THE RELATIONSHIP BETWEEN INFORMATION TECHNOLOGY (IT) CAPABILITY AND PERFORMANCE OF ISLAMIC BANKING BRANCHES IN KEDAH FROM THE PERSPECTIVE OF MAQASID AL-SHARIAH

By

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DECLARATION

I declare that the thesis work describe in this research paper is my own work (unless otherwise acknowledgement in the test) and that there is no previous work which has been previously submitted for any academic Master's program. All sources quoted have been acknowledged by references.

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ABSTRACT

The purpose of this study is to investigate the relationship between IT capability and the performance of Islamic Banking Branches in Kedah. The study is focuses on Islamic banking branches in Kedah. IT capability in the relationship of banks performance. The IT capability dimension include IT knowledge, IT operations and IT objects. The questionnaires were sent directly to branches and collected by hand. Disproportionate stratified random sampling was used for sample selection. 63 questionnaires were sent to manager of Islamic Banking, 59 samples were returned but only 57 samples were used for data analysis. The data was analyzed using 'Statistical Package for Social Science' SPSS version 21. Collectively, the result shows that the IT capability are able to influence overall performance of Islamic banking branches in Kedah and other three (3) dimension of performance (educating individual, establishing justice and public interest). All of the dimension of the IT capability can influence the performance of the Islamic banking. Therefore, the manager of the Islamic banking in Kedah branches should focus on this kind of implementation which is IT capability in order to enhance the performance of their banks. the outcome of this study provide the important insights to both managers and researchers for further understanding about IT capability and performance of Islamic Banking.

Keywords: IT Capability, Islamic Banking, Educating Individual, Establishing Justice, Public Interest.

ABSTRAK

Tujuan kajian ini adalah untuk mengkaji hubungan antara keupayaan IT dan prestasi Cawangan Perbankan Islam di Kedah. Kajian adalah tertumpu kepada cawangan perbankan Islam di Kedah. Keupayaan IT terdapat hubungan dengan prestasi bank. Dimensi keupayaan IT merangkumi pengetahuan IT, operasi IT dan objek IT. Soal selidik dihantar terus kepada cawangan dan dipungut dengan tangan. Tidak seimbang persampelan rawak berstrata telah digunakan untuk pemilihan sampel. 63 soal selidik telah dihantar kepada pengurus Perbankan Islam, 59 sampel telah kembali tetapi hanya 57 sampel telah digunakan untuk analisis data. Data yang diperolehi dianalisis dengan menggunakan "Pakej Statistik untuk Sains Sosial 'SPSS versi 21. Secara kolektif, hasilnya menunjukkan bahawa kemampuan IT yang dapat mempengaruhi prestasi keseluruhan cawangan perbankan Islam di Kedah dan lagi tiga (3) dimensi prestasi (mendidik individu, mewujudkan keadilan dan kepentingan umum). Kesemua dimensi keupayaan IT boleh mempengaruhi prestasi perbankan Islam. Oleh itu, pengurus cawangan perbankan Islam di Kedah perlu memberi fokus kepada jenis ini pelaksanaan yang merupakan keupayaan IT untuk meningkatkan prestasi bank-bank mereka. Hasil kajian ini memberi maklumat penting kepada kedua-dua pengurus dan penyelidik untuk pemahaman lanjut mengenai keupayaan IT dan prestasi Perbankan Islam.

Kata kunci: Keupayaan IT, Perbankan Islam, Mendidik Individu, Mewujudkan Keadilan dan Kepentingan Umum.

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In the Name of Allah, the Most Forgiving, Most Merciful

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LIST OF ABBREVIATIONS

ATM   Automatic Teller Machine

EI   Educating Individual

EJ   Establish Justice

ICT   Information and Communication Technology

IS   Information System

IT   Information Technology

ITK   Information Technology Knowledge

ITO   Information Technology Operations

ITOBJ   Information Technology Objects

ITC   Information Technology Capability

ITSCMM Information Technology Service Capability Maturity Model

KBV   Knowledge Based View

KPI   Key Performance Indicator

LAN   Local Area Network

ONFP   Organizational Non-Financial Performance

OFR   Organizational Financial Performance

OP   Organizational Performance

OPS   Operations

PI   Public Interest

RBV   Resource-based View

ROE   Return on Equity

ROI   Return on Investment

SMS   Short Message Services

SPSS   Statistical Package of Social Science

WAN   Wide Area Network

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Rapidly developing financial markets require participants to make changes in operations outside the local area to get global competition. In this way, it has led many banks in the country to improve the quality of customer service, reduce operating costs, time, and improve profit performance (Randle, 1995). Innovative banking services and portfolio management combined to mergers and acquisition strategy. Its decision, they're not one hundred percent focused on reducing costs, but also can improve service to customers. In other words, the process is not only a more effective and efficient but also can create customer-friendly nature as well.

IT capability includes expertise in technical and management needs in providing services that can be trust and physical electronic connection that much either inside or outside the company. According to (Dos - Santos, 1995), implementing IT can increase market share by offering bank products and services that are not offered by any other party, for example, customers who want private service or use of debit cards has become a focus on retail banking and investment. Therefore, this study uses a dynamic's capability theory to explain the implementation of IT capability. The implementation of IT capabilities is to accelerate the process of service delivery, processes strategy, producing new product, work faster and eliminated all communication barriers within the organization, empower

workers to link up with customers and suppliers to achieve the competitive advantages (Davenport & Short, 1990; Hammer, 1990; Teng, Grover & Fielder, 1994)

IT in banking sector is an important element in helping to streamline back- office operations with increases the efficiency and reduce costs (David -west, 2005). Advances in technology also affect the way the bank services with the aim to facilitate customers to deal with the bank. For example, many banks in Malaysia have their own branches connected online. Some banks have ATMs to facilitate their customers to withdraw money. Malaysian bank's practice of e - banking, telephone, and mobile services, money transfer services. In addition, the ability of IT (IT operations, IT knowledge and IT objects) make Malaysian banks involved with the financial services arena more effectively. For instance, some international banking organizations can access funds transfer network that is efficient, open, and negotiate letters of credit, and retrieve up to date status of transactions between customers and banks.

1.2   Problem Statement

Nowadays, the world becomes technologically advanced with increased in global competition in financial service industry, banks have no choice but to look beyond local competition (Randle, 1995). In Malaysia, banking sector has changed the form of competitive advantage for the industry. New generation banks emerged. The old generation banks improving their business by merger, and acquisition, raised up capitalization based and reengineer their operations to improve their performance and also to compete with others effectively. Because of the merger of operational process and competition with

foreign in the financial service industry through globalization faced by the organizations led to changes in operations, and services that resulted in conflicting performance (Wei & Nair, 2006).

Customer focus became an important element in determining the success of an organization (Idris, 2011). The bank that has the largest customer base and the highest customer retention rate is the market leader in the industry. Hence, the quality of customer service becomes a driving force in maintain business survival in the banking industry (Tang & Zairi, 1998). To survive in this type of business environment, organizational performances become the main concern for the Islamic Banks in Malaysia. The implementation of the IT capability is one of the method to sustainable performance of bank's operating in business environment.

IT capability is the ability on how to mobilize and use IT based resources in combination with other resources and capabilities (Bharadwaj, 2000). Previous studies such as Yongmei, Hongjian, and Junhua, (2008); Said, Hui, Taylor and Othman, (2009); Shao, Feng, Choudrie, and Liu, (2010) used IT capability as an independent variable. The financial service industry is one of the early adopters of new information technologies that mean the effect of IT capability on firm performance is unlimited in the sector in general unlike in the manufacturing sector (Brynjolfsson, 1993). Hence, there is a need to understand the effect of the IT capability attributes to banking performance, particularly of Malaysian Islamic Banks.

1.3 Research Questions

1. To what extent does the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah?

2. To what extent does the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah in term of educating individual?

3. To what extent does the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah in term of establishing justice?

4. To what extent does the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah in term of public interest?

1.4 Research Objectives

1. To examine the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah?

2. To examine the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah in term of educating individual?

3. To examine the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah in term of establishing justice?

4. To examine the IT capability (IT knowledge, IT operations and IT objects) are able to influence the overall performance of Islamic banking branches in Kedah in term of public interest?

1.5 Significant of the Study

This part will illustrate the significant of the study which is categorized into two contribution namely theoretical contribution and practical contribution

1.5.1 Theoretical Contribution

First, the study contributes to the existing body of knowledge by implementation of IT capability in the banking performance. The IT capability concept represent the two main independent research streams. IT capability and performance studies (Bharadwaj, Bharadwaj & Konsynski, 1999; Bou-Wen, 2007; Chan, 2000; Chun & Mooney, 2009; Huang et al., 2009; Lin, 2007; Liu et al., 2008; Mata, Fuerst & Barney, 1995; Ross & Feeny, 1999; Santhanam & Hartono, 2003; Sinan & Peter, 2007; Wu, Chen & Sambamurthy, 2008; Yongmei et al., 2008). This study adds to the existing knowledge of Management studies of the implementation of IT capability and its impact on organizational performance. This research also adds some knowledge to the Operations

and Management field in that business performance and indirectly through the effects of IT capability attributes.

Second, this study has examined the IT capability attributes and dimensions of organizational performance. IT capability in relation to cost reduction, customer service management and business operations efficiency. Previous research only studied the IT capability and performance in general without examining the specific issues of cost reduction, customer service management and business operation efficiency performances. Therefore, this study contributes further to the current body of knowledge by investigating the effects of IT capability with regard to the dimensions of organizational performance.

Third, this study extends the existing body of knowledge by improving the understanding of IT capability issues of banking and financial institutions in Malaysia. Studies on IT capability is little in developing countries as most research has been conducted in the developed countries such as the United States and European countries (Al-Mashari, Irani & Zairi, 2001; Brandon, Bransford, Guimaraes & Tor, 1999; Shin & Jemella, 2002). Thus, this study further extends the current knowledge of the Operations Management in financial and banking organizations of developing countries, such as Malaysia, Kedah specifically.

1.5.2   Practical Contributions

This study provides empirical evidence on the effect of IT capability on Banks performance. Thus, the present study will benefit managers, business practitioners, the Malaysian government and academics by enhancing their knowledge and understanding

concerning the influence of IT capability on the performance of banking and financial organizations in Malaysia. IT capability is regarded as source of competitive advantage. The outcome from this study justifies further investigation and investment on IT.

1.6   Scope of the Study

The study is focuses on the IT capability and performance of Islamic banks in Kedah. The variable IT capability attribute in this study was adapted from study conducted by Tippins & Sohi, (2003).

In term of organizational performance, this study considers multiple measurement of performance (Financial performance, non-financial performance). The financial performance indicators consist of profit, profit growth performance target and sales growth. The non-financial performance indicators include: response to competition, future outlook, and success rate in new-product launch, organizational performance, customer service management, market research, customer relationship management, customer satisfaction, operational performance, speed, quality service and process improvement indicators (Sidikat & Ayanda, 2008; Wei, 2006).

The scope of the organizations is conducted by using survey as a research instrument in Islamic Banks in Kedah. The study focuses on the organizational level from the management perception of IT capability and organizational performance. Thus, the sample is limited to the managers or senior executives inside the organization. The people at top management levels are in a better position to explain about the operations, services,

planning and decision-making process of the banks. The table below shows the list of the

Islamic banking branches in Kedah.

