Sustaining Competitiveness in a Liberalized Economy

Sustaining Competitiveness in a Liberalized Economy: The Role of Accounting

Edited by

Ruhanita Maelah

CAMBRIDGE SCHOLARS

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INTRODUCTION

SUSTAINING COMPETITIVENESS IN A LIBERALIZED ECONOMY

RUHANITA MAELAH

Introduction

Economic liberalization is a very broad term that usually refers to fewer government regulations and restrictions in the economy in exchange for greater participation of private entities. The arguments for economic liberalization include greater efficiency and effectiveness that would translate to a bigger market share for everybody. Most first world countries, in order to remain globally competitive, have pursued the path of economic liberalization: partial or full privatization of government institutions and assets, greater labor-market flexibility, lower tax rates for businesses, less restriction on both domestic and foreign capital, open markets, etc. In developing countries, economic liberalization refers more to further opening up of their respective economies to foreign capital and investments. Three of the fastest growing developing economies today; China, Brazil and India, have achieved rapid economic growth in the past several years or decades after they have liberalized their economies to foreign capital. Many countries nowadays, particularly those in the third world, arguably have no choice but to also "liberalize" their economies in order to remain competitive in attracting and retaining both their domestic and foreign investments. In the Philippines for example, the contentious proposals for Charter Change include amending the economically restrictive provisions of their 1987 constitution.

In a rigidly controlled economics, government-approved controls create barrier that allow companies to operate with relative freedom for direct competition. These controls coupled with assistance and subsidies create sources of competitive advantage for the companies, thus it is often criticized for its inefficiency (Vachani, 1997). The total opposite of a

liberalized economy would be North Korea's economy with their closed and "self sufficient" economic system. North Korea receives hundreds of millions of dollars worth of aid from other countries in exchange for peace and restrictions in their nuclear program. Another example would be oil rich countries such as Saudi Arabia and United Arab Emirates, which see no need to further open up their economies to foreign capital and investments since their oil reserves already provide them with huge export earnings.

At the macro level economic liberalization affects the nation. Europe is strengthening the European Union (EU) and negotiating an acceptable framework of a European Monetary union (EMU). South American countries are exploring the possibilities of joining North American Free Trade Agreement (NAFTA) to have guaranteed access to North American markets in the future (Khan, 1997).

Economic liberalization of protected economies including Less Developed Countries (LDC) is a significant aspect of changes in the global economy over the last few decades (Miles et al., 2004). As LDC governments have changed protectionist and heavily regulated regimes and moved towards market and economic liberalization, firms have responded to these institutional changes in their environments. Economic liberalization thrusts three main sources of change upon LDC manufacturing firms: First, liberalization allows for easier entry into markets by new firms, thereby increasing competitive intensity. Secondly, imports of newer technologies become easier as import barriers decrease, leading firms to acquire and absorb new equipment and methods. Third, economic liberalization creates an environment of unleashing potential energies of private sectors of economies, leading many managers to raise aspiration levels for firm performance (Winter, 2000).

Over the last two decades, the East Asian economies have substantially liberalized foreign trade and direct investment (FDI) regimes within the frameworks of World Trade Organization (WTO) and Asian Pacific Economy Cooperation (APEC). The resulting expansion of trade and FDI has become the engine of economic growth and development in East Asia. Since the early 1990s, emerging East Asia has also liberalized its financial system and capital accounts. The consequent financial openness has contributed to rapid economic growth by attracting both long-term and short-term capital and, together with trade and FDI openness, deepened

market-driven economic interdependence in East Asia. However, it added financial vulnerabilities, culminating in a financial crisis in 1997–1998.

Following the crisis, the East Asian economies have embarked on various initiatives for economic regionalism in the areas of trade/investment and money/finance (Kawai, 2005). The crisis prompted the region's economies, which were increasingly interdependent, to realize the importance of economic cooperation among themselves and to make efforts to institutionalize such interdependence. For example, Japan and Singapore concluded an economic partnership agreement (EPA), and many official discussions and negotiations for bilateral and sub-regional free trade agreements (FTAs)—such as Japan–Korea EPA, China–ASEAN FTA and Japan–ASEAN EPA—are currently underway. In the area of money and finance, the ASEAN + 3 members—comprising ASEAN, China, Japan and Korea—began to undertake the Chiang Mai Initiative, economic surveillance and policy dialogue, and the Asian bond market development initiative.

This book looks at the issue of competitiveness and trade liberalization at the micro level that is the business organizations and individuals. Selected papers will discuss this issue from the perspective of Cost and Information Management, and Strategic Alliance.

