Bureau, 2008).

Structure of Qualifications Framework

A seven level cross-section qualification framework and the related quality assurance system have been developed since 2005. The levels and their labels are shown in Table 1.2.

Qualifications Framework Levels	Academic Qualifications	Non-academic Qualification
Level 7	Doctorate Degree	Specifications of Competency Standards - based Courses
Level 6	Master Degree	
Level 5	Bachelor Degree	
Level 4	Higher Diploma/ Associate Degree	
Level 3	Diploma / Secondary 7	
Level 2	Certificate / Secondary 5	
Level 1	Certificate /Secondary 3	

Table 1.2: Qualifications Levels related with Academic and Vocational/Continuing Education Sectors (Hong Kong Education Bureau, 2008)

The qualifications framework provides standards for different qualifications, and the connections between each level of qualifications. Different vocational, continuing education and academic institutes' qualifications should support the qualification framework hierarchy. Specific Competency Standards have been developed in different industries, to reinforce the industries' role in the development of vocational training and improve their effectiveness. A quality assurance system has also been set up to assure acceptance of the qualification conferred by different vocational training and academic institutes under the qualifications framework.

The Industry Training Advisory Committee, made up of representatives from relevant professional bodies, employers and employees, has been developed to assist the Education Bureau in various stages and ensure that all recognized qualification are quality assured.

Industry Training Advisory Committees in different industries specify and fix each level's competency standard. The vocational training and academic institutes would then develop the training courses in accordance with each industry, after the draft specification of competency standards have been consulted. The courses and related qualifications would then be recognized under the Qualifications Framework. The Hong Kong Council for Accreditation of Academic and Vocational Qualifications would assure the quality of these courses. The qualifications are not only built on academic and training achievements, but also the present employee's work experience, skill and knowledge are recognized by a "Recognition of Prior Learning" system established by their respective industries. Those Specification Competency Standards-Based courses would equip trainees with necessary competency requirements corresponding to the seven different levels of the Qualifications Framework.

Employee Development

Employees could seek work at higher levels by means of further study to obtain the relevant qualifications. A lifelong pattern of learning may need to be flexible enough to enable employees to cope with their own family life and work responsibilities. The qualifications framework includes a Credit Accumulation and Transfer system to fit individual circumstances and reduce duplicated training. Employees could aggregate the credits obtained from the various programs systematically and convert these credits into a recognized qualification. A united platform has been built up to facilitate the Credit Accumulation and Transfer

arrangements between the training institutes and the industry to facilitate development of the qualifications framework. The qualifications framework also has relevance to secondary education, because the specification of competency standards developed support the new academic structure for senior secondary education: the Applied Learning Courses. This should provide students with various choices and different learning opportunities to learn the necessary skills and techniques required by different industries.

National Competitiveness and Employee Skill

Hall and Soskice (2001) examined the link between organizational skills strategies and national level institutional structures identifying two types of economy from international data, namely liberal market economies and co-ordinated market economies. They suggested that the relationship between organizational strategies and national structures decides the skills levels of the employees and the competitiveness of the national economy. Liberal market economies rely on the development of portable and generic skills, and provide worker on-job training and employment security. Co-ordinated market economies are strengthened by high-value tasks and specific skills development. There is strong evidence that there are substantial gains for companies as they invest in staff training and development, but most companies do not respect this relationship (Descy & Tessaring, 2005).

Literature Development

As indicated by the dissertation title, this research is concerned with assessing stakeholder views about the qualification framework strategies on the workforce of the logistics industry in Hong Kong. Therefore, literature that reflects a close connection between theories, concepts and observations regarding the academic and vocational qualifications has been selected, with a

special focus on the work experience, competency and competitive advantage of human resources for the Hong Kong logistics industry.

Governments, academic institutions, and professional bodies have long provided academic, professional, or vocational training to workers within different industries. Some professional bodies, such as accountants, auditors, pharmacists and investment consultants, have established their own standards with regard to the minimum entry requirements for practice in the industry (HKICPA, 2011). However, this does not apply to the society at large.

In fact, qualifications frameworks have proved to be a success in some nations, but an utter failure in others. The main difference between the strategies adopted by the national governments seems to come from differing degrees of insight. Usually national governments implement such programmes to develop local labour skills to an internationally competent level and hence, encourage the nation towards economic growth. However, many developed nations failed to recognise that such attempts are dependent upon a number of interacting factors which developing nations seem to have identified (Williams, 1999).

New Zealand is an example of a developed nation which failed to successfully implement a Qualifications Framework. The prime reason seemed to be reluctance among national employers to select their prospective employees on the basis of vocational skills, rather than more conventional academic ones. Another factor may have been the high course fees, which were beyond the reach of the economically backward class for whom the courses were intended. It would still have attracted them had there been sufficient demand of the special skilled labour force; but a lack of ample demand impeded the impact of the Qualifications Framework in New Zealand (Strathdee, 2003). However, Oman is an example of a

developing nation which provides one of the most successful examples of Quality Framework implementation. Though it required partnership with the qualifications framework council of UK, Oman was able to produce a labour force proficient enough to obtain work in an era of globalisation (Wilkins, 2002). On the other hand, the developing nation of South Africa was unable to successfully implement a Qualification Framework, mainly because of a high level of illiteracy among its population. Hence, they were blind to the necessity or the relevance of secondary education in their lives and careers (Allais, 2007).

The implementation of qualifications framework programme in Europe had also been quite successful, with UK (Scotland, Northern Ireland) being an exemplary case. The Scottish instance proved that collaboration with the national higher education sector is necessary for the development and constant progress of a qualifications framework programme. The success achieved in Northern Ireland in this area exceeded that achieved on an average over different parts of UK. These and related National Qualifications Frameworks models are further explored within the literature that specifically examines the National Qualifications Frameworks strategies in markets such as the United Kingdom and Ireland as well as the European Union (EU) in general. The main factors underlying such success stories could guide Hong Kong in the development of a qualifications framework for certain industries. The aim of establishing such a qualifications framework is to unify the system of national qualifications in schools, vocational education and training, and universities in Hong Kong.

1.4 Justification and Importance of the Study

When establishing a qualification framework, the authorities aim at standardising the general qualification requirements of certain job types within an industry. The ultimate goal is to raise the competitiveness of the workforce in the industry as well as encouraging life-long learning among the employees. However, such establishment might also have a negative impact on some workers who are not up to standard, or who might not be able to upgrade themselves for whatever reason, or who might be affected by external constraints other than by mere qualification or personal competence. Although the goal of enforcing a qualification framework seems to be on the right track to advance the competence of the logistics workforce in Hong Kong, there seems to be a need to investigate further what kind of strategies should be formulated when pushing forward such a framework so that the logistics workers and the whole industry sector in Hong Kong could really be benefited. This study is conducted with the intention to investigate the situation with the goal to make recommendations regarding relevant strategies. Thus the research seems worth conducting.

There have been a number of articles describing research on qualification frameworks in both overseas contexts and for Hong Kong. For example, the Hong Kong Institute of Certified Public Accountants issued the New Qualification for the Hong Kong Accredited Accounting Technicians in 2007 (Hong Kong Institute of Certified Public Accountants, 2007) and TAFE Global at Sydney issued the Hong Kong Retail Industry Training Specification in response to the Competency Standards Qualification Framework Assessment Guidelines (TAFE Global, 2003a).

However, these papers were more focused on introducing the qualification requirements, curriculum, and training than they were on stakeholder perceptions

of the framework. They lacked the research instrument that this research seeks to apply.

1.5 Research Questions and Hypothesis

This research project has posed the overall inquiry asking if stakeholders believe that enforcement of the qualification framework in the logistics industry is likely to bring positive change to Hong Kong's logistics industry, such positive change being in the form of helping the logistics workforce to sustain their employment. What kind of strategies should be associated with the qualification framework formulated in order for it to be of the most help to the logistics industry?

Research into how qualifications framework to impact the logistics workforce and firms in Hong Kong would seem to be both important and timely. Consequently, there are several research questions that were addressed in this thesis. These research questions have been detailed below:

1. Do stakeholders believe that the qualifications framework for the logistics industry in Hong Kong will help logistics workers to enhance their competence to sustain their employment?

2. What are the levels of adoption and recognition of the qualifications framework by the logistics industry in Hong Kong?

3. Are the logistics workers in Hong Kong aware of the importance of the qualification framework for their career path?

4. In order to increase the competitiveness of the Hong Kong logistics industry within the Pearl River Delta region, what kind of policies should be offered by the Hong Kong SAR government which can

make the qualification framework implementation more efficient and effective?

In response to the above research questions, four hypotheses are established:

Hypothesis 1 (H_1) – Logistics workers in Hong Kong are aware that the qualifications framework may affect the career path.

Hypothesis 2 (H_2) – Respondents believe that the Qualifications Framework influences working skills for logistics workers in Hong Kong.

Hypothesis 3 (H_3) – The Qualifications Framework positively influences the workers of the Hong Kong logistics industry.

Hypothesis 4 (H_4) – Stakeholders encourage workers to participate in relevant training in order to meet the requirements of the qualifications framework.

1.6 Research Design

In this study, population validity is of utmost importance because the results of this particular research may be extended beyond the logistics industry to the society at large (Field & Hole, 2003). After carefully considering the focus of the study and strengths and weaknesses of the different research methods, a mixed methods approach seems the most appropriate research method for this particular study.

First, this study uses quantitative research to collect data that will be used for statistical analysis. The background data collected will include logistics manpower, trading statistics, freight and container movement, workforce composition, and change of logistics establishments over time. This would include primary as well as secondary data. A structured questionnaire will use 5-point Likert scale (Hair, Babin, Money & Samouel, 2003) to collect stakeholder

knowledge and opinion of the qualifications framework and its likely impact.

Second, there will be a series of open-ended question to allow respondents to suggest alternative answers or perspectives about the topics raised by the 5-point Likert scale. Such questions allow qualitative data to be collected by the researcher.

According to Creswell (2003), mixed methods approach put a balance between a scientific approach and a descriptive approach. The use of hypothesis testing is scientific and objective, thus research outcomes generalization can be realized. However, the world is more than hypothesis testing; there is something else which cannot explain by hypothesis testing. In view of this, mixed methods approach is more suitable for this situation.

In addition, according to Malhotra (1999), survey techniques allow the efficient collection of sufficient data on which to base the development of useful information on which suggestions for practical implementation may be subsequently made. In this case, the respondents would only focus on answering the structured questions. Furthermore, it is easy to summarize and analyse structured questions with Likert scale responses. In view of the external validity of survey method, the results can hopefully be extended to a wider population.

The key independent variables impacting on this study include workforce education and experience, company size, revenue, employee turnover and related factors, employee remuneration, training and education subsidies.

1.7 Possible Limitations

There are several important resources that are critical to research success. They are the data available for collection and study, the funds needed, human resources needed to carry out field study/interview/data compilation and analysis,

and access to the sample companies in this case. As decided, primary data would be collected by way of a questionnaire with the companies employed more than 50 staff and operated for more than three years. There would not be substantial costs incurred except the mailing costs to and from the sample companies. The researcher has utilized his own computer and software to compile and analyse the data. The foreseeable limitations are that the researcher could not attain sufficient data to carry out the analysis due to lack of sufficient questionnaire responses, which might lead to failure of this research.

A more fundamental limitation is the study's focus on stakeholder views. Some of the case material indicates that employer opinion can have a great impact on the success, or otherwise, of any implementation of a Qualifications Framework. This makes stakeholder views important but this study could well be followed up by a wider investigation of the actual impact of the Qualifications Framework in the Hong Kong logistics industry.

CHAPTER 2 - THE LOGISTICS INDUSTRY IN HONG KONG

2.1 Background

The Logistics industry[1] in Hong Kong is a major component of the supply chain system. Supply chains are the complex sequence of routes, actions, links and relationships through which materials, products and services are moved. Supply chains in Hong Kong may involve the infrastructure and physical movement of freight; alliances, logistics, and the electronic and documentary transactions that authorize custodial transfers and payments between parties. Transport, warehousing, logistics services and even the return and recycling of goods are all part of holistic supply chains. The logistics industry no doubt generates a significant contribution to the Hong Kong economy.

According to the Government of the Hong Kong Special Administrative Region (HKSAR), financial services, trading and logistics, tourism and professional services are strategic economic sectors within Hong Kong's economy. According to Trade Development Council (2007), the trading and logistics sector contributes 28% of gross domestic product and employs 24% of Hong Kong's total workforce. Hong Kong's logistics and related sectors are expected to further sharpen their competitive edges, in order to facilitate a smooth and efficient supply chain operation and offer solid support to the sustainable growth of the Hong Kong economy.

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[1] The logistics industry covers a wide range of areas, including sea freight, airfreight, land transportation, international courier, IT, and the value-added services of third / fourth party logistics.

Hong Kong is an active and globally respected international maritime centre (IMC), competing with Singapore for recognition as the premier maritime centre in the Asia-Pacific Area. The maritime industry has always been a key factor in the prosperity and development of Hong Kong. The success of the maritime industry can be traced back to 1960s. Hong Kong has a deepwater port and the advantage of geographic location. Located strategically in Southern China, Hong Kong has been the gateway to the mainland of China (hereinafter referred to as the mainland) since that time. Export and re-export trade fostered the development of a maritime industry which enjoyed steady annual growth in export/re-export volume. During the 1970s, Hong Kong's port became one of the busiest in the world, thanks to free port policies and comprehensive facilities. After years of development, in 1992 Hong Kong's port was ranked number one in the world for container throughput and this number one status continued till 2004. In 2007, it was ranked the third busiest container port in the world[2] following the ports of Singapore and Shanghai.

As Figure 2.1 indicates, Hong Kong's external merchandise trade has gradually expanded over the past ten years. The expansion is attributed to the tremendous growth of the mainland's international trade. Moreover, Hong Kong is Asia's premier international transport and logistics hub, as well as a vital gateway to Southern China.

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[2] During January to May 2007, Hong Kong Port was the world's third busiest container port having handled 9.5 million twenty-foot equivalent units or 20-foot-long cargo container (TEUs), following Singapore (11.1 million TEUs) and Shanghai (10.3 million TEUs). In fact, Hong Kong handled 23.5 million TEUs in 2006, with 4% increase from 2005.
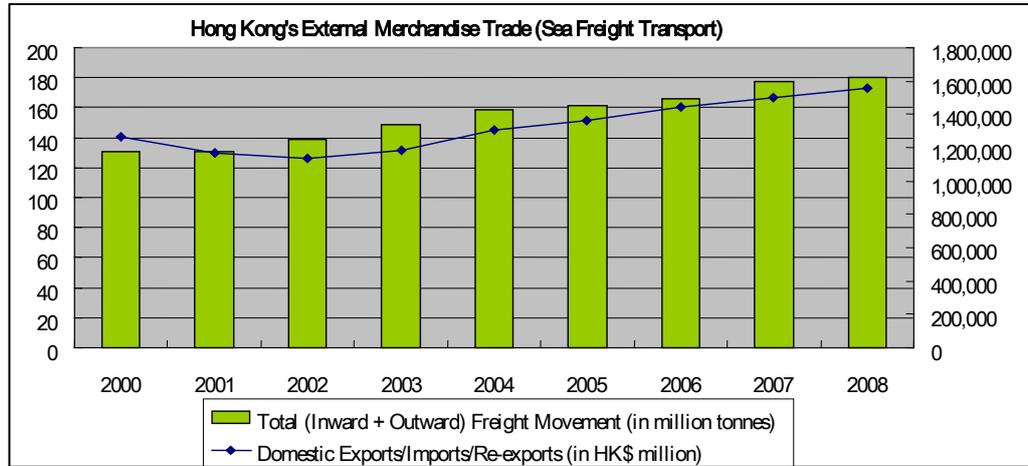
Figure 2.1: Hong Kong's External Merchandise Trade (Sea Freight Transport)

(Source: the Census and Statistics Department)

Past trends of the Hong Kong's trade and those of the mainland show a close resemblance. Since the 1980s, Hong Kong has played a significant role in routing the growing exported manufactured goods from the neighbouring regions as well as regions beyond South China, hence the development of Hong Kong into a multi-modal hub.
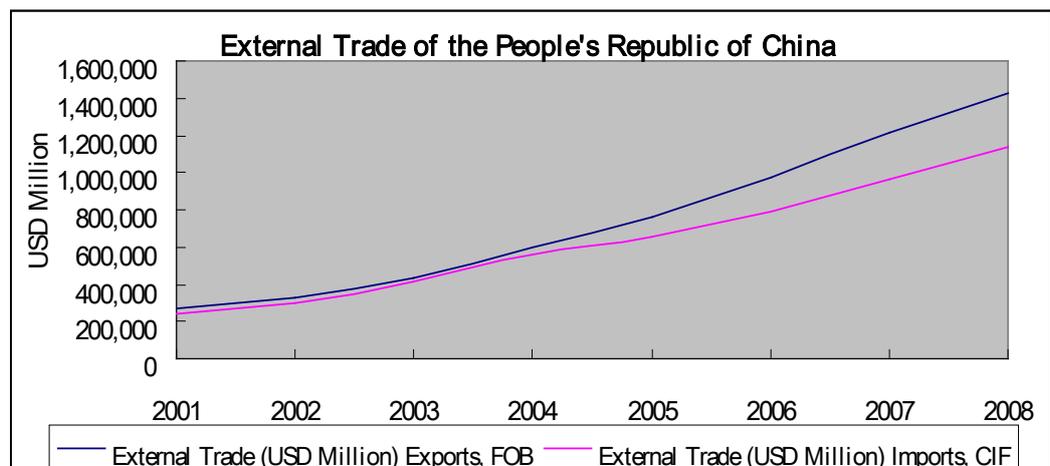
Figure 2.2: External Trade of the People's Republic of China

(Source: National Bureau of Statistics of China)

So long as the overall trade of the mainland continues to grow, Hong Kong's status as a complementary multi-modal hub to other hubs and ports in the region would still be secure.

Hong Kong's reputation as an international maritime centre does not merely rest upon the efficiency of its port facilities; rather it depends on a significant cluster of services. The port is greatly dependent upon activities within the cluster for its success.

The cluster comprises the following sectors:

- Ship owning and operating

- Ship management

- Ship's agent

- Classification societies and surveyors

- Marine equipment and supplies

- Maritime law and arbitration

- Ship finance

- Ship brokers and charterers

- Marine insurance

- Hong Kong ship register

Each of the above-mentioned sectors offers an opportunity for people to become professionals within that sector.

All employees must possess the specific skills and knowledge relating to the sector they work for. Traditionally the maritime industries have been seen as comprising shipbuilding and repairing, ship-owning and operating, ship management and ship agency. There are a distinctly separate set of maritime services, referred to as the intellectual shipping activities, including maritime legal services and arbitration, ship insurance, ship finance and logistics services. The

intellectual shipping activities are deemed to demand less manpower and are more profitable than the traditional shipping business. The intellectual business creates a need to attract talent to deliver professional services and make the industry achieve internationally recognized standards. The application of knowledge-based economy and modern management concepts has also raised expectations resulting in increased education requirements at all job levels.

For some time maritime industries have had to compete with other more glamorous industries, such as investment banking, to attract people of appropriate calibre to develop careers in their industries. The human resources issue is becoming a crucial factor in preserving Hong Kong's present status in the global maritime industries. The aviation industry is another major part of the logistics sector in Hong Kong. Hong Kong International Airport (HKIA) is under five hours of flight time from most urban centers in East Asia. It is one of the world busiest airports for international cargo and home to the world's largest air cargo terminal. For the first half of 2008, passenger volume, cargo traffic and aircraft movements through HKIA increased by 7.3%, 6.8% and 4.6% over the same period last year, to 24.4 million, 1.8 million metric tons and 149,890, respectively. More than 47.8 million passengers used HKIA in 2007 and over 3.74 million tonnes of cargo passed through the airport. Around 800 aircraft from more than 85 airlines link HKIA with 150 destinations worldwide every day.

However, HKIA is facing the challenge of competition from neighboring airports. Those neighboring airports offer lower airport charges than that of HKIA, as well as providing enormous infrastructure to attract more air cargo business. Therefore, many potential customers may well choose the neighboring airports rather than HKIA. This would encourage movement of more workers from Hong Kong to the mainland aviation industry.

2.2 Potential Implications of HK Logistics Industry's Increased Competition in Asian region

The maritime industry nowadays is one of the most important economic sectors in Hong Kong. It produces significant revenue and is a notable contributor to local GDP. As improved human resources are essential to the development of the maritime industry, the industry requires employees who are determined, capable and committed. For a long time, the community has known little about the maritime industry. One of the primary problems facing the industry is to attract people of appropriate calibre to develop careers in the maritime industry.

Both Hong Kong and Singapore are international maritime centres in Asia while Shanghai's port continues to strengthen its position as a national maritime centre. The growth of the ports in Singapore and Shanghai has been faster than Hong Kong's in recent years. This may result in the outflow of experienced talent from Hong Kong to those areas. Consequently, it may become even harder for the Hong Kong maritime industry to attract or retain talent either locally or internationally.

Another issue that creates great difficulties in the maritime industry is the global economic crisis which has reduced the revenue of many local enterprises. The total external trade volume during the last quarter of 2008 has gradually decreased as indicated in Table 2.1.

Facing this difficult situation, many enterprises in maritime industries have recorded a reduction in revenue. It is generally acknowledged that the economy is heading for a period of contraction. Customary wisdom for a period of downward trend is for enterprises to revaluate and adjust the resources/factors of production. Loss of competence in the industry may be one consequence of a cutback on employment, if that becomes unavoidable.

Year	Month	Total Exports	Year-on-year %Change	Imports	Year-on-year %Change
2008	8	76,654	+3.5	61,779	+3.8
	9	77,954	+7.6	59,398	+6.0
	10	77,326	+5.4	64,880	+5.4
	11	66,603	-1.6	53,422	-11.0
	12	65,230	-5.0	48,339	-22.4
2009	1	68,878	-2.4	38,542	-33.6

(HK$ Million)

Table 2.1: Hong Kong's External Merchandise Trade Statistics (Sea Freight Transport

(Source: External Merchandise Trade (January 2009 Issue) of the Census and Statistics Department, Hong Kong SAR Government)

The financial recession affected the aviation industry in the fourth quarter of 2008. It caused significant changes in the whole economic environment and affected the logistics industry in Hong Kong. Under the pressures of the subsequent global economic downturn, shippers might choose to use other modes to deliver their goods, considering the characteristics of their goods and their urgency before using air transport services.

HKIA acts as aviation hub for Southern China in handling import, export and transshipment cargo. Higher airport charges offered by HKIA might certainly affect those southern China freight forwarders' choice of airport. From the view of freight forwarders, one of dominant factors in choosing other airports to deliver their goods is airport charges or taxes. In more challenging times, they would be more likely to choose the lower cost alternative to enable them to offer lower delivery charges and so obtain more cargo from buyers or shippers. Thus, the cheaper airport charges at neighboring airports in Southern China, such as Guangzhou International Airport, would make them strong competitors for HKIA.

27

2.3 Hong Kong's Logistics Industry: Challenges and Opportunities Ahead

The Hong Kong logistics industry's major competitive edge comes from its world class infrastructure and connectivity. These have allowed Hong Kong to become one of the leading hub ports in the world. However, there are some constraints that weaken the strengths of Hong Kong's role as an international trade and logistics hub:

1) *Small domestic market and relatively high operating costs compared with other logistics ports in the Pearl River Delta (PRD).*

   For instance, the logistics and transport service providers in the PRD have improved greatly in recent years, in terms of service coverage and throughput. This is a real challenge for Hong Kong which, for many years, had enjoyed almost a monopoly on access both in terms of trade and investment. Hong Kong's sea freight business, for example, is experiencing comparatively slower growth than expected with a rising number of exporters shipping cargo directly from Southern China ports such as Chiwan, Shekou and Yantian, which offer lower total costs while maintaining excellent services.

2) *A highly fragmented industry with limited scale.*

   The majority of businesses are small to medium-sized companies. Without losing sight of the niche operators, this implies the imminent need to continue attracting leading logistics and transport industry players to base their operations in Hong Kong and encourage greater alliances and collaboration within the industry.

3) *Increasing competition in the region.*

   Alternatives to Hong Kong and the region are emerging as locations for

foreign direct investments (FDIs). For instance, the recent unprecedented industrial upgrade and transformation in PRD enterprises would definitely impact the potential volume of cargo flowing through Hong Kong. Regional countries, such as Singapore, Taiwan and Malaysia, are also positioning themselves to become more desirable as regional logistics hubs.

Rising Competition

With the rapid port development in Southern China, the competition between Shenzhen and Hong Kong in sea freight transport will gradually intensify. Meanwhile, persistent liberalization of the air transport service industry in the mainland will inevitably bring keen competition to Hong Kong's role as the gateway to the mainland.

Many other countries harbour ambitions to be regional / global logistics hubs. In this connection, Taiwan, Malaysia, Thailand and the Philippines are attempting to position themselves as logistics hubs.

Taiwan has drawn up a blueprint to develop herself into a global transport and logistics hub. Taiwan's efforts mainly appear to be specialized in e-commerce development, infrastructure enhancements as well as customs reforms.

Countries including Malaysia, Thailand and the Philippines are attempting to allocate extra resources to improve the efficiency of their logistics and transport infrastructure, develop competencies, as well as attract international integrated logistics service providers.