1.7   Definition of Key Terms

Table 1.2:
Definition of Variables

Term	Definitions
IT Capability	This study defines IT capability attributes as the extent to which cumulatively the IT knowledge, IT operations and IT object's dimensions of IT competency represent co-specialized resources that provide an indication of the organization's ability to understand and utilize IT tools and processes that are needed to manage market and customer information.
IT Knowledge	IT knowledge is referred as the extent to which a firm possesses a body of technical knowledge about objects such as computer-based systems.
IT Operations	IT operations refer to the extent to which a firm utilizes IT to manage market and customer information.
IT Objects	IT objects refer to computer-based hardware, software and support personnel.
Islamic Banking performance	Organizational are referring to the level of bank performance based on the Maqasid al-Shariah framework (educating individual, establishing justice and public interest). This is more about the performance of organization is good or not good.
Educating Individual	Educating individual is dimension about advancement knowledge, instilling a new skills and improvements and creates awareness of Islamic Banking.
Establishing Justice	Establishing justice is dimensions about air returns, elimination of negative elements that cause injustice and not reasonable price for products and service.
Public interest	Promoting welfare of public interest is dimension about profitability of bank, redistribution of income and wealth and investment in vital economic sectors.

1.8   Outline of the Study

This thesis is presented in five chapters. *Chapter one* generally introduces the whole work. The chapter is made up of the background of the study, problem statement, research objectives and research questions about the study, significance to the study, scope in the study, limitation of the study, finally, the outline on the study. This chapter is important in order to provide the understanding to the reader about the study

Chapter two basically discusses the literature review relating to the concepts of the two (2) major constructs: Islamic bank performance and IT capability. In this chapter also will demonstrate the details about banks performance, roles and activities of Islamic banks, and information of IT capability. Then, the research will touch the outcomes of previous studies related to IT capability and Islamic banks performance in Kedah.

Chapter three will discusses about the research methodology the study, which arises from a review from the literature, the direct and indirect relationship between the key constructs and proposed hypotheses of the research.

Chapter four discusses the research methodology employed for the study. The researcher will describes regarding to theoretical framework, research hypotheses, research design, operational definition, research sample and population, data collection method and procedures, and the data analysis techniques.

After that, the findings of the study and data analysis are indicates in Chapter 4. This chapter will present the complete results from the analysis in the form of text, tables, and figure to the reader. Then, the explanation and discussion about the result will be done by the researcher properly.

Chapter five will focus on conclusion and recommendations that is the last chapter for this study. The researcher would highlight the implications of the study in two dimensions which are including managerial and practical implication, and academic implications. Furthermore, the researcher will provide a recommendation for this study and give a suggestion for future research. Eventually, the researcher will conclude and summarize the study based on the analysis results.

CHAPTER 2

LITERATURE REVIEW

2.1   Introduction

The purpose of this chapter is to provide the review from the literature relevant to the key construct of the study. The first section within the chapter focuses on the organizational performance which provides an outline of bank performance, and review of previous studies on bank performance. The different performance measurement, performance improvement methods and organizational performance dimensions were reviewed. In addition, the IT capability, definition, the relationship between IT capability and Islamic banks performance.

2.2   Organizational Performance

The challenges for globalization of financial markets required changes on the part of the market participants to move beyond local-level to achieve international competitiveness. The entire banking industry is focusing on major process performance and gains in the domestic market to become successful. Banks are concentrating their efforts on market segments offering the potential for growth and performance, resulting in a redirection within the overall financial services' sector. Organizational performance comprises the actual output of an organization as measured against its inputs. Performance measures

allow companies to focus attention on areas that need improvement by assessing how well the work is done.

2.3   Bank Performance

Organization is a structured entity that consists of physical, human, and financial resources formed to achieve specific goals. Business organization is formed to offer a variety of products and services for profit. Banks like every other organization try to enhance its overall performance by assessing and comparing its efficiency and effectiveness from time to time. There are various criteria to evaluate the performance of banks for successful survival in the period of globalization and competition. Key indicators to measure organizational performance includes: profitability, liquidity, management performance, leverage, market share, productivity, innovation, quality of goods and services, human resources (Dess & Robinson, 1984). Banks are focusing on their efforts in market segments offering the potential for growth and enhancing performance, resulting in a redirection within the overall financial services' sector. Innovative banking services and processes were evolved as the market increases due to mergers and acquisitions. This dual trend towards specialization is forging banks that will be able to compete in international and global markets. Performance enhancement efforts are aimed at a complete realignment of internal processes. In addition to cost containment strategies, focus is now on improving customer service delivery. Organization processes must be efficient, and be more customer-friendly. Attempts are being made to transfer approaches like process

reengineering initiatives that have proven effective in other industries, particularly manufacturing, to the financial sector.

2.3.1 Overall Performance of Malaysian Islamic Banks

Islamic banking assets have been risen from 15 to 20 percent per annum over the past five years (Pete and Philip, 2008). Talking about Islamic banking in Malaysia started in the year 1963, when the Malaysian Muslims were concerned about a mechanism which allowed them to save money in order to perform Haj (advised by Islam Essentials once in life to visit Makah. The outstanding performance of Tabung Haji has attracted many organizations to suggest the government in Malaysia to establish a full fledge Islamic bank, in fact, there were many calls by meeting and conferences, which made the government accept to establish a national council which comprises of 20 experts in the field in 1981 to study the idea of establishing Islamic financial institutions in Malaysia. In 1983, the establishment of the first Islamic bank in Malaysia named Bank Islam Malaysia Berhad in July 1983, the starting Capital of Bank Islam Malaysia Berhad was 80 million Ringgit Malaysia. They implement the Syariah principle in their banking activities. At particular time awareness of Islamic banking product have been grown especially in the Muslim world where many institutions have been launched. Islamic banking assets have been increase from 15 to 20 percent per annum over the past five years (Pete and Philip, 2008).

Table 2.1
List of Islamic full-pledge in Kedah

Local	Foreign
1. Bank Islam Malaysia Berhad *(all branch)*	8. OCBC Al-Amin *(Sungai Petani)*
2. Bank Muamalat *(all branch)*	9. Al Rajhi Banking & Investment Corporation (Malaysia) Berhad *(Sungai Petani)*
3. Affin Islamic *(Jitra)*	10. HSBC Amanah Malaysia Berhad (*Alor Setar & Sungai Petani)*
4. AmIslamic (M) Sdn. Bhd. *(Alor Setar)*	
5. Hong Leong Islamic Bank Berhad *(Alor Setar)*	
6. RHB Islamic Bank Berhad *(Sungai Petani)*	
7. Public Islamic Bank Berhad *(Alor Setar)*	

2.3.2 Previous Studies on Bank Performance

Assessment of bank performance is essential for bank managers, regulators and customer (depositors and investors). Managers are constantly challenged to improve their deposit or loan activities in order to enhance the profitability performance of their organization. Tvorik and McGivern (1997) investigated performance by comparing economic and organizational factors. They concluded that organizational factors influenced the profitability more than that of the economic factors. Organizational performance could be linked with market orientation, organization learning, human-resource productivity, quality improvement or any other component (Day, 1994; Banker & Sinkula, 1999; Santos-Vijande et al., 2005).

Generally, organizational performance is assessed by the application of financial or both financial and non-financial measures. There are a number of studies on the literature

that used non-financial measures to evaluate the effectiveness and performance of organization (Quinn & Rohrbaugh, 1983; Venkatraman & Ramanujam, 1986). It is suggested that four models, i.e. human relations; internal process; open system and rationale goal model could represent the organizational performance (Quinn & Rohrbaugh, 1983). Wheelen and Hunger (1998) argued that appropriate performance measures depend on the organizations and their objectives, i.e. profitability, market share and cost reduction.

Financial indicators, such as return on investment (ROI), earnings per share (EPS) and ROE are used by the number of organizations to measure their progress. ROI is used to reflect the profitability while corporate performance was measured by operating cash flows and ROI capital (Hasnan, 2006; Sorenson, 2002). Rashid et al., (2003) measured firm's financial performance using the financial indicators, such as return on assets, ROI and current ratios. Financial ratios reflect the financial performance of the organization by an examination of financial statements, as indicated by profitability, liquidity, leverage, asset utilization and growth ratios (Ho & Wu, 2006). In today's global, dynamic and competitive environment, banks should improve and diversify their products and services to meet changing customers' demands to enhance their performance for successful survival. Table

2.3.3 Organizational Performance Measurement

The organizational performance measurement has become increasingly necessary for the organizations. There are various literatures on performance measurement, and issues concerning organizational performance. In this study, performance measurement was

based on quantitative financial measures. Measurement systems consist of multiple measures that can either be objective or subjective, financial or non-financial (Nura & Osman, 2012). Hence, Maskell (1992) suggested that in addition to financial measures, a non-financial performance measurement technique should also be used by organizations, as, overtime, the company needs changing.

2.3.4   Islamic Banking Performance (Maqasid Al-Shariah)

Mohammed, Razak and Taib (2008) clarify that Ibn Ashur (1998, p.190) mention that, almost all of the scholars explicate the objective of al-Shari'ah to promote welfare and avoid vices. However some of othe scholar has their own understanding. According to Mohammed, Razak and Taib (2008), ibn Ashur clarify the objective of Shariah is to promote welfare, prevent corruption, maintaining stability, establishing justice and develop harmony life. Meanwhile, Hal al-Fasi argued that objective of Shariah is giving benefit to all, renewal human mind, use natural resource, maintaining order, land development and develop justice to all people. Then, Abu Zahra (1997), has clarified the objective of Shariah in details into three areas which is (1) Tahdhib al-Fard (educating individual), (2) Iqamah al-'Adl (establishing justice) and (3) Jalb al-Malahah (promoting welfare) (Mohammed, Razak and Taib, 2008)

(1) **Tahdib Al-Fard** (Educating the Individual)

Educating individual is divided into three dimension includes advancement knowledge (education grant or scholarship and research funding), instilling a

new skills and improvements (training) and creates awareness of Islamic banking (publicity)

(2) **Iqamah Al-'Adl** (Establishing Justice)

Establishing justice is divided into three dimensions such as fair returns (profit equalization reserves and net investment income), elimination of negative element that cause injustices (interest fee product) and not reasonable price for products and services (total investment in mudharabah and musyarakah)

(3) **Jalb Al-Malahah** (Promoting Welfare)

Promoting welfare is also divided into three dimensions includes profitability of banks (net income and total assets), redistribution of income and wealth (zakkah and net income) and investment in vital economic sectors (investment in real sector and investment in service)

2.4   Review of IT Capability

This part provides a review of IT capability literature starting with the IT capability concept and measurement, IT capability as independent variable. Among the IT dimensions of IT capability are IT knowledge, IT operation and IT objects (Bhatt & Grover, 2005; Tippins & Sohi, 2003).

2.4.1 Definition and Concept of IT Capability

The IT capability concept was introduced by Ross, Beath and Goodhue (1996), who defined IT capability as the firm's ability to integrate and deploy IT based resources. Heijden (2000) find out that the measurement of IT capability covers relationships in the IT department with the rest from the business. Bharadwaj (2000) explain in details of the accepted views of organizational IT capabilities to an organization's IT function. Bharadwaj (2000) defined IT capability as the ability of a firm to mobilize and deploy IT based resources in combination with other resources and capabilities. Those IT-based resources is IT enabled resources (consist of technical and managerial IT skills); intangible IT-enabled resources (such as knowledge, assets, customer orientation) and synergy – the sharing of resources and capabilities across organizational divisions. Therefore, capabilities reflect the ability of the firms to combine resources to promote superior performance (Amit & Schoemaker, 1993).