Cost and Information Management

One of the measurements of information system effectiveness is End User Computing Satisfaction (EUCS). Azleen et al. in their study looks at the level of satisfaction among end-users of computerized accounting system in private companies. The findings show that the ranking of end-user computing satisfaction commences with ease of use, system speed, content, accuracy, system reliability, format and timeliness. In addition the end-users who have experience in handling computerized accounting system as their additional skill are more satisfied with the current computerized accounting system in their organization.

The efficiency and capability of traditional cost and management accounting practices is questionable following the technological changes in manufacturing sector. It is argued that the information supplied by the traditional accounting system is not up-to-date, detailer or accurate enough for managerial needs. This has led to the introduction of activity based costing (ABC). Davood in his article explores the impact of attributes of

innovation on the diffusion of cost and management accounting innovations. The findings suggest the benefits of obtained from adoption of ABC are still lower than those of traditional techniques. The only attribute found to have significant association with the diffusion of ABC is the effectiveness of ABC. This could be seen as a factor for slow diffusion of ABC, and a justification for those firms which halted the implementation process after a short period of time. The need for further improvements of ABC attributes and the association between attributes of innovations and the diffusion of other recently developed cost and management accounting innovations has yet to be examined.

Strategic cost management literatures maintain that cost management efforts should encompass the entire value chain from suppliers to final customers. Effective supply chain management can reduce cost, reduce inefficiencies, and improve user satisfaction (Christopher, M. 1998). Ainun et al use an explanatory case method to examine the implementation of supply chain management in an automobile industry, one that is sensitive to economic environment such as price increase and tariff. The study shows that strategic collaboration with supplier and third party service provider contributes to the success of the company to gain competitive advantage through cost reduction.

There are two streams of research on budget participation. One is considering the antecedents of budget participation while the other is considering the consequences of it (Shields and Young, 1993). Yuserrie et al took the second approach and adopts the contingency theory to establish relationship between environmental uncertainty, task uncertainty (analyzability and variety), and information asymmetry on budget participation. The study however, found that only task variety was significantly correlated with budget participation, but in a negative direction.

Performance Management

Literatures on performance measurement system suggest that managers should use financial and non-financial measures. Strategic performance measurement system is believed of capable to build and sustain competitive advantage of organization ns. Rapiah et al examine the role of strategic performance measurement system as a strategic control tool in assisting managers to enhance organizational competitive advantage. The study shows that organizations use both financial and non-financial

performance measures even though the former is used more extensively. Relationship between strategic performance measurement system design and competitive advantage is also found.

Trade liberalization also effects service industry, an industry comprised of companies that primarily earn revenue through providing intangible products and services such as retail, transport, distribution, and food services. The general category of the service division includes a wide variety of industries, but can be categorized into primarily consumer-oriented (providing a service directly to a consumer), primarily business-oriented (providing a service directly to another business) or mixed (providing services to both businesses and individual consumers).

Alternately, the services division activities can be described by their economic activities as physical, intellectual, aesthetic, and other experiential activities. Physical activities involve working with objects; examples include repairing cars, landscaping, cutting hair, or preparing a meal. Intellectual activities involve providing education or training, such as at a university or trade school. The aesthetic activities entail providing consumers with artistic or visual experiences; museums, theater performances, art shows, and musical performances are examples. Finally, other experiential activities involve providing customers with recreation, such as in amusement and theme parks, zoos, or campgrounds.

A final way in which to categorize services is by what is transformed through the service. A service may transform a physical object, which occurs when something is repaired, altered, or improved. Having an article of clothing custom-made, a room remodeled, or an appliance repaired would involve transforming a physical object. Service division jobs may also change a consumer. Examples of changes to consumers are education, whereby the consumer learns knowledge or skills; health care, in which a person's health is improved; or personal services, such as when a hairstylist cuts a consumer's hair. A change to an organization is a third type of transformation involved in the service industry. For instance, a management consulting firm may make changes to an organization's structure or business processes to improve it. Eckert (2009) did a study on postal service reform and found that the rationale behind liberalization is that market forces shall boost efficiency and innovation, ultimately leading to better service at lower prices. Amizawati et al use a contingency framework to examine effect of effect of service process type, business

strategy and perceived environmental uncertainty on attributes of performance measurement system in service organizations.

In order to compete effectively, firm must derive its competitive advantage in one of two ways: (1) Product differentiation and (2) Cost leadership (Porter 1980, 1985). Product differentiation is a business strategy that provides customer satisfaction from factors such as superior quality, product flexibility delivery, and product design. Cost Leadership allows firm to compete by offering its products at a lower price than competitors. Reporting of timely and accurate cost information is very critical for organizations that adopt the low cost strategy to sustain and improve their competitive advantage. Commodity industry competes based on cost efficiency because price is determined by external forces. Neilson et al found positive association between overall cost system functionality and organizational performance in oil palm industry.

