SIX MAIN INNOVATION ISSUES: A CASE OF SERVICE INNOVATION OF POSTAL AND COURIER SERVICES IN MALAYSIA

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"Innovation is what drives progress and the potential for our nation to profit from it is huge"
Datuk Seri Najib Tun Razak, Prime Minister of Malaysia.

Malaysia, together with Thailand, Indonesia and Philippines are looking forward to be a fully industrialized country by the year 2020. The Ministry of Science Technology and Innovation (MOSTI, 2010) reported that Malaysia was ranked at 24th in the Innovation Competitiveness and also ranked at 26th in the Global Competitiveness Index for the year 2010-2011. As our nation could gain a huge profit from innovation activities, however, it will also come with risk. Therefore, several issues will encounter while engaging in innovation plan. This paper discusses innovation issues particularly in Malaysia. Specifically, this paper discusses six factors that have been identified to be main innovation issues and deliberates on the service innovation of postal and courier in Malaysia.

Technology

Development and application of new technologies are needed in supporting Malaysia economic growth. Back in 1960s and the 1970s, government policy on technology was oriented more towards encouraging foreign direct investment (FDI) in industries considered to be "high-technology", such as the electronics industry. Efforts to enhance the country's science and technology capacity took place only from the mid-1980s. This included public policies to improve the financing of innovation-related activities such as research and development (R&D), either directly through grants or indirectly through tax incentives. In the early to the mid-1990s, the Ministry of Science, Technology and Innovation (MOSTI) starts carrying out national surveys on R&D and innovation.

Firms and sectors in Malaysia prefer imported technology from the technology developed domestically. This may be less risky when the capability of technology developed is already being tested. However, this will make Malaysia more dependent on new technology offered by other countries to implement its own innovation plan.

Implementing innovation will depend on the physical infrastructure and information and communication technology (ICT), which promotes location and development platform for knowledge and innovation investment, and skilled labor. Technology will always be an enabler in implementing innovation, thus, Malaysia have to continuously improve and develop updated technology.

Research and Development (R&D) and Knowledge

Successful public and private sectors in Malaysia will put higher R&D expenditure to knowledge creation and innovation. However, the level of R&D in Malaysia is still low compared with some countries in the same region. Therefore, patent registration in Malaysia is also low compared with these countries.

R&D spending is commonly used as a measure of a nation's competitiveness. Internationally, several things need to exist at various levels on the expenditure produce the desired result. At the project level, even with the support of the adequate financial and institutional terms, the research must be on things that can trigger further research, pushing the boundaries of knowledge and

generating potential commercialization. At the intermediate level, the right combination and critical elements, such as entrepreneurship, capital, and there should be incentives to promote efforts development of products and processes during the commercialization process. In fact, the product or innovative processes to generate high value-added activities and contribute effectively to increase efficiency, total factor productivity (TFP), and growth.

Another important issue is Malaysia has to have a well-trained and educated workforce and supported by the ability to get educated workforce and talent globally. Potential workforce can be determined when the government together with the higher education institution starts to search among students that show their potential.

Innovation is also a supply chain process that requires collaboration between many parties. In Malaysia, the relationship between industry, academia, and researchers are very weak or none. Knowledge sharing and collaboration in the project innovation is limited. Therefore, there are outflows of R&D talent to neighbouring countries due to the compensation packages that less attractive, poor job prospects and lack of opportunities.

Rapid Technology vs Slow Response

When there is a plan, there will be an actor. Therefore, there must be active and innovative actors that could play their role in fulfilling the dream to become an innovative country. The actors may come from an individual basis or group of people. As for a country, innovation plan may involve the government, the business players and the industrialists. These actors have to play their role actively, in line with the rapid technology that may change in every minute.

It is undeniable that SMEs contribute a huge outcome to the country. However, their ability is still limited which make them also low in innovation capacity. Although there are several examples of MNCs working with SMEs to help them innovate, most of the SMEs in Malaysia still have a low innovation capacity. Therefore, SMEs do not have the size and scale to expand their operations and compete in regional and global levels.

