

Chairman's Message

To get out of the economic stagnation after the epidemic, governments around the world have launched programmes to attract investment and accelerate economic recovery. Hong Kong is no exception. In the first "Policy Address", Chief Executive made a series of "grabbing enterprises and talents" policies, including establishing the "Office for the Introduction of Key Enterprises" (OASES), establishing a "co-investment fund"; "talent service window" and launching "high-end talent Passports Scheme" etc. The "Key Enterprises" focus on fields of life and health technology, artificial intelligence and data science, financial technology, advanced manufacturing, new materials and new energy technology. This Policy has created a path of thoughts for HKQMA to set a series of activities for our members in 2023. Starting from April, Executives of HKQMA have made several trips to few cities in Mainland as well as Macau. Grabbing talents seems the main target for our coming strategy planning. As a result, we have joined programme with The Hong Kong Innovation Technology Industry Association on some academic post baccalaureate degree programmes. We have signed and are going to sign some mutual professional designation recognitions with Quality Associations in Shenzhen, Zhuhai, and Macau. Some company visits are still on-going. In September, we shall organize a visit to Macau Light Rail. We also arranged free on-line seminars on topics of ChatGPT, QA Management Innovation, Talent Pool and Recruitment Tips and Top Talent Passs Scheme (TTPS). In this issue, we have also covered our interview with Dr. Hannah Koo, daughter of our past Chairman/President Prof. L.C. Koo regarding his published article and contribution to HKQMA.

I hope our readers enjoy this Issue.



Dr. Frankie Lam
Chairman



Editor's Note

In this issue, we have the honor to interview Dr. Hannah Koo, who is the Honorary Advisor of HKQMA and the Director of Macau Quality Management Association (MQMA), sharing some updates on our Macau's counterpart and her memories about her father, late Dr. LC Koo, who was the Past President and Past Chairman of HKQMA.



Ir Trevor Tang
Director of Publication

With the lift of all the epidemic measures in Hong Kong, the Association has resumed organizing a lot of activities for our members. Since last issue of newsletter, seminars on ChatGPT by Mr. Wood Cheung and “-QA” by Dr. Aaron Tong have been held. In addition, a visit to West Kowloon Station of High Speed Railway has been arranged with encouraging participation.

Other than those seminars and visits, I am delighted to report that our RQPE course was successfully conducted this year. As for the featured article in this issue, we are delighted to have an article on “Quality Self Assessment Scheme for SMEs in Hong Kong” by Dr. Hannah Koo and Dr. L.C. Koo introducing the Quality Excellence Assessment Scheme (QEAS) which is designed for the SMEs to their business performance fairly and objectively by a neutral professional assessor.



Past HKQMA Newsletters

Interview with Dr. Hannah Koo

Honorary Advisor of HKQMA

1. What kind association is Macau Quality Management Association (MQMA)?

The Macau Quality Management Association (MQMA) was a non-profit making organization established in June 2008. Its objective is to promote and popularize quality management activities, so that the society can understand and recognize the importance of quality management and quality service. The members are mainly from the academic and educational sectors and individuals who have extensive experience and interest in quality management. To unify Six Sigma qualifications and standards in Hong Kong and Macau, MQMA and Six Sigma Institute (SSI) agreed mutual professional scheme of Green Belt in 2017.



Dr. Hannah Koo
Honorary Advisor

2. What are some of the key challenges and opportunities that organizations in Macau face when it comes to quality management and improvement, and how does your association address these issues?

The economy of Macau is mostly supported by tourism and gambling. Therefore, single source of tourists is the challenge that many organizations in Macau need to face. Fortunately, open market does lead Macau to a lot of opportunities from around the world. Being a city of tourism, quality innovation services are the key to success. The MQMA helps improving the quality management of Macau through organizing training courses, lectures, seminars and symposiums, as well as cooperating with local or domestic and foreign quality management related units.



Dr. Hannah Koo's
Biography

3. What did your father, late Dr. LC Koo, impress you most during his term as the chairman and president of HKQMA?

When late Dr LC Koo was the chairman and president of HKQMA during 1980-90s, the opening of the very first office and shop of HKQMA inside Sheung Wan MTR station impressed me most as this marked a milestone for the Association.