Tippins and Sohi (2003) defined IT capabilities as the extent to which an organization is equipped with IT objects, IT knowledge as well as effective IT operations. A high level of IT knowledge enables the smooth implementation of the organization's strategy, develops reliable and cost effective systems within the organization, and anticipates customer needs (Bhatt & Grover, 2005). Clark (1997) noted that IT experienced in combination with other IT elements directly determines an organization's ability to rapidly develop and deploy more innovative techniques to increase their performance.

Researchers and practitioners have addressed a variety of IT-related variables. For example, Li et al. (2006), and Tippins and Sohi (2003) classified IT capability into three

dimensions: IT knowledge, IT operations and IT objects. A highly skilled project team should be much better equipped to manage the project of knowledge management. Human IT resources include technical IT knowledge. IT knowledge concerns the extent to which a firm possesses a body of technical knowledge about objects, such as computer-based systems (Tippins & Sohi, 2003). IT knowledge need professional qualification, expertise and skills, such as programming, systems analysis and design, and competencies in new technologies. IT operations include IT functions, and interaction with user. Hence, IT operations were understand as the extent to which an organization utilizes IT to manage market and customer information. The computer-based hardware, software and support staff is referred to as the objects.

2.4.2 The Role of IT Capability in Improving Performance

The role of IT capabilities in increasing the organizational performance is well established in the literature. Many IT studies suggested that IT capabilities provide a basis of gaining competitive advantage and increasing the organizational performance (e.g., Santhanam & Hartono, 2003; Bhatt & Grover, 2005). An extensive body of IT capability's literature agrees that IT capabilities are resources to facilitate an effective collection and utilization of information (e.g., Bharadwaj, 2000). Floyd et al., (1990) contend that IT capabilities enhance service reliability, reduce transaction errors and increase consistency in performance. Further contentions are that capabilities can contribute to enhancing service quality through better customized or individualized services, and in creating knowledge links for identifying and sharing organizational expertise (Quinn et al., 1994).

Tippins and Sohi (2003) argued that an IT capability, which is in a form of IT competency, enhances performance through an elimination of inefficiency, reduction of long-term cost, improve service reliability and reduce transaction errors. Bharadwaj (2000); Ross, Beath and Goodhue (1996); Li, Chen and Huang (2006) focus on the importance of IT capability as well as the relationship between IT spending (IT investment) and productivity/performance with the moderating effect of IT capability. IT capabilities by themselves are ineffective at providing a basis for sustainable competitive advantage because the capabilities can be duplicated by others. Thus, the impact of IT on firm's performance cannot be measured directly, but can only be quantified by examining the indirect effect.

The role of IT capabilities in enhancing organizational performance is well established in the literature. Many IT studies suggested that IT capabilities provide a basis in order to gain competitive advantage and enhancing organizational performance (e.g., Santhanam & Hartono, 2003; Bhatt & Grover, 2005). An extensive body of IT capability's literature agrees that IT capabilities are resources to facilitate an effective collection and utilization of information (e.g., Bharadwaj, 2000). Floyd et al., (1990) contend that IT capabilities enhance service reliability, reduce transaction errors and increase consistency in performance. Other opinions are that capabilities can contribute to enhancing service quality through better customized or individualized services, and in creating knowledge links for identifying and sharing organizational expertise (Quinn et al., 1994).

The IT capability term is adapted from the study conducted by Tippins and Sohi (2003). The study used IT knowledge, IT objects and IT operations among the dimensions of measuring IT capability. This study uses IT knowledge and IT operation as the main

components of measuring IT capability. The third component IT object was taken care in IT infrastructure as an intangible resource.

2.4.3 IT Capability Measurement

The measurement of the IT capability in this study is based on IT knowledge (skills) and IT operations, IT objects (Tippins & Sohi, 2003). The measurement concepts are defined as follows:

2.4.3.1 IT Knowledge

Knowledge is information combined with experience, context, interpretation, and reflection that an organization is difficult to be measured (Davenport, De Long, & Beers, 1998). IT Knowledge is defined as a set of principles and techniques useful to bring about change towards desired goals. In this study, IT knowledge is referred as the extent to which organization acquires a body of technical knowledge about infrastructure or objects such as a computer-based system. Technical knowledge could be expressed as contextually based know how. IT knowledge is distinguishable as a subset of the more general conception of knowledge.

Additionally, employees can be encouraged to adapt to the new IT, assimilate IT knowledge and apply it in their daily routine, which is beneficial to the improvement of organizational performance (Shao et al., 2008). In addition, system of knowing refer to

structures of interaction among team members for sharing their perspectives, pooling of knowledge, and development of shared understanding. It is suggested that systems of knowing provide forums for top management team members who exchange their strategic IT and business knowledge, and blend them together to foster higher levels of IT diffusion within the organization. In this study, IT knowledge was measured based on: 1) the organization operations staffs are knowledgeable on Information Technology Operations., 2) the organization Information Technology expert/Vendors are professionally qualified, 3) the organization has an excellent computer expert for consultation, 4) the organization Information Technology staffs/vendors are proactive in e-banking innovation., 5) the IT staff attends training courses regularly.

2.4.3.2 IT Operations

Technical operations, or techniques, made of activities that are undertaken in order to achieve a particular goal. Technical operations are a manifestation of technical knowledge that results in technical operations or skills. For this study, IT Operations are the extent of activities within the organization that use IT to manage market and customer information required to meet organization goals. When IT operations are able to monitor and manage IT resources and services, it can align IT operations with business priorities. As a result, IT operations can streamline business processes and optimize resources to help manage costs, increase efficiency to manage productivity and increase revenue, and help to ensure service availability to increase the customer satisfaction, rather than simply focus on technology.

IT operations can translate raw IT monitoring data into a useful business impact analysis. IT operations should be able to: 1) the organization operations are linked to branches through Wide Area Network.; 2) the organization technology based linked via Local Area Network is efficient every day.; 3) the organization computer link system down time is minimal.; 4) the organization has computerized all its banking operational service. 5) The organization Information Technology policy is in line with regulatory guidelines and 6) the organization Information Technology operations monitor customer activities. Table

IT has been studied for its role in creating both initial competitive advantage and long-term sustained competitive advantage (e.g. Barney, 1991; Feeny & Ives, 1990). Powell and Dent-Micallef (1997) found that IT alone cannot produce sustained competitive advantage, but to leverage on other intangible, complementary human and business resource to gain sustained competitive advantage.

IT investments only lead to performance if IT investments are consistent with the firm's strategy. Firm's IT capabilities enhance the effect of IT assets and broaden the impact (Aral & Weill, 2007). IT investments affect intermediate measures such as inventory turnover but there is no evidence as to the benefits for the firm performance as measured by ROA (Barua et al. (1995). IT investment increases both labour productivity and MFP growth. Specifically, the impact of IT investment on MFP growth is maximized after a lag of four to seven years (Brynjolfsson and Hitt, 2000). IT investment enhances the firm's performance related to diversification (Chari, et al., 2007). Investments in IT infrastructure are more likely to capture a competitive advantage to the firm compared to the investments in IT applications Chatterjee, et al., 2001). There are significant abnormal returns on stock

value and trading volume associated with the IT investment announcement Chatterjee, et al., 2002).

Tippins & Sohi, (2003) views the relationship between IT capabilities and firm performance increasing. IT capability increases as a firm's competitive advantage improved. High IT capable firms have higher profitability ratios and lower operational cost (Bharadwaj, 2000). The effects of capabilities on the higher level of firm competencies are directs, responsible for firm performance (Letwongsatien (2001). The study confirms Bharadwaj (2000). Also, found that firm with superior IT capability shows superior firm performance (Santhanam & Hartono, (2003). IT capability can help firm to be more customers focused (Nakata & Zhu 2006) and increase financial performance Song et al., 2007).

2.4.3.3 IT Objects

IT object is refers as hardware, software that have been use inside the organization. The IT objects was measure by; 1) the company has a formal MIS department, 2) the firm employs a manager whose main duties include the management of our information technology, 3) every year the budget a significant amount of funds for new information technology hardware and software, 4) the firm creates customized software applications when the need arises and 5) the firm's members are linked by a computer network.

2.4.4   IT Service Capability Maturity Model

According to Niessink, Clerc and Vliet (2004), the IT Service capability maturity model consists of five (5) maturity levels, which contain key process areas. For an organization on a certain maturity level, it needs to implement all the key processes for that level and lower levels. The main focus is the maturity of the service organization, not the maturity of individual services, projects or organizational units. The model covers the service-delivery process with primary objectives:

- To enable IT service providers to assess their capabilities with respect to the delivery of IT services.
- To provide IT service providers with direction and steps and further improvement of their service delivery.

The IT Service CMM fulfills the above objectives by measuring the capability of the IT service processes of organizations on a five level ordinal scale. Each level describes certain key processes that have to be in place before an organization move on that level. Key processes implement a set of related activities that, when performed collectively, achieve a set of goals considered important for enhancing service process capability. Hence, organizations can improve their service capability by implementing these key processes. More formally, we define the IT service process capability as the range of expected results that can be achieved by following a service process. IT service process performance represents the actual results achieved by following an IT service process. The IT service process maturity is the extent to which a specific process is explicitly defined, managed, measured, controlled and effective. The IT Service CMM focuses on measuring and

improving the IT service process maturity of IT service organizations. An organization that scores high IT Service CMM scale will be able to:

- Deliver quality IT services, fulfill the needs of its customers.

- Do so in a predictable, cost-effective way

- Combine and integrate different services, possibly by different service providers, into a consistent service package.

- Continually improve service quality in a customer-focused way.

2.4.5 IT Capability as the Independent Variable

Understanding the independent effect of the organizational performance. Many studies, such as Bharadwaj, (2000); Bhatt and Grover, (2005); Santhanam and Hartono, (2003) argued that IT capabilities increasing the organizational performance by providing a basis of gaining competitive advantage. Furthermore, the study of Lim et al. (2004) viewed IT capability as the ability to mobilize and deploy IT based resources that are not directly affected by the investment.

Same goes to, Yongmei, Hongjian and Junhua, (2008) argued that, to some extent, the influence of IT investment on tangible and intangible IT resources that affect firm performance is effect by IT capability. This means no matter amount of IT spent by a firm. Great performance can only be achieved by evolving IT capability. Lin, (2007) argued that IT capability forms the basis of competition for firms in information-intensive industries

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like retailing, banking and high-tech manufacturing. These core competencies and resources that are valuable, rare, difficult to copy, and non-substitutable by other resources.

The previous studies that focus on a direct relationship between IT, and organizational performance have already done. Other studies have relied on the erroneous assumption that adoption of IT would improve performance (Dewett & Jones, 2001). While IT can improve efficiency, it may not provide the competitive advantages, because the same technology could be adopted by competing organizations. Therefore, Tippins and Sohi (2003) proposed that IT-related benefit can only be realized when the organization develops IT competency and then uses it as a set of co-specialized resources to leverage other complementary resources. Empirical studies include Yongmei, Hongjian and Junhua (2008) who suggested that IT capability was an important variable linking to firm performance. The model and hypotheses are verified by sample data from leading IT firms in China. The effect of IT capability on firm performance has been verified in many studies (Bharadwaj, 2000; Bharadwaj et al., 1999; Santhanam & Hartono, 2003).