Accounting control systems should be designed to fit the strategy and its environment. Business unit strategy may also affect the manager's likelihood to biasing the budget target. Based on these arguments, Fuad et al uses a structural equations approach to examine the impact of environmental volatility on the relationship between business unit strategy and budgetary biasing behavior. The business unit strategy was measured by defenders-prospectors typology of Miles and Snow (1978). Defender is an organization with conservative competitive strategy and engages in little or no new product development. Planning and control systems of defenders are characterized as likely to be detailed, focusing on reducing uncertainty, emphasizing problem solving but not being able to assist product development or locate market opportunities. Prospector is an organization with aggressive competitive strategy that attempts to pioneer in product/ market development. Prospectors focus more on problem finding, and their flexible structures and processes assist the organization to respond rapidly or create environmental change. Fuad et al found that the appropriateness of accounting based budgetary controls differ across environmental volatility.

Budget is often regarded as an important element in organizations. It can be used to provision the resources, and as tool for control. The effectiveness and efficiency of budget for organizations also rely on the behavioral aspects of it. One way of motivating the users to achieve the target set in budget is through budgetary participation. Budgetary participation is a concept where low level managers are involved and have

influence on budget preparation for their respective responsibility centers. This practice can improve the motivation of low level managers towards their job. Ramdhansyah et al did a survey on managers from the farming industry and found a positive but weak relationship between budgetary participation and job performance of managers. Other variables will be included to test for their moderating and intervening effects on the relationship between these two variables.

Firms in today's business environment normally have market values that exceed the tangible assets shown on the balance sheet. The theory of intellectual capital equates the excess value approximates firm's intellectual capital. The role of intellectual capital in creating value and improving performance has become crucial in achieving competitive advantage in the marketplace. The effective management of intellectual capital therefore becomes the key to firm's success in knowledge-based economy. Noradiva et al found a positive relationship between intellectual capital management and firm performance. Although there is no difference in degree to which organizations of different industries, types and sizes acknowledge and adopt intellectual capital, firms with higher gap between market-book values adopt higher intellectual capital in their business models.

Strategic Alliance

The issue of transfer pricing occurs when one segment in an organization charge another segment for its product or service. When the transactions occur between segments in different countries, transfer price is set to minimize tax payment to the extent permitted by tax law (Horngren et al. 2006, Garrison et al. 2008, Drury, 2004). In order to maximize profits, companies that are involved in transfer pricing activities take into account the different tax rates imposed by the different countries. Therefore, transferring company in one country that has a high tax rate will charge a low transfer price so that the receiving company will show high profits but pay low tax. On the other hand transferring company will show low profit and subject to high tax rate. B.N Swami did a study on this issue in Botswana, a country that charge relatively low tax rate compared too other neighboring countries in Southern Africa. He found that low corporate tax rates are influencing factors to charge low transfer prices. In addition special tax concessions for financial services companies is the main influencing factor attracting multinational companies in Botswana.

Offshore outsourcing poses a crucial challenge for coordination and control. The SMEs that practice offshore outsourcing higher challenge because they have limited resources. Aini looks into the experience of small and medium enterprises (SMEs) in offshore software development outsourcing. The element of control is seen through middle persons and the setting up of own offshore software development centre to facilitate communication between client and outsourcing teams. Although SMEs do not have sophisticated process for managing offshore outsourcing work, personal connection between onshore and offshore teams play a huge role in control and coordination.

Nor Aziah indicates the importance of the intertwined concepts of accountability and trust in accounting based reform in order to have significant impact on processes of decision making. Explanatory case study method is used to illustrate the failure of a corporatized company to foster effective financial discipline and accountability through the introduction of a new budgetary system. The implementation of the new system created resistance due to lack of trust between operation managers and the accountants.

The growth in use of audit committee around the world motivates Ehsan et al to examine its effectiveness in Saudi Arabia. Audit committee members, internal auditors and external auditors form the three sample groups in this study. The views of internal auditors and external auditors towards the role of audit committee were significantly different, with the former evaluation being higher. Internal auditors hold audit committees in high regard and perceived them to have a very high level of effectiveness in fulfilling their duties among Saudi corporations. The views of audit committee members and internal auditors were not significantly different for 66.7 percent of the questions. In cases where they were dissimilar, internal auditors rated audit committee effectiveness significantly higher than the audit committee members.

Conclusion

In general, liberalization refers to a relaxation of previous government restrictions, usually in areas of social or economic policy. In international economic environment of today, economic liberalization is a popular approach used to promote trade, investment and growth. Faced with pressures such as globalization and trade liberalization, there is an

increased emphasis on organizations to achieve competitiveness. The key to being competitive is taking a holistic approach to the whole process.