Opportunities

Under the Closer Economic Partnership Arrangement (CEPA), the mainland offers preferential treatment to the logistics industry in Hong Kong. The 11th Five-Year Plan, as announced in March 2006, indicated the support pledged by the

Central Government for Hong Kong in the development of the logistics industry and in maintaining its position as an international maritime centre in the region. It is hoped that, as long as the mainland economy maintains a steady growth, its booming import/export trade will continue to provide ample business opportunities for the logistics industry of Hong Kong.

Currently, about 75% of the local workforce is at the clerical and operational levels. Many of them wish to pursue continuing education to better equip themselves with necessary knowledge and skills, thus enabling them to provide services at the professional level.

In the face of these challenges and opportunities, Hong Kong should make appropriate adjustments in its relevant policies and measures, so as to provide infrastructure conducive to the development of the logistics industry and improve the overall business environment with a view to boosting Hong Kong's capability in providing one-stop integrated logistics services.

2.4 Human Resources Issues in Hong Kong Logistics Industry

The maritime industry is a cluster of many inter-related sectors, each having its own characteristics. Since they are highly inter-related, they are subject to some common forces and external influences. In particular, the mode or type of operations can often affect the manpower needed. For instance, the maritime industry of Hong Kong is serving mainly mainland foreign trade, especially the Pearl River Delta (PRD). The freight volume of the mainland's international trade started to grow significantly during the early 1980s and Hong Kong began to play a substantial role. By the 1990s, the cargo mix changed from the more labour intensive break-bulk/less than container load (LCL) cargo to predominantly full container load (FCL). The implication of the change was that more office-based

jobs were created, more skilled personnel were needed and correspondingly fewer job opportunities were available for people with lower education levels. The following three indicators support this observation.

Employers prefer managerial level employees to have a university degree, supervisory staff to have post secondary level and clerical staff to have upper secondary level qualifications. The statistics that illustrate these preferences are shown in Figure 2.3.
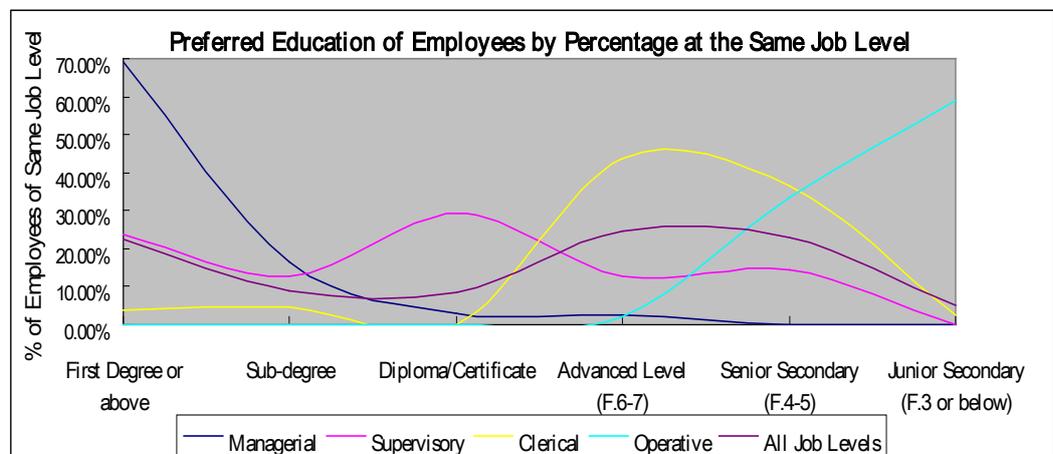
Figure 2.3: Preferred Education and Qualifications of Employees

(Source: 2008 Manpower Survey of the Transport Logistics Industry Report by Transport Logistics Training Board, Hong Kong Vocational Training Council)

The changes in manpower of sea freight companies in Hong Kong since 1991 are shown in Figure 2.4. The continuous decrease in manpower may probably be explained by the fact that the maritime industry had over-expanded in the mid 1990's. Another explanation is the increasing application of IT based systems to routine operational and administrative functions, and requiring fewer but more multi-skilled personnel. Since the number of enterprises is increasing while manpower is decreasing, it can be assumed that the employment size of enterprises has been reducing. One conclusion that might subsequently be drawn is that small-and-medium enterprises would in turn dominate the industry.
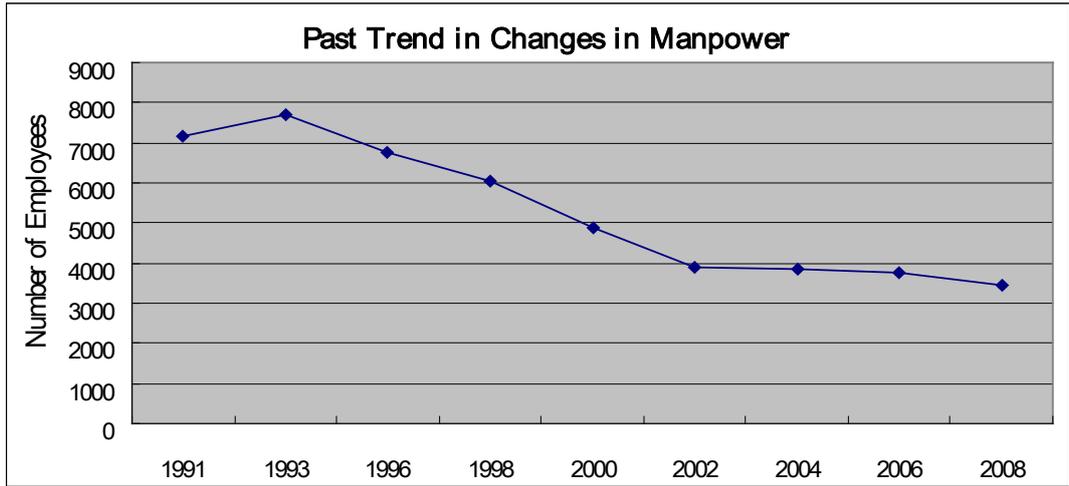
Figure 2.4: Manpower Changes since 1991

(Source: 2008 Manpower Survey of the Transport Logistics Industry Report by Transport Logistics Training Board, Hong Kong Vocational Training Council)

It appears that the percentage of logistics employer preference for sub-degree holders and upper secondary education is on the rise (Figure 2.5). This may signal that the traditionally labour intensive industry is evolving towards a more knowledge-based workforce.
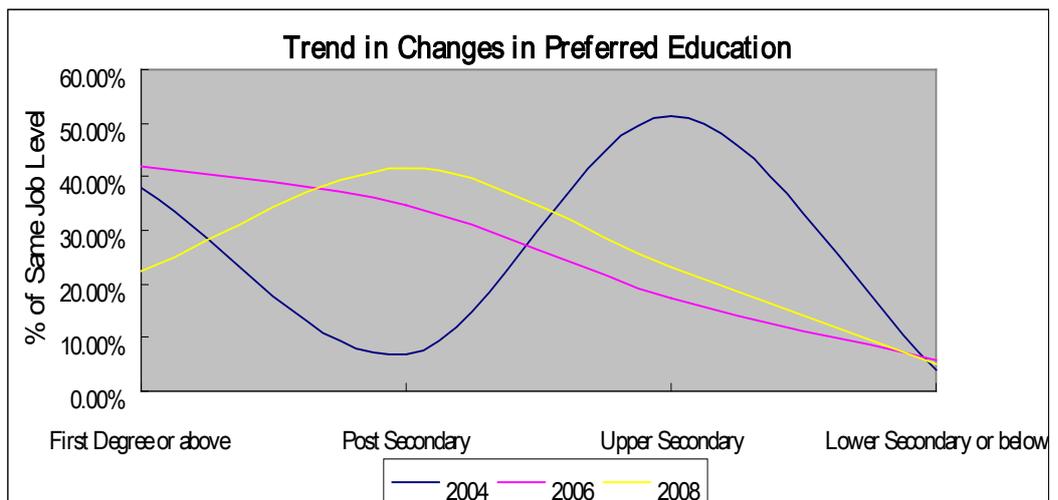
Figure 2.5: Changes in Preferred Education

(Source: 2008 Manpower Survey of the Transport Logistics Industry Report by Transport Logistics Training Board, Hong Kong Vocational Training Council)

2.5 Logistics Industry Image in Hong Kong

Some commentators have argued that the logistics industry in Hong Kong has long suffered from the perception that it merely offers 'jobs, not careers' and that there is no long term pathway providing professional progression throughout a person's working life (HKFTU Logistics and Transport industry Committee 2009).

It is necessary to point out that the employment in transport and logistics is consistently considered as blue-collar, uncouth, male-dominated, unhealthy, unsophisticated work, compared with other professions in Hong Kong, such as accounting, banking, or legal sector. Logistics is considered to have few longer term career options, poor working conditions, and a distinct lack of glamour in general.

In this connection, a system of recognition is very important for the logistics industry and is much more than merely a means of accelerating training. It is very likely that the inclusion of such recognition in a Qualification Framework would increase industry support for such a policy.

Recognition no doubt serves the needs of the individual worker, the industry and the economy more broadly. More importantly, it underpins the growth of skills, the transfer of skills, employee mobility from one organisation to another, and from one sector to another. Finally, recognition also serves as a powerful tool for bringing people into the learning system, reassuring individuals that they do not have to start from scratch and that their existing skills and knowledge have real value.

Trends and Direction for Internationally-recognized Accreditation System

With increased competition and globalization and advances in information and communication technologies (ICT), the logistics industry in Hong Kong has

unavoidably evolved from solely price sensitivity, to greater concern for quality, speed, and efficiency of services.

Since the recent financial crisis and economic restructuring in PRD region, the domestic small- and medium size logistics services providers are inevitably facing immense challenges. Their inability to participate in international logistics activities results from limited use of ICT and poor IT linkage, lack of local and cost-competitive logistics/supply chain information system providers and this is partly due to a lack of logistics competent IT professionals. Domestic logistics service providers are not operating at a large enough scale to tap into overseas corporate networks and often lack the capital investment resources that would remove uncertainty from their business prospects.

To face the challenge of global economic restructuring, more and more logistics services providers in Hong Kong attempt to offer wider choice for the shippers and importers. However, some in the industry have raised concerns over unhealthy competition in pricing and /or the charge rate used, rather than consideration of efficiency or quality of services. This makes establishment of an internationally-recognized accreditation system for the logistics industry very timely. On the one hand, it will help attract and retain employee talent in the industry and on the other hand, it will encourage motivation for life-long training and the desire for improvement in knowledge so as to improve the quality of services in the industry as a whole.

In order to stay competitive and appeal to potential clientele, the logistics industry in Hong Kong needs more than the existing well-established "hard ware". It also needs an internationally recognized accreditation system to cultivate and ensure the qualification of the "software", so as to better distinguish Hong Kong's logistics services from those of its competitors.

For Hong Kong to retain its present status, and possibly regain its position as the prime logistics hub in East Asia, provision of a recognized accreditation system will need to be supported by the recognized ability to carry out training and assessments according to international standards and practice (Ho, n.d.). The existing training or education programs in Hong Kong are not widely taken up because of the absence of such qualification requirements in the logistics job market.

The logistics industry source noted that there is a growing trend for multi-national corporations (MNCs) to outsource their logistics activities (Hong Kong Logistics Development Council, 2009). The rationale is that MNCs wish to have greater flexibility and cost effectiveness in their operations as they tap the competencies of the third party logistics service providers and focus on their core business. They will try, if possible, to outsource supportive functions, including logistics, to obtain economies of scale.

This move will definitely encourage logistics service providers in Hong Kong to engage in supply chain planning directly with their MNC clients on a global basis. As such, local logistics players are in turn encouraged to enhance their capacities and capabilities, with a view to meeting and participating in the more stringent and competitive global market environment. In this connection, an internationally recognized accreditation system would allow logistics service providers to better distinguish their services from others.

In this fast changing and competitive era, the Hong Kong logistics planners and local operators have to embrace and intensify the application of new information and communication technology, to position themselves to become global service providers.

All in all, the planning of info-structure for logistics industry alone is

certainly not sufficient. The creation of a complete, interactive, efficient as well as internationally-recognized accreditation system in the industry will undoubtedly enhance development in logistics. Providing continuous re-training and life-long learning for the workforce and enhancing linkage with global institutions for greater exposure to international logistics standards are crucial for an adequate supply of competent personnel for the logistics industry in Hong Kong in the long run.

It is a strenuous task to build an internationally-recognized accreditation system and provide high level international logistics services. Needless to say, this objective cannot be achieved in one step. The cooperation and devotion of all the related parties are necessary. Our international logistics industry ought to tightly seize the development opportunity given by the trend of economic globalization and the rapid economic growth in Mainland China. If all parties join in the endeavour, Hong Kong's international logistics industry can scale a new height.

CHAPTER 3 - LITERATURE REVIEW

3.1 Globalisation and the Evolution of Logistics Industry

Globalisation has made the logistics sector crucial to the facilitation of operations of various other core economic segments. A liberalised trade policy has made it possible for people to access goods and services being produced in a completely different part of the world. However, apart from assisting in narrowing the gap between customers and the final products to be sold, globalisation has also amplified the responsibilities of the producers or manufacturers as they now serve a bigger market (Blowfield & Murray, 2008). This is where the logistics sector plays its part in transporting goods and services to the customers' doorstep. In fact, the logistics industry would not have developed had it not been for an increased aggregate demand from producers and manufacturers. Logistics comprises transportation or movement of goods, services and information, enhancing supply chain management.

It does not merely link producers to final consumers; it also includes internal, inter-departmental communication and transport. In addition to mobilisation, the logistics industry is also responsible for a proper procurement of commodities, which includes good warehousing and packaging of the final products to be sold (Heap, Kierstan & Ford, 1998). The logistics industry mediates between producers and consumers helping both the groups meet their desires in a faster and more efficient way. The evolution of the logistics industry can be traced back to accumulation of wealth through better distribution and supply chains in the early thirteenth century in Europe. The growth of logistics in developing nations has been rather slow as they long remained nonchalant regarding their participation in international trade and so felt little need to establish distribution and supply

networks outside those established by earlier mercantile empires. In fact, the developing nations of Eastern Europe, Asia and Africa were trapped by a combination of various inherited problems, such as poor warehousing facilities and transportation systems, the lack of a regular demand for goods and long manufacturing chains (Farahani, Asgari & Davarzani, 2009).

The Council of Logistics Management (CLM) has described the range of operations of the logistics sector in the following few words – "Logistics is that part of the supply chain process that plans, implements and controls the efficient, effective flow and storage of goods, services and related information from the point-of-origin to the point-of-consumption in order to meet customers' requirements" (Lambert, 2001, p.101). In simple words, the responsibility of the logistics sector of any nation encompasses the safe and fast transport of raw materials and final goods at minimum cost per unit of transport. Logistics industry operations include off-shoring of manufactured goods and services, between as well as within national borders. Logistics is the largest benefactor of international trade.

With the need to transport tradable goods on a massive scale, it is important to take care of every intricate detail about the quality, packaging and journey of the good before, and after, being purchased by the consumer. The logistics industry exists to ensure a smooth succession of the processes involved in this. In fact, a large number of such courier companies have surfaced recently to assist manufacturing companies, which hire their services to efficiently accomplish such transactions (Plunkett, 2008). However, most of the major players in the logistics industry come from a handful of developed nations with considerable involvement in foreign trade. The greater the involvement in foreign trade is, the higher will be the need for smooth transport and thus for an efficiently functioning logistics

industry. The United Nations report of 2004 confirmed that out of total merchandise exports throughout the world, two-thirds involved developed nations, which indicates the need for logistical development in those parts of the globe. Perhaps unsurprisingly, the US logistics industry is considered to be the most advanced in the world and its contribution to that nation's GDP amounted to almost 8.6 percent in 2004, which is significant for a single segment of the domestic service sector (Bowersox, Closs & Cooper, 2008). On the other hand, developing nations have made much less progress in this aspect, though, according to the United Nations Conference on Trade and Development (UNCTAD), they have increased exports by 12% between 1960 and 2002, compared to 11% for the developed economies (Mangan, Lalwani & Butcher, 2008). As international competition rises, various economies struggle to maintain or improve their positions and a need surfaces to boost the efficiency of their industrial operations.

Various firms work to improve their market share and increase their influence over the market so that they can conveniently increase returns to proprietors and shareholders. Thus, in addition to focussing on quality enhancement, they also need to reach out to a large number of customers (Palepu, Healy, Peek & Bernard, 2007). Improvements in communications and an efficient supply chain management are fundamental to ensuring a better and more effective business environment. Successfully meeting consumer demand depends on stocking goods so that they stay undamaged until sold. Hence, logistics management has become an important focus for managers who wish to reach out to a larger number of people and increase their company's impact in their sphere of operation (Branch, 2006). Logistics grows almost in parallel with globalisation (David, 2003). The industry is responsible for the use of human and financial

resources to effectively transport goods and services right from the factory shed to the retail store where they need to be stored properly and packed to match the tastes of the target customers. Even after they had been chosen for purchase, it is part of the responsibility of the logistics industry to maintain after-sales service. Alternatively, in case of services, the logistics industry takes care that the final service is dispatched rapidly to the final customers and that any queries arising from the latter are attended speedily (Organisation for Economic Co-operation and Development, 2002).

3.2 Importance of Logistics Industry in Developing Nations

Developed nations who have had a long history of participation in international trade well recognise the role of the logistics sector as undergirding economic progress. However, most developing nations have yet to realise this. International trade is today almost synonymous with economic development and the future prospects of the developing world will improve much more rapidly once they realise this (David, 2003). A team of examiners employed by the World Trade Organisation reported low levels of concern about building a strong logistics system among developing nations (Branch, 2008). The examiners noted various administrative impediments in the form of unnecessary taxes and quotas, quite typical of a conservative society. National governments were often found to be blatantly favouring local industries under the garb of protection of weaker domestic industries. National authorities prevent the inflow of cheaper and better quality imported products indirectly through levying taxes and imposing quotas on quantities to be sold, thus arbitrarily raising their sale prices (Branch, 2008). However, the domestic governments often fail to note that social welfare can be maximised only if a larger market is provided to the industries for operation.

There have been few indications of a trickle down effect; rather there has been enactment of the concept of Welfare Economics in Cuba and Venezuela, and rather ironically in Hong Kong SAR. Such economies have been successful in restricting the flow of competitive goods of foreign origin because of their already flourishing business of domestically produced commodities. However, only a free trade environment can ensure economic growth and thus an improvement in the global average human development index, eradicating all the vices of an impoverished livelihood (Ghatak, 2003). The greater the improvements in infrastructure provided for labour, the higher will be productivity and, in turn, the higher will be the aggregate production in the nation ensuring better employment opportunities. Moreover, local communities also can have access to a better and wider consumption basket from which to choose. Low production cost means cheaper final commodities for consumers with consequently higher disposable income remaining after meeting regular consumption demands. There will be an augmentation in consumers' utility and so, of the social welfare parameter as a whole. This step can prove to be a pathway towards a better development index and hence, it is almost a basic necessity to upgrade the logistics of any nation wishing to achieve a fast economic growth (Pomeranz, 2006).

The logistics sector is the part of the total supply chain related to transport of commodities to the people who would benefited most from them. There are three basic modes of transporting goods from one place to another, namely, road and rail, water and air.

Road and rail are ideal for transport within a given nation, while water and air are more often used for trade beyond national boundaries. However, transport via water is cheaper than that through air, even for international trade. This is the reason why access to a port can be of great benefit to a nation. In fact, a deeper

study into the matter would reveal that most of the nations who have managed to establish themselves strongly in international trade have done it on account of their location in the vicinity of a port (Chia, Goh & Tongzon, 2003). Hong Kong, one of the busiest ports in the world, is surrounded by the Pearl River. Due to its location at a river mouth, it can access the sea and thus take advantage of cheap transport.

A nation naturally endowed with good logistics can easily make available goods at cheap rates to its people and, with lower transport costs, such a nation can successfully compete against neighbours who might be charging a greater amount from the customers for an almost identical alternative product. Being a port city automatically brings down the cost of transport and thus is an added advantage over many other nations striving for good international positions. The region of Hong Kong SAR trades 80 percent of its total cargo exported via sea, placing it at the top-most rank among the busiest of all port cities. Moreover, trade via sea makes it possible to transport larger volumes of commodities due to cheaper rates per unit of good as well as the capacity of ships to carry more than is possible by air. Hong Kong traded a total volume of approximately 165 million tonnes by sea cargoes in the year 1999 (Pomeranz & Topik, 2006), acting as the port-hub for many of the surrounding nations in Asia. A comprehensive system of continuing learning pathways for the employees in all related industries, such as logistics, import and export (Hong Kong Education Bureau, 2008) might contribute to a better infrastructure through more rapid incorporation of technological changes (Pomeranz & Topik, 2006). This could help Hong Kong to reach the premier position in terms of largest exporter and thus sustain a high economic growth for its people.

Tradable commodities may also be transported between two nations by air, but at higher cost due to occasional impositions of high charges for air freight. This is reflected in the clear preference of Hong Kong for transporting international cargo by ship rather than by air. According to 1999 records, the Hong Kong authorities insisted on one-third of its total exports and 26 percent of its gross imports being made via air transport (Voon & Sang, 2002). This is indicative of the relatively low although significant importance that the nation pays to the latter. Hong Kong also makes use of road transport and now has some of the best courier services in the world. But, acting within the domestic sphere is far easier than that in case of international sphere and so, there must be ways of amending operations in the latter.

The East Asian crisis precipitated changes in Hong Kong as greater emphasis was placed on exports and imports were restricted in an attempt to recoup lost resources. The Hong Kong SAR administration almost stopped export of money both in the form of imports and direct foreign investment outflows (OECD, 1997). However, a sustained demand for domestically made products in the competitive world market cannot be sustained unless they are clearly of higher quality and lower price than alternative market products. Demand can only be sustained if both factors apply. Low quality, low price products have relatively low value and short term impact. High quality, high price products are more sustainable but their market is relatively small.

Hence, there is an increasing need to development logistics infrastructure and at the same time consider the proper distribution of commodities to be sold. In other words, a high quality logistics service does not only include proper and fast transportation, it also involves proper packaging and storage of commodities. There is also a need to ensure that the goods to be sold are part of a proper supply

chain and inventory management system. Large-scale production often raises the problem of storing products when the demand does not meet the total supply. This is unlikely, unless the goods are subjected to a proper and efficient inventory management system. Failures in proper inventory control and storage can lead to a huge loss to the producers and thus a national loss too. Good packaging is a primary requirement of effective inventory management system and that depends on exposing the employees to proper and efficient vocational training which can help to enhance their productivity and thus, help in maintaining a good logistics system in the nation (Gourdin, 2006).

However, it must also be noted that any such measure requires rigorous planning and huge investment by the national administration and that this might pose challenges for developing nations with limited resources. Hence, the rigorous planning is crucial before decisions are made about investment. Logistics are one of the best areas for investment, especially in nations which are inclined towards an export-led growth system or a growth process initialised on account of intense international trade. For instance, consider the case for the South-East Asian nations, whose development policy since the East Asian Crisis of 1997 has been basically export-led growth. In such cases, growth depends on the national authorities investing in the logistics of the particular nation, since this is one sector which can assure a smooth flow of commodities and services from the manufacturer to the final consumer even across national boundaries (Safadi, 2003).

Matching levels of logistics development in partner nations can help to establish a solid trade relationship. A nation importing goods tries to perceive the logistics management system of the exporting nation, since that will help it to comprehend the quality of goods they have decided to purchase. Similarly, the exporting nation needs to understand the way that logistics is managed in the

partner nation. A well managed system means lower restrictions on exports and hence a lesser burden of extra costs incurred in distribution of goods. These factors can enhance goodwill between trading partners and pave the way for a long-lasting and stronger relationship. Thus, minimisation of taxes and tariffs imposed on traded goods seems one of the primary ways of ensuring good logistics, or at least of convincing trading partners of the existence of an efficient system.

Taxes are not the only cost in transportation and delivery of traded goods and the costs of logistics services themselves need to be kept down. Logistics comprises an important determinant of the final or sale price of any commodity to be marketed. Advances in technology may lower the logistics costs per unit of production and so lower the final price of the commodities. Nations must not remain stagnant in modifying their logistics sector. Since a well managed logistics system contributes greatly to reducing the final retail price of goods, it is always advisable to continue upgrading the underlying technology. This can help to build the commitment of the foreign consumers who have a large number of avenues open to them for serving their demands. It is always advisable to maintain a low final price for products so as to sustain and increase consumer demand for them. This was the strategy adopted by most of the South-East Asian economies after the Asian Financial shock of 1997 and it is due to their fast economic progress that the nations have earned the name of "South East Asian tigers" (Osaka, 2003).

3.3 Economic Progress of Hong Kong as a part of South-East Asia

The remarkable post-1997 recovery of the South East Asian nations was only possible due to the region's reliance on international trade. The availability of cheap transport, as well as cheap labour, made it possible for nations in the region to focus on producing high quality, low cost goods at an unprecedented rate. However, South East Asian nations also compete amongst themselves. The final quality of commodities is almost equal in all the neighbouring economies, and the importing economies will often choose the cheapest product. If any particular nation is able to improve operational technology and so lower the price per unit, it might be possible for that nation to sustain its economic progress.