2.5   Underlying Theories

2.5.1   IT Capability as Dynamic Capability

Teece, Pisano and Shuen (1997) and Pavlou (2004) is the originating authors of the dynamic capabilities (DC) theory concept. DC's theory is a theory that explain about the importance of resources, competence configuration, coordination, integration and transformation in generating value for the business, especially when the path to achieving

success is not yet clear. Investment in IT is very important because it is a source of competitive advantage in the short-term, and then turned to a source of sustained competitive advantage over time (Barney, 1991).

The concept of dynamic capabilities (DC) is focuses on resource's reconfiguration and renewal. This study adopts the dynamic capability's theory and conceptualizes IT capability to address the sustainability issues of performance in a turbulent environment. IT capability will help to reduce these gaps by adopting a process approach between firm resources and the changing business environment. The dynamic resources help a firm adjust its resource mix and thereby maintain the sustainability of the firm's competitive advantage. Wade and Hulland, (2004) argued that IT resources can acquire several characteristics of dynamic capabilities that are helpful to organizations operating in a turbulent environment. Consequently, IT resources would directly lead to the achievement of the great competitive advantage position within an organization. Peppard and Ward, (2004) argued that related of IT capabilities is a union of business knowledge with IT knowledge that is an open IT platform for the effective use of process, technology and working with information.

2.6 Chapter Summary

This chapter provide an extensive review of the literature on IT capabilities and banks performance. This chapter also show the theoretical framework. IT capabilities enhance performance through the elimination of inefficiency, reduction of long-term cost, improving service reliability and reduced transaction errors (Tippins & Sohi, 2003).

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┌─────────────────────┐                    ┌─────────────────────┐
│                     │                    │                     │
│   IT CAPABILITY     │───────────────────▶│  BANKS PERFORMANCE  │
│                     │                    │                     │
└─────────────────────┘                    └─────────────────────┘
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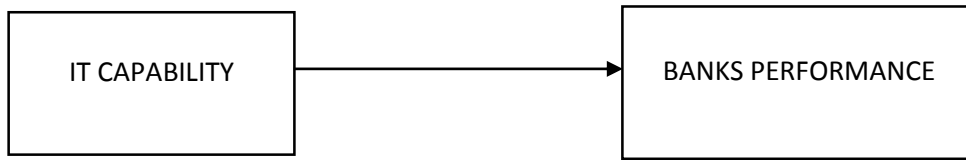
Figure: *Conceptual Framework*

The chapter also discusses the adoption of dynamic capabilities theory. In addition, findings from previous study indicated that organization survival in business environment became a concern. These and many other reasons have made authors to call for an empirical study of organizational performance in the context of other variables that also affect performance. This study investigates the organization performance dimensions such as operations cost reduction, customer service management, business operations efficiency and overall performance. The review of the literature in this chapter provides a foundation for theoretical framework of the study, which is discussed in the next chapter.

Thus, for the following chapter which is chapter three will describes the research methodology. On that chapter will explained the procedures and methodology that are used for data collection and analysis of the study. The chapter also will explained on the method of this research which is covers theoretical framework, research hypothesis, research design, operational definition, research sample and population, instrumentation method, measurement of variables, data collection method and procedure, pilot test, reliability test, and data analysis technique.

CHAPTER 3

RESEARCH METHODOLOGY

3.1   Introduction

This chapter provides the framework for the study based on the discussion in the literature review chapter. The main purpose of this research is to investigate the relationship among two variables which is IT capability and the performance of Islamic banking branches in Kedah. The aim of the chapter is to propose a conceptual framework model of study and to suggest hypotheses based on the study of the related theory discussed in the literature review chapter.

Later on, the researcher will explain the method that are used to measure and analyzed data which include theoretical framework, research hypotheses, research design, operational definition, research sample and population, instrumentation methods, measurements of variables, data collection methods and procedures, pilot test and reliability test, and the data analysis techniques.

3.2   Theoretical Framework

Following the discussions throughout the literature review chapter, a framework was developed to examine the effect of IT capability as the independent variable which include IT knowledge, IT operations and IT objects towards the performance of Islamic banking branches in Kedah as dependent variables.

After that, the researcher will to examine the relationship between these two variables, a theoretical frameworks model is develop as shown in Figure 3.1. The description of the framework is as follows:

Figure 3.1
Theoretical framework
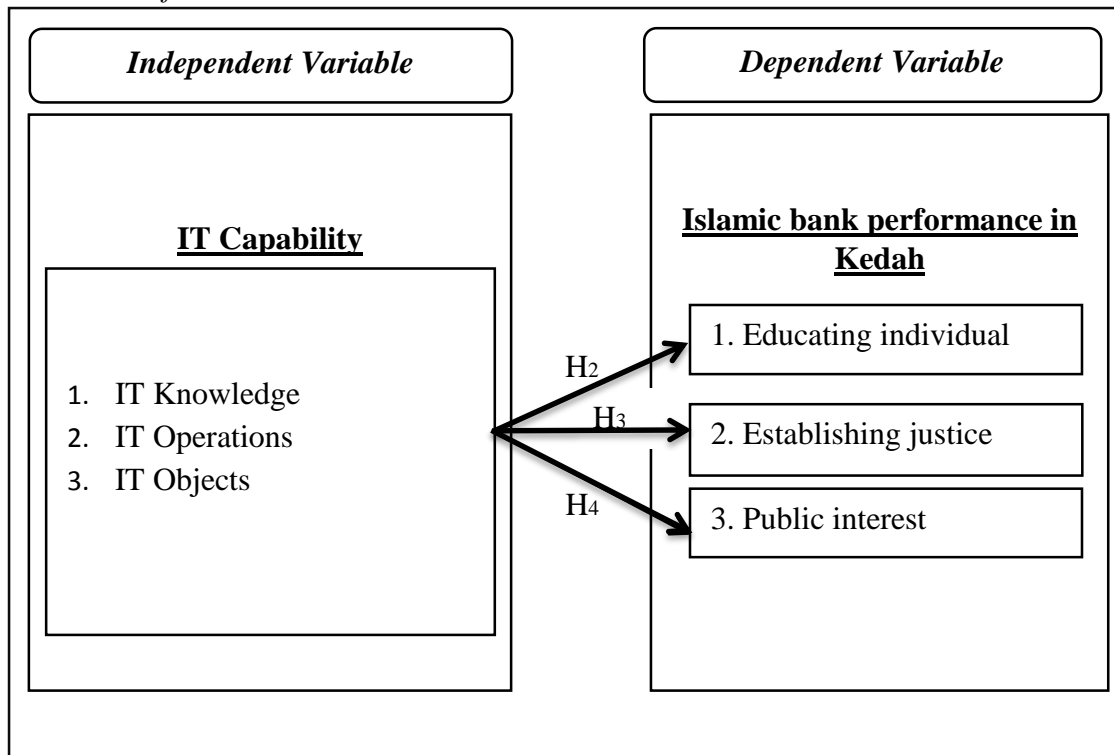
3.2.1 Dependent Variables

The dependent variable of this research is the performance of Islamic banking in Kedah which is divided into three basic performance measures includes educating individual, establishing justice and public interest based on Maqasid al-shariah framework (Mohammed, Razak, and Taib, 2008).

3.2.2 Independent Variables

In this study, there are three independent variables that have been used under IT capability which include IT knowledge, IT operation and IT objects (Tippins & Sohi, 2003).

3.3 Research Hypotheses

Based on the study, the researcher found that there are two main hypotheses. The study is intended to investigate the relationship between IT capability and Performance of Islamic banking branches in Kedah. The hypotheses are:

H1   <u>There is an influence the IT capability toward the overall performance of Islamic banking branches in Kedah.</u>

H1a   There is an influence IT knowledge toward the overall performance of Islamic banking branches in Kedah.

H1b   There is an influence IT operations toward the overall performance of Islamic banking branches in Kedah.

H1c   There is an influence IT objects toward the overall performance of Islamic banking branches in Kedah.

H2   <u>There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of educating individual.</u>

H2a   There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of educating individual.

H2b   There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of educating individual.

H2c   There is an influence IT objects the performance of Islamic banking branches in Kedah in term of educating individual.

H3   <u>There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of establishing justice.</u>

H3a   There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of establishing justice.

H3b   There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of establishing justice.

H3c   There is an influence IT objects toward the performance of Islamic banking branches in Kedah in term of establishing justice.

H4   <u>There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of public interest.</u>

H4a   There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of public interest.

H4b   There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of public interest.

H4c   There is an influence IT objects toward the performance of Islamic banking branches in Kedah in term of public interest.

3.4 Operational Definition

3.4.1 Islamic Banking Definition:

Islamic banking is financial activities that consist with shariah compliant or Islamic law and based on Al-Quran and Sunnah of Prophet Muhammad. Islamic banking industry has three main types of players such as full-fledged Islamic banking, Islamic window of conventional bank and Islamic finance companies (AT Kearney analysis). In this study, the survey only was focusing on full-fledged Islamic banking and Islamic window of conventional bank. Full- fledged means all activity starting from the beginning until the end of operation is based on Islamic compliant. While Islamic window of conventional banks means, conventional banks was adopted Islamic financial activity on the operation using the same entity.

3.4.2 Organizational Performance

The performances of the organization is measured based on their actual output compare to input. The factor of organization result is either effective or efficient in organization action. Effectiveness means the achievement of organization in term of goals and requirement from customer. Efficiency means, how organization manage resource to produce output and deliver to customer. Islamic banking industry is not to achieve high profitability and lack of money income. It's totally different with conventional banking industry which is more concerned with profitability as the main objective. Based on Maqasid al-shariah framework performance of Islamic banking is classified into three areas such as (1)

educating the individual, (2) establishing justice and (3) public interest (Mohammed, Razak, and Taib, 2008).

(1) Educating the Individual

Educating individual contract is divided into three dimension includes advancement knowledge (education grant or scholarship and research funding), instilling a new skills and improvements (training) and create awareness of Islamic banking (publicity). The six items is measure on educating individual.

1. The bank annual expense budget allocation for Community Service Relationships on students scholarship that study on subject related to Islamic banking

2. The bank annual expenses on scholarship for Islamic banking and finance student as a ratio to annual total expenses

3. The bank yearly budget on new research activities for Islamic transactions

4. The bank annual expenditure for researches in the field of Islamic finance and banking as a ratio to annual total expenses

5. The bank annual budget on publicity for Islamic products and services

6. The bank yearly expenses on advertisement of Islamic product and services as a ratio to annual total expenses

(2) Establishing Justice

Establishing justice construct is divided into three dimensions such as fair returns (profit equalization reserves and net investment income), elimination of negative elements that bread injustices (interest free product) and cheap in product and services (total investment in mudarabah and musharakah). The six items is measure on establishing justice

1. The periodic amount paid to stakeholders by the bank as share of profit from investment

2. The annual amount allocated to bank profit equalization reserve

3. The contribution of income from interest free product to the bank total annual income

4. The   contribution of interest free income toward minimization of wealth disparity as a result of exploitation

5. The bank volume of current account product such as Al-Wadi'ah

6. The bank volume of expensive fund such as Musharakah investment

(3) Public Interest

Public interest construct is also divided into three dimensions includes profitability of bank (net income and total assets), redistribution of income and wealth (zakkah and net income) and investment in vital economic sectors (investment in real sector and investment in services). The six items is measure on public interest.