Small Medium Enterprises (SMEs) and Entrepreneur

Malaysia can no longer rely on multinational corporations (MNCs) in efforts to drive innovation and integration into global networks for the production and marketing processes. Strengthening the entrepreneurial eco-system in Malaysia is likely to improve environment for innovation. Entrepreneurship characteristic such as their passion in seeking and identify new opportunities and ways to profit will benefit country in many ways, including country innovation effort. Entrepreneurship and innovation will not emerge on its own. It is more likely to manifest itself in a competitive free market which Malaysia could offer.

The issue regarding entrepreneurship and innovation may also relate to government procurement practices and government-linked companies (GLCs). The government and GLC procurement practices do not lend support to the new entrepreneur-investigator whose products and processes are more innovative.

SMEs and entrepreneurs are a substantial part of the economy but are mainly in the services industry, where technology is still at the basic level. The innovation economy demands a new breed of SMEs that can help propel market-driven and technology-driven innovation to more create jobs and wealth to the nation. Unlike traditional SMEs, these new Innovation SMEs (I-SMEs) and entrepreneur need to manage risks associated with market-driven and technology-driven innovation, namely technology risk, funding risk and market risk. Hence government support is urgently needed to mitigate these high risks in order to achieve a critical mass of this new breed of I-SMEs, especially in ICT, biotech and other growth areas.

Financial Capabilities

Several key issues have been pointed out and financial capabilities remain important. There must be an increasing number of funding and incentives to support private sector research and help bring products to market since they are also the main actors in the innovation plan. In addition, innovators that rely on outside funding especially what is being given by government have to efficiently manage the funds that have been allocated for innovation plan. However, being innovative does not mean that they have to rely on others (e.g. government fund) but having their own efforts and resources will make their innovation activities become more meaningful. Like it or not, there must be some allocation for innovation effort within the companies, just to make sure it is not impossible to be implemented.

Environment

Innovation has its own eco-system where parties involved in innovation plan (e.g. government, business entities, individual) play a major role in creating an environment and eco-system that can foster innovation. However, strong government commitment and ability to implement tough structural reform can be the main factor that could bring Malaysia to be an innovation-led country. Since achieving the status of a middle-income country in the 1990s, the economic structure of Malaysia has not changed much with the dependence on exports in the electronics sector. Low to moderate technology systems is not encouraging innovation. The policies outlined in several initiatives (e.g., Industrial Master Plan, IMP-8 and IMP-9) prove the awareness for change and industrial transformation. However, progress is still limited compared with the large amount of resources finance that has been removed. Furthermore, the initiative is mainly for improving the supply side the of national innovation system (fiscal support, financial incentives, development institutions, and infrastructure development that has established technology parks, incubators and some specific technology center). However, the efforts have not yielded the desired result which is in developing a national innovation capacity. Thus, more effective innovation efforts and approaches are still needed.

A Case of Service Innovation of Postal and Courier Services in Malaysia

Background

Starting from the late 1990s Malaysia is looking forward to be an innovation-led economy. The Ministry of Science Technology and Innovation (MOSTI, 2010) reported that Malaysia was ranked at 24th in the Innovation Competitiveness and also ranked at 26th in the Global Competitiveness Index for the year 2010-2011. One of the main contributions of this achievement was rooted from the service sector. Postal and courier service is part of the service sector that continues to develop. The global mail and package delivery was estimated to reach USD500 billion in 2008 (UPU, 2010) and is expected to keep increasing. The recent launch of Economic Transformation Program (ETP) by the government of Malaysia is expected to have more positive impact on the sector. The courier market could reach RM4 billion (about USD 1.3 billion) by the year 2020. However, this industry faces challenges as a result of globalization. Although, the Malaysia's courier market has grown at 7 percent annually in average, this industry has numerous challenges ahead in terms of low profit margin, access to capital, technology adoption, and quality (Malaysian Communication and Multimedia Commission, 2011). This paper focuses on the innovation, technology, and quality issues in the postal and courier services.