The Asian domestic administrative bodies play a remarkable role in realising the importance of the domestic logistics industry for sustaining their position in the international sphere (Subramanian & Arnold, 2001). Since economic growth is associated with increasing participation in international trade, many nations in the region have implemented measures to expedite the flow of goods and services across national boundaries, with significant implications for the logistics sector. A significant proportion of tariffs, export quotas and various other trade barriers have been reduced, if not eradicated and this has facilitated smooth and flexible transactions between nations. The benefits of improved logistics have also narrowed cultural differences within the same economy and the improved amenities in rural areas. An Indian study indicated that transport of pumpkins produced in the rural region and sold in the local bazaar brought in just a fraction of the total amount that the farmers earned after transporting them to the urban markets following the construction of a connecting bridge across the River Jamuna (Subramanian & Arnold, 2001). The remarkably rapid economic development of the nations of South East Asia provides another good example,

with upgrading of their domestic logistics segment accounting for almost all their growth (Weiss, 2001). These nations have understood the role that foreign trade might have to play in rapid economic growth and so, have taken all measures to ensure a liberalised trade environment. They have successfully attained their target of economic growth and development via an export-led growth strategy and thus, are aptly known as the "South East Asian Tigers".

There are subtle variations in the importance imputed to their respective logistics sectors by the administrative bodies of the eight nations in the region. For instance, it seems that that Hong Kong is lagging far behind Singapore with respect to the technologies that the latter implement for regularly modifying their logistics segment (Rioni, 2002). The records of the former with regard to the growth in the volume of shipments had been alarming when compared with that of the latter. The decline followed the East Asian financial crisis of 1997 and persisted for several years past that event. Moreover, Hong Kong has not seen the significant modifications in supply chain management visible in Singapore, in terms of employment, volumes of goods handled and as a consequence, in terms of total turnover (Rioni, 2002). This can mainly be attributed to a conservative attitude posed by the domestic authorities, which has adversely affected improvements in the economy's logistics despite Hong Kong's logistically strategic location. Its potential is almost unanimously accepted, but its apparent failure to realise the importance of logistical development is alarming (McGiffert & Tang, 2008). However, there is evidence of growth in the domestic logistics segment which might seem to contradict such negative views. Hong Kong recorded a consistent growth of more than 19 percent annually in its offshore trade between 1999 and 2005, indicating a simultaneous progress in the logistics sector.

The contribution of logistics to the GDP, though still low at 4.8%, has increased by 1.4% since 1997. The main reason for this progress is the coincidence of the reunification of Hong Kong with China and the 1997 financial crisis. This gave Hong Kong increased, and expedited, access to China's growing economy when more southern competitors were experiencing particular difficulty. The Pearl River Delta, encompassing Hong Kong and giving access to Southern China, is one of the most important ports in the world. The domestic stock exchange indicator, the Hang Seng Index, lists most of the companies involved in international transactions via the Pearl River. Hong Kong's modern infrastructure allows handling larger volumes of trade, and the Special Administrative Region enjoys the direct benefits of being a port city. An improvement in the financial stability is bound to be reflected in core sectors of the economy. The export-led growth strategy leads readily to the conclusion that the Regional authorities have finally decided to improve the logistics sector as way towards improving tradability of their goods (McGiffert & Tang, 2008).

3.4 Overseas Experience of Qualifications Frameworks

A national Qualifications Framework is often fostered to achieve balance between the supply and demand side aspects of the labour market, as a remedy for various socio-economic and even political issues impeding social development. In a politically peaceful region, a Qualifications Framework is intended to reform the labour market. However, such reformation may be treated as a channel towards building a democratic society politically in disturbed regions such as Eastern Europe and South Africa.

In less exceptional cases, like that of Scotland or New Zealand, restructuring the labour market has been the primary reason behind the development of Qualifications Framework. Differing underlying objectives have led to different basic procedures in assuring change. For instance, in cases where the intent has been to restore peace in politically agitated regions, a 'bottom-up' approach has originated at the grass root level.

On the other hand the government in regions like Scotland wished to increase the competency level of the labour force, and so the approach has been 'top-down' (Young, 2007). Regardless of motivation, the implementation of a Qualifications Framework has been successful in some contexts but not in others.

Success of Qualifications Framework

Europe provides one example of successful implementation. Collective effort to incorporate Qualifications Frameworks among the Euro member states began in 1957, when the Rome Treaty was signed. This defined specialised professional skills in an attempt to promote their labour force as some of the most competent in the world, and ensure a higher rate of employment along with increased levels of economic growth (Bouder, 2008, p. 115). This success can only be understood if the importance of primary education is recognised. The bulk of the European population is educated and the national administrations connected technical training to the existing schooling levels. They explored the existing differences in their framework prior to deciding the skills to be emphasised, as well as the number of levels necessary to impart proper training. Each of the levels incorporated predefined degrees of proficiency, avoiding confusion and giving the entire framework clarity and transparency (Institute of Technology and Education, 2008). A number of issues, such as low workplace attendances and rising unemployment, hampered growth in the UK, prior to the implementation of its

Qualifications Framework programme.

Although the measure met with some resistance when the national government proposed it during the 1970s it has proved to be effective in the labour market, with a sudden rise in the demand for labour as employers sought specialised people in their offices. The national government had entrusted its higher education bodies with the responsibility of looking after the proceedings in these training classes (Purcell, 2001). Scotland provides another example where a Qualifications Framework has succeeded. During 2001, the Scottish Credit and Qualifications Framework (SCQF) was established. The SCQF assimilated the National Qualifications (NQ), equivalent to secondary school training, and Scottish Credit Accumulation and Transfer (SCOTCAT), equivalent to post-secondary education. NQ comprised levels 1 to 7, with the Level 7 being equivalent to a secondary completion certificate while SCOTCAT included Levels 8 to 12 being equivalent to doctorate level (SCQF, 2005). The national authorities set a common interface between the national colleges/ universities and the SCQF, with the former supporting the role that the latter had to play in a professional arena. In fact, SCQF is one of the few bodies being led by the National Higher Education sector, which may well contribute to its prestige among the wider population.

There is a close collaboration in the activities of the SCQF and the Higher Education sector of Scotland, with regular monitoring activities led by the government to assure faster progress in the former. In addition, there are also provisions for rewarding at individual levels with Higher National Awards (HN) comprising the SCQF in order to encourage participants to further progress (Raffe, 2007). The Australian example is another example of a successful qualifications framework implementation. The Australian Qualifications Framework (AQF),

established in January 1, 1995, has incorporated twelve different levels in its training programme with each of them corresponding to the different levels of education offered in conventional schools. The Australian Qualifications Framework Advisory Board (AQFAB) that supervises the activities of the AQF closely collaborates with the national education sector and the accreditation bodies, to enable a close monitoring of the activities of the qualifications framework. AQFAB cross-checks the abilities of its domestic institutes through measuring them on a common scale of international competence levels. The AQF is set in line with the industry standards and arranged for recruitment of candidates. Employers are encouraged to check the proficiency of candidates through their grades in the certificates being presented to them (Australian Qualifications Framework, 2002).

Middle Eastern nations such as Oman have also successfully implemented Qualification frameworks. The Oman Vocational Training Authority (VTA) was established by a royal decree in 1991. The UK Qualifications and Curriculum Authority (QCA), was in partnership with the Oman Vocational Training Authority (VTA) until the local Ministry of Social Affairs, Labour and Training took over the VTA's responsibility for vocational training in December 1997. Oman continued to base its vocational training courses based on UK levels of competency after the expiry of the partnership. The national government claims that the VTA caused a sharp reduction in their rate of unemployment (Wilkins, 2002). There is an important lesson to learn from the example of Oman; despite being a developing nation with high illiteracy rates, the nation could make the programme a success due to its collaboration with a highly developed nation. Oman not only conserved its own resources, it also made jobs for its unemployed youth possible in that developed nation.

Failure of Qualifications Frameworks

Unfortunately, qualifications frameworks are not always successful. The African National Congress decided to enact a Qualifications Framework as they transformed their society following fifty years of apartheid under the National Party of South Africa. However, there have been few significant changes in the field since a majority of the population, which lacked a strong base in quality primary education, did not recognise the relevance of the vocational training equivalent to secondary education. The situation was complicated by the fact that the apartheid regime had tried to restrict the majority of the population to technical education, as the labouring classes were racially defined and 'artisan' was the highest aspiration open to non-whites. The new national government spent already scarce resources to establish 11,000 units imparting vocational training, without being able to attract many students in them (Allais, 2007).

This problem is not restricted to South Africa, people in many developing nations fail to recognise the value of technical training in the drive towards rapid economic development. The Organisation for Economic Co-operation and Development has also emphasised the importance of basic education to enable a proper match between the requirements of a job and the skills appropriate for it; primary education can actually help to enhance the application of vocational skills so learnt (OECD, 1987, p. 71). There are reasons other than widespread illiteracy that can account for the failure of New Zealand's attempt to introduce a national qualifications framework. National Certificates of Educational Achievement (NCEA) could not succeed in encouraging trainees to specialise, due to the views of local employers and persistent social inequality exacerbated by increased globalisation. The employers were not prepared to employ specially trained candidates over those possessing good traditional academic skills, and the national

qualifications framework had no recruitment provisions. Hence, less socially privileged students continued to have difficulty in accessing appropriate work on the basis of what employers perceived as an inferior qualification and, consequently, the training courses had difficulty recruiting students (Strathdee, 2003, p. 161). The New Zealand case makes the importance of stakeholder views of qualifications framework very clear.

3.5 Applied Lessons in National Qualifications Frameworks

Rationale for National Qualifications Frameworks

National Qualifications Frameworks are valuable not only at the micro-level in that they can enhance the effectiveness of individual workers, a workforce and therefore a firm but that they ultimately can positively affect a national economy. In this regard, National Qualifications Frameworks can be viewed as inherently value-added in character. Thus, from a national level National Qualifications Frameworks accomplish several things simultaneously. These accomplishments are those that work to actively benefit the national economy of markets such as Hong Kong over the long-term. These are accomplishments such as allowing and encouraging reforms of the educational system at the national level, forcing companies within all industries to develop performance measurement systems in order to identify the effects of National Qualifications Frameworks and resulting in a higher overall productivity rate for the national workforce (Allais, 2010). It is useful to note that while these companies may feel somewhat compelled to adopt the nationally developed National Qualifications Frameworks, this is not done without the active support of the government. Consequently, these are powerful arguments for the development and adoption of National Qualifications Frameworks as a national referendum on workforce

quality. The focus of these National Qualifications Frameworks are always on the improvement and standardization of ratings systems in a much more objective manner than was previously in place considering the vast diversity of ratings systems that traditionally preceded National Qualifications Frameworks.

In order for National Qualifications Frameworks to achieve these types of lofty macro expectations, it is necessary to understand what exactly National Qualifications Frameworks are. At a fundamental level National Qualifications Frameworks are measures that are expected to identify what individuals should know at a certain point in time. It also involves identifying and assessing what these individuals actually understand about a given topic or activity. Yet, perhaps more importantly, National Qualifications Frameworks are focused on the identification of what these individuals can actually do relative to a particular qualification. In this sense, National Qualifications Frameworks make reference to actual learning or task related outcomes which are what a qualification actually is (Bjornavold & Coles, 2010). This is the most important distinction between a traditional performance benchmark and the learning outcome within the context of a National Qualifications Frameworks. Learning outcomes are so critical to National Qualifications Frameworks because it is the long-term improvement of skills, knowledge and competencies that results in tangible benefits for an overall economy. The effectiveness of a National Qualifications Frameworks ultimately manifests itself through elevated productivity rates of a national workforce and this subsequently manifests itself within the context of the national gross domestic product or GDP.

National interests are so intent on developing and adopting effective National Qualifications Frameworks because they recognize that such learning outcomes have a great deal of potential to positive affect the national economy.

National Qualifications Frameworks both standardize and maximize the competencies and capabilities within a national workforce. That is, National Qualifications Frameworks work to completely change the character of the national workforce. Such change arises systemically through the processes that the National Qualifications Frameworks encourages a country, its government, its institutions and its enterprises to develop. These affirmations of the National Qualifications Frameworks process are supported within the literature as well. For instance, one of the primary observations made by Young who states that National Qualifications Frameworks are focused on reform, asserts that National Qualifications Frameworks are a force of change:

> "*the National Qualifications Frameworks was expected to act as a driver of*
>
> *educational reforms and a stimulus for new educational provision in*
>
> *occupational fields and for learners where it has been lacking in the past,*
>
> *as well as being an instrument for a whole range of broader reform goals*"
>
> (Young, 2007, p.448).

There should however be some distinction made regarding National Qualifications Frameworks and Qualification Frameworks in general. ~~National~~ Qualification Frameworks are typically limited and are applied either market-wide or applied to wide geographical or conceptual segments of a given market but can exist in multiple versions across all levels of a given market at the local, regional and even national levels. In contrast, National Qualifications Frameworks attempt standardisation in education and rating within a single jurisdiction, irrespective of employer or training authority. Without such standardisation there would be no cohesive system of training at the national level but rather only an unlimited number of different Qualifications Frameworks developed by any number of private and public entities applied sporadically from industry to industry. In other

words, there would be no national benefit resulting from the application of National Qualifications Frameworks within industry. The only benefit would be for those individual firms that happened to identify or adopt a Qualification Framework that happened to work within its particular organizational structure and culture.

The outcome is such that it is necessary to actually examine some National Qualifications Frameworks platforms that have been developed nationally and then put into place. Without such a practical assessment of National Qualifications Frameworks it is almost impossible to fully comprehend why National Qualifications Frameworks have become so important for industries like the logistics industry and so critical for dynamic economies such as Hong Kong's economy. The objective that national bodies have in mind when developing an National Qualifications Frameworks for their particular market is typically one that is focused on a generally recognized system of standardization that all entities and participants within the market agree upon. This is general consensus is primarily described in the research as being the following:

> *"A qualification confers official recognition of value in the labour market and in further education and training. A qualification can be a legal entitlement to practice a trade"* (OECD, 2007, p.22).

It is this focus on practical outcomes that forms the nucleus of what national entities want to achieve in developing and implementing a National Qualifications Frameworks for their own market. National Qualifications Frameworks are, above all, meant to improve the quality and capabilities of the national workforce. They seek to achieve this outcome through provisioning employers with a series of clear indicators of skills based competencies and a baseline of current knowledge within prospective employees.

Illustrative Examples of National Qualifications Frameworks

Ireland

One example of a National Qualifications Frameworks that has been successfully applied at the national level can be found in the example of Ireland. Ireland developed a National Qualifications Frameworks that consists of a series of seven components. These unique components provide the structural organization for the National Qualifications Frameworks: a) the levels in the framework, b) the awarding bodies, c) program access, transfer and progression, d) professional awards, e) quality assurance system, f) integration of international qualifications, and g) international aspect to the National Qualifications Frameworks (About, 2012). Essentially, this structural organization functions to funnel participants from program entry into the workforce. The intent is to have no significant skills gaps between program participation and employment application. In prior qualifications systems both within Ireland and in other markets, there existed a great deal of variety and therefore disparity among the various ratings, certifications and diplomas that one could achieve. These various ratings, certifications and diplomas were also overseen by local and regional entities that had no regard for the national interest and other institutions and business entities were forced to pick and choose which qualifications they would actually recognize and accept.

Perhaps the most important element of Ireland's National Qualifications Frameworks and perhaps of all National Qualifications Frameworks relates to the National Qualifications Frameworks levels. National Qualifications Frameworks levels essentially make reference to some system of indicators that identity a particular level of competency achieved. These are essentially the signposts that employers are able to utilize in assessing the skill level, knowledge and capability

of an employee or potential employee. Ireland has produced a National Qualifications Frameworks that divides its skills-competency based levels into three classes of levels. These three classes of levels characterize the nature of the awards that are provided at each level. Ireland's three classifications are listed as being the following: 1) minor awards, 2) special purpose awards, and 3) supplemental awards in which each class is defined in the following way (Framework, 2012):

- Minor Awards consist of a series of learning outcomes that are more general in character and that do not constitute the mix of learning outcomes that meet the specificity for Major Awards

- Special Purpose Awards are designed to provide competency development and identification for very specific skills-based tasks such as lorry driving or similar

- Supplemental Awards are designed almost exclusively to act as a kind of continuing education program and professional development such that an individual who has achieved a Major Award may later seek a Supplemental Award to augment his or her skill-set

- Major Awards are those skills and knowledge based awards that are achieved through the completion of a comprehensive program and that provide the individual with a formal confirmation of this achievement in the form of a certificate, diploma or degree

The intent of Ireland's National Qualifications Frameworks program has been to ensure that it is all-inclusive with respect to the range of potential applications within the national economic infrastructure. The objective is such that an employer or an educational institution or similar entity is informed of an employee's or prospective employee's position within this hierarchy of awards. In

turn, being informed of the individual's position within this hierarchy of competencies and knowledge allows these entities or institutions to make more informed decisions regarding hiring, academic placement or development in the context of the individual's place within the organization.

The most important award level within Ireland's National Qualifications Frameworks is its Major Awards category. The Major Awards category is where all of the formalized and institutional documentation of achievement resides such as the certificates, diplomas and degrees. The Major Awards category forms the outer ring of the conceptual model of Ireland's National Qualifications Frameworks program. The Major Awards provides the nation's economic participants and academic institutions with the capacity to match awards with fundamental skill levels. This particular capacity makes the overall National Qualifications Frameworks much more effective and targeted. Ireland's Major Awards categories and their relationship to the National Qualifications Frameworks' other hierarchical levels and programs is illustrated in the graphic below:
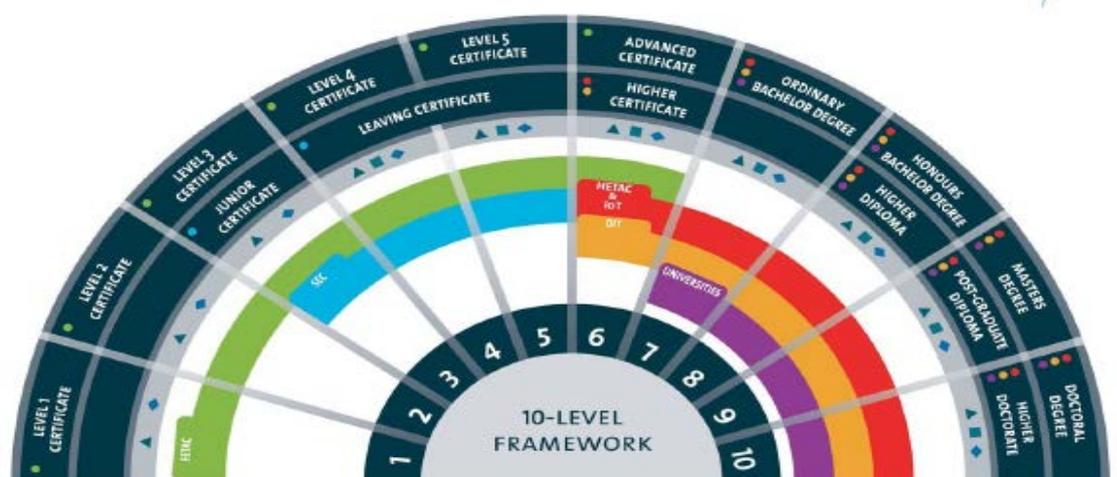
Figure 3.1: Conceptual Model of Ireland's National Qualifications Frameworks

Source: National Qualifications Framework (2012)

59

As this graphic indicates, the formal documented levels of achievement are prioritized within this hierarchy of levels. These are the levels that employers and institutions primarily rely on as a means to position employees within the firm or, alternatively, within the learning institution.

In terms of the Major Award types within Ireland's National Qualification Frameworks architecture, it consists of a series of 10 levels of award. These awards being the most critical, they are of course governed with a great deal of oversight in terms of what entity can develop and award them. It was previously true within Ireland that numerous different bodies could make awards such that developing consistency and reliability in terms of competency level in the individual was sporadic at best. In other words, when there is no standardized method of assessing the quality of a given award or certificate and no centralized agency designed to implement such an assessment, the actual quality of the rating is itself a source of confusion and disruption. However, one aspect of Ireland's National Qualifications Frameworks has been that it has significantly reduced the number of entities and agencies that are authorized to award official certificates, diplomas and degrees. These official bodies are the following: 1) The Further Education and Training Awards Council (FETAC), 2) The Higher Education and Training Awards Council (HETAC), 3) The State Examinations Commission (SEC), 4) The Dublin Institute of Technology (DIT), and the nation's various universities and colleges (Awards, 2005). The outcome is that there is a much greater degree of regulation and oversight of the awards process. This degree of regulation and oversight is especially critical with respect to the Major Awards.

Consequently, the Major Awards within Ireland's National Qualifications Frameworks are highly structured. These formal awards move from the general to the specific and allow the individual methodically increase his or her skill-sets and

competencies within a given specialty. Furthermore, employers and educational institutions are able to place individuals in the most appropriate setting vis-à-vis their formal competency levels. It is certain that without the development and implementation of a National Qualifications Frameworks, the participants within a national economy and within the nation's education system must themselves work to develop performance and quality standards designed to rate skills, competencies and knowledge. Not all participants in these particular areas have the resources to accomplish this and therefore many entities simply have no ratings and assessment program at all. Thus, the development and implementation of a National Qualifications Frameworks provides what is, in effect, an out of the box solution that organizations can graft onto their existing operations as a means to plug into the national program. There are numerous sub-classifications and specialties within this Major Awards constellation but they all fall into one of these documented brackets. This National Qualifications Frameworks allows Ireland to achieve a significant amount of granularity within its workforce specialization that would otherwise be difficult to achieve.

The following table details Ireland's National Qualifications Frameworks Major Awards:

Levels	Awards	Certifying Bodies
Certificate Level 1	--	FETAC
Certificate Level 2	Primary Certificate	FETAC
Certificate Level 3	Introductory & Intermediate Certificates	FETAC & SEC
Certificate Level 4	Elementary, Specific, National Vocational & Horticultural Certificates	FETAC & SEC

Certificate Level 5	Hotel Operations, Specific Skills, National, Vocational, Foundation Certificates	FETAC & SEC
Certificate Level 6	Advanced/Supervisory, Cookery, Specific, Craft, Vocational, Agricultural, Farm Management, National Certificates	FETAC, HETAC, & DIT
Certificate Level 7	Ordinary Bachelor Degree (Bachelor & Diploma)	HETAC, DIT & Universities
Certificate Level 8	Honours Bachelor Degree, Higher Diploma	HETAC, DIT & Universities
Certificate Level 9	Masters Degree, Post-Graduate Diploma	HETAC, DIT, Universities
Certificate Level 10	Doctoral Degree, Higher Doctorate	HETAC, DIT & Universities

Table 3.1: Ireland's National Qualifications Frameworks Program Major Awards

Source: Awards in the Framework (2005)

Comparison and Integration into the European Qualifications Framework

Ireland has achieved significant parity with the European Qualifications Framework (EQF). Much of this degree of structural parity between the EQF and Ireland's National Qualifications Frameworks is be design rather than accident. The EQF has been utilized as a frame of reference program by most members of the European Union (EU) and Ireland is no exception. However, where Ireland's National Qualifications Frameworks is a fully comprehensive qualifications framework, the EQF in contrast is only a framework in which the nomenclature has been developed. That is, each individual country within the EU is responsible for implementing its own National Qualifications Frameworks derived from the

EQF if the EQF model is chosen as the nation's qualifications framework. However, what these nations quickly realize is that the various formal education and training programs have not been attached to the EU's EQF. This assessment is visible within the EQF itself in which it states that:

> *"The EQF acts as a reference framework for different countries' national systems. The EQF does not replace national systems and does not include individual qualifications. Levels of the NFQ are referenced to levels of the EQF"* (European, 2010).

For Ireland and its National Qualifications Frameworks, its integration within the broader EQF is achieved through the application of the EQF model. However, for markets like Ireland, it is still their responsibility to actually institute the training and education programs associated with the National Qualifications Frameworks.

It is also each individual market's responsibility to transition the existing certifying processes into their own individual National Qualifications Frameworks programs. This is because the EQF purposely avoids a great deal of specificity. Rather, the EQF tends to rely on a series of core principles as a means to guide national bodies in their own efforts to institutionalize national training and education standards. Such core principles work to provide a national platform upon which to establish a functional National Qualifications Frameworks that can thereafter be centralized within the national economy and its educational system. Primarily, Europe's EQF consists of several core principles from which the rest of its elements are derived (European, 2008):

1. The EQF focuses on developing a greater degree of mobility for those employees and students that become utilize one of the framework's programs

2. The EQF has a long-term objective of improving access to as well as participation in life-long learning activity by employees and students

3. The EQF has the capacity to serve individuals who are at virtually any point within the educational and professional career arcs

4. The EQF is designed to allow both users and institutions to better identify the utility of the EQF's programs by providing transparency to the underlying qualifications

The point is that the EQF is designed to provide framework for training and education programs. These training and education program are those to which a national entity can then begin to drape individual certifications, diplomas and degrees to as a means to provide it with the National Qualifications Frameworks' unique functionality and purpose.