1. The annual contribution of net income as a ratio to bank total assets

2. The amount paid for Zakkah by the bank

3. The bank annual exposure of investment to real sector

4. The bank annual exposure of investment to service sector

5. The fee based income on transaction services

6. The annual contribution on community service relationship

3.4.3. IT Capability

IT capability (IT knowledge, IT operation and IT objects) was adapted from suggested study by (Tippins & Sohi, 2003). The IT capability will be discussed in more details in the next following paragraph.

3.4.3.1. IT Knowledge

IT knowledge is referred as the extent to which a firm possesses a body of technical knowledge about objects such as computer-based. Five items will be present as strategic alignment.

1. The operations staffs are knowledgeable on IT operations.

2. The IT staff are professionally qualified.

3. The bank has an excellent computer expert for consultation

4. The bank IT staffs are proactive in e-banking innovation.

5. The bank staff attends training courses regularly.

3.4.3.2. IT Operations

Technical operations are a manifestation of technical knowledge that results in technical operations or skills. It help to gain improvement, worker willing to accept an implement and maintain competitive advantage in banking sector. The six item bellow will present the IT operations.

1. The organization operations are linked to branches through Wide Area Network (WAN)
2. The organization technology based linked via Local Area Network (LAN) is efficient every day
3. The bank computer link system down time is minimal.
4. The bank has computerized all its banking operational service
5. The bank IT policy is in line with regulatory guidelines.
6. The bank IT operations monitor customer activities

3.4.3.3. IT Objects

IT object is refers as hardware, software that have been use inside the organization. Management need to use the IT and it need more knowledge to use by giving training and education and management and employee is ready to make a changes. The 5 list below is present the item for IT objects.

1. The bank has a formal MIS department.
2. The bank employs a manager who's the duties include the management of IT.
3. Every year the budget need high funds for new IT hardware and software.

4. The bank creates customized software applications when needed

5. The bank's members are linked by a computer network

3.5   Research Design

Research design is structure and strategy to investigate research question. The nature of this study is quantitative approach. Sekaran and Bougie (2013) have identified business research have three type like 1) exploratory, 2) descriptive and 3) causal. Exploratory means to explore news areas of study while descriptive is try to describe the systemically about phenomena, problem, information or programs about data, information and sources that related with research interest. And causal is examined whether or not the one of variable will courses another to change. For this study is based on explanatory study. Exploratory research is using and chosen base on the problem statement of this study. Exploratory research is investigated to be more understood about the study and not provide the conclusive evidence. Furthermore, this is something to explore the new areas in Islamic banking.

Research hypotheses are constructed based on previous studies regard to relationship between IT capability (IT knowledge, IT operation and IT objects) and the performance of Islamic banking branches in Kedah. The survey method will be applied for the study. The main objective is to explain the relationship between IT capability and the performance of Islamic banking branches in Kedah. The measurement used on each variable is cited through previous studies where the items will be applied in order to answer

the research questions. We also want to identify the IT capability a strongly influence the performance of Islamic banking branches in Kedah.

The study design is one-shot or cross-sectional as the data will be gathered just once, perhaps over a period of days or weeks or months, in order to answer research questions. Questionnaire will be distributed to all respondent and collect after complete answer the measurement. Data will distributed and collect just for one-shot. The benefit use cross-sectional study it does not take long time and very economical.

Sekaran and Borguie (2013) mention that they have clarified unit analysis into five types such as individual, dyads, groups, organization and culture. Unit of analysis practiced through the study is organization. Organization are chosen as unit analysis because based on problem statement and research question, this study are focusing to measure the performance of organization, so organization is suitable as a unit analysis. The respondent of this study are those involve directly or indirectly with implementing IT capability on applying Islamic banking. Most of respondent are manager, senior officer, and executive level. The respondent also should have experience and understand about IT capability (Tippins & Sohi, 2003).

The surveys will be conducted via face-to-face customer survey simply due to reasons that it is less expensive in term of manpower as well as time needed. The questionnaires were sent directly to branches in Islamic banking branches in Kedah. The complete questionnaire will return back by hand.

3.6   Research Population and Sample

The population process is begins with determining the total population size. Population is referring group of people, things or event of interest to investigate while sample is subset of population as cited in (Sekaran & Bougie. 2013). The target population is all banking sector in Kedah that apply Islamic banking. The population is all banking sector in Kedah that apply Islamic banking.

The reason Islamic banking in Kedah is chosen as population because Kedah has more than 50% Muslim people i.e. 77% based on Bancian Jabatan Perangkaan Malaysia (2010). Kedah also have six mega planning to develop six mega projects; Lapangan Terbang Antarabangsa Kulim (KXP), Kedah Aero city, Sungai Petani-Kedah Inner Expressway (SPIKE), Kedah Rubber City, Kedah Science and Technology Park and Kedah Medical Science City). Developing of six mega project will invited more foreign investor doing investment in Kedah. Increasing number of investor will increase the number of banking customer.

Furthermore Kedah has many Islamic full-pledged either local or foreign banking (Table 3.1). That's why, Kedah has chosen as sample and population in this study.

Table 3.1:
List of Islamic banks branches in Kedah

Local	Foreign
1. Bank Islam Malaysia Berhad *(all branch)*	8. OCBC Al-Amin *(Sungai Petani)*
2. Bank Muamalat *(all branch)*	9. Al Rajhi Banking & Investment Corporation (Malaysia) Berhad *(Sungai Petani)*
3. Affin Islamic *(Jitra)*	
4. AmIslamic (M) Sdn. Bhd. *(Alor Setar)*	10. HSBC Amanah Malaysia Berhad *(Alor Setar & Sungai Petani)*
5. Hong Leong Islamic Bank Berhad *(Alor Setar)*	
6. RHB Islamic Bank Berhad *(Sungai Petani)*	
7. Public Islamic Bank Berhad *(Alor Setar)*	

The total population is not easily to get from any directory because it is confidential. To collect information about total population size, researcher has submit application to bnmtelelink@bnm.gov.my and Department of Statistics Malaysia, Kedah about the total banks that apply Islamic banking in Kedah but it is confidential and are suggested to refer from banking website. Due to that, researcher need to refer from list of licensed Islamic banking in Bank Negara Malaysia (BNM) website. From 16 banks (Table 1.1), only 14 banks exist in Kedah except Asian Finance Bank Berhad and Kuwait Finance House (Malaysia) Berhad. 14 banking website is opened to get information about total branches (full-pledged and Islamic window of conventional bank) (Table 3.2). The cleaning process was conducted to avoid duplicate data by using double checking and checklist. As a result, there are 63 banks as total population size in Kedah. Since the total population size is 63 elements, according to the table that produced by Krejcie & Morgan (1970) the sample size is 56 subjects. It represents 89% from the total population.

Table 3.2:
List of banks no of bank branches in Kedah

BANKS	NO.	BANKS	NO.
1. Affin Islamic Bank Berhad	1	9. HSBC Amanah Malaysia Berhad	2
2. Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	1	10. Hong Leong Islamic Bank Berhad	1
3. Alliance Islamic Bank Berhad	1	11. Kuwait Finance House (Malaysia) Berhad	0
4. AmIslamic Bank Berhad	1	12. Maybank Islamic Berhad	14
5. Asian Finance Bank Berhad	0	13. OCBC Al-Amin Bank Berhad	1
6. Bank Islam Malaysia Berhad	11	14. Public Islamic Bank Berhad	1
7. Bank Muamalat Malaysia Berhad	4	15. RHB Islamic Bank Berhad	9
8. CIMB Islamic Bank Berhad	15	16. Standard Chartered Saadiq Berhad	1

There are two major type of sampling design i.e. probability sampling and non-probability sampling (Sekaran & Bougie. 2013). Sampling design in this study is probability sampling either unrestricted (simple random sampling) or restricted (complex probability sampling) (Sekaran & Bougie. 2013). This study will use restricted sampling where it will divide into systematic, stratified, cluster, area and double sampling (Sekaran & Bougie. 2013). The suitable sampling design in this study is stratified sampling (Ringim, Razalli, & Hasnan, 2012) because it hard to find total population and much criteria and rule to follow before going to choose. Stratified random sampling is dividing into proportionate and disproportionate. Stratified is more efficient than the simple random sampling because, the number of sample is betters represent population and more valuable from each group (Sekaran & Bougie. 2013).

Proportionate stratified random sampling means to identify the number of element in stratum; researcher might to decide certain number of percent or ratio. Example like,

researcher decide to collect 20% sample in each stratum as respective strata. Proportionate would not truly represent all members in stratum. While, disproportionate stratified random sampling decisions are chosen either a stratum is too large or too small, or the disproportionate sampling more appropriate to represent the element in population (Sekaran & Bougie. 2013). These types don't have any border to decide total number of subject as sample based on what researcher needs as sample. Table 3.3 will show the total number of sample to represent the element of population.

Table 3.3
Disproportionate stratified random sampling

Bank	Population	Number of subject in sample Disproportionate Sampling
1. Affin Islamic Bank Berhad	1	1
2. Al Rajhi Banking & Investment Corporation (Malaysia) Berhad	1	1
3. Alliance Islamic Bank Berhad	1	1
4. AmIslamic Bank Berhad,	1	1
5. Bank Islam Malaysia Berhad,	11	10
6. Bank Muamalat Malaysia Berhad,	4	3
7. CIMB Islamic Bank Berhad,	15	14
8. HSBC Amanah Malaysia Berhad,	2	2
9. Hong Leong Islamic Bank Berhad,	1	1
10. Maybank Islamic Berhad,	14	12
11. OCBC Al-Amin Bank Berhad,	1	1
12. Public Islamic Bank Berhad,	1	1
13. RHB Islamic Bank Berhad,	9	8
14. Standard Chartered Saadiq Berhad.	1	1
TOTAL	**63**	**57**

3.7   Instrumental Method

Section 1 consist 16 items of questions are related to independent variable. It divided into three independent variables under IT capability that is adapted from tippins & Sohi, (2003) include IT knowledge, IT operations, and IT objects

Section 2 consist 18 items that related to dependent variable. Dependent variable is Islamic bank performance. It is divided into three basic performance measures includes educating individual, establishing justice and public interest based on Maqasid al-shariah framework and the instrument is adapted from Mohammed, Razak, and Taib, (2008).

Lastly, in the section 3 consist with 6 items related to respondent demographic. The information about gender, years of experience, position, total employee, and location organization. The Appendix A will shows the completed questionnaire for this study. The summary of all items in questionnaire shown in Table 3.4;

Table 3.4:
Summary of the Questionnaire

Category	Instrument	Coding	Item
Section 1			
IT Capability			
A: IT Knowledge	Adapted from Tippins & Sohi, (2003)	A1-A5	4 items
B: IT Operations	Adapted from Tippins & Sohi, (2003)	B1-B6	6 items
C: IT Objects	Adapted from Tippins & Sohi, (2003)	C1-C5	4 items
Section 2.			
Islamic bank performance	Adapted from Mohammed, Razak, and Taib, (2008)	G1-G18	18 items
D: Educating Individual	Adapted from Mohammed, Razak, and Taib, (2008)	D1-D6	6 items
D: Establishing Justice	Adapted from Mohammed, Razak, and Taib, (2008)	D7-D12	6 items
D: Public Interest	Adapted from Mohammed, Razak, and Taib, (2008)	D13-D18	6 items
Section 3.			
Demographic	Gender, years of experience, position, total employee, location organization, etc.		5 items

3.8 Measurement of Variable

In the first section of the questionnaire, Likert Scales with rating of 1 to 5 were used. The respondents are requested to indicate the extent to which they agree or disagree to the questionnaire surveys using the five point Likert Scales anchored by 1=strongly disagree, 5= strongly agree and 3= moderately (neither agree nor disagree) as a midpoint.