Generally, postal and courier services are related to delivery of parcels, packages, documents, letters, and printed materials. The scope of postal and courier services is defined in Table 1. Basically, the postal transportation process consists of mail collection, input sorting, organize the movement of mail (global area transportation), output sorting, and distribute mail (Grunert and Sebastian, 2000). The complexity of the process, therefore need to be assisted by ICT to ensure that the correct mail can be received by the customer on time.

In the past, the postal industry used to involve physical transportation of physical communication, like package and mail delivery (Grunert and Sebastian, 2000). However, the industry has evolved to include traditional post, courier services, freight services and e-services in recent years. Emerging technology based on the convergence of telecommunications, broadcasting and publishing has and will continue to change the landscape of physical communications globally. Therefore, postal organizations nowadays, regardless of their sizes face with the challenges dealing with the new technologies; with operating in the same way as private corporations, understanding what products are profitable and which are not, and dealing with almost constant change. To survive in today's world, postal organizations need to change through deregulation to become more competitive, market-oriented and customer-driven. In this environment, price is no longer the only determinant of the postal industry (Gouvea *et al.*, 2001). Speed and quality (or responsiveness) is the next source of competitive advantage (Razalli, 2008) especially in the postal industry.

Table 1: Definitions for Postal and Courier Services

Postal Service	
Postal services related to letters	Services consisting of pick-up, transport and delivery services of letters, newspapers, journals, periodicals, brochures, leaflets and similar printed matters, whether for domestic or foreign destinations, as rendered by the national postal administration.
Postal services related to parcels	Services consisting of pick-up, transport and delivery services of parcels and packages, whether for domestic or foreign destinations, as rendered by the national postal administration.
Post office counter services	Services rendered at post office counters, e.g. sales of postage stamps, handling of certified or registered letters and packets, and other post office counter services.
Other postal services	Mailbox rental services, "poste restante" services, and public postal services not elsewhere classified.
Courier Service	
Multi modal courier services	Services consisting of pick-up, transport and delivery services, whether for domestic or foreign destinations of letters, parcels and packages, rendered by courier and using one or more modes of transport, other than by the national postal administration. These services can be provided by using either self-owned or public transport media.
Other courier services	Other courier services for goods, not elsewhere classified, e.g./trucking or transfer services without storage, for freight.

Source: World Trade Organization (2010)

These challenges would certainly require the postal and courier services to be more innovative. We argue that in the effort to become more innovative, would it also lead to better performance? The investigation on effect of innovation is important because the development of new

service failure rate is very high (Su *et al.*, 2007). In addition, most of the researches in the past have examined the effect of innovation on the operational and organizational performance in general but very little focus on the customer responsiveness.

Therefore, the purpose of this paper is to discuss the current innovation in the postal and courier services in relation to the customer responsiveness. Finally, at the end of the paper, we propose a model to be investigated in relation to this relationship.

Customer Responsiveness

This paper defines customer responsiveness as the extent of capability of a firm in providing speedy services, variety of services, and willingness to help customers within the service delivery system (Razalli, 2008). In other words, responsiveness is the operational performance that measure capability of the service providers in terms of time, quality and flexibility in relation to their customers. Prior studies have found that customer responsiveness is substantially important in the logistic companies especially the postal and courier services. For example, studies found that the level of responsiveness (in terms of speed) is influenced by the service delivery [Sheu *et al.*, 2003; Jayaram *et al.*, 2000). Specifically, the use of technology in the service delivery has been found to influence responsiveness (Poria and Oppewal, 2003). A recent study on responsiveness also found that service delivery influences responsiveness (Kritchanchai, 2004). Besides that, Arias-Aranda (2003) discovered that service delivery is significantly related to service flexibility. Other studies have shown that the competence to innovate (Menor *et al.*, 2002) and the firm's new service development process (Sundbo, 1997) could lead to a greater organizational performance. A study by Chen and Tsou (2006) also supported that a firm's decision to develop service innovation for firm performance depends upon the innovation. Therefore, we conclude that service innovation should lead to responsiveness.