Education and training have become basic requirements to face the challenges of globalization and trade liberalization. Mobility and connectivity will increasingly put the challenge on everyone to continuously improve their knowledge, skills and facilitate knowledge transfer. Everyone involved should be prepared to allow people who have the knowledge to pass it on in to spur to greater heights. Organizations should therefore be committed to set up and intensify human capital development through education and employee training programs.

Cost and information management, performance measurement and strategic alliance are some of the areas influenced by economic liberalization. Organizations need to give attention to these areas in order to capitalize on the opportunities and to handle challenges of economic liberalization and more importantly to sustain their competitiveness.

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CHAPTER ONE:

COST AND INFORMATION MANAGEMENT

THE STUDY OF END-USER COMPUTING SATISFACTION (EUCS) ON COMPUTERISED ACCOUNTING SYSTEM (CAS) AMONG LABUAN F.T PRIVATE COMPANIES

AZLEEN ILIAS, MOHD RUSHDAN YASOA',
MOHD ZULKEFLEE ABD RAZAK
AND RAHIDA ABDUL RAHMAN

Abstract

It seems clear that previous research have not attempted to test the End-User Computing Satisfaction (EUCS) on the computerised accounting system (CAS) in Labuan F.T private companies. The purpose of this study is to measure the level of satisfaction among the end-users of computerised accounting syst em (CAS) in private companies. The study determines the relationship between EUCS factors (content, accuracy, format, ease of use, timeliness, satisfaction with the system speed, system reliability) and satisfaction. Further, the study also examines the differences of satisfaction among demographic variables. The research was conducted using a set of questionnaire to 269 private companies' staff that using computerised accounting system (CAS). The study will provide results from empirical test of these relationships. The empirical results of this study can provide support for the Doll and Torkzadeh model (1988), which related to the factors contributing end- users' satisfaction toward accounting system.

Keywords: End-User Computing Satisfaction, Computerised Accounting System, Labuan

Introduction

The measurement of information system effectiveness has proven to be difficult (Seddon and Kee Yip, 2002). In fact, MIS Quarterly described it as one of the most "haunting problems" of Management Information System (MIS) (Davis 1989). Since it is difficult to directly measure the quality and effectiveness of information system, researchers tend to adopt the indirect measurement of information system. One of the measurements of information system is End User Computing Satisfaction (EUCS).

The relationship between the management of an organisation and the information system are measured by the satisfaction of the users. This phenomenon encourages a more focused measurement to explain the overall satisfaction of the computerised accounting system (CAS). Specific questions about certain information system, i.e. CAS, in relation to the factors affecting the end users computing system seem necessary instead of general questions.

There is wealth of literature in the area of the measurement of satisfaction among end user computing. Further, it has had a long history within the IS field. Focusing in the area of end-user computing, a number of studies have attempted to capture the overall evaluation that end users have regarding the use of an information system; i.e. satisfaction, as well as the most immediate factors that form satisfaction (Doll et al. 1995; Doll and Torkzadeh 1988, 1991; Henry and Stone, 1994; Torkzadeh and Doll 1991). However, it seems clear that previous research have not attempted to discover the factors affecting the satisfaction of the end users of the CAS especially in private companies. Yet, it is essential to determine the factors that contribute to EUCS while assessing the overall evaluation of information system. This study attempts to explore the factors that contribute to the EUCS among the private companies in Labuan F.T.

Background of the Study

Since the beginning of 1980s, many researches had conducted survey in information system field highlighting the tremendous development in end-user computing world. In fact, the growth of end-user computing is one of the significant phenomena of the 1980s in the information management world (David, 1983). Business Week (1982) quoted an estimate from Dataquest, Inc. that the training industry would capture $3 billion of the $ 14 billion spent on personal computers by 1986. These phenomena give

indications that the growth of the end-user computing has already started more than 20 years ago. Furthermore, it is more complicated during the emergence of the borderless world through the introduction of Internet and other information technological advances and gadgets. For instance, according to research done by Nielsen Media Research-Media Index, the statistic of personal computer at home based on total adult in Peninsular Malaysia for the year 2005 is 13,139,000 compared with year 2000 is 11,212,000. It seems there is an increasing of personal computer at home aligned with the existence of information communication technology in Malaysia.