In contrast, Ireland's National Qualifications Frameworks essentially takes up where the EQF leaves off so to speak. Ireland's National Qualifications Frameworks adopts the EQF's nomenclature and its educational and vocational hierarchy as well. However, Ireland's National Qualifications Frameworks builds upon this matrix by structuring actual training and education programs within the EQF matrix. Ireland's focus is on actualizing the EQF and customizing it to its own unique needs and requirements so that the National Qualifications Frameworks' participants develop a great degree of affinity to it. This can be seen in the following overview that summarizes Ireland's National Qualifications Frameworks and its conceptual platform (National, 2009, pp.16-17):

1. Knowledge

    a. Breadth of the knowledge being conveyed

    b. Kind of knowledge that is being presented

2. Know-How & Skill

   a. Range of competencies being taught

   b. Selectivity of the programs relative to participants

3. Competence

   a. Context in which skills and knowledge will be applied

   b. Role of those participants who complete the programs

4. Competence

   a. Learning to learn in which program participants are provided life-long learning skills

   b. Insight into why knowledge and skills are important

This conceptual platform works to provide guidance into each individual training and education program that makes up Ireland's National Qualifications Frameworks. Institutions and employers that develop training programs all identify themselves first within this conceptual framework as a means to align their resulting programs with the objectives of the National Qualifications Frameworks.

United Kingdom

Just as Ireland has erected a National Qualifications Frameworks so too has the United Kingdom (UK) for its residents within England, Scotland, Wales and Northern Ireland. Although the UK consists of these four individual markets as it were, in terms of developing and applying an National Qualifications Frameworks, there are essentially only two which are England, Wales and Northern Ireland which conform to the same general National Qualifications Framework and then Scotland which has gone on to develop its own similar but unique National Qualifications Framework for its own purposes. Thus, one unique aspect of the UK's National Qualifications Frameworks is that it is actually one

that consists of a series of three different frameworks. The UK's National Qualifications Frameworks and its sub-frameworks are listed as the being 1) the overarching qualifications network, 2) the Qualifications and Credit Framework, and 3) the Framework for Higher Education Qualifications (Qualifications, 2012). In this sense, qualifications can be held to be synonymous with education and training credentials. Since the UK's National Qualifications Frameworks is so focused on establishing the presence of such credentials, it also has had to develop and adopt a more robust accreditation process than might be found within other markets. The UK's accreditation bodies are limited in number to the national three primary markets of England, Scotland, Wales and North Ireland. England and its partner markets have had a fully mature National Qualifications Frameworks for many years.

One major component of England's National Qualifications Frameworks is its National Vocational Qualifications (NVQ) framework. As the term implies, this early focus on national qualifications and their consolidation focused on the practical matter of organizing the market's trades training and certification practices. England's NVQs were originally instituted in 1987 and were implemented only in England, Wales and Northern Ireland and were designed to remove the monopoly on vocational training and certification that educational institutions leveraged (Allais, 2010). This monopolization of England's vocational training apparatus by the educational institutions that designed and hosted them was supported and, indirectly, reminiscent of the established trade unions which influenced them through extensive apprenticeship programs. The outcome of this deeply flawed system that awarded too much vocational control and authority to these entities was such that the program participants were subject to excessive fees, prejudice and scheme based favoritism. The NVQs and the overall National

Qualifications Frameworks programs managed to wrest vocational control from these institutions and trade organizations. This is because the resulting vocational qualifications were standardized and removed from being institutional based to being criteria-based and government monitored.

These particular principles of standardization, independence and criteria-based qualifications went on to influence England's National Qualifications Frameworks structure. While the NVQ matrix is not without its faults, the system was one of the earliest qualification frameworks to be instituted country-wide. These NVQs were also one of the earliest qualification systems to be competency based with a focus on continuing education and training regardless of the vocational orientation of the program (Allais, 2010). While the original qualifications framework within England was more vocationally oriented in character, the country's National Qualifications Frameworks has now evolved into a comprehensive qualifications framework that encompasses both academic training and credentials as well as vocational training and certification.

In essence, England's National Qualifications Frameworks is designed for program participants and employers as a means to identify where individuals are on a skills continuum. Just as the EQF and Ireland's National Qualifications Frameworks, England's National Qualifications Frameworks is also a staged hierarchy of competency levels and criteria. However, England's National Qualifications Frameworks is somewhat more curtailed in character than that of the EQF and Ireland's National Qualifications Frameworks in that it only has nine levels evidenced by the table below:

NQF Levels	NQF Related Qualification Types	Qualifications and Credit Frameworks Types (Vocational Orientation)	Academic Qualifications
0	*Basic skills certificates *Life skills assessment	*Entry level certifications *Foundational learning and pathways *Functional training certificates	
1	*GCSEs rated between D-G * NVQs rated level 1 *Critical skills certification *Foundation diploma	*BTEC awards and certifications *Functional work skills *OCR national ratings *Foundational training pathways	
2	*GCSEs rated between A-C *NVQs rated level 2 *Critical skills certification *Life skills training and documentation *Higher diploma	*BTEC awards and certifications *Functional skill levels 2	
3	*AS/A rated levels *Advanced extension awards *The international baccalaureate *Critical skills certification *NVQs rated level 3 *Cambridge international awards *Advanced diploma and progression diploma	*BTEC awards and certifications *BTEC national ratings *OCR Nationals	*Framework for Higher Education *Quality Assurance Agency Oversight
4	*NVQs rated level 4 *Critical skills level 4 *Certificates of higher education (tertiary)	*Level 4 VQ ratings *BTEC professionally rated diplomas, degrees, awards	*Certificates of higher education (tertiary)
5	*National diplomas *NVQs at level 4	*HNC and HND rated levels *BTEC diplomas for professionals	*Diplomas for higher education, foundational degrees and nationally rated programs

6	*National diploma programs in professional production skills *NVQs rated at level 4	*BTEC advanced level diplomas and degrees	*Bachelor and graduate degrees, certificates and diplomas
7	*Postgraduate certificates and degrees *BTEC awards and diplomas *Fellowships *Degrees in translation *NVQs rated level 5	*Advanced professionally rated degrees, certificates and diplomas	*Masters degrees, postgraduate certifications and diplomas
8	NVQs rated at level 5	*Certificates in strategic direction	*Doctorate degrees and PhDs

Table 3.2: England's National Qualifications Frameworks Levels

Source: Explaining the National Qualifications Framework (2012)

It is apparent that England's National Qualifications Frameworks adheres to some degrees to the EQF but that it also departs from it in some significant ways. Beyond merely shortening the number of categories, England's National Qualifications Frameworks focuses much more on creating a seamless integration between NVQs and academic and professional oriented National Qualifications Frameworks.

The real purpose of developing and implementing National Qualifications Frameworks in the first place is to elevate the qualifications of the programs' participants. These program participants are the individuals who are seeking to obtain initial vocational training and skills, employees who are seeking to expand their existing skill-sets, employees who are seeking career advancement and students seeking to obtain a first degree or an advanced degree. In terms of these program participants then, it is useful to identify just which types of programs are being utilized the most and what the implications of this program use may be. The

following table details the usage profile of the United Kingdom's National Qualifications Frameworks usage:

Qualification type	Northern Ireland		England, Wales & Northern Ireland	
	Total	% of total	Total	% of total
Advanced Extension Award	0	0	400	0
Basic skills (BS)	6,150	1	584,550	4
Diploma	0	0	9,200	0
English for speakers of other languages (ESOL)	2,050	0	283,400	2
Entry level	9,100	2	158,900	1
Free-standing mathematics qualification (FSMQ)	0	0	25,500	0
Functional skills (FS)	0	0	623,850	4
GCE A level	37,150	9	919,650	6
GCE AS	45,750	11	1,329,750	8
General Certificate of Secondary Education (GCSE)	187,200	43	5,590,200	35
Higher level qualification	1,750	0	27,300	0
Key skills (KS)	27,050	6	605,950	4
National vocational qualification (NVQ)	10,650	2	458,600	3
Occupational qualification (OQ)	300	0	13,250	0
Other general qualification (OG)	22,300	5	676,250	4
Principal learning	0	0	16,600	0
Project	0	0	47,550	0
Qualifications and Credit Framework (QCF)	66,500	15	3,357,450	21
Vocationally related qualification (VRQ)	18,650	4	1,167,000	7
Total	434,600	100	15,895,450	100

Table 3.3: United Kingdom National Qualifications Frameworks Usage Profile

Source: Northern Ireland Annual Statistics Bulletin (2011)

The table reveals that by far the most utilized programs appear to be the General Certificate of Secondary Education (GCSE) and the Qualifications and Credit Framework (QCF) ratings. These two particular programs are the most basic qualifications in the system and are necessary in most instances to move into a higher level or higher rated program. Together these two particular programs make up more than 56% of England, Wales and Northern Ireland's overall National Qualifications Frameworks participation profile.

Given the size of the UK's overall workforce, it is somewhat surprising that more individuals are not utilizing the vocationally related qualifications that are available to them. Identifying some of the underlying reasons for this might be useful to the National Qualifications Frameworks' effectiveness. According to the

most recent data, the UK as a whole has a population estimated to be 62 million with some 31.9 million individuals who are identified as economically active and 29.3 million of these identified as currently employed in some respect (Labour, 2012). Accordingly, the previous data relating to the UK's National Qualifications Frameworks revealed that an approximate 8.8 million individuals had made use of the fundamental programs within the National Qualifications Frameworks which amounts to approximately 21% of the UK's employable demographic which is estimated at 40.3 million individuals currently within the working ages between 16 and 64 (Labour, 2012). This is a fairly strong percentage given the fact that it must be assumed that many of these individuals within the UK's workforce already have their basic qualifications. It may also be indicative of the fact that many individuals are still transitioning into the National Qualifications Frameworks series of certifications and training as opposed to previous qualifications systems that were monitored within trade organizations.

Conclusions

The development and application of National Qualifications Frameworks carries important implications for the countries and markets that utilize them. National Qualifications Frameworks provide an established methodology to homogenize an entire workforce and educational system around a coherent rating system that government organizations, educational institutions, private corporations and individuals can all reference and makes sense of. National Qualifications Frameworks were shown to be useful and vital at both a macro and a micro level within a given market. National Qualifications Frameworks allow firms to source more qualified employees, identify gaps in knowledge within their workforces and then to source those training and education programs that best close such gaps. Additionally, National Qualifications Frameworks allow

educational institutions to identify skills and knowledge gaps within their student bodies and to develop programs that address such gaps. National Qualifications Frameworks promote the standardization of qualifications within an entire market such that once an individual is awarded a certificate, diploma, degree or an award, all other institutions and entities know exactly what this individual is capable of doing.

Ireland has developed a very effective National Qualifications Frameworks as a means to centralize its professional and academic qualifications. Ireland's National Qualifications Frameworks is based upon the EU's EQF which was designed to act merely as a template. Consequently, those countries that adopt the EQF must develop the training, development and educational programs that actualize the National Qualifications Frameworks and make it functional within their own unique economies. In contrast, the UK has adopted only some of the EQF's characteristics and reduced in terms of the number of qualification levels. Furthermore, the UK's National Qualifications Frameworks is much more granular and has been designed to provide a seamless transition from one level to the next although it also promotes ad hoc participation in the system based on individual requirements.

All of these observations regarding National Qualifications Frameworks in the UK aside, there are some very real tensions underlying their development and adoption. Firstly, the very development of National Qualification Frameworks reveals a desire by national governments to centralize the way in which qualifications are defined and rated and thereafter centralize what bodies actually do the rating. Previously, as the literature noted, the bodies that actually rated qualifications were as diverse as the qualifications themselves. It became apparent during the adoption phase of National Qualifications Frameworks that, in many

cases, these diverse institutions were, in many instances, loathe to lose the capacity to rate qualifications.

Thus, the market witnessed a loss of industry control, in a sense, of national qualifications ratings (and defining capacity) and also saw this capacity revert to just a few institutions approved at the national level. This conflict within the National Qualifications Frameworks adoption scenario in the UK reflects the "top-down" versus the "bottom-up" dichotomy referred to in Young's research (2007, p.448). In the bottom-up model, industry essentially dictates who receives qualifications, how qualifications can be defined and when and where these should be applied. In the top-down model, government or government agencies determine who receives qualifications, how qualifications should be defined and when and where these qualifications can be applied. In the former model, such qualifications are much more prevalent throughout society and the economy which, in essence, devalues them. In the latter model, such qualifications are much more selectively awarded and therefore in constant demand.

One other source of tension related to National Qualifications Frameworks relates to the expectations that are associated with them. Industry within a given economic market has come to associate certain outcomes or expectations with the development and implementation of National Qualifications Frameworks. Consequently, many industry participants become somewhat disillusioned with National Qualifications Frameworks when the products of a National Qualifications Frameworks system are found to not meet the expected performance standards assumed to be the result of National Qualification Frameworks systems. It must be understood that National Qualifications Frameworks are not an economic or productive centre in and of themselves. Identifying and implementing an National Qualifications Frameworks in and of

itself does not automatically equate to higher performing employees or more effective educators, managers or the like within a given market. That is, the education and training curriculum that is developed within the context of an National Qualifications Frameworks still retains its central importance within the national market irrespective of the particular standards matrix utilized to rate the product of the education and training curricula. This tension is alluded to by Young who states that,

> *"In countries with relatively developed institutional provision, such a standardising approach can easily undermine many of the strengths of the traditional system of education and training without offering clear benefits"*

(Young, 2007, p.455).

Hence, while National Qualifications Frameworks clearly becoming the status quo in more developed markets and in many developing ones, merely adopting an National Qualifications Frameworks for the sake of appearances is hardly a justifiable or even rational solution.

3.6 Need for Qualifications Framework in Logistics Sector

Case of Hong Kong

The overseas experience described above illuminates the necessary features of a Qualifications Framework that could be successful in the Hong Kong context. Poor rates of literacy in the population of developing nations seem to make successful implementation doubtful. In such situations, appropriate primary education is necessary for candidates to recognise the actual significance of vocational training and to properly align the skills important for each kind of job. Developing nations need to take care that sufficient resources are available to avoid compromising any other national activity. Oman poses a good example of

going for a partnership with UK, which actually has a three-fold advantage. Firstly, the nation need not utilise its own resources; second, the national labour force is actually able to train itself for an international level of competence; thirdly, the problem of national unemployment or underemployment looming, was corrected to a large extent.

Hong Kong has sufficient resources to attempt implementation of a qualification framework. Consequently, the questions of public prestige and details of implementation are more pressing (HKFTU Logistics and Transport Industry Committee, 2009). Collaboration or partnerships with internationally acclaimed training institutes could be crucial to a successful implementation. These institutions have sufficient infrastructure and faculty to provide sound training classes for their candidates and collaborations with them would allow local institutes to offer internationally accepted grades and increase the employability of their alumni. Furthermore, it appears important that the levels of training on offer match levels of conventional education; with arrangements in place to reward each individual level of training offered and encourage candidates towards excellence. The Hong Kong SAR government should be the monitoring authority over the domestic qualifications framework body so as to work on a non-profit motive and arrange for proper recruitment of the candidates. The domestic Qualifications Framework of Hong Kong may be distinctive in other areas, but these aspects seem to lay behind the success of such programmes in various nations (HKFTU Logistics and Transport Industry Committee, 2009).

Logistics Sector in Hong Kong

A qualifications framework helps to co-ordinate vocational training to develop special skills and so enhance productivity. Clearly, any nation striving to achieve success amidst international competitors needs to focus on quality

improvements to sustain high consumer demand, and this raises the need to improve the qualifications framework. Given the cost of infrastructure improvements, national authorities must decide upon the most suitable ground to pour their resources and that means that they must choose the avenue most likely facilitate improvements which will flow into other sectors as well. (Voon & Sang, 2002). Since Hong Kong is dependent upon export-led growth structure for development, it seems logical to augment the international trade segment of the economy. This should encourage national authorities to invest in the domestic logistics sector and expedite further improvements in quality or productivity.

The substantial contribution that logistics makes to limiting the problem of unemployment makes a central qualifications framework for the domestic logistics sector seem to be especially vital. The logistics sector of Hong Kong employs a significant number of local youths as well as forming an important source of broader income (Voon & Sang, 2002). However, this historic pattern makes alarming the rather low employment growth in the sector, despite reasonable average annual growth being recorded. This is almost like a siren hinting at a poor progress of the sector (Voon & Sang, 2002). It must be noted that Hong Kong port accounts for the largest volume of shipments in Asia, also contributing to many neighbouring economies. However, unless infrastructure developments are put in place, it is possible that Hong Kong might lose its past eminence as Singapore rapidly improves. Nations located outside the East Asian region, but involved in trade with it, will be more inclined towards dealing with a more technologically enhanced trading partner. Hong Kong will lose its position if Singapore can assure a faster and more reliable delivery of imported commodities. Technology in Hong Kong for storage and packaging of goods meant for sale is also lagging far behind that used by many competing economies. For instance,

old-fashioned multi-storied low ceiling warehouses are still common in Hong Kong, rather than the more modern single-storey high ceiling structures (Voon & Sang, 2002).

A qualifications framework helps to enhance productivity of personnel and encourages higher production at a lower cost per unit, beneficial for the manufacturer as well as the nation as a whole. Many nations have come forward to promote vocational training in a similar way as imparting academic knowledge to pupils. This has helped not only to enhance the labour productivity and quality of goods produced but it has also helped to build competence in domestic labour, relative to the world market and thus reduce domestic unemployment (Coles & Werquin, 2007).

3.7 Improving the Hong Kong Logistics Sector's competitiveness through a Qualifications Framework

Logistics is one of the four supporting industries in Hong Kong, and makes one of the most significant contributions to local GDP. However, the industry has encountered severe competition from ports in the neighbouring economies. For instance, improved transport systems and a more liberal policy structure have given competing economies greater access to a wider commodity base. A restricted trade regime, which often goes against the interests of trading partners (Nam, 1993), has caused Hong Kong to lag behind its neighbours, notwithstanding a brilliant harbour and great natural resources for uninterrupted trade. The administration's controls on imports have blocked a significant avenue for the inflow of new technologies which may have helped to effectively modify the local economic structure. Neighbouring economies have developed and adopted technologically enhanced techniques to ensure improved logistics, and

thus a better supply of commodities at a much lower rate.

A lack of technologically adaptable labour and capital has long prevented similar improvements in Hong Kong. Though the national authorities have realised this and corrected their policy structure, the SAR still lags behind competing economies who have continued to improve. Hong Kong's previous protectionist policy has meant that it has fallen behind many other regional economies and so must adopt a better model to reach the same level as its rivals (Nam, 1993). The inevitable risks of making new investments appear to be the main impediment to national authorities adopting much more advanced technology. Hong Kong had shrunk away from new investment ventures for a long time after the East Asian crisis. It suffered large-scale capital flights during that period which was followed by a decision to float its currency rather than keeping it pegged with the movements of the more stable US dollar (Ruiz-Arranz & Zavadjil, 2008). The decision to float the local currency added to the difficulties of the national authorities who consequently laid more stress on the inflow of foreign exchange to recuperate past losses

This is as opposed to building infrastructure to cushion Hong Kong against further economic disturbances arising out of an external shock. However, such a mindset was undoubtedly harmful to the country's future prospects, especially in light of the decision of most other neighbouring nations to protect themselves through adopting more far-sighted tactics able to insure them against future uncertainty. However, Hong Kong alone was not responsible for its situation at the turn of the millennium as it almost exhausted its resources in response to the crisis and subsequent decisions by Europe and USA to restrict Foreign Direct Investment (FDI) into Hong Kong due to doubts about her financial stability. Nevertheless, nations like Singapore revived after the crisis with the help of

international organisations like the International Monetary Fund (IMF) and by designing a proper and appropriate growth strategy. Unlike Singapore, Hong Kong concentrated more on accumulating capital first rather than using it to simultaneously revive afflicted sectors. Hong Kong authorities realised their mistake and have focussed on investment to enhance productivity of factors of production and thus guarantee a smooth inflow of resources after the crisis (Mody, 1999). The logistics sector, being one of the four supporting pillars of the economy of Hong Kong happens to be one of the largest contributors to the domestic GDP and this is why the national authorities need to be more concerned about the improvisations in the same (The Chartered Institute of Logistics & Transport, 2009). Clearly, the more that a nation focuses on developing the logistics sector of its economy, the greater will be the effectiveness of that sector, compared to those of its neighbouring economies. Consequently, that nation will appear preferable for external economies seeking to satisfy their aggregate demands. Improving the quality of production ensures the loyalty of customers and builds sustained demand. This is the reason why the domestic authorities have focussed on the development of better infrastructure to increase the competence of logistics workers (The Chartered Institute of Logistics & Transport, 2009).

3.8 Initiatives taken by the Hong Kong SAR Administration

The Hong Kong SAR administration has initiated corrective measures to rectify past mistakes. The qualifications framework, established in May, 2008 is sponsored by the national authorities and supervised by the domestic Education Bureau (Hong Kong Education Bureau, 2008). Primary level education is the initial step of a seven-step hierarchy which subsequently includes a broader dimension of secondary education, more properly known as vocational training.

Students are taught special skills in vocational training, which are meant to make them more competent and thus increase their chances for employment. Further steps help students to progress to higher educational strata. The fees involved are understandably low, given that the objective of the entire process is to stimulate growth in the economy (The Chartered Institute of Logistics & Transport, 2009).

The national administration has taken many commendable steps to support its domestic logistics sector. It has adopted special measures to instil standardised competence to the air transport and shipping segments and smooth international transaction processes. However, authorities have not neglected the local sector, taking steps to enhance local transport and the distributive operations of the local manufacturers. These enhancements have made the domestic supply chain and retail system more efficient than its rivals such as Singapore. (Ho, n.d.). The national body of Hong Kong SAR has plans for further functional improvements, including advertising the activities of the Industry Training Advisory Committee (ITAC) of various industries set up by the Education Bureau and of industry stakeholders roles, consulting the bigger entrepreneurs in particular industries or logistics segments regarding institutional decisions meant as improvements and considering the training needs of people new to the industry. Despite such achievements and plans to further improve the sector, the national body has failed in a number of respects and it is widely believed that there is much scope for further developments in the sector (Ho, n.d.).

It is often alleged that the national body has failed to notice the development of new manufacturing units along the Pearl River. As a consequence, the agency has also failed to install logistics infrastructure and related modifications to accommodate these new manufacturing units (The Chartered Institute of Logistics & Transport, 2009). This negligence might prove to be detrimental to Hong

Kong's economic development if the neighbouring economy of China takes advantage of the situation. Chinese enterprises beyond the Hong Kong SAR could offer logistics services to such new manufacturing units and draw their business away from Hong Kong. Such new manufacturing units would understandably be more inclined to deal with the jurisdiction that helps them to carry forward their business more smoothly. It is also suggested that the manufacturing units integral to the economy of Hong Kong are not located to take the utmost advantage of the nation's vicinity to the PRD region. Hence, they cannot take advantage of wider growth in the PRD region unlike most of the neighbouring Chinese provinces.

There is increasing competition from the neighbouring economies of China and Singapore. Other Chinese provinces are among the fiercest of Hong Kong's competitors given their location close to the Pearl River and the consequent common advantage in the overall growth of the region. One of the most direct advantages of regional growth is a lower cost of transport via sea, which means a lower final sale price. This has helped in winning over the faith of the consumers in other nations and thus has resulted to an improved demand schedule for China. On the other hand, Singapore has long allowed imports within the nation, thus keeping the doorway open for the inflow of newer and better technologies.

This has helped in keeping themselves up-to-date and thus maintaining a cheaper final price of tradable commodities consistently over the years. Although Singapore is distant from the PRD, it is located on a port, which gives them the same logistics advantage as Hong Kong, and that port is closer to the sea lanes linking Europe, Africa, South East Asia, Australasia and the Americas. It seems that Hong Kong is falling behind many of its neighbouring nations, in terms of price of the final output and thus of the total international demand they are meeting (Hong Kong Logistics Development Council, 2009). The present thesis

has analyzed different logistics stakeholder opinions on the implementation of the qualifications framework in the Hong Kong. The New Zealand experience underscores the importance of such opinions and the actions to which they are likely to lead. The time that has passed since the qualifications framework was first implemented also makes it possible that they may have opinions regarding its impact so far.

CHAPTER 4 - HYPOTHESIS AND CONCEPTUAL FRAMEWORK

The present investigation aims at finding out different stakeholders' opinions, which may have significant impact on the success of the implementation of a qualifications framework and the development of the indigenous logistics sectors. The research in the present context is based on a mixed methods approach, which collects both quantitative and qualitative data to better respond to complex research questions. Framing questionnaires provide quantitative data from closed questions, whilst qualitative data allows more insight from open-ended questions (Creswell, 2003). The present task of analysing different views of qualifications framework from the Hong Kong logistics sector seems to require broad quantitative as well as deep qualitative data.

4.1 Qualitative and Quantitative Data

The empirical research work in the present case is based on data from participant responses on a self-completed questionnaire. Quantitative analysis of data from the closed questions will summarise information from many study participants in cases where the research questions are well defined. However, the qualifications framework in Hong Kong logistics had been but a recent change in the administrative policies and thus a difference in logistics operations before and after the change would be likely to yield trivial results if only a quantitative analysis had been carried on.

Qualitative analysis of data from the open-ended questions has allowed the researcher to develop deeper insight into the views and intentions of logistics stakeholders. If the study was restricted to such deeper analysis of data from fewer informants, there would be great risk of unsupportable population predictions

(Monsen & Horn, 2008). Several interviews or other qualitative methods would reflect the opinions of those few stakeholders interviewed but the variations between entrepreneurs would make generalisation to the logistics industry at large very unwise. Consequently this investigation adopts a mixed methods approach that yields quantitative data that is wide enough to permit an attempt at generalisation and qualitative data that is rich enough to inform interpretation of the numbers. The quantitative portion of this study has employed ANOVA methods to examine the data gathered from the study's respondents while the qualitative portion of this study employs a kind of bracketing methodology in which dominant themes both within the literature and within the primary data are identified, examined and compared. The bracketing methodology encourages the researcher to align the data and information along a series of commonalities that facilitate more supportable findings that are at once grounded in the literature as well as the data (Jack & Kholeif, 2007).