4. Can you share the insights on leadership and effective organization management that you gained from late Dr. LC Koo?

“Walk the talk” and “Lifelong learning” were the insights on leadership and effective organization management which I gained from late Dr. LC Koo.

5. What advice did late Dr. LC Koo give you that has stuck with you the most in your own career?

There were several advices from late Dr. LC Koo that has stuck with me:

- Be flexible
- Always have a way to solve challenges
- Every coin has two sides
- Never give up



Late Dr. L C Koo
Past President and Chairman of HKQMA

HKQMA Updates

「如何在項目管理中導入ChatGPT?」講座活動回顧 2023年5月13日

由香港品質管理協會與六式碼學會合辦的免費實體講座「如何在項目管理中導入ChatGPT?」已於5月13日(六)上午順利完成。當日出席者共有23人，包括香港品質管理協會會員、六式碼學會的註冊專業人員及學員，以及來自本地各機構，對ChatGPT有興趣的人士。

講者張徑瑚(香港品質管理協會副主席)分享了疫情後項目管理模式的轉變，以及如何運用ChatGPT幫助團隊自動化和簡化複雜的文書工作、分析數據、生成圖片及影片等，以便更好地管理項目、提高生產效率和縮短項目進度，以迎接人工智能時代的挑戰。



講者張徑瑚分享疫情後項目管理模式的轉變，以及如何運用ChatGPT優化項目管理工作



六式碼學會主席陳旭球博士致送感謝狀給講者，香港品質管理協會副主席張徑瑚 (Wood Cheung)

由於是次講座反應熱烈，講座第二部份「**如何在項目管理中導入ChatGPT? Part II**」將安排於2023年6月30日(五)，晚上7時30分至9時，於六式碼學會舉行。是次講座內容包括：

- 最新ChatGPT的市場發展資訊，以及本地企業使用情況
- ChatGPT人才的發展優勢
- ChatGPT與其他大數據編程工具共用

香港品質管理協會會員可優先報名參加，報名連結如下：

<https://www.sixsigmainstitute.org/Events/24148/>

Visit to West Kowloon Station of High Speed Railway

17 May 2023

West Kowloon Station was opened on 23 September 2018. It is built to accommodate high-speed trains and is a major transportation hub located in the heart of Hong Kong's West Kowloon district. The station is one of the city's newest and most modern transportation facilities, and it serves as a gateway to mainland China and other parts of Asia.



Group photo taken in front of the mosaic of West Kowloon Station

One of the highlights of the station is the Sky Corridor, a 45-meter-long pedestrian bridge that spans the station's main hall. The bridge offers stunning views of the surrounding area, including Victoria Harbour, the Hong Kong skyline, and the nearby mountains. The station is also home to a variety of shops, restaurants, and other amenities.



Photo by Paul Warchol

Registered Professional Quality Engineer (Construction) Registration Scheme

In light of high demand for the quality professionals in construction projects from both the public and private sectors, the Board of Directors of HKQMA has taken a leading role in investigating ways to enhance quality management in the construction industry since 2020 and promoting Construction Quality Management in accordance with the statutory requirements and relevant standards.

To facilitate the healthy development of Construction Quality in Hong Kong, the HKQMA has introduced the Registered Professional Quality Engineer [RPQE] (Construction) Registration Schemes to ascertain the competency of Construction Quality personnel and the quality of local training courses.

As part of the HKQMA's 40th anniversary celebrations, the Association would like to congratulate all graduates of our RPQE Certification courses, which were successfully launched this year. Being our qualified RPQEs, these professionals have not only gained knowledge in construction quality management and site supervision, but also enhanced their managerial competence and skills, enabling them to achieve better practical Quality Assurance in construction activities and to benefit the construction industry.