It seems that organisation that does not adopt and utilise the CAS faces many problems especially when the organisation grows bigger and involves in many advanced transactions. This situation leads to the awareness of the importance of adopting and implementing CAS in most of giant companies. It is impliedly clear that there are many advantages of implementing the CAS. Bassett (1987) explained the inherent benefits of this system as follows:

(a) *Addition and entries should be more accurate.* This is due to the large amount of data to be kept in the accounting records. Clerks tend to be bored or distracted that lead to human errors.
(b) *Reports can be supplied more quickly and frequently.* Computers can produce profit and loss accounts as frequently as required (once a day if needed).
(c) *Reports produced by the manual system seem to be impractical due to the time and cost involved*; e.g., the analysis of aged debts. In a manual system, account clerk has to refer to the sales ledger to identify customers who have not paid debts before sending them reminders asking for payment.

The tremendous adoption of CAS is actually has been influenced by many other factors as well. Breen et al. (2003) determined the factors that motivated the use of a CAS as well as the factors that hindered the introduction of a CAS. They reported that only 55% of owner-managers used a CAS whereby the most popular CAS is MYOB (54.9%). Furthermore, they found that the existence of accountant has influenced early starters to introduce a CAS so that small businesses have better records of their financial activities. Obviously, the introduction of a CAS should not be seen as a threat to the accountant, but rather an opportunity.

Moreover, the study by Breen et al. (2003) was designed to investigate small business usage of a CAS to ascertain if there are obstacles that prevent small business from migrating to such a system for both users of CAS and non-users CAS. The study identified a number of other motivating factors included the computer self-efficacy of the owner-manager, the cost and perceived benefits of the innovation, ability to pay for the innovation, having the time to implement the CAS and possessing the staff capable of using the system. Beside, the CAS users stated that they believed the software had a positive impact on the business. However, the CAS non-users stated two major reasons for not using the CAS because a CAS was not needed and would not add value to the business and owner manager lacked IT skills and knowledge to employ it. Extensively, Bresseler & Bresseler (2003) identified types of accounting information system software utilized by small businesses and asked entrepreneurs whether they are satisfied with the implementation of their software package. Beside, the study also identified the most important variable regarding the choice of accounting information system software application. They suggested that entrepreneurs overwhelmingly chose software package that they found easier to use and were heavily influenced by consultants and business counselors when selecting software package. In addition, the most popular software package is Quick Books and more than half of the respondents are very satisfied based on ease of use or additional software features.

The purpose and significance of the study

The objectives of the study are follows:

1. To measure the level of satisfaction among the end users of CAS in private companies

2. To determine the relationship of seven factors (content, accuracy, format, ease of use, timeliness, satisfaction with system speed, system reliability) that influence satisfactory level among the end users toward the CAS

3. To study the differences of satisfaction among the demographic variables (gender, education background, position, attending computerised accounting course and additional skills)

It seems clear that there is lack of study has been conducted in area of EUCS among private companies, particularly in Labuan F.T. Thus, the

study aims to contribute to the existing body of knowledge in the area of information technology. Further, the study provides the constructs to measure and evaluate EUCS among the private companies in Labuan F.T. Theoretically, this study measures and validates the instrument of Doll and Torkzadeh EUCS (with some additional dimensions) among private companies. In addition, this instrument is very useful in practice, not only for public sector but also for private sector towards the achievement of the excellent and better performance.

End User Computing Satisfaction Definition

Many researchers defined end user computing based on their own objectives and setting of the study. Ives, Olson and Baroudi (1983) defines User Information Satisfaction (UIS) is one such evaluation mechanism as to extent to which users believe the information system available to them meets their information requirements. Chin and Lee (2000) defined end-user satisfaction with an information system as the overall affective evaluation and end-user has relating with his or her experience in the information system. They stated that the term “experience” could be made more specific to focus into different aspects related to the information system such as computing or training. According to Doll and Torkzadeh (1988), EUCS is the affective attitude towards a specific computer application by someone who interacts with the application directly. End-user satisfaction can be evaluated in terms of both the primary (application) and secondary user roles (inquiry and decision support application).This study deployed Doll and Torkzadeh definition of the end user computing and EUCS. The end user computing in this study is the people who interact and use the CAS such as financial officer, administrative officer, bursar assistant, account clerk and etc, and eventually they can interpret the report as in needed by the organisation. These end users were asked to reflect their satisfaction or perception on the CAS in their own organisation.

Literature review

The scope of the discussion is related to EUCS; the previous factors that contribute to the EUCS, Doll and Torkzadeh Model (1988); i.e., content, accuracy, format, ease of use, and timeliness and the modification made by Chin and Lee (2000), i.e. satisfaction with system speed, and system reliability (self developed). The model will become the fundamental

guidelines to examine factors contributing to EUCS in finance department among private companies.