Service Innovation and the Postal and Courier Companies

Innovation is about people creating values and ideas to the customers. It has become a driving force for a large number of organizations around the world. Even a small innovation would result in a cumulative strength that is capable of creating the new one (Kandampully, 2002). As marketplaces become ever more dynamic, there is a widespread recognition of the increasing importance of innovation to organizations and economies (Rowley *et al.*, 2011; Oke, 2007). Innovation is about an organization's ability to provide the creative space and the resources to explore those ideas knowing that new does not always mean successful. Taking risks is an integral part of innovation and people can learn as much from what did not work as what turns out to be successful.

Service innovation enables service firms to gain competitive advantage (Droege *et al.*, 2009). Innovation in postal and courier services is essential for their survival. Courier services will continue to grow in line with the growth of online shopping or internet business, and more home delivery, coupled with the increased infrastructure of developing countries and rural areas. E-commerce will be a key driver in the growth of postal and courier service with more and more people buying and selling through the Internet. People and the postal articles and goods to be moved efficiently from one place to another anywhere within the country as well as overseas. Thus, an integrated development strategy for the postal and courier sector is timely as digital and physical communications are likely to complement each other.

In addition, based on Hertog and Bilderbeek [21] service innovation model, Qiang, Chongfeng, Zhiyong and Guoyun (2010) has suggested four types of innovation that can be applied in the logistic service such as courier and postal services (as shown in Table 2).

Table 2: Types of Innovation in Logistic Service

Types of Innovation	Description
Service Technology Innovation	Service technology innovation contributes to better and faster time and space utility, and improved the operational efficiency of logistics services. It concerns with the technology usage by the firms. For example, competitive advantage of logistics services can be greatly enhanced by the application of advanced logistics technologies, such as ERP systems, RFID, EDI technology, network technology, decision support systems, time-tracking systems, automated warehouses, and advanced loading and unloading equipment.
Service Concept Innovation	Service concept innovation contains the innovation of supply chain operation and management. The main parts of supply chain operations and management innovation are organization innovation, relationship innovation, and information innovation. The goal organization innovation is to achieve value of the customer-centered supply chain, collaborate and integrate the customers and related enterprise.
Service Delivery System Innovation	It is the emphasis on the existing organizational structure and knowledge networks which should be adapted to the need of the development of new services. Therefore, project management ideas should be introduced, which sets up an intra-departmental and intra-organizational virtual team, through organizing, coordinating the supply chain to meet customer demand for all resources to complete supply chain solutions. Organizations should build up a learning organization, through enhancing learning and improving the capacity of enterprise and staffs as well as encouraging innovations.
Customer Service Interface Innovation	The companies can obtain long-term profitability and development by understanding customers' needs through customer surveys or third-party investigation. Additionally, they should also develop business strategies that match with the customers' supply chain and logistics solutions to enhance the customer value and service satisfaction, and enhancing mutual trust between customers and service providers.

Information Communication Technology Capability

In order to raise the service capability in the era of e-commerce, it was suggested that logistics service providers to employ new information technologies (Nixon, 2001). Adopting innovative logistics technologies may enable logistics service providers to enhance their service abilities (Lin, 2007). Adopting technologies may involve five stages: awareness, interest, evaluation, trial and adoption (Weber and Kauffman, 2011). Awareness stage is when someone starts to learn the existence of a new technology. The next stage happens when they start to gather information about the new technology. The third and fourth steps are when they analyze and try out the new technology. Finally, after decision is made, they will adopt the technology. This process may apply to any organization that adopting technology in their companies (Weber and Kauffman, 2011).

Walker and Cheung (1998) listed 11 intangible benefits of ICT. They include 1) job enhancement for employees, 2) improved external communication, 3) change through innovation, 4) improved internal communication, 5) improved product quality, 6) improving management information, 7) avoiding competitive disadvantage, 8) supporting core business functions, 9) more timely management information, 10) gaining competitive advantage, and 11) improved customer service. Companies can use ICT for both efficiency (cost and time saving; doing things right) and

commercial advantage (providing superior value; doing the right things). ICT capability can also affect the companies throughout their value chain, starting from procurement, transformation, marketing, and distribution processes to their customers (Regan *et al.*, 2006).