Registered Professional Quality Engineer (RPQE) (Construction) Course 註冊專業質量工程師 (RPQE) (建築界) 課程

The Registered Professional Quality Engineer (RPQE)(Construction) is operated under a registration scheme which accepts those who have successfully completed RPQE course to become RPQE (Construction) and be listed under relevant category in Hong Kong Quality Management Association website. Launched in 2021, the course enabled quality aspiration construction professionals to top up their knowledge with the latest quality testing standards as well as level up their field-related quality management technique and procedure.

註冊專業質量工程師 (RPQE) (建築界) 是以註冊制度運作，讓成功完成課程人士註冊成為RPQE (Construction) 並可在香港品質管理協會網頁上有關項目內顯示個人註冊資料。課程自二〇二一年推出，向質量工程專業人士授予最先進質量測試標準，提升他們的質量管理技巧和程序控制方法。



Featured Article

Quality Self Assessment Scheme for SMEs in Hong Kong

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ABSTRACT

Small and medium-sized enterprises (SMEs) are the basic building blocks of Hong Kong's economy. Typically, a SME employs less than 100 employees in manufacturing and less than 50 employees in non-manufacturing sector. One major difficulty SMEs encounter these days is how to obtain finance from the banks. Reciprocally the banks have difficulties in assessing the SMEs more holistically. There is a distinct need for developing a Quality Excellence Assessment Scheme (QEAS), designed especially for the SMEs to assess their business performance fairly and objectively by a neutral professional assessor. Such a scheme can help alleviate the stumbling-block between the SMEs and their bankers. This paper outlines a preliminary desk research of business performance using ordinal regression. Further empirical studies on establishing the determinants for business success of SMEs will be necessary to develop a widely acceptable QEAS tailor-designed for SMEs in Hong Kong SAR.

Keywords: Quality Assessment, SME, Ordinal Regression, Hong Kong SAR

1.0 Introduction

SMEs in Hong Kong account for 98% of the business establishments and employ about two thirds of the workforce. To a large extent, Hong Kong's economic success depends heavily on the well being of the SMEs. Various schemes have been set up by the SAR government to help these SMEs which do not have the sophistication and financial strengths of the large business operators in the territory (Li, 2000). These include Resource Centres, whose websites / emails are listed here:

- Hong Kong Productivity Council SME Centre (email: Sme@HKPC.ORG)
- Trade Development Council SME Centre (URL: www.tdctrade.com/sme/ email: sme.centre@tdc.org.hk)
- Hong Kong Association of International Co-operation of SMEs (email: phyllis@pkykwong.com)
- Hong Kong Small and Medium Business Association (URL: www.hksme.org)
- SME Office, Industry Department of the Government of the Hong Kong Special Administrative Region (URL: www.sme.gcn.gov.hk/english/dsp/dsp_1st.cfm; email: smeeng@id.gcn.gov.hk)
- Hong Kong Quality Management Association (URL: www.hkqma.org.hk; email: info@hkqma.org.hk)

1.1 *Difficulties facing the SMEs*

In view of the Asian financial crisis, many SMEs are facing severe problems such as adverse cash flow situation, declining sales, shrinking margins and deteriorating competitiveness. These were further compounded by the more conservative stances taken by the bankers. The financial provider began to realize that collateral security of brick and mortar had no longer been adequate and they started to look for better and safer way of lending to the SMEs. Inevitably many bankers became more cautious in lending to the SMEs particularly to the new establishments. In order to disentangle this knot, the Trade Development Council (a quasi government body established up in the sixties to help traders in Hong Kong) has prepared a reference article “*How to approach banks to obtain finance for your trading activities*” for the SMEs.

2.0 **Assessment for Business Excellence**

Lascelles et al. (1996) suggest that business excellence require:

- Farsighted, committed and involved leaders;
- A clear understanding of critical success factors;
- Flexible and responsive process management;
- Employees with relevant know-how and skills;
- Continuous improvement;
- Assessments of current and future performance

They need to be learning organizations with a holistic approach based on customer satisfaction and creative use of employee talents.