The second sections Likert Scales with rating of 1 to 5 were used. The respondents are requested to indicate the extent to which they agree or disagree to the questionnaire surveys using the five point Likert Scales anchored by 1= Decrease Significantly, 5= Increase Significantly and 3= moderately (neither increase nor decrease) as a midpoint.

In the section 3, the questions are based on demographic characteristic. Respondent are asked question related to gender, years of experience, position, total employee, and location organization.

3.9 Data Collection Method and Procedure

Most of information, knowledge, theories, and findings are collected and cited from previous related journal articles and books. The method used in the study for data collection is questionnaire survey. A structured questionnaire survey is mainly chosen on the purpose of data collection from the respondent in order to fulfill research objectives and answer research questions. The method is also chosen due to reasons such as budget limitation and time constraint. The study will be conducted on all Islamic banks in Kedah. Transportation cost can be reduced significantly during the distribution process of questionnaire surveys to respondents. Questionnaire surveys are also chosen because it is the most efficient and not require much time to complete compare to other methods.

To complete this research, questionnaires are distributed to banking that applies Islamic banking branches in Kedah. All manager and executive level are qualified to answer the questionnaire. The data collection process is done without any assistance from other parties. The distribution process is started on 10 March 2015 after getting approval from Othman Yeop Abdullah (OYA) for data collection. The period time to collect data is 40 day. Questionnaire will delivered by hand to all banks that apply Islamic banking in Kedah. Time provided to answer the entire question is very reasonable and suitable. Along with questionnaire, researcher also accompanying latter approval from OYA about the

purpose of data collection and hope researcher will get positive feedback from respondents. The researcher also should to inform respondents on how to answer.

The total questionnaire that is going to be delivered is 63 questionnaires after the researcher decide to deliver questionnaire to all Islamic branches in Kedah after 56 of suggested sample plus 7 questionnaires to increase the accuracy of research instrument. It means all Islamic branches are involved in this study. Nevertheless, at the end of data collection period, researcher was only able to attain 58 questionnaires or 92% of complete questionnaires to develop the analysis in this research.

3.10   Pilot Test

The pilot test for this study was conducted at the end of February 2015 before doing data collection. The pilot test was conducted by researcher to test the reliability of instrument is this research. The questionnaire should to test whether it has weakness or not. Pilot test should use the reasonable sample to represent target population. Prior to data collection begin, the researcher were invited 7 people (5 from banks and 2 from academician). 7 people were invited to review questionnaire for readability, structure, completeness and ambiguity (Cheng & Chiu; 2008). Pilot study also conducted with 20 practitioners from Islamic banking to access the quality on this research (Cheng & Chiu; 2008). Finally the survey was confirming after get back their feedback from the pilot study.

3.11 Reliability Test

The reliability test is applied in order to measure the goodness of the data which include the stability and consistency of the items. Cronbach's Alpha is the methods which is used to examine the consistency of the data are using. Sekaran and Boguie (2013) suggested that the closer the value of Cronbach's Alpha to 1, it will provide a higher reliability of internal consistency. Meanwhile, the Cronbach's Alpha value which is less than 0.60 is considered to be poor while those in the range of 0.70 are acceptable. Whereas, the value over than 0.80 is considered as good and having a higher internal consistency.

Table 3.5
Coefficient of Cronbach's Alpha

Value	Level of Reliability
< 0.6	Weak
0.6 to < 0.7	Moderate / Received
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
> 0.9	Strong

(Source: Sekaran & Boguie (2013)

The table 3.6 shows the result of pilot test. Based on pilot test, the reliability analysis for variable is very good. The Cronbach's alpha value for overall dependent variable is 0.952. It means, the value shows the strong reliability. While the Cronbach's alpha value for overall independent variables (IT capability) also shows an excellent or strong reliability of 0.957. Range for dependent variable is from 0.827 to 0.915. While for IT capability, range of Cronbach's alpha included three independent variables is from 0.754 to 0.838. The specific cronbach's alpha value are explained on table 3.6.

Table 3.6
Reliability Statistic for Pilot Test

Items	Number of Items	Cronbach's Alpha
Dependent Variables	**18**	**0.952**
Educating Individual,	6	0.827
Establishing Justice	6	0.861
Public Interest	6	0.915
Independent Variables	**14**	**0.839**
IT Knowledge	4	0.838
IT Operations	6	0.754
IT Objects	4	0.815

3.12 Data Analysis Techniques

In this study, data will check the reliability and normality analysis using Statistical Package

for the Social Science (SPSS) version 21. SPSS will use to analyze all the data from survey.

The several methods are used in data analysis included:

1. Descriptive analysis

2. Validity and reliability test

3. Normality test

4. Correlation analysis

5. Multiple regression analysis

3.12.1 Descriptive Analysis

Before carrying of any statistical analysis like correlation or multiple regressions,

descriptive analysis is using to perform frequency analysis and mean test. Descriptive

analysis is important to avoid any test are violated. Descriptive analysis is includes mean,

range of the scores, standard deviation, kurtosis and skewness (Pallant, 2001). Researcher

using frequency analysis in analyze 8 such as gender, years of experience, position, total employee, and location of the banks, and the means test is used to examine level of influences IT capability on Islamic banking performance. Means test is used to separate between lower level and upper level of implementation as a midpoint because Healey (2005) determine descriptive analysis as a better instrument to balance with accurately.

3.12.2 Validity and Reliability Test

Validity analysis is used by researcher is to measure what are should to measure Hair, Babin, Money and Samuel (2003). Validity is answer about how the social reality can be measure in the line of arrangement of origin researchers. The research instrument for IT capability is adapted from Tippins & Sohi, (2003) and for Islamic banks performance is adapted from (Mohammed, Razak, and Taib, 2008). The tests of both variables are required to be conducted by the researcher as part of research needs. The test is needs to ensure all the subjects of this research understand or not. It also needs to ensure the quality of research result.

Reliability test is referring to consistent and stability of test in measuring both variables based on samples. Cronbach's Alpha analysis is used to measure the reliability of instrument. Reliability test in this study is used by researcher for pilot test and actual test. If validity is not valid in this study, it means no point to discuss about reliability test. Both of tests are important to ensure the quality of result.

3.12.3 Normality Test

Normality test is prerequisite for analysis and it conducted to ensure the survey is normal (Hair, Babin, Anderson, & Tatham; 2007). Normality test have several steps to follow such as histogram, stem-and-leaf plot, and boxplot to ensure the normality of distribution. Appendix 2 will show the histogram, Normal Q-Q Plot, Defriended Normal Q-Q Plot and boxplot.

3.12.4 Pearson's Correlation Analysis

Sekaran and Bugie (2013) explain that the Pearson correlation will indicate direction, significant and strength among variables at ratio level and an interval. The Pearson correlation is used to examine the relationship between variable in this study. It identified the direction of linear relation between of two variables. It used before using multiple regressions. Pearson correlation can vary from -1.0 which considered as perfect negative correlation through 0.0 which is no correlation at all to +1.0 which considered as perfect positive correlation. The researcher indicates the scale according to Hair, Money, Samouel, and Page (2008) based on table 3.7.

Table 3.7
The Coefficient Scale and Relationship Strength of Correlation

Coefficient Scale	Relationship Strength
± 0.91 - ± 1.00	Very Strong
± 0.71 - ± 0.90	Strong
± 0.41 - ± 0.70	Moderate
± 0.21 - ± 0.40	Weak
± 0.01 - ± 0.20	Very Weak

(Source: Hair, Money, Samouel and Page (2008))

3.12.5 Multiple Regression Analysis

Multiple regression analysis is method of analyze link between several of independent variable and dependent variable. Multiple regression analysis is conducted to verify the relationship between the IT capability as independent variables and the performance of Islamic banking branches in Kedah as dependent variable. Thus, it can measure either the independent variable able to influence dependent variable or not based on their regression result. It also uses to identify the contributory of variable. The researchers also look at the R^2 (R-Square). If the value is more than 70%, it shows the independent variable is very influence to dependent variable. While, if the value is lowest than 50%, it show other factor will influence the Islamic bank performance.

Table 3.8
Summary of Data Analysis Technique

	Hypothesis	Statistical Analysis
H1	There is an influence the IT capability toward the overall performance of Islamic banking branches in Kedah.	Multiple Regression Analysis
H1a	There is an influence IT knowledge toward the overall performance of Islamic banking branches in Kedah.	Multiple Regression Analysis
H1b	There is an influence IT operations toward the overall performance of Islamic banking branches in Kedah.	Multiple Regression Analysis
H1c	There is an influence IT objects toward the overall performance of Islamic banking branches in Kedah.	Multiple Regression Analysis
H2	There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of educating individual.	Multiple Regression Analysis
H2a	There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of educating individual.	Multiple Regression Analysis
H2b	There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of educating individual.	Multiple Regression Analysis
H2c	There is an influence IT objects the performance of Islamic banking branches in Kedah in term of educating individual.	Multiple Regression Analysis
H3	There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of establishing justice.	Multiple Regression Analysis
H3a	There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of establishing justice.	Multiple Regression Analysis
H3b	There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of establishing justice.	Multiple Regression Analysis
H3c	There is an influence IT objects toward the performance of Islamic banking branches in Kedah in term of establishing justice.	Multiple Regression Analysis
H4	There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of public interest.	Multiple Regression Analysis
H4a	There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of public interest.	Multiple Regression Analysis
H4b	There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of public interest.	Multiple Regression Analysis
H4c	There is an influence IT objects toward the performance of Islamic banking branches in Kedah in term of public interest.	Multiple Regression Analysis

3.13 Chapter Summary

Chapter three are discussing about the research methodology. In this chapter the researcher have explain about the theoretical framework, research hypothesis, research design, operational definition, research sample and population, instrumentation method, measurement of variables, data collection method and procedure, pilot test, reliability test, and data analysis technique. Discussion about questionnaire also have discussed based on the research objective and literature review. These chapters also discuss about reliability and pilot test also was conducted. In the next chapter, researcher will explain about finding of this study.

CHAPTER 4

RESULT AND DISUSSION

4.1   Introduction

In this chapter, the researcher discussed the result of the survey, which based on the research objectives that have been described in Chapter 1. Other than that, the researcher also explained the findings from the statistical analysis including the interpretation of data that have been analyzed and the results for research hypotheses. The data were analyzed by using the *Statistical Package for the Social Science (SPSS)* software version 21. The presentation of the data analysis and result is explained in the following categories:

i)   Descriptive Analysis

ii)   Validity and Reliability Test

iii)   Pearson's Correlation Analysis

iv)   Multiple Regression Analysis

The hypotheses testing would be performed by the researcher where in this step the researcher needs to decide whether to accept or reject the hypotheses in the study. In addition, several findings can summarize and discussed according to the basis of the research findings. The summary of the results is explained by the researcher in this chapter in order to make the reader easily understand about the study that have been done.

4.2 Descriptive Analysis

Descriptive analysis is an analysis used in order to do the frequency analysis and identify the mean test. Firstly, the researcher explained about the frequency analysis. About 59 questionnaire were distributed to the selected respondents who are on the top management of the banks (Branch Manager/Executive Manager) by using simple random sampling method. Then, the researcher only gained back a total of 57 (N = 57) of completed questionnaire that can be used to create the analysis in the study.