In general, ICT is a tool for innovation, but ICT capability is the ability of the firms to understand and utilized IT tools and processes for achieving competitive advantage (Ringim *et al.*, 2010). The definition of ICT, however, is still quite vague and confusing in the literature. Many authors have used ICT, e-commerce, Internet, and e-business interchangeably (Southern and Tilly, 2000). One study explained that ICT is related with a wide array of technology, ranging from database programs to local area networks (Matlay and Addis, 2003). Moreover, the results of the studies on the effect of ICT on innovation are inconsistent. A study by Johannessen *et al.* (1999) suggests that ICT by itself does not encourage or discourage innovation. It is the people working in the organization that create innovation, not ICT. ICT is more or less like a tool to be used for innovation, since new technology can help companies to do things in a new or better way. Another study, however, has found that the use of ICT has a positive relation with innovation and performance, which is due to learning and adjustment, boosted by the maturity in using ICT by IT companies (Johannessen *et al.*,1999). A study also found that IT capability is a strong moderator in the relationship between service innovation and supply chain performance [30]. Based on this, we propose that customer responsiveness and service innovation is contingent to the level of ICT capability of the postal and courier services.

Proposed Model of Service Innovation and Customer Responsiveness

Based on the above discussion, we propose the following model to be further investigated. We argue that customer responsiveness is influenced by the service innovation at the postal and courier services. The relationship is moderated by the level of ICT capability by the companies.

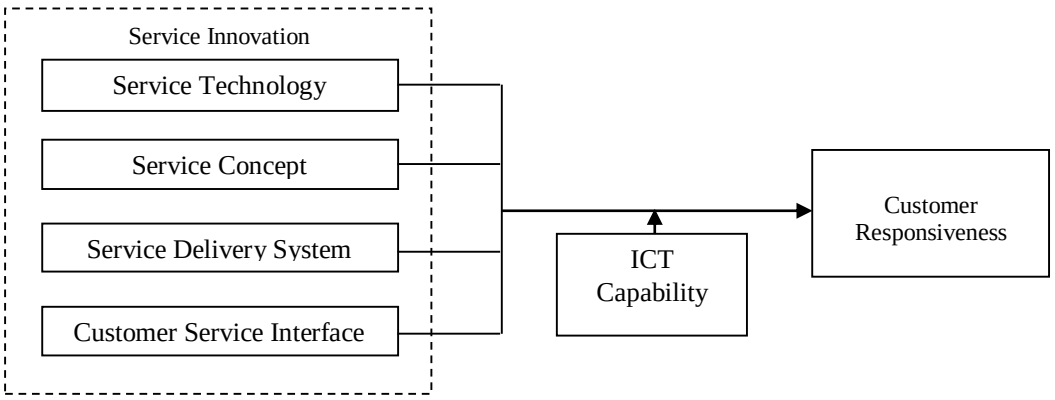

Figure 1: The model of service innovation and customer responsiveness

In this paper, we proposed a model of service innovation in relation to the customer responsiveness in the postal and courier services. We have found this relationship to be further unveiled due to the intense innovation and the complexity of processes involved in the postal and courier services. In addition, we also differentiate the ICT and innovation. The capability of ICT is expected to moderate the relationship. The findings of the model are significant to the research and the postal and courier services for their business improvement especially in becoming more responsive to their customers.

Conclusion

In general, managing innovation issues in Malaysia, government does not always know best. The government should interact with the industry to develop a mutual understanding of global demand trends and opportunities, technology related needs, financing requirements, and market risk. Government's role is to encourage innovation by setting good governance with greater involvement of interested parties in determining the policy orientation and priorities. Policies related to industry structure, improvement, and expansion, and the development of products or processes and specialization, should be market-oriented. The market will dictate the pace of innovation technology based on demand trends, whether in traditional or new growth areas. The market will decide whether to use the product or innovative process locally or purchased from markets. Innovation can be created and established when all the issues discussed are managed in efficient and effective ways.

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