4.2 Research Questions for the Study

The present investigation of stakeholder views of the qualifications framework in logistics is guided by the following questions:

1. Do stakeholders believe that the qualifications framework for the logistics industry in Hong Kong will help logistics workers to enhance their competence to sustain their employment?

2. What are the levels of adoption and recognition of the qualifications framework by the logistics industry in Hong Kong?

3. Are the logistics workers in Hong Kong aware of the importance of the qualification framework for their career path?

4. In order to increase the competitiveness of the Hong Kong logistics industry within the Pearl River Delta region, what kind of policies should be offered by the Hong Kong SAR government which can make the qualification framework implementation more efficient and effective?

The research questions intend to discover respondent opinions concerning the success and impact of the qualifications framework strategy in modifying the operations of the Hong Kong logistics segment.

4.3 Framing of Hypothesis

For answering the research questions, it is primarily important to collect sample data and secondly, to conduct certain statistical tests based on them. However, research questions are too broad to be answered at a single attempt and thus, need to be simplified and made more apt for empirical researches, which is why the need arises to frame logically backed hypotheses.

Hence, with an objective of focussing on the primary motive of the paper, the following four hypotheses have been conceived to be tested.

Hypothesis 1 (H_1) – Logistics workers in Hong Kong are aware that the qualifications framework may affect the career path.

This hypothesis aims to test the awareness of the workers in Hong Kong about the possibility of improving themselves through enlisting themselves to vocational training classes. A main reason behind the success of the qualifications framework could be a stern belief among the workers about their growth in competence following their attending the classes.

Hypothesis 2 (H_2) – Logistics employers believe that the Qualifications Framework influences skills for logistics workers in Hong Kong.

This hypothesis falls within the same sphere as the earlier one. The only difference is that, unlike the previous one which was based on the expectations of the workers, this hypothesis suggests that employers have positive expectations of the qualifications framework.

Hypothesis 3 (H₃) – The Qualifications Framework positively influences the workers of the Hong Kong logistics industry.

This hypothesis implies that foundation of the qualifications framework in the nation has helped to instil competence among the workers in the sense that more appropriate job fit. Moreover, it also aims to find out whether there had been any improvements in the business performance which was the primary objective of ever deciding to establish a qualifications framework with regard to the logistics sector.

Hypothesis 4 (H₄) – Stakeholders encourage workers to participate in relevant training in order to meet the requirements of the qualifications framework.

The above hypothesis tests for the effectiveness of the support bestowed by the Hong Kong logistics sector to upgrade the same and inject international standards in their operations. It tests how far the workers, favoured by the local government, have engaged themselves in training the logistics workers in enhancing their productivities and how far they have been successful in their attempt.

All the above hypotheses will be tested on the basis of the responses of self-completed the questionnaires and subjecting them to statistical tests. The data collections being made are all in context of the three core segments of logistics, viz., air transport, road transport and water transport. They are based on empirical data collection through subjecting a sample of employees working in each one of the three sectors, to a questionnaire. The analysis is thus based on attributive

answers given by the sample units in each one of the three segments. The methodology being used to challenge the hypotheses is based on the simple process of finding out the average of all responses, and then using statistical tools. One-way ANOVA tests are then used to determine whether any differences in the means of response distributions are statistically significant. After the average opinion for all questions by each sector has been sought out, a null hypothesis is framed that tests whether the mean answer is equal for each group or not. If they are found to be similar, it is concluded that all the groups think alike about the situation prevailing in the logistics industry of Hong Kong. However, different means for each group indicate that there are some underlying sectors which have diverse views about the same (Urdan, 2005). As the different sections of questionnaire are categorized as those intended to answer the research questions or rather test the null hypotheses, they are subjected to the one-way test. The estimation of F statistic in the test is to determine the fate of the null hypothesis, if the estimated value is found to be less than the level of significance of 5%, the null hypothesis is rejected or vice versa (Urdan, 2005).

4.4 Designing the Questionnaires

Hong Kong's Logistics sector is composed of nine separate industries and responses to the qualifications framework may vary between them. This raises the issue of question of relevance for different industries. For instance, a question that asks about an improvement in the working environment of truck drivers will be of no interest to employees of the airlines industry. However, the cost of research inhibits the development of nine separate questionnaires, so a single survey form made up of general questions was constructed. The questionnaire is divided into three sections, comprising of a total of 27 questions. The first section comprises

multiple choice items that elicit stakeholder opinions regarding the role of the Qualifications Framework in the Hong Kong logistics sector. The second section comprises open ended questions that allow stakeholders to describe their views the impact of the Qualifications Framework on their work. The final section is made up of Likert scale items that allow stakeholders to give their opinions regarding a number of specific issues regarding work and training. The questionnaire is preserved as Appendix 1 at the end of this thesis. It was completed by managers and employees from a range of logistics companies. Appendix 1 includes indication of the most frequent stakeholder responses.

The study was carried out in two stages. The first stage relied on secondary data collected from published archives about the current education and experience of logistics workers, and what the employers would expect of the workers in these respects. The second one depended on primary data collected from two sources through a set of structured questionnaires. The participants were international and local logistics companies currently operating in Hong Kong that employ more than 50 staff and that have operated for more than three years. From the Department of Census and Statistics Department, there are more than 2000 registered logistics companies in Hong Kong that meet the above requirements. The following nine business sectors were included in this survey: warehousing and cold storage, trucking and container haulage, airlines companies, freight forwarding agents, stevedore companies, sea freight transport companies, cargo handling terminals, international couriers, and other transport logistics service providers.

A list of companies was obtained from the Companies Registry, maintained by the Government of Hong Kong Special Administration Region. One of the Companies Registry's roles is to provide the public with facilities to search for the

company information held by their office. The companies were asked for the name of an appropriate contact person, most often the Human Resource manager. A questionnaire was sent to the contact person, together with a covering letter explaining the aims of the Qualifications Framework and the benefits if the right strategies of the framework were formulated for the logistics industry. It was expected that when these companies and their employees realized the potential benefits to them, they would be willing to participate in the questionnaire survey within the time limit set for the questionnaire survey.

Statistical analysis would be employed in the study. ANOVA and Levene's test would be tested where appropriate.

Figure 4.1 illustrates how the underlying relationships between a large number of variables were analysed to form a smaller set of composite factors (Hair, Babin, Money & Samouel, 2003). The data collected from the questionnaires could be summarized into a number of factors, referring to the research questions for this investigation. Thus, all the data collected from the questionnaires are analyzed together to identify underlying patterns. Then the hypotheses could be tested by means of statistical analysis method. The underlying relationships in form of tables are illustrated in the latter chapters.
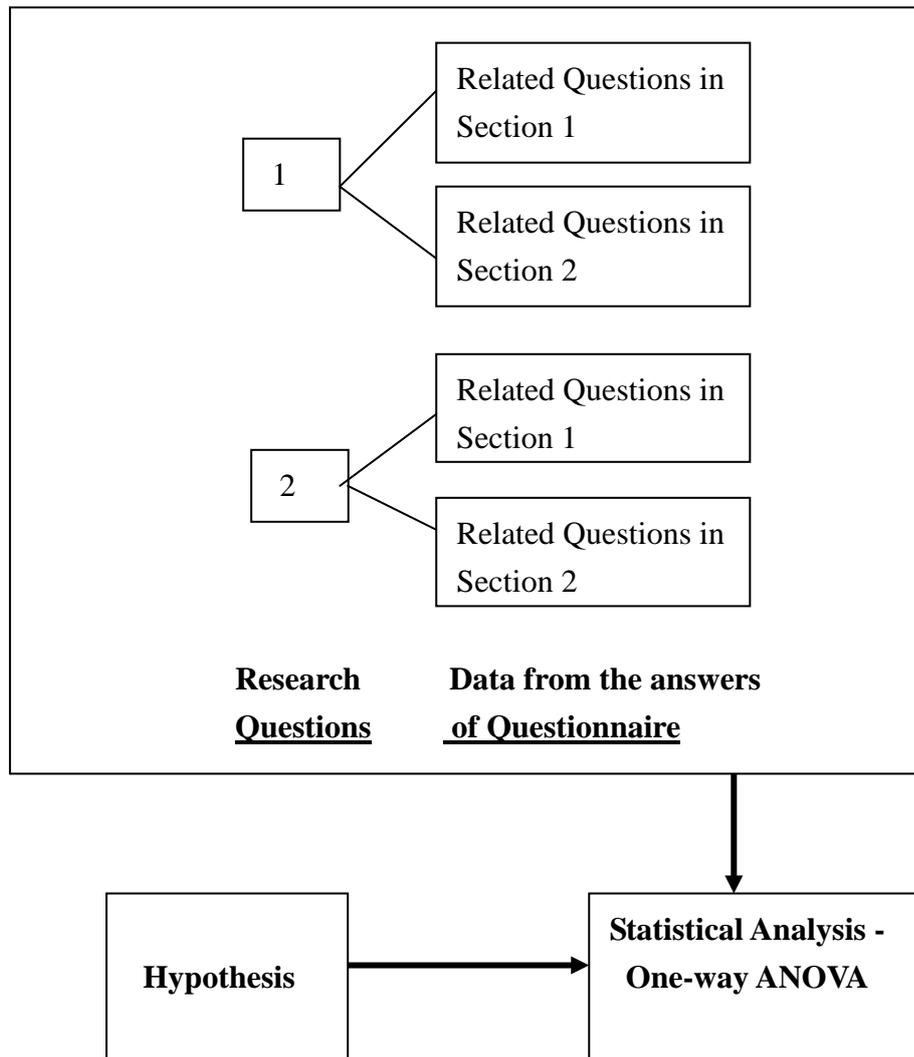
Figure 4.1: The Relationship between the Major Research Components

This dissertation expected to seek out stakeholder views of impact of qualification framework strategies on the logistics workforce in Hong Kong. The outcomes are expected to be generated from the testing of the hypotheses and the analysis of the findings from the primary and secondary data. Based on the findings, recommendations could be provided to the interested parties in the logistics industry, the academic institutions, NGOs, and government bodies, as a reference for formulating strategies in connection with qualification framework.

The structured questionnaire has been paid care in designing to avoid in creating of any resistance, difficulty, uneasiness, or embarrassment for the sample companies participating this study during primary data collection.

With regard to ethical issues, the potential consequences were carefully considered. The questionnaire included an initial explanatory clause so that respondents could apprehend the purpose of the research and how the collected information would be disseminated and protected.

The answers from the questionnaire are the responses from the stakeholders, their ratings of the qualification framework are subjective. The questionnaire includes questions producing both quantitative and qualitative data. The quantitative data could summarise stakeholder views and allow comparison between those of different types of stakeholder by applying statistical criteria to the measurements. The qualitative data from the respondents' words or phrases as they answer the questions may disclose some issues that would not be indicated by a structured question.

4.5 Methodology and Data Collection

This research study has made use of both quantitative and qualitative methods (i.e. it adopts a mixed methods approach). Differences between the sectors of the logistics industry may be of some use and so the responses emerging from each sector will be compared. The first and third sections of the survey yield quantitative data and the second section yields relatively simple qualitative data, so different measures of central tendency will be more appropriate for different sections.

The items in the first section of the survey yield categorical data, such as whether a company has asked employees to sit for Qualification Framework tests,

and so modal responses for each question in that section are the appropriate measure of central tendency.[3]

However, the distribution of responses to questions in Section 3 would be best summarised and compared by way of mean scores, since that section involves 5-point Likert scales, where the range of answering options vary from one negative extreme to another positive extreme. Finally, the responses made by all the sectors would be noted down and once again, the modal overall response will be found out to evaluate the stakeholder opinion of the situation faced by the logistics sector of Hong Kong.

The qualitative data yielded by Section 2 will be interpreted by first reading through the answers to each question from each sector. This yields a general sense of the information and specific, typical or illuminative comments are recorded to illuminate the more shallow data emerging from the quantitative aspect of the investigation.

4.5.1 Data Collection

A sample of 150 logistics companies was chosen from the 2000 companies comprising Hong Kong's logistics sector. The chosen companies came from all nine of the industries within the logistics sector. A copy of the questionnaire was sent to each of these 150 companies and completed questionnaires were received from 35 of them. Each of the participating companies distributed the questionnaire within their own enterprise and 212 individual forms were returned (2 Airline Service companies returned 26 questionnaires, 2 Cargo Handling companies

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[3] Here, the chosen measure of central tendency will be the mode rather than either mean or median. Since the responses are mainly in the form of attributes, viz., 0 and 1, calculating the mean or the median might give fractional outputs, which are irrelevant in this respect. On the other hand, mode deals with the frequency distribution as well, which is highly important in this respect, where estimating the average preference of the respondents mainly involves a vote-like pattern.

returned 17, 2 Courier 18, 12 Freight Forwarding 57, 3 Other Logistics 12, 6 Sea

Freight 32, 2 Stevedores 20, 3 Trucking 19 and 3 Warehouse Companies returned

11 questionnaires, see Table 4.1). These 212 completed questionnaires are the data

on which the results and conclusions of this investigation are based.

Company Type	Number of completed questionnaires returned	Number of Companies	Number of Employees
Airlines Service	26	2	> 200
Cargo Handling Terminal	17	2	> 200
Courier	18	2	> 50
Freight Forwarding Agents	57	12	> 50
Other Logistics Service Providers	12	3	> 50
Sea Freight Transport	32	6	> 50
Stevedore	20	2	> 50
Trucking and Container Haulage	19	3	> 50
Warehouse	11	3	> 50

Total number of surveys returned   212

Table 4.1:   Survey Responses
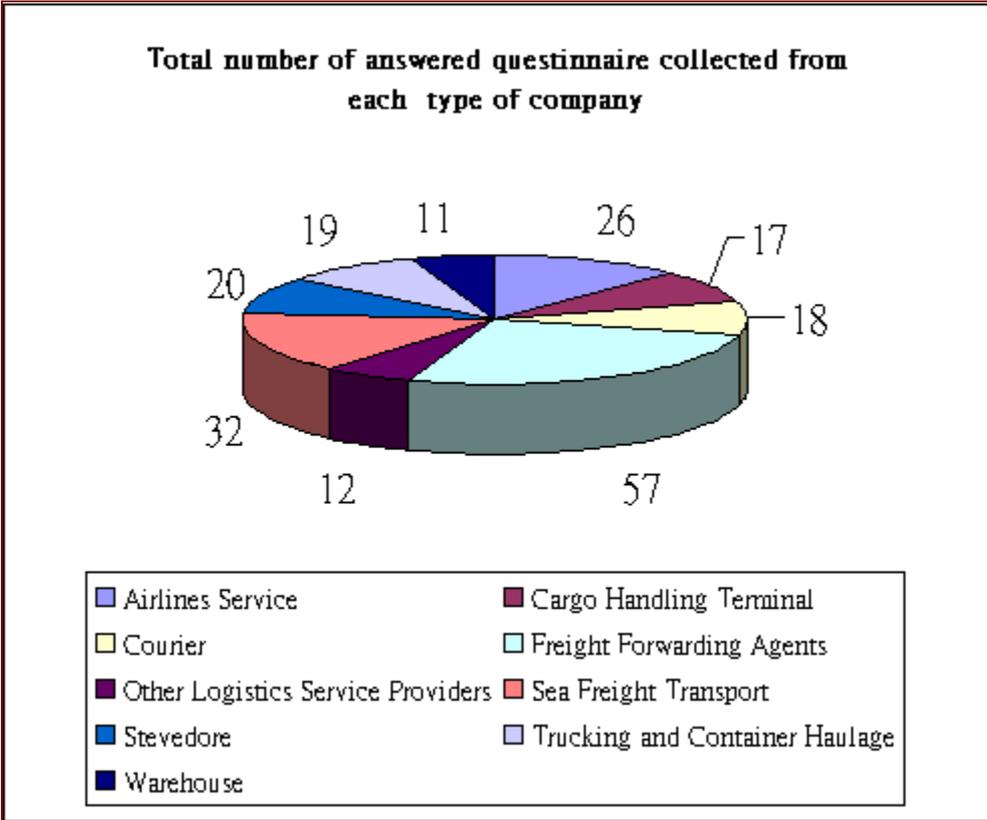
Figure 4.2 Survey Responses Received

Two hundred and twelve responses from companies representing a range of components of the logistics sector seems an adequate basis on which to base tentative conclusions regarding stakeholder views of qualifications framework in each one of the respective industries.

4.5.2 Methodology

The different views of the qualifications framework within the Hong Kong logistics sector would seem to be accessible through calculation of the average stakeholder response to the questions posed by the distributed survey. It would be proper to divide stakeholders into different components of the logistics sector.

The next step would be to detect the average response made for each question in the questionnaire by the participating companies in each component.[4] The average response would then be considered to represent the overall response of the particular component.

The primary method being followed in the present case is that of calculating the average opinion of stakeholders in each sector. To be precise, this is the approach being ensued for sections 1 and 3 of the questionnaire. The mode seems a suitable measure of central tendency for the nominal data in Section 1, while the mean seems more appropriate as a measure of central tendency for the ordinal data in Section 3. However, some of the questions yielded bimodal response distributions. In such cases, the mean value between the two modes has been calculated (following Bernstein & Bernstein, 1999).

Stakeholder responses to Sections 1 and 3 are chosen from a set of options provided by the survey. These options are represented by dummies and the response made by each individual is coded by their dummy forms. In most cases these dummy values represent quantitative data, but in a few cases they reflect qualitative data. Though such dummy variables are quantified forms purposed to symbolize qualitative data, in cases where there are a number of options to be chosen from, dummy variables are often used. Such situations arise in case of questionnaires when statistics need to be calculated on the basis of the sample responses (Stephens, 2004). Finally when all the units have provided their answers, the mode is calculated for each component of the logistics sector (Snedecor &

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[4] Here, the chosen measure of central tendency will be the mode rather than either mean or median. Since the responses are mainly in the form of attributes, viz., 0 and 1, calculating the mean or the median might give fractional outputs, which are irrelevant in this respect. On the other hand, mode deals with the frequency distribution as well, which is highly important in this respect, where estimating the average preference of the respondents mainly involves a vote-like pattern.

Cochran, 1989). The outcomes of Levene's Test and F-test are shown in the latter section of "The Final Conclusion from the Quantitative Questions".

One-Way Analysis of Variance (ANOVA)

The data is subjected to one-way ANOVA, to determine whether any differences in the means of response distributions are statistically significant. The answers posed for each of the questions by different respondents act as observations and each sector or group under the logistics industry acts as the dependent variable. After the average opinion for all questions by each sector has been sought out, a null hypothesis is framed that tests whether the mean answer is equal for each group or not, i.e., H_0: $m_1 = m_2 = ... m_8$; where, 'm_i' implies Mean of 'i'th sector (i = 1, 2 ... 8)

If they are found to be similar, it is concluded that all the groups think alike about the situation prevailing in the logistics industry of Hong Kong. However, different means for each group indicate that there are some underlying sectors which have diverse views about the same (Urdan, 2005). The ideal way to decide the fate of the null hypothesis is to conduct an ANOVA and calculate the F statistic.

However, a level of significance has to be assumed before the null hypothesis can be evaluated.[5] The conventional level of significance is 5%, implying that if the estimated value is found to contain a lower level of

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[5] Level of significance implies the proportion of total area under the cumulative frequency distribution curve, which falls under the rejection region. Generally, this level is assumed to be 0.05, implying that 5% of the total area below the frequency curve will fall under the rejection region. If an estimated statistic is found to be accompanied by a level of significance greater than the assumed one, the former is considered to be lying within the acceptance zone. In contrast, if the estimated level of significance is lower than the assumed level of significance, it implies that the predicted statistic falls within the rejection region. The estimated level of significance is also known as the probability value or p-value signifying the probability of committing Type I Error.

significance, the null hypothesis is rejected and vice-versa.[6] Hence, after various parts of the questionnaire are categorized as those intended to answer the research questions or rather test the null hypotheses, they are each subjected to a one-way ANOVA test. The F-statistic being estimated thereafter will lead to the rejection or the acceptance of the null hypotheses and thus, yield answers to the research questions. The mean value itself is of no importance in this case, though an analysis of difference in the mean values is essential to figure out how far the sectors vary in their overall opinions about the situation in the logistics industry (Kerr, Hall & Kozub, 2002).

To begin the analysis in compliance with the research questions, a few questions from Section 1 and a few others from Section 3 are identified and subjected to one-way ANOVA so as to examine any difference in the stance of various sectors with respect to a broader research question.

Levene's Test of Homogeneity of Variance

In addition to identifying any significant differences between the mean values of the responses provided by each group or sector, it is also important to note any variations in the pattern of responses that is to measure the extent of diversification of each individual observation from the mean response provided by each group. This provides a numerical representation of the shape of the distribution graph and should warn of any deviations from normality that might be great enough to threaten the validity of the F statistic. Levene's Test of Homogeneity is one method that helps to determine whether the variances in the observations under each group are equal or not. So, the relevant null hypothesis in

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[6] The estimated level of significance is automatically calculated in statistical software as advanced as SPSS. Hence, the study is kept simple by omitting further consultation about the steps of measuring the same.

this regard is, H_0: $\sigma_1^2 = \sigma_2^2 = \ldots \sigma_8^2$; where, '$\sigma_i$' implies Standard Deviation of the 'i'[th] group or sector ($i = 1, 2 \ldots 8$)

Equal variances imply that all the components of the logistics sector are unanimous in the responses representing their opinions, which in combination with equivalent means will indicate that the logistics sector of Hong Kong is united in its views irrespective of the component. The simplicity of the statistic lies in the fact that it provides estimated levels of significance for each and every group, individually. This helps to comprehend the exact point or rather the exact group which is featured by a dissimilar variance than the rest (Snedecor & Cochran, 1989).

Interpretation or analysis of the outcome of the null hypothesis is based on the estimated level of significance of the Levene's test statistic, L.[7] It is similar to that for estimated value of F-statistic as in the case of One-way ANOVA. If the level of significance of the predicted value is found to be greater than 0.05, then the respective null hypothesis cannot be rejected implying that there are insignificant differences in the deviations in the responses in case of each group or sector (Gravetter & Wallnou, 2007).

Analysis and Discussion of Questionnaires

The combination of Levene's Test for Homogeneity of Variance and One-way ANOVA (the F-test) could conclude:

(a) If outcomes of F-test as well as Levene's Test lead to acceptance of their respective null hypotheses, it means that opinion across all the sectors

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[7] Calculation of p-value or the estimated level of significance in case of Levene's Test for Homogeneity of variance is automatically made by advanced statistical software like SPSS, which eases the task a lot. Hence, discussion on how to calculate it manually is omitted like that in the situation for F-statistic in One-Way Analysis of Variance.

underlying the logistics industry of Hong Kong is unanimous; response made by each of them for each question is similar.

(b) If outcome of F-test leads to an acceptance of its null hypothesis, while that for Levene's Test indicates rejection, it means that though the average opinion across all the sectors underlying the logistics industry of Hong Kong is similar, their views for individual questions in the questionnaire are not. Hence, the survey results cannot support a significant conclusion about a single prevailing situation in the industry.

(c) If the outcome of F-test leads to a rejection of its null hypothesis, while that for Levene's Test indicates acceptance, it means that though the average variation in their opinion is the same across all the sectors underlying the logistics industry of Hong Kong, their average views are not. So, it cannot be said that the sectors really agree, since equality in variance need not mean that all the corresponding observations are equidistant from the mean; rather it only means that the sums of their deviations are similar. Hence, the questionnaire cannot draw a significant conclusion about the prevailing situation in the industry.

(d) Rejection of the individual null hypotheses of both the F-test and Levene's Test implies lack of agreement between the sectors underlying the logistics industry of Hong Kong. Hence, the workers in various sectors take different positions regarding that particular situation in the industry.

Although the key line of analysis will be through the calculation of average responses (mode for Section 1 and mean for Section 3), the same is not possible for all sections in the questionnaire. The answers to Section 2 questions in are qualitative in nature as the respondents had been presented with an open question and space to answer it as they wished. So, conclusion has to be drawn about the

individual attitude of each group after examining their answers. Answers to each of the research questions will be drawn after combining a few relevant questions from every section. To simplify the task, the questions in the questionnaire corresponding to each of the research questions have been provided in a tabular form in the Table 4.2 to the thesis. Also, appropriate questions from Section 2 will be addressed to so as to complete the analysis and obtain a full view about the opinion of various sectors in the logistics industry of Hong Kong. Finally the outcomes will be merged together to attain a complete outlook of the logistics workers in Hong Kong regarding the prevailing situation in the industry. Contents of Table 4.2 were chosen logically through consideration of the most ideal questions suitable for answering the null hypotheses. Research question 1 tries to establish whether Qualifications Framework has helped in enhancing skills of logistics workers or not. This surely should include those questions that deal with the degree of influence that the logistics workers had over them. The following research question tries to focus upon the awareness among the logistics workers about the skill enhancement that the Qualifications Framework is likely to encourage. The answers to the questions being selected for the issue bear on that question. The third question reflects the realisation of the workers of the importance of the program in their career path. Lastly, the fourth research question deals with the policies that the Hong Kong logistics industry needs to adopt to make the program more efficient. Such a question needed the exact objectives that the employers have in their mind while making selections.