EUCS model is the extension of User Information Satisfaction (UIS) model, which previously had been developed by Ives, Olson and Baroudi in 1983. There were quite numbers of studies done by information system researchers treated User Information Satisfaction (UIS) as their dependent variable. Hamilton and Chervany (1981) stated that several information system researchers have suggested user satisfaction as a success measure for their empirical information system research. These researchers found that user satisfaction is appropriate when a specific information system was involved. Meanwhile, McKinsey & Company (1986) studied the chief executives' satisfaction in their attempt to determine the success of the overall Management Information System (MIS) effort.

In study by Amoli and Farhoomand (1996), they used structural equation modelling techniques to explore the relationship between EUCS and user performance. In their study, it was found that six-attitudinal dimensions of EUCS account for a significant portion of the variation in user performance. Chen et al. (2000) had identified the underlying factors of end-user satisfaction with data warehouses and had developed an instrument to measure these factors. The study demonstrated that most of the items in classic end-user satisfaction measure are still valid in the data warehouse environment, and that end-user satisfaction with data warehouses depends heavily on the roles and performance of organisational information centres.

Heilman and Brusa (2001) evaluated the reliability and validity of a Spanish version of the User Information Satisfaction (UIS) short form (Ives, Olson and Baroudi, 1983), and used the instrument to investigate user information satisfaction among employees of organisations in northern Mexico. Results indicated that Mexican computer users have positive attitudes toward and are generally satisfied with their employers' information systems, especially with their IT staff and services. On an individual scale assessment level, the users are least satisfied with the level of user training they received.

Seddon and Kee Yip (2002) provided an empirical evaluation of three user satisfaction measures for use with computer based general ledger accounting systems. The three measures tested are Ives, Olson, and Baroudi's User Information Satisfaction measure, Doll and Torkzadeh's

EUCS measure, and a composite measure that includes questions specifically related to the features offered by general ledger systems. The results from the analysis of the data suggested that Doll and Torkzadeh's is a more useful measure of satisfaction with general ledger systems as compared to Ives, Olson and Baroudi's UIS.

Unlike the other researchers, Pather et al. (2003) argued that the advent of e-Commerce has shifted the location of the traditional user of Information Systems out of the physical domain of the organisation or business. E-commerce businesses now have to deal with a new type of user viz. the e-Customer. Thus, they disputed that established instruments that measure user satisfaction of IS in traditional (brick and mortar) businesses are not completely appropriate. The authors, building on a comprehensive literature study, derived an appropriate model for exploring the measurement of e-customer satisfaction in the South African context.

Markovic & Wood (2004) addressed the issue of user satisfaction with a computer lab in a university. Both formal and informal data gathering techniques were used to provide comprehensive data for this research. Data was gathered from both users and managers in order to provide a complete picture of the current situation. This data led to a research study of user satisfaction among students and support staff. The research revealed that satisfaction with hours and software and hardware performance had the greatest impact on user satisfaction followed closely by quality of support staff.

Bengts (2004) studies usability as a constituent of end- user computing satisfaction. Different measurement instruments and rating scales for user satisfaction have been created; however, the relationship between satisfaction and usability remains unclear. A web-based system with three different user interface alternatives was implemented and the system was used by information technology students to practice SQL-queries in a university course. 43 students reported their preference and the underlying reasons by answering both structured and open-ended questions in a web-based questionnaire. The results also indicated that availability of desired features, simple interaction and user-control are as constituents of satisfaction more important than simple screen design and error- free usage.

Huang et al. (2004) argued that while end-user computing satisfaction has been studied extensively, new aspects such as purchasing convenience,

product prices in the system and product delivery have to be included. In their study, they developed an instrument for reliably and accurately measuring business-to-employee success. Test–retest reliability and construct validity were examined. Finally, they concluded that convenience, delivery, interface, accuracy, price and security influence employee assessments of satisfaction. Managers can use the instrument developed in their study to assess the success of their business-to-employee systems.

Higher user satisfaction leads to positive attitude toward using the system, and in turn, increases the actual use of the system in voluntary situations (Mihir and Bijan, 2002). As end users increasingly use the system, system objectives is realised and the system is success. Therefore, the EUCS is a critical factor for promoting CAS use and ensuring system success.

According to Delone and McLean (1992), either user satisfaction or EUCS is probably the most widely used single measure of information system success as dependent variable. The reasons for this are at least threefold:

> First, "satisfaction" has a degree of face validity. It is hard to deny the success of a system, which its users say that they like.
> Second, the development of the Bailey and Pearson instruments (as a base instrument) and its derivatives has provided a reliable tool for measuring satisfaction and for making satisfaction among studies.
> The third reason for the appeal of satisfaction as a success measure is that most of the other measures are so poor; they are either conceptually weak or empirically difficult to obtain.