Frequency analysis is an important analysis in developing a research. This analysis was conducted in order to know the total number of respondents that are participated in this study with different values and also indicated the percentage value. In Section A of the questionnaire, there were five information that related to the respondent's banks background includes, gender, working experience, job title in the bank, numbers of employee and also the location of the bank.

By having 57 samples gained by the researcher from the survey, the demographic analysis can be done effectively. In terms of personal information based on the feedback that have gained, the gender composition shows that 64.9% are male respondents who participated in the study, while 35.1% are female respondents. Table 4.1 shows the composition of gender in more details.

Table 4.1
Composition of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	37	64.9
Female	20	35.1

Next, the data of respondent's working experience years with the bank shows that more than 10 years of work experience at the firms is the highest with 54.4%. And the lowest years of working experience at the firm is more than less than 1 year. This shows that more people are experienced in working in the bank. All of the respondent's compositions of working experience are shown in Table 4.2.

Table 4.2

Composition of Respondents by Working Experience

Working Experience	Frequency	Percentage (%)
Less than 1 year	3	5.3
2 – 5 years	11	19.3
5 – 10 years	12	21.1
More than 10 years	31	54.4

In relation to position of respondents at the bank, the Branch Executive takes the most with 80.7%. And the other position of respondents at the bank is Branch Manager with only 19.3%. The Table 4.3 shows the number of respondent's position in the firms.

Table 4.3

Composition of Respondents by Job Title

Job Title	Frequency	Percentage (%)
Branch Manager	11	19.3
Branch Executive	46	80.7

Furthermore, most of the respondent's banks possessed 11 - 20 workers with 40.4% as total employees in the firms. And the lowest figure of the total employment in banks is less than 10 employees at the 3.5%. The precise of the composition is described in the Table 4.4 below.

Table 4.4

Composition of Respondents by Number of Employee

No of employee	Frequency	Percentage (%)
1 - 10	2	3.5
11 - 20	23	40.4
21 - 30	12	21.1
30 and above	20	35.1

Next is the location of the bank. Most of the bank area located in urban area which is 70.2% compared with the banks stay in rural area is only 29.8%. The Table 4.5 shows the location of the Islamic banks.

Table 4.5

Composition of Respondents by Location

Location	Frequency	Percentage (%)
Rural	17	29.8
Urban	40	70.2

Analysis is the common thing in order to do a research. In most of the research, the descriptive analysis is becoming the measure instrument and general trends in a data set. According to Thomson (2009), descriptive statistics are the numbers that summarize the data with the purpose of explaining on what happen with the sample. Table 4.6 shows the

descriptive statistic for all dependent variables and independent variables. The full analysis of descriptive statistical analysis is shown in Appendix 3.

The findings of the analysis show that overall performance of Islamic bank recorded the number of mean with 3.68. For standard deviation as can be seen, it shows that the performance of Islamic banks shows that 0.42. For the other variable under the performance, the highest number of mean is public interest at 3.80 followed by establishing justice at 3.67 and educating individual at 3.58.

According to the data, by referring on independent variables, it shows that the highest mean for independent variables is 4.05 which represented IT operation, and followed by IT Knowledge which is 4.04 and the last is IT Objects which the mean value is only 3.90. For standard deviation, the most highly valued is Public interest with 0.52 and the least figure is 0.42 which represents knowledge management and overall performance of Islamic banks.

Based on Table 4.6, the dependent variables for overall performance of Islamic banks is positively skewed at 0.03. For the public interest, the value is positively skewed at 0.10 and establish justice at 0.20. For educating individuals, it negatively skews at -0.22. .For other variable which is the independent variables, all of the variables are positively skew in which IT Knowledge at 0.70, IT Operations at 0.01, and IT at 0.32. However, the values for skewness for both variables of independent and dependent are great because the number is between +1 and -1. In other words, it means that the value for skewness is near to normal (normal = 0) or symmetrical and the tabulation is not to skew.

For Kurtosis, the dependent variable also shows the best value in which overall performance of Islamic banks at -0.185, educating individual at 0.780, establish justice at -0.289 and the last public interest at -0.467. For independent variables, all of the items show the negative value. IT Knowledge shows -0.333, IT Operations at -0.667, and IT Objects at -0.594. In conclusion, the kurtosis value for both independent and dependent variables is good because the figured show is between +3 and -3. It means that the value for kurtosis is near to normal (normal = 0) and the curve of kurtosis is not to sloping or not too high.

Table 4.6
Summary of Descriptive Analysis (N = 57)

Items	Mean	Standard Deviation	Skewness	Kurtosis
Dependent Variables				
Overall Performance	3.68	0.42	0.03	-0.185
Educating Individual	3.58	0.45	-0.22	0.780
Establish Justice	3.67	0.48	0.20	-0.289
Public Interest	3.80	0.52	0.10	-0.467
Independent Variables				
IT Knowledge	4.04	0.42	0.70	-0.333
IT Operation	4.05	0.48	0.01	-0.667
IT Objects	3.90	0.44	0.32	-0.594

4.3   Validity and Reliability Analysis

This part explained in details the analysis of validity and reliability to identify whether the questionnaire used by the researcher is accurate or not.

4.3.1 Validity Test for Dependent Variables

A pre-test of the questionnaire was conducted in order to enable testing of the question that provided to determine which format best to easy the respondents to answer it. The purpose of the pre-test was to alert the researcher to potential problems that may be caused by the questionnaire.

A pilot study was conducted in this research study. The objective was to get feedback and use it in adjusting and improving data collection, the questionnaire and the techniques used in analyzing the data. Zikmund (2000) highlighted that the aim of conducting validity is to ensure that the instrument measure what it is supposed or intended to measure. According to Byrne (2010), discriminant validity is defined as the degree to which a construct can be established as truly being the difference from other constructs in the model

For independent variables, the instruments which represent IT capability is valid due to the long-term establish and well-known by many scholars of learning and management field. Previously, this instrument also used by many researchers such as such as Tippins and Sohi (2003); Bharadwaj (2000); Ross, Beath and Goodhue (1996); Li, Chen and Huang (2006) and become one of the essential instruments to study the implementation of IT. Therefore, it proves that this independent variables instrument have high level of validity and it can be applied by the researcher to learn something from the Islamic banks branches in Kedah.

4.3.2 Reliability Test

Reliability is an important test to measure the data consistently. By doing this test, the researcher is able to know whether the inferences are valid or invalid. According to Weiner (2007), reliability is the degree to which a measurement technique can rely upon to ensure consistency of the findings from repeated application. Some of the methods are used to determine the reliability of the instruments. Cronbach's Alpha is used to test the reliability of a questionnaire based on the model of internal consistency.

According to Sekaran (2003), he stated that the closer the Alpha value to 1, it indicates a high level of reliability of the research data (Cronbach's Alpha = > 0.90). If the Alpha value is less than 0.6, it may be assumed that the instrument have low reliability (Cronbach's Alpha = < 0.60). Good and acceptable reliability if the value of Alpha is more than 0.7 (Cronbach's Alpha = 0.7 to < 0.90).

A reliability test result of data gathered from the survey is shown at Table 4.7. Based on the data obtained, the reliability statistics of the dependent variables and independent variables are very good. For dependent variables, the Cronbach's Alpha value shows a better result of reliability of 0.907 which represent all of the dependent variables. On the other hand, the Cronbach's Alpha value also shows an excellent reliability of 0.835 for IT capability or independent variables. The Cronbach's Alpha value for dependent variable items is 0.785 for educating individual followed by establishing justice with 0.798 and the last one is public interest which is 0.862. While IT capability model which include three independent variables, the Cronbach's Alpha for IT knowledge is 0.704, for the IT operations is 0.794 and for the IT objects is 0.674. The Appendix 5 shows the statistic of reliability analysis of dependent and independent variables.

Table 4.7

Reliability Statistic for the Data Gathered from Survey

Items	Number of Items	Cronbach's Alpha
Dependent Variables	**18**	**0.907**
Educating Individual	6	0.785
Establish Justice	6	0.798
Public Interest	6	0.862
Independent Variables	**14**	**0.835**
IT Knowledge	4	0.704
IT Operation	6	0.794
IT Objects	4	0.674

4.4   Pearson's Correlation Analysis

For this analysis, the researcher tried to examine whether the independent variables have the relationship with dependent variables or not. The Table 4.8 below shows the correlation analysis that have been carried out from the research. The full analysis of correlation is shown in the table in Appendix 6.

The Table 4.8 of correlation analysis shows that IT knowledge, IT operations and IT objects on with overall performance of Islamic banks have a positive correlation in which r = 0.507, 0.547, and 0.423 and p = 0.000; p<0.05. And the relationship between IT capability dimension and the dependent variables is strong. In conclusion, it is found that IT knowledge, IT operations and IT objects have a significant relationship with overall performance of Islamic banking branches in Kedah.

Referred to the Table 4.8, the analysis shows that there is positive correlation IT knowledge, IT operations, and IT objects with educating individual with r = 0.246, 0.492, and 0.411 and p = 0.000; p<0.05. Thus, the relationship strength is strong for IT knowledge

with educating individual. In summary, it is found that IT operations and IT objects have a significant relationship with educating individual.

According to the Table 4.8 of correlation analysis, it shows that IT knowledge, IT operations and IT objects with establishing justice have a positive correlation in which $r = 0.539, 0.464,$ and 0.341 and $p = 0.000; p<0.05$. And the relationship between IT knowledge, IT operations and the dependent variables is strong. Therefore, it is found that IT knowledge, and IT operations have a significant relationship with establishing justice under the overall performance of Islamic banking branches in Kedah.

Referred to the Table 4.8 of correlation analysis, it shows that IT knowledge, IT operations and IT objects with public interest have a positive correlation in which $r = 0.509, 0.457,$ and 0.344 and $p = 0.000; p<0.05$. And the relationship between IT knowledge, IT operations and the dependent variables is strong. Therefore, it is found that IT knowledge, and IT operations have a significant relationship with public interest which is the dimension of performance of Islamic banking branches in Kedah.

Table 4.8
Correlation Analysis (N=57)

	1	2	3	4	5	6	7
ITK	1						
	57						
ITO	0.582**	1					
	.000	**57**					
ITOBJ	0.261*	0.375**	1				
	.000	**.000**	**57**				
OP	0.507**	0.547**	0.423**	1			
	.000	**.000**	**.001**	**57**			
EI	0.246	0.492**	0.411**	0.823**	1		
	.000	**.000**	**.002**	**.000**	**57**		
EJ	0.539**	0.464**	0.341**	0.870**	0.574**	1	
	.000	**.000**	**.009**	**.000**	**.000**	**57**	
PI	0.509**	0.457**	0.344**	0.884**	0.578**	0.672**	1
	.000	**.000**	**.009**	**.000**	**.000**	**.000**	**57**

Note.   ** Correlation is significant at the 0.01 level (2-tailed).
            * Correlation is significant at the 0.05 level (2-tailed).

4.5　Multiple Regression Analysis

By having two or more independent variables, the researcher have to use the multiple regression analysis in this study. Multiple regression analysis is used to analyze whether the independent variable (IT capability) enhance the dependent variables (performance of Islamic banking branches in Kedah). For this analysis, 16 hypotheses are tested to ensure whether the independent variables are able to influence dependent variable. The details analysis of multiple regressions can be referred at Appendix 7.

Table 4.9, shows the result of regression analysis indicates the influence of IT capability towards the dependent variable which is representing the overall performance of Islamic banking branches in Kedah. There are four hypotheses is tested in this part and Table 4.9 indicates the hypotheses results whether the researcher decide to accept or reject the hypotheses.