Hypothesis	Research Questions	Questions in Questionnaire
H1: Awareness about Qualifications Framework affecting career path	Q3	(1.4), (1.5), (1.6) (3.5), (3.6), (3.7), (3.8), (3.9)
H2: Influence on working skills of Hong Kong logistics workers	Q1 and Q3	(2.1), (2.2) (3.7), (3.8), (3.9)
H3: Positive influence upon the Hong Kong logistics workers	Q1 and Q2	(1.3), (1.6) (2.2), (2.3) (3.6), (3.8), (3.9), (3.10)
H4: Encouragement by stakeholders	Q4	(1.4), (1.5) (3.11), (3.12), (3.13), (3.14), (3.15), (3.16), (3.17)

Table 4.2: Correspondence between the null hypotheses and survey items.

Since there are a number of quantities as answering options in Section 1 and 3, they are represented in the form of dummies, defined in the Table 4.3 to the paper.

One-way ANOVA and Levene's Test of Homogeneity were applied to response distributions from various components on each question. However, as discussed above, these tests are applied after arranging the questions according to the requirements of the research objectives or rather the null hypotheses, see Table 4.2. The findings in context of each of the null hypotheses mentioned in Section 4.3 have been noted in the next chapter. Firstly the modal response of the sample units will be addressed followed by the outcomes of one-way Analysis of Variance and Levene's Test for Homogeneity of Variance, for the questions featured with quantitative answers.

Section (1) – Questions 1, 2 and 3

Dummy, $D_1 =$ '1', if 0%

'2', if < 20%

'3', if 21 – 40%

'4', if 41 – 60%

'5', if 61 – 80% and

'6', if 81 – 100%

Section (1) – Questions 4, 5 and 6

Dummy, $D_2 =$ '1', if Yes

'2', if No and

'3', if N/A (Not Answered)

Section (3) – Questions 1 to 17

Dummy, $D_3 =$ '1' if Strongly Disagree,

'2' if Disagree

'3' if Uncertain

'4' if Agree and

'5' if Strongly Agree.

Table 4.3: Definition of the Dummy Variables being used to represent the questionnaire responses

CHAPTER 5 – RESULTS AND ANALYSIS

A total of 212 employees belonging to various units of the logistics sector have answered the questionnaire 35 responses from employers were analysed.

Tables 5.1 and 5.2 present the modal scores for each logistics sector for each item on the survey. The overall modes are also presented on the copy of the survey that forms Appendix 2. The use of modal scores for participant response distributions was explained previously. These tables, and Appendix 1, represent the basic results for this investigation. A modal value of 1 represents the lowest level of response for the particular item while 5 represents the highest level of response.

Company Type	Answers for Questions from 1 to 6 in Section 1 of Questionnaire					
	1.1	1.2	1.3	1.4	1.5	1.6
1. Airlines Service	1	1	1	2	2	2
2. Cargo Handling Terminal	1	4	1	2	2	2
3. Courier	1	1	1	2	2	2
4. Freight Forwarding Agents	2	2	1	2	2	3
5. Other Logistics Service Providers	1	2	1	2 and 3	2 and 3	2
6. Sea Freight Transport	3	3	1	2	2	2
7. Stevedore	2	1	1	2	2	3
8. Trucking and Container Haulage	4	4	3	2	2	2
9. Warehouse	1	1	1	2	2	2
Mode	1	1	1	2	2	2

Table 5.1: Modal response of all participating sectors for Section 1 questions

(Answers for Questions from 1.1 to 1.6)

Company Type	Answers for Questions from 1 to 6 in Section 3 of Questionnaire					
	3.1	*3.2*	*3.3*	*3.4*	*3.5*	*3.6*
1. Airlines Service	5	4	4	4	3	3
2. Cargo Handling Terminal	5	4	3	4	5	4
3. Courier	4	4	3	5	3	4
4. Freight Forwarding Agents	4	4	4	3	3	3
5. Other Logistics Service Providers	5	5	5	5	3	3
6. Sea Freight Transport	5	5	5	4	3	4
7. Stevedore	5	4	3	3	3	4
8. Trucking and Container Haulage	4	5	5	4	3	4
9. Warehouse	5	5	4	4	5	4
Mode	**5**	**4**	**4**	**4**	**3**	**4**

Table 5.2a: Modal response of all participating sectors for Section 3 questions *(Answers for Questions from 3.1 to 3.6)*

Company Type	Answers for Questions from 7 to 12 in Section 3 of Questionnaire					
	3.7	*3.8*	*3.9*	*3.10*	*3.11*	*3.12*
1. Airlines Service	4	4	4	4	4	4
2. Cargo Handling Terminal	3	5	3	4	4	2
3. Courier	4	4	3	4	3	4
4. Freight Forwarding Agents	3	4	3	3	3	3
5. Other Logistics Service Providers	4	4	5	3	3	4
6. Sea Freight Transport	3	4	5	4	4	4
7. Stevedore	3	3 and 4	3	3	4	3
8. Trucking and Container Haulage	4	3	4	3	5	3
9. Warehouse	4 and 5	4	5	4	4	2
Mode	**3 and 4**	**4**	**3**	**4**	**4**	**4**

Table 5.2b: Modal response of all participating sectors for Section 3 questions *(Answers for Questions from 3.7 to 3.12)*

Company Type	Answers for Questions from 13 to 17 in Section 3 of Questionnaire				
	3.13	*3.14*	*3.15*	*3.16*	*3.17*
1. **Airlines Service**	4	5	4	4	4
2. **Cargo Handling Terminal**	3	4	4	4	4 and 5
3. **Courier**	3	4	4	3	3
4. **Freight Forwarding Agents**	3	3	3	3	3
5. **Other Logistics Service Providers**	3	4	5	5	4 and 5
6. **Sea Freight Transport**	4	4	5	5	3
7. **Stevedore**	4	5	4	4	3
8. **Trucking and Container Haulage**	3 and 4	4 and 5	5	4	3
9. **Warehouse**	2	4	2	4	5
Mode	**3 and 4**	**4**	**4**	**4**	**3**

Table 5.2c: **Modal response of all participating sectors for Section 3 questions** *(Answers for Questions from 3.13 to 3.17)*

5.1 Testing Hypothesis (1): Awareness of Qualifications Framework

Hypothesis testing will be conducted step by step for each of the four null hypotheses.

Hypothesis 1 (H_1) – Logistics workers in Hong Kong are aware that the qualifications framework may affect their career path.

Survey items 1.4, 1.5, 1.6, 3.5, 3.6, 3.7, 3.8 and 3.9 would seem to yield respondent data that has some bearing on this hypothesis (see Table 4.2).

The three Section 1 questions deal with employee awareness of the importance that their employers place on the Qualifications Framework. Employee responses help to reveal the extent of employer enthusiasm to make use of specially designed training courses and the extent to which they have

recommended the Qualifications Framework. Employer use of Qualifications Framework tests to assess their employee skills suggests the degree to which the Qualifications Framework will influence employee career paths.

The Section 3 questions, which are addressed more to the employers, indicate the extent to which they believe the Qualifications Framework will enhance employee productivity. Five questions from this section reflect an employer tendency to base employee wage or promotional structures on Qualifications Framework training. This suggests how important the Qualification Framework might be in deciding employee career paths.

The modes presented on Table 5.1 appear to differ. However, this appearance may be an illusion if there is no significant difference between the distributions from which the modes are drawn.

Hypothesis H_1: Relevant questions - (1.4), (1.5), (1.6), (3.5), (3.6), (3.7), (3.8) and (3.9)

Test of Homogeneity of Variances

Levene Statistic	*df1*	*df2*	*Sig.*
2.449	8	63	.027

ANOVA

	Sum of Squares	*df*	*Mean Square*	*F*	*Sig.*
Between Groups	4.000	8	.500	.529	.809
Within Groups	59.535	63	.945		
Total	63.535	71			

Table 5.3: One-way Analysis of Variance and Levene's Test of Homogeneity for QF awareness

One-way Analysis of Variance was computed with each of the sectors acting as the independent groups and the answers which they provided for the questions, acting as the dependent elements.

Table 5.3 indicates that the estimated value of F-statistic is calculated as 0.529. The critical value of F at (8, 63) degrees of freedom is 3.03 and the predicted level of significance at the above degrees of freedom is 0.809. Since the critical value of F statistic at 5% level of significance is greater than the predicted value, and the p-value too is far greater than the assumed level of significance 0.05, this implies that the null hypotheses in this case cannot be rejected at the given level of significance. In other words the sectors are homogenous in their responses to this set of survey items. However, if the variance of responses is found to be different between sectors, it indicates that the responses actually vary from question to question among sectors.

Levene's Test for Homogeneity of Variance

Levene's Test for Homogeneity of Variance examines whether there is any disparity in the variances of the responses given by each sector. Table 5.3 indicates that the estimated Levene's Test statistic is approximately equal to 2.449, with an accompanying level of significance of 0.027. Clearly, the predicted level of significance or rather the p-value corresponding to Levene's Test Statistic is somewhat lower than 0.05, indicating that the predicted value falls within the rejection region of the concerned cumulative frequency distribution. Hence, a significant difference in the variance of different groups or sectors cannot be ruled out in this case. In fact, this finding is supported by the evidence discussed in the literature regarding the educational expectations of employees within the Hong Kong logistics industry overall. Some variance in long-term faith regarding career growth, career advancement opportunities and career development among Hong

Kong's various logistics sectors is partly affirmed in the data reviewed earlier. In terms of the literature, it is incumbent upon the analysis to make some reference to the massive growth of Hong Kong's logistics industry with respect to its port traffic. This is because the demand for if not the necessity for an National Qualifications Frameworks in the logistics industry has grown in tandem with this port traffic. Consequently, between 2001 and 2002 there were only HK$123 million in sea freight merchandise being handled in Hong Kong but by 2008 this figure had increased to more than HK$170 million.

Thus, it is apparent that with such increased traffic the efficiency and competencies of the industry's employees becomes much more critical in order to achieve the productivity levels necessary to handle this level of traffic. This is why the data being analyzed indicated that the Hong Kong Vocational Training Council presented data that revealed that employers within the logistics industry in Hong Kong had very clear expectations regarding the preferred education levels of the logistics employees within each sector. For example, 70% of logistics employers overall indicated that they preferred their managerial employees to have at minimum a First Degree or above while supervisory employees only held an approximate 30% expectation of a minimum Diploma/Certificate level of education (Manpower, 2008). The implication is that if there is such a wide-scatter in the data in terms of employee education level expectations and, consequently, if professional education can be taken as an indicator of career development opportunities, then these advancement opportunities themselves are also extremely diverse in character.

The inverse of the data reveals that if 70% of managers throughout Hong Kong's logistics sectors are expected to have a First Degree or above then a full 30% make do with such a degree and if at most only 30% of supervisors in the

industry are expected to have only a Diploma/Certificate level education then some 70% of supervisors are functioning without this level of education. This gap between expectations and the reality provides a great deal of opportunity for variance in the data. The overall similarity of sector responses, indicated by the ANOVA calculation, masks the kind of specific difference between sectors indicated by the example which was chosen to illustrate Table 5.1 and implied by the data discussed within the literature. Reference to these examples tends to illustrate the plausibility of difference between Airline Services and Container Haulage on employee region of origin within an overall similarity of sector responses in general. Thus, there is almost certainly a lack of universal sentiment among Hong Kong logistics workers from various sectors regarding their opportunities within the industry vis-à-vis their potential for career advancement or professional development.

Opinion of the majority of the sectors in the industry (Calculation of Mode)

    With due consideration of these arguments, it appears from Table 5.1 that the majority of the underlying sectors in the industry agree that

- Their respective companies *have not* distributed information about the Hong Kong Qualifications Framework to them or their colleagues.

- Their respective companies *have not* requested them or their colleagues to sit for the Qualifications Framework tests or attend the related trainings and courses.

- Their respective companies *have not* used the Qualifications Framework to judge their or their colleagues' competence.

In addition, the stakeholders when questioned about the role that Qualifications Framework plays in deciding the career trends of workers conclude that

- They are *uncertain* whether Qualifications Framework is a good benchmark for setting wages.

- They *agree* that Qualifications Framework is a good benchmark for promotion.

- They are *uncertain* whether the basic employment standard set by the Qualifications Framework is ideal or not.

- The employers *agree* that they give preference to workers who have met the requirements set by the Qualifications Framework standards.

- However, they are *uncertain* about whether their companies employ workers who do not meet Qualifications Framework standards.

- The employers *are inclined* to pay more wages to workers who have met the requirements of Qualifications Framework.

The conclusion is such that the majority of the logistics workers do not believe that the Qualifications Framework plays a significant role in their career paths. In contrast, employers are much more positive about the framework. This too was somewhat apparent within the literature wherein it was found that approximately 75% of Hong Kong's local logistics employees work at the clerical and the operational levels within their respective organisations. These lower level employees face certain structural factors that may prevent them from being aware of the National Qualifications Frameworks or training and development opportunities within it. These are structural factors such as being extremely busy while at work due to pressures on the industry's companies to reduce workforce levels as a means to achieve cost-savings. Additionally, these employees are often in no position to question authority within their organisations regarding potential career advancing opportunities despite the existence of such opportunities within the framework.

5.2 Testing Hypothesis (2): Qualifications Framework and Skills

Hypothesis 2 (H_2) – Stakeholder views suggest that the Qualifications

Framework influences working skills for logistics workers in Hong Kong.

Survey items 2.1 and 2.2 and 3.7, 3.8 and 3.9 would seem to yield respondent data

that has some bearing on this hypothesis (see Table 4.2).

Quantitative issues emerging from response distributions from survey

questions 3.7 to 3.9 will be dealt with first, followed by discussion of the

qualitative data arising from responses to questions 2.1 and 2.2.

Quantitative Part of the Analysis

The three Section 3 questions attempt to reveal employer attitudes to the

guidelines set by the Qualifications Framework standards when employing

workers. While Question 3.8 indicates the priority placed on trained workers over

others, Question 3.9 more particularly seeks employer response regarding their

assessment of employee competence levels.

Opinion of the majority of the sectors in the industry (Calculation of Mode)

The views of the Hong Kong logistics employers involved in this study

appear to be as follows,

- Some of the employers in the industry *agree*, while some others are *uncertain*
  about implementation of the Qualifications Framework as the basic
  employment standard.

- The employers *agree* about their preference to employ workers who have
  skills that met the requirements of the Qualifications Framework.

- Most of the employers in the logistics sector of Hong Kong are *uncertain*
  about employing competent workers regardless of the fact that they have met
  the requirements of the Qualifications Framework.

However, to be certain about the uniformity of attitude across the sectors, both One-way Analysis of Variance and Test of Homogeneity were conducted.

Hypothesis H_2: Relevant questions - (3.7), (3.8), (3.9)

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
2.525	8	18	.059

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.100	8	.643	1.403	.271
Within Groups	8.244	18	.458		
Total	13.344	26			

Table 5.4: One-way Analysis of Variance and Levene's Test of Homogeneity for QF influence on employment

As shown in Table 5.4, the estimated value of F-statistic is 1.4026, while the critical value of F-statistic at 5% level of significance and (8, 18) degrees of freedom is 2.6572, with a predicted p-value of 0.27067. These results are similar to those obtained for Hypothesis 1 and indicate that there is no significant difference between the sectors making up the logistics industry in Hong Kong. However, unlike the previous situation, the Levane statistic (Sig = 0.059) supports ANOVA in suggesting that stakeholder views on the interaction between the Qualifications Framework and employment practices are uniform across the logistics sector.

Qualitative Part of the Analysis

Questions 2.1 and 2.2 provide qualitative data that can illuminate the quantitative data arising from responses to questions 3.7 to 3.9. The first of the Section 2 questions was intended to reveal how far the standards set by the

Qualifications Framework have helped each sector to identify the most important skills for their respective jobs and the second elicited respondent opinion regarding the importance of the framework. For instance, although it seems clear that a skilled worker will have a greater chance of getting employed than his unskilled peer, the importance and benefits of the Qualifications Framework will only be apparent when there is an influence on potential worker employment opportunities.

While it may seem clear to outside researchers that developing skilled employees based on an integrated Qualifications Framework developed by both the Hong Kong government and industry participants is important, some of this importance seems to be lost on those very Hong Kong logistics industry stakeholders. At a fundamental level, the data referred to earlier describing the wide-scatter education expectations on the part of Hong Kong's logistics industry participants towards employees in different skill positions illustrates the fact that there is no uniformity to professional development within the logistics industry itself. For instance, the average expectation on the part of Hong Kong's logistics industry stakeholders towards employees of any level to pursue formal education qualifications fluctuates around 20% depending on job level and education level which is extremely low considering the importance on education that other industries within Hong Kong appear to place in formal education (Manpower, 2008). The conclusion being that employers within Hong Kong's logistics industry are not fully committed to the principle of a Qualifications Framework much less with the necessity of implementing one. Furthermore, with Hong Kong still relying on a somewhat antiquated logistics infrastructure within certain logistics industry segments such as warehousing and storage (Voon & Sang, 2002), the implication is that many of Hong Kong's logistics competitors are also willing

to maintain a reliance on a traditionally labour oriented workforce as well. Hence, the Qualifications Framework methodology may be admired by Hong Kong's logistics industry stakeholders but this admiration does not yet appear to have transitioned to a full embrace of the methodology yet.

Application of the Bracketing Methodology

Helpful employment skills being passed on by Qualifications Framework is vital to comprehend whether the Qualifications Framework has helped in creating or rather reviving the employment opportunities for the workers in Hong Kong logistics industry. An examination into the extent of skills being passed on or rather trained to the employees in the industry helps to have an idea about the degree to which the former are likely to obtain a better job opportunity and presents one of the primary commonalities within the bracketing methodology, present in the literature as well as the data which is that employees in the logistics industry are in fact actively pursuing more structured guidance on issues such as career development. For example, one employee stated that:

> *"Through the qualification framework, the concerned staff could have a clearer understanding or set of guidelines indicating what kind of skills or qualifications they need in order to excel within their professional positions."*

In this sense, the Qualifications Framework methodology works to help define an employee's job duties as well as to provide direction for the strategy that an employee can develop in order to advance in his or her position. This commonality or theme is further affirmed by still other responses from the questionnaire in which one employee voiced this theme specifically when he stated that:

> *"the Qualifications Framework could help employers and employees full understand the required qualifications for their jobs".*

There seems to be a tangible recognition on the part of employees within Hong Kong's logistics industry that appropriate qualifications for more well-defined job requirements would greatly enhance the industry's overall effectiveness as well as the employees' career opportunities. Without the guidance provided by a Qualifications Framework, employees are unable to develop career development plans. One employee responded that,

> *"Individual employees may pursue their goals according to their own roadmaps as paved under the qualifications framework".*

Hence, where employers in Hong Kong's logistics industry appear to be somewhat ambivalent about the Qualifications Framework, employees openly embrace the methodology with almost eager anticipation. Taking advantage of such opportunities may be somewhat self-defeating. The literature revealed that logistics jobs within Hong Kong have been in decline along with the nature of the requisite job skills. For instance, Hong Kong's logistics employers not only reduced their expectation levels of training and qualifications with operative job skills being the only category of competency expectations to have increased since the 1990s. Also, as mentioned previously, the declining size of the logistics workforce itself works to quell some level of ambition and opportunity seeking on the part of employees. In 1991 there were some 7,000 logistics employees in Hong Kong but by 2008 this figure had been reduced to less than 4,000. The result is that some employees may desire to be more circumspect in their desire for greater training and development simply as a result of not wanting to lose their existing positions.

Primarily there are four kinds of skills that the workers gained after they were trained in Qualifications Framework which were managerial skills, specific skills, technical skills, and generic Skills. The responses given by all the workers

who participated in the survey, irrespective of the sector where they are employed, could be used to evaluate the situations in the Hong Kong logistics industry and classified into the aforementioned broad categories.

<u>Airlines service companies</u>

As commented by one of the workers employed in an airlines company:

"Through qualification framework, the concerned staff could have a clear picture or guideline of what kind of skills or qualifications they need, in order to fit themselves in their working position."

The airlines service companies posed the following views from their comments of the Section 2 questions:

- The workers connected with this sector have realised the importance of Qualifications Framework in Human Resources and Sales planning. They have also learnt the skills that a person needs to be adept in for accomplishing a job or getting though the screening process in an interview.

- They have been largely trained in the concept of Supply Chain, with intricate details about Transport Operations and Routing.

- Airlines workers have learnt technical skills in packing and storage of goods and become skilled in handling dangerous goods.

- Information systems applications and fluency in English are two of the generic skills that the airlines workers have learnt through Qualifications Framework.

<u>Cargo Handling Terminal</u>

One of the workers expressed:

"It could help employers and employees fully understand the required qualification

for job."

- The workers have especially benefited on account of Qualifications Framework training since it enhanced their skills in Business Strategy Planning and Customer relationship and service planning, as well as learning basic skills such as planning and control.

- The workers have found themselves adept in details about Marine Insurance, multi-modal transportation and traffic operations on account of their training in Qualifications Framework.

- Skills such as Container Crane operations and handling of dangerous goods are two of the most important skills which they learnt through their training procedures.

- Lastly, the workers have learnt to present themselves and communicate properly with shippers from foreign regions.

<u>Freight Forwarding Agents</u>

- Pricing strategy, risk assessment and quality assurance and control are some of the Managerial Skills that the Freight Forwarding Agents have learnt.

- The workers have also learnt international trading practices, documentation processing and customs clearance procedures.

- Multi-modal operations and dangerous goods handling are two of the Technical skills which the Freight Forwarding Agents have found out from training in Qualifications Framework.

- The agents have become proficient in e-commerce and have gained fluency over multiple languages.

<u>Sea Freight Transport Companies</u>

- Workers in Sea Freight Transport Companies have adjudged their growing proficiency in communications, time management and ability to solve problems.

  However, there had been no response in particular that relates to the issues about specific skills, technical skills and generic skills are concerned. According to one of them:

  "Individual employee may pursue their goals according to their own roadmaps as paved under the qualifications framework."

<u>Stevedore Company</u>

A stevedore company revealed:

  "To identify what skill has to acquire and what aspect should be improved. Thus, the customer service could be enhanced."

- The employees claim to have gained their efficiency in implementing and evaluating automation strategy, financial planning and human resources planning.

- The specific skills they have learnt are those about marine survey and ship brokering.

- They also have learnt crane and truck operations as well as maintenance when technical skills are concerned.

- Like its peers in most other logistics sectors, the workers in Stevedore Company have adopted fluency in language, especially Mandarin, which helps them to communicate far easily with their Chinese customers.

Moreover, they have also gained proficiency in computer skills, so that they can make an effective utilization of IT tools.

<u>Trucking and container haulage</u>

- Managerial skills that the workers claim to have learnt are those about Budgetary Control, implementation and evaluation of environmental protection plans as well as planning of occupational health.

- Specific skills core to the particular sector, that the workers assert to have gained efficiency in, via their training in Qualifications Framework are those related to transport and distributions operations, routing optimization, details about truck insurance policy and transport of dangerous goods.

According to one of them:

"Qualifications Framework helps in "Enhancing the capabilities and competitiveness."

- In addition, they have also become adroit in container truck handling and operations, maintaining of trucks and packaging of cargo effectively.

- Lastly, they claimed to have mastered their ability in language and customer communication.

<u>Warehouse</u>

- Time management, leadership skills, business strategy planning and financial planning are four of the Managerial Skills that the workers employed in Warehouse sector have learnt.

- There are several Specific Skills that the workers have adjudged to have learnt. Cargo characteristics, warehousing layout design, storage and inventory control, procedures to survey cargo, documentation processing and material handling techniques appear to be the most significant of those knacks.

- Forklift operations, packaging and storing, cargo stuffing, equipment operations and handling dangerous goods are some of the Technical Skills that the employees in Warehouse sector claimed to have learnt out of their training session.

- Indulging in proper communications with their customers and getting acquainted with basic computer technology are two of the general skills that the workers in this sector have learnt.

Other Logistics Service Providers

- The workers have become adroit in budgetary control, handling legal affairs, analysing workflow and framing as well as learning to implement environmental protection plans.

- Besides, the workers employed in other logistics service providing sectors claim to have learnt distribution operations, material handling techniques, dealing with customers and accomplishing transport operations efficiently.

- Storage of goods, cargo stuff techniques and equipment operations are three of the key skills that the workers engaged in these sectors have learnt.

- E-commerce and language skills are two generic flairs that the employees in the particular sectors claim to have learnt after their training in Qualifications Framework.

Participant responses to the open-ended part of the survey indicate that workers employed in various sectors of the Hong Kong logistics industry recognize having learnt diverse skills, specialized to the sector they are operating in, via their Qualifications Framework training. However, despite being sectorial in nature, some of these skills have been found to be common among the different groups. Skills such as financial and budgetary planning, human resource planning, time management and environmental protection

120

plans appear to have been significant within the Qualifications Framework and there also appeared to be common elements within sector Specific Skills. These common skills were linked with inventory control, routing optimization: cargo handling, packaging and storage of goods and with handling of dangerous goods, equipment operation, communicative language and basic knowledge about IT tools.