2.1 *Measurement of business performance*

Balanced Scorecard emphasizes the importance of performance measurement: “*If you can’t measure it, you can’t manage it*” and “*What you measure is what you get*” (Kaplan and Norton, 1996; Bogan et al. 1994; Hitt, 1995; Koo, 1998). Following these common sense philosophies, one can claim: “*If you are not measuring it, you are not managing it*”. How often do managers these days conscientiously identify their key success factors and measure their achievements in these areas? The small and medium enterprises are particularly vulnerable to the adverse and rapidly changing business environment. They can survive easier and prosper better if they have an effective quality excellence assessment scheme as a guiding compass of their business venture.

2.2 *Potential Application of Quality Excellent Assessment Scheme*

Many renowned quality assessment schemes are in existence. Notably they include the Malcolm Baldrige National Quality Award, European Foundation for Quality Management, and the Deming Prize (Lascelles et al. 1996). Each of these schemes has its own merits. However, they may be too onerous and complicated for the SMEs who may lack the expertise and resources to adopt these international quality schemes. There is a need to develop a valid and reliable assessment tool tailor-designed to the SMEs in Hong Kong. Apart from helping the SMEs concerned to monitor and improve their business excellence, the scheme can provide the proper recognition and motivation for their achievements.

One important application of the QEAS would be to use it as an audited certification of good management competency of the SME concerned. When this scheme becomes established and widely recognized by the industry and the banking sector, it will help boost the economy in Hong Kong. The trading partners of the SMEs can more confidently rely on the well being of the QEAS assessed SMEs than otherwise. Similarly, bankers will have something useful and relevant to refer to when providing finances to the SMEs. The QEAS would bridge the gap if not a gulf that may exist between the SMEs and their bankers.

3.0 Application for bank finance

It is useful for the SMEs to know the usual lending criteria adopted by their bankers. The Trade Development Council has released some useful and pragmatic guidelines (www.tdc.org.hk/sme/bank.htm) for the SMEs in Hong Kong in negotiating with their bankers for their finance requirements. The criteria are:

- Good cash flow
- Adequate shareholders' funds
- Adequate security
- Experience in trading
- Good reputation and standing
- Specific purpose of the bank finance

Different banks adopt different lending policies and practices. Apart from reviewing the financial performance, most banks would require some forms of collateral and guarantee from the applicants. However difficulty arises when the applicant is new to the bank or the cushion of the collateral is thin. Unless the banker is convinced of the business prospects of the SME credit applicant, facilities are not likely to be granted. The banks inevitably would like to have a fuller and more balanced picture of the applicant before they are prepared to relax their cautious attitude. A neutral, valid and reliable business performance assessment scheme (e.g. the QEAS) can create a win-win situation for the SMEs and their bankers and help facilitate bank finance negotiation.

4.0 Determinants of credit scorings

This paper outlines a preliminary attempt to develop the Quality Excellence Assessment Scheme through determining the key determinants for credit rating. Many banks use credit scores to rank (i.e. ordinal data) the creditworthiness of their borrowing customers. These ordinal credit scores reflect the business performance of the borrowing customers in the eyes of the bankers. This is a desk research using empirical data by a relatively new statistical technique known as ordinal regression.

4.1 Ordinal Regression

This powerful statistical technique helps build models, generate predictions, and evaluate the importance of various predictor variables for the dependent variable which is ordinal in

nature. This is an improved technique over the multiple linear regression which requires the dependent variable to be interval or ratio data.

Apparent continuous variables are sometimes treated as ordinal due to presence of threshold effects. A good example is years of education. Whilst years of education are continuous data, the educational 'milestones' changes the relationship between the time and corresponding educational achievement. The achievement of a two-year master degree is obviously greater than the two-year matriculation programme.

Ordering of categories is important for ordinal variables. If two adjacent categories are merged into one larger category, models built using the old and new categorization should be very similar. This is not the case for linear regression which is sensitive to merging of categories.

In ordinal regression model, the thresholds are estimated as part of the model and need not be specified *a priori*. The model predicts a link function of the cumulative probabilities of the threshold values. Various link functions are available in SPSS 10 Advanced Statistics module (e.g. Logit; Complementary log-log; Negative log log; Probit; and Cauchit). The choice of the appropriate link function depends on the distribution pattern of the dependent variables.