The dependent variable for this study is satisfaction. The items, which represent satisfaction, are combined from certain item in every EUCS dimensions. Doll and Torkzadeh (1988) previously used this method in their initial study of EUCS. In those particular items, the respondents were asked whether they satisfied with overall EUCS factor in general or not. This method was implied so that the respondents would not focus to the certain factor or dimension which is overall EUCS. However, to avoid the high correlation between dimensions of EUCS (independent variable) and satisfaction (dependent variable), the study used different items in questionnaire as overall satisfaction (dependent variable) and precisely not uses the same items in preparing the analysis. Therefore, the high correlation of the expected result is not because of the same item to

measure the independent variable and also the dependent variable, but it is due to reliable and valid instrument, which have been used in this study.

Doll and Torkzadeh (1988) specifically designed their instrument to measure EUCS**.** They developed instruments that consisted of content, accuracy, format, ease of use, and timeliness. Their instrument was specifically designed to work within the end-user computing environment. They conducted personal interviews with end-users (especially middle and lower level managers) in 44 non-randomly selected firms, and then administered an 18-item instrument employing what appear to be 5-point Likert scales. Doll and Torkzadeh argued that a five-factor model was more interpretable.

This study was based on this EUCS instrument by Doll and Torkzadeh because it is widely used instrument, and has been validated through several confirmatory analyses and construct validity test. After the exploratory study was completed in 1988, two confirmatory studies with different samples were conducted respectively in 1994 and 1997, which suggested the instrument was valid (Doll et al. 1994; Doll and Xia 1997). A test-retest of reliability of the instrument was conducted in 1991, indicating the instrument was reliable over time (Torkzadeh and Doll 1991).

The instrument is widely accepted and adopted in other researches. Harrison and Rainer (1996) used EUCS as a general measure of computing satisfaction in a survey with the salaried personnel of a university. Their results also support the reliability of EUCS and the validity of the five factor construct even when EUCS is not used as an application-specific instrument. Even though many studies have confirmed that the individual items of EUCS are correlated with the total and that the factor structure exists in the answers, the validity of EUCS as a measure of user satisfaction can be questioned.

In their counterpart, McHaney et al. (1999) conducted a test–retest reliability study of EUCS instrument by Doll and Torkzadeh. The instrument was distributed to real-world representational decision support system users through a mail survey. The result suggested that the instrument was internally consistent and stable when applied to its users. McHaney et al. (2002) again focused on the psychometric stability of the EUCS instrument by Doll and Torkzadeh when applied to Taiwanese end-users of typical business software applications. Using a survey of 342

users, the research provided evidence that the instrument is valid and reliable measurement in Taiwanese settings. Given this evidence, managers and software developers can confidently apply the instrument in the investigation of competing tools, features, and technologies.

From the other perspective, Xiao & Dasgupta (2002) developed and validated an instrument for measuring user satisfaction in a web-based environment. This research tested the validity and reliability of the EUCS instrument on users of Internet portals and found that with minor revisions the new instrument provides a valid measure of user satisfaction.

Lately, Amdan et al. (2006) measured the level of EUCS among CAS end users in peninsular Malaysia public universities. They evaluated the significant relationship between EUCS factors and the overall EUCS in Malaysian context and examined the differences of perception on overall EUCS among the demographic variables. This study found that EUCS factors more reliable as compared to previous studies and the correlation between satisfaction and EUCS factors are fairly strong. However, the study failed to detect any significant differences of perception on overall EUCS among the demographic variables.

Conclusively, even though the results are mixed, most of the previous studies shown that this instrument is valid and reliable to measure the satisfaction among the end user computing.

Dimensions of EUCS

The dimensions of the study consist of content, accuracy, format, ease of use, timeliness, system speed, and system reliability. The prior research and research question development is discussed for every those dimensions.

The research questions are:

RQ1: What is level of satisfaction among the end users of CAS in private companies?
RQ2: How strong seven factors of EUCS influence satisfactory level among the end users toward the CAS?
RQ3: Does level of satisfaction differ among the end-users of CAS demographic variables?

Research methodology

This study relied on survey design as it deemed more appropriate compared with other designs of research to achieve of the study. The population of this study covered the end users of CAS at private companies in Labuan F.T. However, only 300 from 400 list of private companies' being selected due to their active operation. We have distributed 3 questionnaires for each company and the total population are 900 respondents. Sekaran, U. (2003) has stated the sample should be taken for this population are 269.