- *Importance of Qualifications Framework in enhancing employee compatibility with the work environment their job provides cannot be overstated.*

  This is an essential area for discovering the degree to which Qualifications Framework has helped to build up employment opportunities since an employee as well as an employer always considers the former's compatibility with his workplace before entrusting him with a responsible job. Compatibility acts as a very important factor given that it plays a significant role on a person's efficiency and effectiveness. Hence, employers always favour those people who show signs of a greater compatibility with their job position or rather, work environment.

  In this case too, individual analysis has to be carried on so as to discriminate the benefits enjoyed by each sector, or rather point them out separately. However, these have not been dissected into different sections; rather they have been merged so as to clarify the points which are more popular among the sectors.

  The airlines workers have claimed that Qualifications Framework have helped them to discover the qualities that are necessary for fitting into a working environment.

According to a staff employed in an airlines company:

"If the concerned staff could identify their handicap through the standard based on the qualifications framework, they could go to develop themselves by self study or by taking related courses from any educational institutions."

The Qualifications Framework has provided employees with guidelines that enhance their efficiency and adaptability to their positions. The Cargo Handling Terminal also coincides with the thoughts of the former and thinks that not only the employees, but the employers have also benefited the same way out of the effort. In fact, the Stevedore Company also supports its peers about the extent to which Qualifications Framework has helped in providing guidance to both the employee and the employer sides regarding the features most suitable for a particular job; they add that taking care of such aspects help to enhance customer relations and thus leads to high yields for the company. Other Logistics Service Providers emphasised that Qualifications Framework has helped in enhancing the efficiency of solving problems through giving out apt guidelines to deal with the same.

Freight Forwarding Agents believe that the importance of Qualifications Framework lies in the fact that they have eased out the entire process of solving problems, besides providing proper advice to the employee and employers. An employee added:

"Qualifications framework has made it easier to 'solve the problems' and 'Give proper advice'".

Trucking and container haulage also pose a similar stance and claim that Qualifications Framework have helped in enhancing capabilities of the active participants in the sector and have sharpened their competency. Sea Freight Transport Companies and Warehouse companies, in contrast, chose to stay

quiet about the subject.

Therefore, it becomes apparent that most of the underlying sectors in the logistics industry maintain similar notions about the importance of Qualifications Framework. They broadly believe that the program has helped in setting regulations or rather ethics about how the employers and employees engaged in the logistics sector must behave properly so as to attract more customers. Furthermore, it has helped in solving problems efficiently and effectively, so as to build up the competency levels of the participants.

- *Benefits due to the implementation of Qualifications Framework in the concerned industry.*

An analysis of the benefits of implementing Qualifications Framework in logistics industry is important to realize the weight that the employers put towards training under Qualifications Framework. Similar to that in the previous case, benefits, if any, due to the implementation of Qualifications Framework in a concerned industry will be discussed in a paragraph form so as to emphasize the most significant factors or rather pinpoint those areas which the participants think are the most advantageous features in the program. It must also be noted that the participants provide their answers in a way that reflect the fact that they are in the process of benefiting from the program themselves.

- The airlines industry believes that benefits of the program could be derived only if the workers in the sector are serious about their handicap identified by the standards set by Qualifications Framework; it is then that they can seek out ways to enhance their productivities and bring a positive difference to their company.

- Cargo Handling Terminal almost follows the features pointed out by the airlines industry; it believes that only if the program helps the employers to identify the right staff and undertake remunerative measures, can there be any benefits of the same. Stevedore Company too believes that implementation of Qualifications Framework could provide a clear guideline to the employer about recruitment of the most efficient employees through designing suitable screening techniques. According to one of them:

  "Qualifications Framework has helped to build 'A clear guideline for recruitment and training as well as a framework for assessment'".

  Trucking and container haulage sector too finds Qualifications Framework to be advantageous for their employee and employers upon implementation.

- Freight Forwarding Agents believe that if Qualifications Framework could be implemented in its righteous way, there could be an enhancement in the service quality being provided and hence can win over customer loyalty. They put a greater emphasis on customer satisfaction, since this is the factor which helps in building up a business.

- Sea Freight Transport Companies think that the importance of Qualifications Framework lies in the fact that it helps to make the employees more self-sufficient through enabling them to pave their own roadmaps towards success. One of them supported the fact through commenting:

  "Service quality provided would be improved, and in turn better customer satisfaction is obtained."

- Warehouse sector asserts that Qualifications Framework could help in building up the competency levels of the employees efficiently.

- Other Logistics Service Providers on the other hand believe that emphasising on the implementation of Qualifications Framework could improve the labour turnover rate and hence, public image of the business.

The quantitative data suggests that various sectors believe that implementation of the Qualifications Framework can help to enhance the Hong Kong logistics industry, although there are minor differences in their views. It is a common belief among the participants that the program can enhance the working skills of the employees. It is also believed that the program can enhance employers' productivity by providing them with guidelines about tackling various situations. This should not only help in building up the customer base of the company but also enables the firm to grow. Analysis of the qualitative data supported this positive suggestion and further indicated agreement between employers and employees.

5.3 Testing Hypothesis (3): Qualifications Framework and benefits

Hypothesis 3 (H_3) – Stakeholders believe that the Qualifications Framework positively influences the workers of the Hong Kong logistics industry.

Survey items 1.3 & 1.6, 2.2 & 2.3 and 3.6, 3.8, 3.9 & 3.10 would seem to yield respondent data that has some bearing on this hypothesis (see Table 4.2). The first and the last groups of questions will yield quantitative data while the freer responses to Questions 2.2 and 2.3 will yield qualitative data that will be analysed after the quantitative analysis.

Quantitative Part of the Analysis

The third question chosen from Section 1 attempts to determine the level of training that the Chinese enterprises provide to their employees and the degree of importance that they place on building proper training infrastructure. Given that there is ample scope for a worker in Hong Kong to enrol himself in Qualifications Framework, the above question is actually a comparison and thus, quite a relevant one to judge how far the latter are competent with respect to their Chinese colleagues. The sixth question from Section 1, on the other hand, refers to the extent to which the prospective employers consider the competence of their potential workers on the basis of the standards set by the Qualifications Framework. It estimates how far each of the eight sectors which participated in the survey, consider the guidelines helpful in screening out competent workers from the other candidates.

Both questions being selected from Section 1 and Section 3 reflect stakeholder views about the importance of Qualifications Framework in examining their levels of competence. Questions (3.6) and (3.10) reflect upon the preference or the orientation of the employers towards employing people who have proved their worth according to the benchmark set by Qualifications Framework. While the former speaks about their inclination towards promoting people trained under Qualifications Framework, the latter reflects upon their inclination to pay higher wages to such workers. The remaining questions (3.8) and (3.9) indicate two contradictory points, viz., preference or non-preference to workers trained under Qualifications Framework. While the first question elicits whether the employers prefer such workers, the second elicits whether it is only the level of competence that matters to the employers irrespective of their training under Qualifications Framework. Clearly, all the questions selected from Section

126

3 reflect the stance that the employers maintain about the level of competence or rather competitiveness of workers trained under Qualifications Framework.

The following sections deal with the analysis of the quantitative part of the detection. Firstly, it will comprise of an overall opinion of all sectors when asked the questions. Secondly, there will be an Analysis of Variance to determine whether the average answers for all questions taken together vary between different sectors and finally there will be a Levene's Homogeneity Test to examine whether any variations are present in the corresponding answers.

Opinion of the majority of the sectors in the industry (Calculation of Mode)

Table 5.1 indicates that a majority of the workers in the logistics sector of Hong Kong, irrespective of their background, agree to the following facts

- *Almost none* (recorded as *0%*) of their colleagues recruited in China has certified logistics qualifications.

- They also *disagree* about their respective companies' urgency to test their employee competence by Qualifications Framework standards.

On the other hand, opinion of the employers in the logistics sector of the economy could be briefly stated as follows.

- The employers on an average *agree* that Qualifications Framework provides a good benchmark for promotion of their employees.

- They also agree about their preference to employ workers who have met the requirements of the Qualifications Framework. .

- However, the overall response has been uncertain when the question about employing a competent person regardless of the requirements set by Qualifications Framework came.

- Most of the employers *agree* to pay more to workers who have met with the requirements of Qualifications Framework.

127

To judge the robustness of the aforementioned average opinions, statistical tools such as One-way ANOVA and Test for Homogeneity of Variance are conducted in the following sections,

Hypothesis H$_3$: Relevant questions – (1.3), (1.6), (3.6), (3.8), (3.9), (3.10)

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.978	8	44	.460

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.664	8	.208	.129	.996
Within Groups	70.796	44	1.609		
Total	72.460	53			

Table 5.5: One-way Analysis of Variance and Levene's Test of Homogeneity for H3: the null hypothesis

ANOVA for Obtaining Sector Outlook

In Table 5.5, the estimated value of the test statistic, i.e., predicted F is reported at approximately, F ≈ 0.129. The critical value of the statistic at 5% level of significance and (8, 44) degrees of freedom has been tabulated approximately as 3.34. Clearly, the predicted value is far lower than the tabulated value under the given conditions. Moreover, the probability value or the estimated level of significance has been found to be 0.996 approximately, which is far higher than 0.05, the assumed level of significance. Clearly, this indicates that the null hypothesis typical to a one-way ANOVA, i.e., equality of means cannot be ruled out at 5% level of significance. Thus, it indicates that there are insignificant differences, if any, between the views posed by various sectors.

<u>Levene's Test for Homogeneity of Variance</u>

Levene's test statistic to test for any variations in responses for the present hypothesis gives an approximate value equal to 0.978. The estimated level of significance for the present case is, 0.460, which is clearly greater than the assumed level of significance, 0.05. Thus, it cannot be said that significant differences exist between the answers being provided by each sector for all the relevant questions in this case.

Combining the two parts of the quantitative analysis it could be said that there exists neither any significant differences in the average responses being provided by each of the participating sectors for the questions relevant to test the present hypothesis, nor is there any variations in the responses that they have provided, i.e., there exists insignificant difference in the answers being provided by each sector for the corresponding questions. Thus, it could be said that there is an almost unanimous compliance in the views or the outlook posed by the employees and employers in the present context between different sectors. Hence, based on the quantitative analysis, it could be readily said that the Qualifications Framework influences the importance placed on competence levels to the workers in the Hong Kong logistics industry.

Qualitative Part of the Analysis

Besides analyzing the quantitative aspects to measure the extent of competitiveness in the logistics sector of Hong Kong, it is equally important to consider some qualitative aspects as well. These dimensions have been met by setting open-ended questions in the questionnaire. These questions are, as have already been mentioned, (2.2) and (2.3). Though both these questions have already been discussed in the previous section, there will be discussions in this

area from a newer perspective now. Effort will be made to derive information from these questions, related to participant perceptions of competitiveness in the Hong Kong logistics sector. For instance, the first part of the section deals with the importance that the employees associate with Qualifications Framework on account of the programme's ability to enhance competitiveness among the trainees or prospective workers. In contrast, the other part deals with the benefits that the programme has provided to the employees as well as employers towards ensuring competence in their respective tasks.

- *Importance of Qualifications Framework to enhance competence*
  - ➢ Airlines service companies think that Qualifications Framework has helped them to seek out and become well aware about the minimum employment standards and the skills required to make themselves suitable for any particular job. An employee mentioned:

    "QF could provide a standard or guideline to specify what capabilities or qualification a job to be required in an organization."
  - ➢ Cargo Handling Terminal companies believe that as Qualifications Framework sets employment standards or guidelines, it automatically teaches the employers about maintaining the competence standards in the job.
  - ➢ According to Freight Forwarding Agents, the Qualifications Framework has helped the staff to solve emerging problems more efficiently and provide proper advice to their customers. Comments indicate that such measures have increased their customer base and helped in augmenting employee productivity.

- Sea Freight Transport Companies were less positive about the importance of Qualifications Framework in enhancing employee competence. One of them suggested:

  "Qualifications Framework may not be easily applicable or recognized in the sea freight transport because the industry is generally not qualification-demand except some jobs requires specific technical skills such as Master of vessel."

- Stevedore Companies, like Freight Forwarding Agents believe that Qualifications Framework has proved its worth in enhancing competence standards since there has been an increase in the quality of customer service. This has reflected in the reverse behaviour that customers show and thus, it could be said that training under Qualifications Framework standards has helped in increasing the competence levels of the workers.

- Trucking and container haulage sector participants believe that Qualifications Framework has worked out its way in enhancing the capabilities and competitiveness of the core employees in a number of technical ways and thus, increased the level of competence in the same.

- Warehouse companies, like Sea Freight Transport Companies did not comment.

- Other Logistics Service Provider Sectors believe that the standards set by the Qualifications Framework could help in solving problems more efficiently, i.e., with greater aptness within a shorter time span.

  According to one of them:

  "The importance of QF implementation in the concerned job is more easily to solve the problems encountered."

Moreover, the employees suggest that they could become competent enough to provide proper advice to their customers, thus also helping to build up consumer faith and customer base.

- *Benefits of Qualifications Framework for competence*
  - ➢ Airlines service companies believe that Qualifications Framework could only prove itself worthwhile in enhancing competence if the staff training under it could recognise their individual deficiencies and work out ideas to get rid from them.

    One of employers revealed:

    "With qualifications framework, it is much easier for us to identify in what level of very single part of the staff training to be enhanced."

  - ➢ According to Cargo Handling Terminal companies, the framework has helped in increasing competence levels in the job since the guidelines it has set helps to identify the most appropriate staff for any particular task in the sector.

    One company mentioned:

    "Qualifications framework helped us to select those qualified candidates who have possessed the necessary academic and working experience as well defined under the framework."

  - ➢ Freight Forwarding Agents are of the view that enhancement in competence levels would be evident from the levels of customer satisfaction. Only if Qualifications Framework can yield better service quality which in turn could improve the levels of customer satisfaction, could it be said that there had been an increase in the levels of competence.

One of workers mentioned:

> *"Service quality provided would be improved, and in turn better customer satisfaction is obtained."*

➤ Sea Freight Transport Companies believe that the benefit of Qualifications Framework lies in the fact that they provide the employees their respective freedom to pursue their goals in their own ways. One of stakeholders supported the issue:

> *"Individual employee may pursue their goals according to their own roadmaps as paved under the qualifications framework."*

If employees have their own freedom to choose the path they intend to traverse, there will be a natural upgrading in competence standards.

➤ Stevedore Companies opine that the benefits of Qualifications Framework in enhancing competence levels in the sector lies in the fact that they have provided the employers with a clear guideline of recruitment. With the help of such standards, they can examine their competence levels on spot and can readily choose their suitable staff.

According to one of them:

> *"QF gives a clear guideline for recruitment and training as well as a framework for assessment."*

➤ Trucking and container haulage companies support the fact that both employees and their employers have benefited from Qualifications Framework in their own specific ways. While the former have learnt the pathways to work upon their competence levels, the latter have got hold of suitable guidelines to measure the competence levels of their workers.

➢ Warehouse companies viewed that Qualifications Framework guidelines could help the employees to learn what their employers need from them and thus nurture their respective skills accordingly. According one of them:

"Employees could get the standard competences that are essential elements in their career path from QF implementation."

Hence, there could be an expected rise in competence levels of workers.

➢ Other Logistics Service Provider sectors believe that the benefits of the standards set by Qualifications Framework could be realised only if there are improvements in the labour turnover rates and public image. This could be nothing but the outcome of an enhancement in competence levels of the workers. Moreover, improvements in competence levels could also be realised through observing any improvements in business performance of the concerned sector.

One of them revealed:

"QF could improve the labour turnover rate and public image, and thereby business performance."

Analysis of both quantitative and qualitative responses provided from each of the eight sectors appears to indicate broad agreement on the importance of the Qualifications Framework in increasing the overall competitiveness of the workers in Hong Kong logistics sector. Also, this is an important finding, given the influence of stakeholder opinion and the participation of the employers on the introduction of a Qualifications Framework indicated by the failed New Zealand implantation.

5.4 Testing Hypothesis (4): Qualifications Framework and training

Hypothesis 4 (H₄) – Stakeholders encourage workers to participate in relevant training in order to meet the requirements of the qualifications framework.

Survey items 1.4 & 1.5 and 3.11-3.17 would seem to yield respondent data that has some bearing on the extent of support that the logistics industry of Hong Kong gets from the domestic government as well as the employers of various logistics companies (see Table 4.3).

Questions from Sections 1 and 3 reflect upon the extent to which companies and government support the Qualifications Framework. This part is primarily meant for the stakeholders to answer.

The quantitative findings are presented below.

Opinion of the majority of the sectors in the industry (Calculation of Mode)

Hypothesis H_4: Relevant questions – (1.4), (1.5), (3.11), (3.12), (3.13), (3.14), (3.15), (3.16), (3.17)

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
2.113	8	72	.055

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.792	8	1.099	1.030	.419
Within Groups	76.464	72	1.067		
Total	85.256	80			

Table 5.6: One-way Analysis of Variance and Levene's Test of Homogeneity for H4: the null hypothesis

ANOVA for Obtaining Sector Outlook

In Table 5.6, the F-statistic being estimated for the present case is found to be approximately equal to 1.030. At (8, 72) degrees of freedom, the value of critical F is approximately equal to 2.17. Hence, the predicted value of F is much lower than the critical value at the given degrees of freedom. Moreover, the estimated p-value or the level of significance is found to be approximately equal to 0.419, which clearly is much higher than the assumed level of significance, 0.05. Thus, the null hypothesis associated with the Analysis of Variance test cannot be rejected at 5% level of significance. In other words, the average response posed by the sectors participating in the survey is found to be complying with one another on the whole. But, this might not imply that their opinions match even among all the corresponding questions. To test for the existence of any such variations, the next step would be to conduct Levene's Test for Homogeneity of Variance.

Levene's Test for Homogeneity of Variance

The relevant test statistic in the present case has been estimated to be approximately equal to 2.133. The level of significance estimated at (8, 72) degrees of freedom is quite low and is approximately equal to 0.055. The predicted p-value, despite being quite low, is greater than the assumed level of significance which implies that the null hypothesis corresponding to the present test about the equality of variances cannot be ruled out at 5% level of significance. Thus, it clearly points out to the fact that there exist no significant variations in the answers to the corresponding questions being provided by each sector.

Table 5.2 indicates that the employees working under various sectors of the Hong Kong logistics industry pose the following views on an average, about support from their employers towards Qualifications Framework trainings.

136

- Most of the workers claim that their respective employers *have not* distributed information to them or their colleagues about the Hong Kong Qualifications Framework programme.

- Most of the workers assert that their respective companies *have not* requested them to sit for Qualifications Framework tests or attend to related trainings and courses.

On the other hand, when the employers were asked about the support that they forward or they expect the national government to bestow towards their employees to upgrade themselves regularly, their opinions were as follows:

- Most of the employers *agree* that they support their workers to attend relevant trainings to achieve different levels of the Qualifications Framework.

- Most of the employers *agree* that the Hong Kong Government should issue working permits only to those who have met the requirements of the Qualifications Framework.

- There is a division between the opinions posed by the employers to hold periodic examinations to ensure workers' continuing competence. One half of the participants *agree* while the other half is *uncertain* about the significance of such examinations.

- Most of the employers *agree* that the Qualifications Framework for the logistics industry in Hong Kong should be integrated with that in China.

- Most employers *agree* that the Hong Kong Government should get Central accreditation for the Qualifications Framework.

- Most employers *agree* that the Hong Kong SAR Government should support training courses related to the Qualifications Framework.

- Lastly however, the employers seem *uncertain* about the significance and utility of the current trainings provided by the Vocational Training Council or

other institutions to fulfill the competency requirements of the Qualifications Framework.

It seems that the logistics companies and Hong Kong SAR government encourages the workers to participate in relevant training. This encouragement is so that the employees can meet the requirements of the qualifications framework but that there is some doubt about the effectiveness of the courses currently being offered. Hong Kong's logistics service providers are focused on skill-sets relating to ICT usage, IT linkage and improved supply chain information system design and application, among other important considerations as the literature revealed. Their worry is the recognized courses based on Qualifications framework would not be launched by the Vocational Training Council or other concerned institutes in a timely mannerand so companies could not fulfill the present requirement in time with the specific skill-sets required within the firms' operations.

5.5 Responding to the Research Questions

In responding to the individual research questions, each must be examined relative to its contribution to the progression of the project.

1. *Do stakeholders believe that the qualifications framework for the logistics industry in Hong Kong will help logistics workers to enhance their competence to sustain their employment?*

The above research question aims at the extent to which the workers believe that the Qualifications Framework targets will help them to plan their career path and increase their employment opportunities. Hypotheses H_2 and H_3 seem to most clearly flow from this research question.

2. *What are the levels of adoption and recognition of the qualifications framework by the logistics industry in Hong Kong?*

This research question seeks to discover the level of recognition that the qualifications framework has achieved within the Hong Kong logistics sector. The more competent the logistics workers in the sector are, greater will be their employability and Hypothesis H_3 appears to reflect this.

3. *Are the logistics workers in Hong Kong aware of the importance of the qualification framework for their career path?*

Hypothesis H_1 clearly reflects this concern, with Hypothesis H_2 also applying.

4. *In order to increase the competitiveness of the Hong Kong logistics industry within the Pearl River Delta region, what kind of policies should be offered by the Hong Kong SAR government which can make the qualification framework implementation more efficient and effective?*

The final research question deals with the extent to which the government and various logistics companies in Hong Kong supported worker enrolment in courses associated with the Qualifications Framework. Further, it also tries to explore the policies which could be adapted to ensure such supportive measures. The hypothesis which could be considered ideal to solve the present research question is H_4.

Research question 1: Qualifications Framework and Worker Competence

It seems clear from the results presented above that stakeholders believe that the Qualifications Framework influences employment opportunities for logistics workers in Hong Kong and that it positively influences the overall competitiveness of the Hong Kong logistics industry. In particular:

- Employees generally recognise that their colleagues recruited in China lack certified logistics qualifications.

- Employees generally recognise that most of their employers use Qualifications Framework standards to judge the levels of their competence.

- Employers generally approve of the employment standards set by the Qualifications Framework.

- Employers tend to place more confidence in Qualifications Framework trained people and prefer to employ them.

- Employers believe that the Qualifications Framework provides a good promotion benchmark.

- Employers seem willing to pay Qualifications Framework trained employees more.

Research question 2: Adoption and recognition of Qualifications Framework

In terms of enhancements in the levels of competence of the workers, it seems that there have been limited improvements in the field.

- Some workers have become competent enough if the method through which the employers claim to recruit them is to be trusted.

- There is also clear indication on part of the employers that none of their colleagues employed in Hong Kong have certified logistics qualifications.

Combining the above facts, it could be said that the relative competence of the Hong Kong logistics workforce in adoption of the qualifications framework had been improving past few years. Thus, it would not be wrong to admit that the levels of adoption and recognition of the logistics industry in Hong Kong had been expanding since the framework implemented few years ago, but not for all employers up to now.

Research question 3: Worker awareness of Qualifications Framework

It seems clear from the results presented above that not all logistics workers are aware of the impact that Qualifications Framework could have upon their

career paths. In particular, it appears that some companies have neither distributed information about the Qualifications Framework to their employees, nor requested that they to attend them, and nor has there been any preference for Qualifications Framework-trained candidates.

Research question 4: Policies for QF

It seems clear from the questionnaire results presented that stakeholders agree on the kinds of policies that would encourage fuller implementation of the Qualifications Framework for the Hong Kong logistics industry. In particular:

- Employers should distribute information about the Qualifications Framework and encourage their workers to attend the regular training programmes.

- The Hong Kong SAR government should allow working permits only to those who have met with the requirements of Qualifications Framework.

- There should be periodic examinations to test the competence levels of the workers and ensure that they keep on upgrading themselves regularly.

- The Qualifications Framework for the logistics industry in Hong Kong must be integrated with that of China.

- The government of the Hong Kong SAR should seek for Central Accreditation for Qualifications Framework, so as to popularise the concept among the mass.

- Workers who are training themselves under the Qualifications Framework should be financially supported to encourage them to complete with courses. There was some uncertainty about the role of vocational training institutes in ensuring proper communication of Qualifications Framework.

CHAPTER 6 – CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

This thesis documents an empirical study of stakeholder views of the Qualifications Framework as it is implemented within the Hong Kong logistics sector. Stakeholder views concerning their awareness of the Qualifications Framework and the degree to which they encourage participation in training programs connected to it, its probable impact on their employment opportunities and career paths and possible impact on the competitiveness of Hong Kong amid the continuing development of rival regional economies. Stakeholder views were gathered through a survey, comprising both closed and open questions, to which more than 200 stakeholders responded. The Qualification Framework provides guidelines for centrally approved vocational training offered to regional logistics workers. The primary objective of the present study has been to explore stakeholder opinion of the extent to which the programme had been successful.

The present study suggests that both employees and employers recognise a number of programme benefits with increasing importance. The survey at its heart was completed by stakeholders from a sample of 35 companies belonging to nine different sectors under the logistics industry. Employees seem to recognise acquisition of job skills, customer relations and job requirement analysis. Employers recognise that the Qualifications Framework could be beneficial in setting employment and promotion guidelines, which should in turn contribute to growing competitiveness for the local economy. Employers in various logistics companies in Hong Kong place such stress on workers training that they appear ready to pay trained workers more and promote them more readily, clearly implying that the Qualifications Framework will ensure more productive career

paths for trained employees or workers.

Such employer behaviour is logical given the high competition that they have to face. No contemporary company can remain satisfied with a place in a domestic market; rather all of them aim at reaching out to the world. Employers appear to recognise that the Qualifications Framework has instilled the spirit of competitiveness in their operations. The logistics sector is one of the four pillars that support the economy of Hong Kong and, although it is most prepared to prove its worth in the international sphere; employers seem to recognise that the Qualifications Framework may apply the polish required to ensure broader success.