4.2 *Constructing an Ordinal Regression Model*

The model construction entails several decisions. First, the ordinal outcome variable has to be identified. Then the predictors for the location components of the model have to be chosen. Finally the choice of the appropriate link function needs to be made.

The selection of predictors, through theoretical and empirical considerations, for the location component of the (location-only) ordinal regression model is similar to that in a linear regression model.

SPSS produces pseudo- R^2 measure to assess the overall goodness of fit of the model. This measure serves similar function as the coefficient of determination in linear regression models. This goodness of fit measure summarizes the proportion of data variability of dependent variable associated with the selected predictor (independent) variables. The value of Nagelkerke Pseudo- R^2 (modified from the Cox and Snell's R^2) falls in the range from full zero to one.

The model predicts cumulative probabilities rather than category membership. Two steps are needed to get predicted categories. First, for each case, the probabilities are estimated for each outcome category. Then these probabilities are used to select the most likely outcome category for each case. The probabilities for each category can be computed by subtracting the cumulative probabilities for the group in order.

4.3 *Results of the Ordinal Regression Analysis.*

A total of 767 cases were used. Due to existence of missing values, only 565 valid cases were eventually used to develop the model. The dependent variable is a five point credit scoring assessed through traditional credit analytical approach. 21 independent variables

were used in building the model. They are grouped into five categories, viz. Management, Facility & Security, Banking Relationship, Account Performance, and Financial Performance. Through successive screening processes, using theoretical and empirical judgement, five independent variables remain. The five determinants for credit scorings are: reduction of credit lines; amount and duration of overdue; average utilization of credits lines; interest coverage; and retained earnings/total assets. These five aspects are related to the lending criteria ‘good cash flow’ and ‘experience in trading’ outlined in section 3.0 above.

The Nagelberke Pseudo R-Square is 0.457. Some 46% of data variability of credit scorings can be explained by five independent variables.

5.0 Conclusion and recommendations

Despite the relatively satisfactory predictive power of the ordinal regression as described in the preceding section, much additional works need to be carried out to develop the Quality Excellence Assessment Scheme. The desk research at best highlights the key considerations for assessing business performance from the perspective of the bankers. The criteria used are still largely financial in nature and are not balanced or holistic enough.

Some SME support organizations and / or the Hong Kong SAR government should take the initiative to develop and maintain a Quality Excellence Assessment Scheme designed especially for the SMEs in Hong Kong. The existing criteria adopted by the leading international quality assessment schemes can be used as reference. In its strategic workshop held at the start of the Millenium New Year, the Hong Kong Quality Management Association (HKQMA) has decided to explore this QEAS concept. This paper is the first step to trigger discussion and interest how this scheme can be best proceeded. If funding is available from the Government, a large scale survey among the SMEs and the banking sectors should be conducted to identify the needs of this scheme from different perspectives.

To be successful, the QEAS has to be simple to administer, fair, balanced, valid and reliable. Due considerations have to be accorded to ‘What to measure’ and ‘Why measure’ (Crowther, 1996). It should be a process of evaluating a SME against a model for continuous improvement, to highlight what has been achieved and what needs improving (Hillman, 1994). Key success factors may vary among different industries. The SMEs may have to be segmented into different sectors to reflect the changing business environment in Hong Kong. The QEAS once developed can be used for self assessment purposes to improve the business performance of the SMEs. Alternatively, this can be used as a certification scheme, audited by a neutral body, to provide evidential support of the competency and achievement of the SMEs concerned. The later approach can be of great assistance to SMEs in negotiating bank finance requirements from their bankers.

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Executive Committee 2022-2023

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About HKQMA

Established in 1983, the Hong Kong Quality Management Association (HKQMA) has been actively promoting a better understanding of quality management methods in Hong Kong. Over 40 years of development, HKQMA has extended its service to offer a wide range of professional services including quality management training, focus group seminar, consultancy service, company visit and organizational experience sharing activities to its members. HKQMA also maintains good relationship with various sectors such as government departments and semi-official organizations, universities and education institutions, renowned companies across manufacturing, service, engineering, construction and public services etc.



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