Instrumentation

Basically, the instrument of this study is based on the instruments, which was developed by Chin and Lee (2000). It presents a new set instrument while focusing on the same five construct domains. They are: content, accuracy, format, ease of use, and timeliness (Doll & Torkzadeh, 1988); and satisfaction with system speed (Chin & Lee, 2000). According to their findings, the relationship between the overall measures of satisfaction than the baseline model is expected to relate strongly. However, based on the related literature as discussed earlier, this study proposes another dimension, which is system reliability. This dimension is already tested on the validity and reliability during the pilot study. The value of the Cronbach's Alpha of 0.70 indicates that the instruments of this study are acceptable and reliable to measure what they are supposed to measure.

For the purpose of this study, the instruments are adapted from Chin and Lee (2000) and Doll and Torkzadeh (1988). The table summarises the justifications of the selection of the instrumentations. However, some modifications have been made to enable the instruments are fit to be used in the CAS environment. For instance, "Does the system provide the precise information you need?" is modified to "Does the CAS provide the precise information you need? This will ensure the respondents are kept reminded that the system is CAS.

The questionnaires are also attached with a cover letter from the researcher explaining the purpose of the study and the questionnaire. The questionnaires are divided into two sections. The first section is for the dimension of EUCS. While, the second section is for the personal information. For the first section, it was divided into 6 parts namely: (1) Part A -Content, (2) Part B - Accuracy, (3) Part C - Format, (4) Part D -

Ease of Use, (5) Part E - Timeliness, (6) Part F - Satisfaction with System Speed and (7) Part F - Satisfaction with System Reliability. The second section is about the personal information of the respondent. These include their gender, education background, position, and computerised accounting course. A five-item scale was used, where 1 = never; 2 = some of the time; 3 = about half of the time; 4 = most of the time; and 5 = always. The instructions requested respondents to circle the response which best to describe their satisfaction level with the application of computing system.

To analyse the data, the study conducted descriptive analysis, correlation analysis, and analysis of variance (ANOVA) using the SPSS (statistical package for social science) software for windows. The study also tested reliability of the instrument so that it enables to produce a robust and valid result.

Results

The main research question (RQ1), measure the level of satisfaction among the end users of CAS in private companies. Table 1 presents descriptive analysis (minimum, maximum, mean and standard deviations) were obtained for the interval scaled dependent and independent variable. The minimum for most of the variable is 1.00 and the maximum is 5.00. From the results, it shows the mean for seven factors (content = 3.7584; accuracy = 3.7069; format = 3.7361; ease of use = 3.7127; timeliness = 3.5006; system speed = 3.5805; system reliability = 3.6187). The mean for satisfaction is 3.7299. In general, it shows that the users computing are quite satisfied with the CAS. The minimum indicate that the end users are never satisfied and the maximum indicate the end users always satisfied with computerised accounting system (CAS). From the standard deviation results, the lowest is system speed (.69953). It shows rating satisfaction for system speed were consistently close to the mean rating. However, the highest is format (.76687) and clearly more spread from the mean. It defined that some user's ratings are very high and the others were low satisfaction.

TABLE 1: Descriptive Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Content	269	1.00	5.00	3.7584	.75612
Accuracy	269	1.00	5.00	3.7069	.76381
Format	269	1.00	5.00	3.7361	.76687
Ease of use	269	1.00	5.00	3.7127	.75819
Timeliness	269	1.00	5.00	3.5006	.74765
System speed	269	1.33	5.00	3.5805	.69953
System reliability	269	1.00	5.00	3.6187	.74341
Satisfaction (Dependent Variable)	269	1.00	5.00	3.7299	.73212

Table 2 present the Reliability Analysis, Cronbach's alpha reliability coefficients of the seven factors and satisfaction (dependent variable). All the factors were all above 0.7. A sample of the result obtained for Cronbach's alpha test for satisfaction with the factors are shown in Table 2. It seems that this study provides quite reliable instruments because the score is higher as compared to Doll and Torzadekh. For example, the content score in Doll and Torkzadeh study is 0.89 as compared to 0.922 in this study; accuracy = 0.91 (0.897); format = 0.78 (0.747); ease of use = 0.85 (0.898); and timeliness = 0.82 (0.812) . The satisfaction with system speed in this study (0.818) is higher compared to Chin and Lee study (0.72). Furthermore, even though system reliability is a new dimension in this study, it provides a reliable dimension for EUCS measurement (0.818). Further, system reliability in this study is more reliable as compared to Amdan et al. (2006) whereby the Alpha is only about 0.7204. In general, the closer the reliability coefficient gets to 1.0, the better. Reliabilities less than 0.6 are considered to be poor, those in the 0.7 ranges, acceptable, and those 0.8 good (Sekaran, 2000). It is of evidence that the Cronbach's alpha value for the seven factors in this study ranged from 0.747 to 0.922. Therefore, the internal consistency reliability of the measures used in this study can be considered to be good.