However, this apparent Hong Kong logistics employer desire to implement the Qualifications Framework, there is little that they can do without support from the national administration. The employers feel that the government should allow work permits only to those who have met with Qualifications Framework requirements, seek central accreditation for the programme and provide financial support to those who choose to attempt the training courses. Such steps should ensure at not only increasing the competitiveness of the sector, but also motivate workers to attempt appropriate training courses. Qualifications Framework training courses could encourage full employment for Hong Kong workers, either at home or abroad. Such practices seem involved in the successful Australian implementation of their qualifications framework, which both offers training in accordance with industry standards and also arranges for recruitment of candidates and in the successful Oman implementation where they guaranteed jobs for their unemployed candidates in UK based companies. On the other hand, there would be a greater choice of appropriate employees available to local employers so that such a move could be beneficial for both classes – nurturing the

efficiency and productivities of the workers to make them more competitive, while providing companies with a better human resource endowment could reap greater profits and thus yield a greater aggregate income.

This study has contributed to the original knowledge in the field of logistics and supply chain management. Precisely, the bracketing efforts applied to the literature and the data reviewed indicated that there was a disparity in opinion and perception of the National Qualifications Frameworks and its programs. This disparity is between the perception of the National Qualifications Frameworks on the part of the industry's employers versus the perception of the National Qualifications Frameworks on the part of the industry's administrative and operational employees. Where the industry's employers tend to take a somewhat cautious perspective of the National Qualifications Frameworks in terms of its utility relative to improving the effectiveness of employees, the industry's employees view the National Qualifications Frameworks as a career advancement opportunity. Additionally, the contribution to original knowledge extends to the observation that the perceived value of the National Qualifications Frameworks on the part of industry employees has an inverse relationship to the number of employees actually employed within the industry. That is, as the number of employees in the industry has gone down, the perceived value of the National Qualifications Frameworks has gone up. How these contributions to the original knowledge in the industry can be applied to improve its overall efficiency is the purview of a follow-on study.

6.2 Limitations of the Study

The first limitation on this investigation is the size of the sample on which it is based. The more than 200 people who completed the survey provide enough data for valid analysis but the fact that they are drawn from 35 companies of a possible 2000 limits their generalisability. The results are suggestive but they are vulnerable to contradiction by the results of larger studies. On the other hand, the present conclusions harmonize with others emerging from the literature review.

A second problem arises from the survey methodology, which depends on the integrity with which respondents faced the survey task. The relationship between employer and employee responses provides some confidence in the present case.

The third problem is lack of sufficient questionnaire responses from the industry, or even receipt of incomplete answered questionnaires. For example, none of the 18 respondents from the courier sector were willing to answer the open-ended questions in section 2. Indeed, most of respondents are reluctant to write down their concerns to the open-end questions, rather than simply put a tick in the Likert type questions. This may lead to distortion in the analysis of qualitative data. Finally, there arises a problem of predicting the exact way that the respondents are likely to behave. This is because the responses which they provided reflect their beliefs and may not accurately predict subsequent action.

6.3 Recommendations for Further Research

Firstly, more information should be collected through involvement of a greater number of companies, to at least minimise the risk of obtaining an erroneous report. Secondly, some measures need to be implemented to ensure greater feedback from respondents. This could be done through the use of follow up interviews or focus groups. One of the most significant factors that affect not

only how the Qualifications Framework is developed and applied within the logistics industry within Hong Kong but also its composition is the substantial dichotomy that exists between how employees perceive the Qualifications Framework and how employers perceive the Qualifications Framework. In order to develop a better understanding of how this perception gap affects the adoption and application of the Qualifications Framework within the logistics industry in Hong Kong, a longitudinal study should be implemented in which the data from this present study is compared to data gathered about the Qualifications Framework in three years, five years and 10 years time. This type of longitudinal study would provide more effective guidance not only on how effective the Qualifications Framework is at facilitating career development for logistics employees at all levels but would also reveal the influence that the Qualifications Framework would have on the efficiency and performance of the logistics industry itself, if any.

This particular option is one that would best be directed back into the logistics industry itself. However, in order to ensure that something positive was actually being done to incorporate these findings and this recommendation, the actual industry body should be one that is comprised of a government-private partnership. The ideal organisation to receive these findings and this particular option is the Logistics Industry Training Advisory Committee (Logistics ITAC) (Logistics, 2012). It is part of the overall Qualifications Network or QF being developed within Hong Kong under the auspices of the Hong Kong government. This is the ideal organisation and entity to receive this option is because it has the resources and the network to actually implement the recommendation and to act on the study's findings. The Logistics ITAC has an internal Education & Training Subcommittee that is able to develop a functional study of the industry as well as

to propose an effective solution to this gap that exists between logistics employees and employers regarding the National Qualifications Frameworks utility. Furthermore, the Logistics ITAC also has a Promotion & Consultation Subcommittee that is able to elevate dialogue within the logistics firms as a means to promote National Qualifications Frameworks adoption and use.

However, this report seems to link with previous work and provide a sufficient basis for further investigations. Some questions which could be raised in this context are whether such changes had been successful in other markets where they have been implemented. If there is no established precedent for Hong Kong then identifying what the likelihood is that the market could lose its long-term competitiveness becomes critical. Furthermore, identifying what strategies that the market could adopt to make its logistics workers more competitive also becomes a matter of extreme importance. Answers to such critical issues in the logistics industry can be used to help yield useful findings with respect to future research and provides the underlying rationale for such research. In any event, developing a more thorough understanding of perception gaps between employees and employers in the logistics industry is certain to benefit industry participant competitiveness provided the conclusions of such future research are empirically applied.

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APPENDICES

APPENDIX 1 : Questionnaire

APPENDIX 2 : Modal values on each question of questionnaire

APPENDIX 1

QUESTIONNAIRE for CORPORATIONS

(公司問卷)

A SURVEY ON THE HONG KONG QUALIFICATIONS FRAMEWORK

香港資歷架構普查

General Directions : 一般指引:

1. The questionnaire is divided into three sections. 本問卷共有三部份.

2. Please read each item carefully. You are requested to answer all questions.

   請小心閱讀每一問題. 請回答所有問題.

3. After you have completed the questionnaire, please return it to us direct by using the

   stamped self-addressed envelope provided. 完成問卷後, 請放入回郵信封寄給我們.

This questionnaire takes you about **20 minutes** to finish. Please make your frank response

to each question as instructed and your answer will be kept strictly confidential.

本問卷只需要大概二十分鐘便可完成, 請依照指示如實作答, 你的資料將會絕對保

密.

THANK YOU VERY MUCH FOR YOUR HELP AND COOPERATION

謝謝您的幫助及合作

Section (1)

第（１）節

1. Approximately what percentage of your colleagues is based in China (Hong Kong truck drivers that travel to China for assignments do not count as based in China)?

   您的同事中大約有多少百分比在中國分公司工作（香港貨櫃車司機前往中國的任務不作計算）？

   ○ 0%　　○ < 20%　　○ 21-40%　　○ 41-60%　　○ 61-80%　　○ 81-100%

2. Approximately what percentage of your colleagues is recruited in China?

   您的同事中大約有多少百分比在中國分公司招聘？

   ○ 0%　　○ < 20%　　○ 21-40%　　○ 41-60%　　○ 61-80%　　○ 81-100%

3. Approximately what percentage of your colleagues recruited in China has certified logistics qualification?

   您的中國同事中大約有多少百分比持有中國認可的物流師資格？

   ○ 0%　　○ < 20%　　○ 21-40%　　○ 41-60%　　○ 61-80%　　○ 81-100%

4. Has your Company distributed information about the Hong Kong Qualifications Framework to you or your colleagues?

   貴公司有沒有分發有關香港資歷架構的資料給予您或您的同事？

   ○ Yes (有)　　　○ No (沒有)　　　○ N/A(不適用)

5. Has your Company requested you or your colleagues to sit for the Qualifications Framework tests or attend the related trainings/courses?

   貴公司有沒有要求您或您的同事參加資歷架構的測試或有關課程／培訓？

○ Yes (有)　　○ No (沒有)　　○ N/A(不適用)

6. Has your Company used the Qualifications Framework to judge you or your colleagues' competence?

貴公司有沒有使用的資歷架構的準則來判斷您或您的同事的技能？

○ Yes (有)　　○ No (沒有)　　○ N/A(不適用)

Section (2)

第（2）節

1. Which of the following skills does the Qualifications Framework help with your job? Please give your reason(s).

以下哪項技能在資歷架構之下可以幫助你的工作？請給您的理由.

Managerial Skills

管理技能

Specific Skills

特殊技能

Technical Skills

技術技能

Generic Skills - GIVE EXAMPLES

通用技能–舉例

2. Please give your comment on the importance of the Qualifications Framework for your job.

請提供您的意見關於資歷架構對您工作的重要性。

3. Can you benefit from the implementation of the Qualifications Framework in the industry?

Please give your reasons.

在物流行業中實行資歷架構，您能否得益？請給您的理由。

4. Other comments

其他意見

Section (3)

第（3）節

For the following questions, check '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree.

對於下面的問題，選'1'如果您強烈反對，選'2'如果您反對，選'3'如果您不確定，選'4'如果您贊成，選'5'如果您非常贊成。

		1	2	3	4	5
1.	English proficiency is an important qualification. 英語水平是一個重要的資格。	○	○	○	○	○
2.	Putonghua proficiency is an important qualification 普通話能力是一個重要的資格。	○	○	○	○	○
3.	Numeric literacy is an important qualification 數字讀寫能力是一項重要的資格。	○	○	○	○	○
4.	Computer literacy is an important qualification. 計算機運用能力是一項重要的資格。	○	○	○	○	○
5.	The Qualifications Framework is a good benchmark for promoting setting wages. 資歷架構是一個很好設定工資的基準。	○	○	○	○	○

6. The Qualifications Framework is a good

    benchmark for promotion.

   資歷架構是一個很好升職的基準。　　　○　○　○　○　○

7. The Qualifications Framework is the basic

    employment standard.

   資歷架構是基本的就業標準。　　　○　○　○　○　○

8. We prefer to employ workers who have met

    the requirements of the Qualifications Framework.

   我們偏好僱用符合資歷架構要求的員工。　　　○　○　○　○　○

9. We employ competent workers regardless of

    whether they have met the requirements of

    the Qualifications Framework.

   我們聘用有技能的員工不論他們是否已符合資歷架構的要求。　　　○　○　○　○　○

10. We are inclined to pay more to workers

    who have met the requirements of

    the Qualifications Framework.

   我們傾向於支付更多工資予符合資歷架構要求的員工。　　　○　○　○　○　○

11 We support workers to attend the relevant

    trainings to achieve different levels of

    the Qualifications Framework.

   我們支持員工參加相關培訓，以獲得不同級別的資歷架構認證。　　　○　○　○　○　○

12. The Hong Kong Government should issue   ○   ○   ○   ○   ○

   working permit only to those who have met
   the requirements of the Qualifications Framework.

   香港政府應只向符合資歷架構要求的員工發行工作許可證。

13. Periodic examinations should be held'   ○   ○   ○   ○   ○

   to ensure workers' continuing competence.

   定期的考核可確保員工技能的持續性。

14. The Qualifications Framework for the   ○   ○   ○   ○   ○

   logistics industry in Hong Kong should be
   integrated with that in China.

   香港物流業的資歷架構應與中國物流業的資歷架構融合一起。

15. The Hong Kong Government should get   ○   ○   ○   ○   ○

   Central accreditation for the Qualifications Framework.

   香港政府應成立中央資歷架構認可機制。

16. The Government should offer subvention   ○   ○   ○   ○   ○

   to the related trainings or courses of
   the Qualifications Framework.
   香港政府應資助資歷架構的有關課程或培訓

17. The Vocational Training Council or other   ○   ○   ○   ○   ○

   Institutions provide enough places in the
   related courses/trainings to fulfill the competency
   requirements of the Qualifications Framework.
   職業訓練局或有關機構應提供足夠考取資歷架構認課程

或培訓的學額

*** END **

APPENDIX 2

Response of Question in Section (1) of Questionnaire

1. Approximately what percentage of your colleagues is based in China (Hong Kong truck

 drivers that travel to China for assignments do not count as based in China)?

Company Type	Number of completed questionnaires returned	Number of response in each scale					
		0%	20%	21-40%	41-60%	61-80%	81-100%
Airlines Service	26	20	6	0	0	0	0
Cargo Handling Terminal	17	12	5	0	0	0	0
Courier	18	18	0	0	0	0	0
Freight Forwarding Agents	57	18	31	7	1	0	0
Other Logistics Service Providers	12	8	4	0	0	0	0
Sea Freight Transport	32	2	9	19	2	0	0
Stevedore	20	5	14	1	0	0	0
Trucking and Container Haulage	19	0	2	4	11	2	0
Warehouse	11	10	1	0	0	0	0

2. Approximately what percentage of your colleagues is recruited in China?

Company Type	Number of completed questionnaires returned	Number of response in each scale					
		0%	20%	21-40%	41-60%	61-80%	81-100%
Airlines Service	26	26	0	0	0	0	0
Cargo Handling Terminal	17	8	0	9	0	0	0
Courier	18	12	6	0	0	0	0
Freight Forwarding Agents	57	20	28	8	1	0	0
Other Logistics Service Providers	12	4	6	2	0	0	0
Sea Freight Transport	32	2	2	20	8	0	0
Stevedore	20	20	0	0	0	0	0
Trucking and Container Haulage	19	0	2	4	8	5	0
Warehouse	11	11	0	0	0	0	0

3. Approximately what percentage of your colleagues recruited in China has certified logistics

qualification?

Company Type	Number of completed questionnaires returned	Number of response in each scale					
		0%	20%	21-40%	41-60%	61-80%	81-100%
Airlines Service	26	26	0	0	0	0	0
Cargo Handling Terminal	17	12	5	0	0	0	0
Courier	18	18	0	0	0	0	0
Freight Forwarding Agents	57	37	20	0	0	0	0
Other Logistics Service Providers	12	7	5	0	0	0	0
Sea Freight Transport	32	30	2	0	0	0	0
Stevedore	20	20	0	0	0	0	0
Trucking and Container Haulage	19	0	7	10	1	1	0
Warehouse	11	11	0	0	0	0	0

4. Has your Company distributed information about the Hong Kong Qualifications Framework to you or your colleagues?

Company Type	Number of completed questionnaires returned	Number of response in each answer		
		Yes	No	None
Airlines Service	26	0	26	0
Cargo Handling Terminal	17	2	15	0
Courier	18	0	15	3
Freight Forwarding Agents	57	6	40	11
Other Logistics Service Providers	12	0	6	6
Sea Freight Transport	32	2	25	5
Stevedore	20	0	18	2
Trucking and Container Haulage	19	2	12	5
Warehouse	11	1	10	0

5. Has your Company requested you or your colleagues to sit for the Qualifications Framework

    tests or attend the related trainings/courses?

Company Type	Number of completed questionnaires returned	Number of response in each answer		
		Yes	No	None
Airlines Service	26	0	26	0
Cargo Handling Terminal	17	3	12	2
Courier	18	0	11	7
Freight Forwarding Agents	57	4	44	9
Other Logistics Service Providers	12	0	6	6
Sea Freight Transport	32	2	20	10
Stevedore	20	0	14	6
Trucking and Container Haulage	19	2	14	3
Warehouse	11	1	8	2

6. Has your Company used the Qualifications Framework to judge you or your colleagues'

    competence?

Company Type	Number of completed questionnaires returned	Number of response in each answer		
		Yes	No	None
Airlines Service	26	0	23	3
Cargo Handling Terminal	17	0	12	5
Courier	18	0	9	9
Freight Forwarding Agents	57	0	23	34
Other Logistics Service Providers	12	0	10	2
Sea Freight Transport	32	0	24	8
Stevedore	20	0	3	17
Trucking and Container Haulage	19	0	14	5
Warehouse	11	1	6	4

Response of Question in Section (3) of Questionnaire

1. English proficiency is an important qualification.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	0	8	18
Cargo Handling Terminal	17	0	0	0	7	10
Courier	18	0	0	0	14	4
Freight Forwarding Agents	57	0	0	0	39	18
Other Logistics Service Providers	12	0	0	0	0	12
Sea Freight Transport	32	0	0	0	10	22
Stevedore	20	0	0	0	1	19
Trucking and Container Haulage	19	0	0	0	11	8
Warehouse	11	0	0	0	3	8

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree.

2. Putonghua proficiency is an important qualification.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	4	16	6
Cargo Handling Terminal	17	0	0	0	12	5
Courier	18	0	0	0	10	8
Freight Forwarding Agents	57	0	0	0	32	25
Other Logistics Service Providers	12	0	0	0	5	7
Sea Freight Transport	32	0	0	2	6	24
Stevedore	20	0	0	0	13	7
Trucking and Container Haulage	19	0	0	1	8	10
Warehouse	11	0	0	0	1	10

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

3. Numeric literacy is an important qualification.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	1	15	10
Cargo Handling Terminal	17	0	0	7	5	5
Courier	18	0	2	9	4	3
Freight Forwarding Agents	57	0	0	5	35	17
Other Logistics Service Providers	12	0	0	1	3	8
Sea Freight Transport	32	0	0	0	15	17
Stevedore	20	0	0	11	6	3
Trucking and Container Haulage	19	0	0	0	8	11
Warehouse	11	0	0	0	7	4

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

4. Computer literacy is an important qualification.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	0	19	7
Cargo Handling Terminal	17	0	0	6	7	4
Courier	18	0	0	3	10	5
Freight Forwarding Agents	57	0	0	21	18	18
Other Logistics Service Providers	12	0	0	0	2	10
Sea Freight Transport	32	0	0	1	19	12
Stevedore	20	0	0	10	7	3
Trucking and Container Haulage	19	0	0	3	10	6
Warehouse	11	0	0	0	8	3

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

5   The Qualifications Framework is a good benchmark for setting wages

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	2	2	13	5	4
Cargo Handling Terminal	17	0	1	5	5	6
Courier	18	0	1	9	7	1
Freight Forwarding Agents	57	9	6	22	14	6
Other Logistics Service Providers	12	0	3	6	2	1
Sea Freight Transport	32	6	8	12	4	2
Stevedore	20	0	2	10	4	4
Trucking and Container Haulage	19	3	4	8	3	1
Warehouse	11	0	0	2	3	6

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4'
if Agree, and '5' if Strongly Agree

6.   The Qualifications Framework is a good benchmark for promoting.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	5	2	10	2	2
Cargo Handling Terminal	17	2	1	2	7	5
Courier	18	0	0	2	9	7
Freight Forwarding Agents	57	12	5	20	12	8
Other Logistics Service Providers	12	0	1	8	2	1
Sea Freight Transport	32	1	2	5	15	9
Stevedore	20	0	0	4	11	5
Trucking and Container Haulage	19	0	2	2	7	8
Warehouse	11	0	0	2	7	

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4'
if Agree, and '5' if Strongly Agree

7.   The Qualifications Framework is the basic employment standard.

		Number of response in each scale (*)				
Company Type	**Number of completed questionnaires returned**	**1**	**2**	**3**	**4**	**5**
Airlines Service	26	1	1	3	16	5
Cargo Handling Terminal	17	1	2	8	4	2
Courier	18	1	1	2	10	4
Freight Forwarding Agents	57	2	3	24	16	12
Other Logistics Service Providers	12	0	0	1	9	2
Sea Freight Transport	32	3	3	14	6	6
Stevedore	20	1	1	13	3	2
Trucking and Container Haulage	19	0	4	5	7	3
Warehouse	11	0	0	3	4	4

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

8. We prefer to employ workers who have met the requirements of the Qualifications Framework.

		Number of response in each scale (*)				
Company Type	**Number of completed questionnaires returned**	**1**	**2**	**3**	**4**	**5**
Airlines Service	26	0	1	2	11	12
Cargo Handling Terminal	17	0	1	1	6	9
Courier	18	0	1	8	8	1
Freight Forwarding Agents	57	1	12	20	21	3
Other Logistics Service Providers	12	0	1	10	1	0
Sea Freight Transport	32	3	1	3	18	7
Stevedore	20	0	1	9	9	1
Trucking and Container Haulage	19	2	3	8	4	2
Warehouse	11	1	2	2	4	2

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

9. We employ competent workers regardless of whether they have met the requirements of the Qualifications Framework.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	2	8	16
Cargo Handling Terminal	17	1	1	8	4	3
Courier	18	0	0	7	4	7
Freight Forwarding Agents	57	0	10	23	19	5
Other Logistics Service Providers	12	0	0	0	1	11
Sea Freight Transport	32	3	1	3	18	7
Stevedore	20	0	2	8	7	3
Trucking and Container Haulage	19	0	1	2	9	7
Warehouse	11	0	0	2	3	6

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

10. We are inclined to pay more to workers who have met the requirements of the Qualifications Framework.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	4	3	1	11	7
Cargo Handling Terminal	17	2	1	0	10	4
Courier	18	2	2	12	1	1
Freight Forwarding Agents	57	12	9	18	9	9
Other Logistics Service Providers	12	0	3	6	2	1
Sea Freight Transport	32	3	4	3	12	10
Stevedore	20	0	3	14	2	1
Trucking and Container Haulage	19	1	4	8	4	2
Warehouse	11	1	1	1	5	3

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

11   We support workers to attend the relevant trainings to achieve different levels of the Qualifications Framework.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	1	18	7
Cargo Handling Terminal	17	0	0	2	10	5
Courier	18	0	0	10	7	1
Freight Forwarding Agents	57	0	6	31	13	7
Other Logistics Service Providers	12	2	2	6	1	1
Sea Freight Transport	32	0	2	4	19	7
Stevedore	20	0	0	3	10	7
Trucking and Container Haulage	19	0	0	1	8	10
Warehouse	11	0	0	1	8	2

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

12.   The Hong Kong Government should issue working permits only to those who have met the requirements of the Qualifications Framework.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	3	3	1	10	9
Cargo Handling Terminal	17	4	8	1	2	2
Courier	18	1	3	8	4	2
Freight Forwarding Agents	57	11	8	26	10	2
Other Logistics Service Providers	12	1	1	3	5	2
Sea Freight Transport	32	0	2	6	14	10
Stevedore	20	2	4	7	5	2
Trucking and Container Haulage	19	0	3	10	4	2
Warehouse	11	1	5	1	2	2

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

13.   Periodic examinations should be held to ensure workers' continuing competence.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	4	1	14	7
Cargo Handling Terminal	17	1	3	7	3	3
Courier	18	2	2	7	3	4
Freight Forwarding Agents	57	4	12	22	9	10
Other Logistics Service Providers	12	0	0	8	2	2
Sea Freight Transport	32	3	4	5	12	8
Stevedore	20	0	0	3	10	7
Trucking and Container Haulage	19	0	0	8	8	3
Warehouse	11	0	5	1	4	1

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

14.   The Qualifications Framework for the logistics industry in Hong Kong should be integrated with that in China.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	0	6	20
Cargo Handling Terminal	17	0	0	2	10	5
Courier	18	0	0	5	8	5
Freight Forwarding Agents	57	0	0	27	17	13
Other Logistics Service Providers	12	0	0	1	1	10
Sea Freight Transport	32	0	0	2	24	6
Stevedore	20	0	1	6	6	7
Trucking and Container Haulage	19	0	0	1	9	9
Warehouse	11	0	0	1	7	3

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

15. The Hong Kong Government should get Central accreditation for the Qualification Framework.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	1	2	0	18	5
Cargo Handling Terminal	17	0	1	1	9	6
Courier	18	0	2	11	3	2
Freight Forwarding Agents	57	0	0	23	16	18
Other Logistics Service Providers	12	0	0	2	3	7
Sea Freight Transport	32	0	0	0	11	21
Stevedore	20	0	2	7	8	3
Trucking and Container Haulage	19	0	0	0	8	11
Warehouse	11	1	5	0	2	3

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

16. The Government should offer subvention to the related trainings or courses of the Qualifications Framework.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	0	22	4
Cargo Handling Terminal	17	0	0	0	13	4
Courier	18	0	0	10	6	2
Freight Forwarding Agents	57	0	0	33	10	14
Other Logistics Service Providers	12	0	0	1	2	9
Sea Freight Transport	32	0	0	0	4	28
Stevedore	20	0	0	9	10	1
Trucking and Container Haulage	19	0	0	0	13	6
Warehouse	11	0	0	0	6	5

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree

17. The Vocational Training Council or other institutions provide enough places in the related courses/trainings to fulfill the competency requirements of the Qualifications Framework.

Company Type	Number of completed questionnaires returned	Number of response in each scale (*)				
		1	2	3	4	5
Airlines Service	26	0	0	1	14	11
Cargo Handling Terminal	17	0	0	1	8	8
Courier	18	0	2	8	7	1
Freight Forwarding Agents	57	6	12	25	9	5
Other Logistics Service Providers	12	0	1	1	5	5
Sea Freight Transport	32	1	2	15	8	6
Stevedore	20	3	6	8	2	1
Trucking and Container Haulage	19	0	0	8	6	5
Warehouse	11	0	0	2	4	5

(*) = The scales are represented that '1' if Strongly Disagree, '2' if Disagree, '3' if Uncertain, '4' if Agree, and '5' if Strongly Agree