The result of H_1 is tested using multiple regression analysis. Collectively, the result explained that R Square value is 0.402. This demonstrates that 40.2% of variance that described the DV (overall performance of Islamic banking branches in Kedah) is accounted to the IVs (IT capability) where the F value = 11.890 and significant value is 0.000 (p<0.1). Therefore, the hypothesis is accepted. It means that the IT capability is able to influence overall performance of Islamic banking branches in Kedah.

However, the results vary if it indicates individually. For H_1a, the dimension of IT capability (IT knowledge) demonstrates that $\beta = 0.271$ and the t value is 2.071 which is more than 1.645 (t > 1.645). The significant value is 0.043 which is less than 0.1 (p < 0.1).

Thus, the hypothesis is accepted. It means that the IT knowledge is able to influence overall performance of Islamic banking branches in Kedah.

For H₁b, the second dimension which represents IT operations describes that $\beta = 0.299$ and the t value is 2.193 which is more than 1.645 (t < 1.645). The significant value is 0.033 which is less than 0.1 (p > 0.1). Therefore, the hypothesis is accepted. It means that the IT operations is able to influence overall performance of Islamic banking branches in Kedah.

The last hypothesis is dimension of IT capability (IT objects) which represents H₁c describes that $\beta = 0.240$ and the t value is 2.092 which is more than 1.645 (t < 1.645). The significant value is 0.041 which is less than 0.1 (p > 0.1). In that case, the hypothesis is accept. It means that the IT object are able to influence overall performance of Islamic banking branches in Kedah. The details of the results are summarized in Table 4.9.

Table 4.9

Multiple Regression Analysis for Hypothesis 1 (N=57)

Banks Performance	Variables	Hypotheses	Performance (β)	Sig.	t
Independent Variables Statistic Summary	Overall performance of Islamic banking	H1	0.368	0.219	1.244
	R^2		0.402		
	F		11.890		
	p		.000[b]		
	IT knowledge	H1a	0.271	0.043	2.071
	IT operations	H1b	0.299	0.033	2.193
	IT objects	H1c	0.240	0.041	2.092

p* < 0.1, p** < 0.05, p*** < 0.01

Refer to the Table 4.10, the result of regression analysis indicates the influence of IT capability towards the dependent variable which represented the Educating Individual. There are four hypotheses are tested in this part and Table 4.10 indicates the hypotheses results whether the researcher decide to accept or reject the hypotheses.

The result of H_2 is tested using multiple regression analysis. Collectively, the result explained that R Square value is 0.306. This demonstrates that 30.6% of variance that describes the DV (Educating Individual) is accounted to the IVs (IT capability) where the F value = 7.792 and significant value of the educating individual is 0.066 which is (p<0.1). Therefore, the hypothesis is accepted. It means that the IT capability is able to influence the performance of the Islamic banking branches in Kedah towards Educating Individual.

However, the results different if it indicates individually. For H_2a, the dimension of IT capability demonstrates that β = -0.079 and the *t* value is -0.563 which is less than 1.645 (t > 1.645). The significant value is 0.576 which is also more than 0.1 (p < 0.1). Thus, the hypothesis is rejected. It means that the IT knowledge is not able to influence the performance of Islamic banking branches towards Educating Individual.

For H_2b, the second dimension which represented IT operations describes that β = 0.438 and the *t* value is 2.987 which is more than 1.645 (t < 1.645). The significant value is 0.004 which is less than 0.1 (p > 0.1). Therefore, the hypothesis is accepted. It means that the IT operations is able to influence the performance of Islamic banks branches towards Educating Individual.

And the last hypothesis is H_2c described that β = 0.267 and the *t* value is 2.158 which is more than 1.645 (t < 1.645). The significant value is 0.035 which is less than 0.1

(p > 0.1). Thus, the hypothesis is accept. It means that the IT object are able to influence the performance of Islamic banking branches in Kedah towards Educating Individual. The details of the results are summarized in Table 4.10.

Table 4.10

Multiple Regression Analysis for Hypothesis 2 (N=57)

Banks Performance	Variables	Hypotheses	Performance (β)	Sig.	t
Independent Variables Statistic Summary	Performance of Islamic banking (Educating Individual)	H2	0.267	0.066	1.878
	R^2		0.306		
	F		7.792		
	p		.000[b]		
	IT knowledge	H2a	-0.079	0.576	-0.563
	IT operations	H2b	0.438	0.004	2.987
	IT objects	H2c	0.267	0.035	2.158

p* < 0.1, p** < 0.05, p*** < 0.01

As shown in Table 4.11, the result of regression analysis indicates the influence of IT capability towards the dependent variable which represented the overall performance of Islamic banking branches in Kedah towards Establishing Justice. There are four hypotheses tested in this part. The table 4.11 indicates the hypotheses results whether the researcher decide to accept or reject the hypotheses.

The result of H3 is tested using multiple regression analysis. Collectively, the result explained that R Square value is 0.314. This demonstrates that 31.4% of variance that describes the DV (Establishing Justice) is accounted to the IVs (IT capability) where the F value = 9.541 and significant value is 0.000 (p<0.1). Therefore, the hypothesis is accepted.

It means that the IT capability is able to influence overall performance of Islamic banking branches in Kedah towards Establishing Justice.

However, the results vary if it indicates individually. For H3a, the dimension of IT capability demonstrates that $\beta = 0.395$ and the *t* value is 2.900 which is more than 1.645 (t > 1.645). The significant value is 0.005 which is less than 0.1 (p < 0.1). Thus, the hypothesis is accepted. It means that the IT knowledge is able to influence overall performance of Islamic banking branches in Kedah towards Establishing Justice.

For H3b, the second dimension which represents IT operations describes that $\beta = 0.169$ and the *t* value is 1.187 which is less than 1.645 (t < 1.645). The significant value is 0240 which is more than 0.1 (p > 0.1). Therefore, the hypothesis is rejected. It means that the IT operations is not able to influence overall performance of Islamic banking branches in Kedah towards Establishing Justice.

The last hypothesis is dimension of IT capability which represents H3c describes that $\beta = 0.174$ and the *t* value is 1.457 which is less than 1.645 (t < 1.645). The significant value is 0.151 which is more than 0.1 (p > 0.1). Thus, the hypothesis is rejected. It means that the IT object are able to influence overall performance of Islamic banking branches in Kedah towards Establishing Justice. The details of the results are summarized in Table 4.11.

Table 4.11

Multiple Regression Analysis for Hypothesis 3 (N=57)

Banks Performance	Variables	Hypotheses	Performance (β)	Sig.	t
Independent Variables Statistic Summary	Performance of Islamic banking (Establishing Justice)	H3	0.314	0.485	0.703
	R²		0.314		
	F		9.541		
	p		.000ᵇ		
	IT knowledge	H3a	0.395	0.005	2.900
	IT operations	H3b	0.169	0.240	1.187
	IT objects	H3c	0.174	0.151	1.457

p* < 0.1, p** < 0.05, p*** < 0.01

As shown in Table 4.12, the result of regression analysis indicates the influence of IT capability towards the dependent variable which represented the overall performance of Islamic banking branches in Kedah. There are four hypotheses is tested in this part and Table 4.12 indicates the hypotheses results whether the researcher decide to accept or reject the hypotheses.

The result of H_4 is tested using multiple regression analysis. Collectively, the result explained that R Square value is 0.327. This demonstrates that 32.7% of variance that describes the DV (Public Interest) is accounted to the IVs (IT capability) where the F value = 8.586 and significant value is 0.000 ($p<0.1$). Therefore, the hypothesis is accepted. It means that the IT capability is able to influence overall performance of Islamic banking branches in Kedah towards Public Interest.

However, the results vary if it indicates individually. For H_{4a}, the dimension of IT capability demonstrates that $\beta = 0.356$ and the *t* value is 2.567 which is more than 1.645 (t

> 1.645). The significant value is 0.013 which is less than 0.1 (p < 0.1). Thus, the hypothesis is accepted. It means that the IT Objects is able to influence overall performance of Islamic banking branches in Kedah towards Public Interest.

For H4b, the second dimension which represents IT operations describes that β = 0.180 and the *t* value is 1.248 which is less than 1.645 (t < 1.645). The significant value is 0.218 which is more than 0.1 (p > 0.1). Therefore, the hypothesis is rejected. It means that the IT operations is unable to influence overall performance of Islamic banking branches in Kedah towards Public Interest.

The last hypothesis is dimension of IT capability which represents H4c describes that β = 0.184 and the *t* value is 1.509 which is less than 1.645 (t < 1.645). The significant value is 0.137 which is more than 0.1 (p > 0.1). Thus, the hypothesis is rejected. It means that the IT object are able to influence performance of Islamic banking branches in Kedah towards Public Interest. The details of the results are summarized in Table 4.12.

Table 4.12
Multiple Regression Analysis for Hypothesis 4 (N=57)

Banks Performance	Variables	Hypotheses	Performance (β)	Sig.	t
Independent Variables Statistic Summary	Performance of Islamic banking (Public Interest)	H4	0.289	0.606	0.520
	R^2		0.327		
	F		8.586		
	p		.000[b]		
	IT knowledge	H4a	0.356	0.013	2.567
	IT operations	H4b	0.180	0.218	1.248
	IT objects	H4c	0.184	0.137	1.509

p* < 0.1, p** < 0.05, p*** < 0.01

4.6   Hypotheses Summary

There are the hypothesis results that can be seen in this study and Table 4.13 indicates briefly about the hypothesis results which analyzed by the researcher. An analysis of Multiple Regression coefficient explained that three hypotheses are accepted and have a significance influence between independent variables and dependent variable.

Table 4.13
Summary of All Hypotheses (N=57)

	Hypothesis **Multiple Regression Analysis**	**Accepted** **(Have a significant influence)**	**Rejected** **(Did not have a significant influence)**
H1	There is an influence the IT capability toward the overall performance of Islamic banking branches in Kedah.	Accepted	
H1a	There is an influence IT knowledge toward the overall performance of Islamic banking branches in Kedah.	Accepted	
H1b	There is an influence IT operations toward the overall performance of Islamic banking branches in Kedah.	Accepted	
H1c	There is an influence IT objects toward the overall performance of Islamic banking branches in Kedah.	Accepted	
H2	There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of educating individual.	Accepted	
H2a	There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of educating individual.		Rejected
H2b	There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of educating individual.	Accepted	
H2c	There is an influence IT objects the performance of Islamic banking branches in Kedah in term of educating individual.	Accepted	
H3	There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of establishing justice.	Accepted	
H3a	There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of establishing justice.	Accepted	
H3b	There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of establishing justice.		Rejected

H3c	There is an influence IT objects toward the performance of Islamic banking branches in Kedah in term of establishing justice.		Rejected
H4	There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of public interest.	Accepted	
H4a	There is an influence IT knowledge toward the performance of Islamic banking branches in Kedah in term of public interest.	Accepted	
H4b	There is an influence IT operations toward the performance of Islamic banking branches in Kedah in term of public interest.		Rejected
H4c	There is an influence IT objects toward the performance of Islamic banking branches in Kedah in term of public interest.		Rejected

4.7   The Discussion of the Hypotheses Results

This part illustrates the hypotheses result of the study that are divided into two parts includes the accepted hypotheses and rejected hypotheses based on 16 hypotheses. The researcher concludes and discusses the results based on the findings and related them with previous studies.

H1   There is an influence the IT capability toward the overall performance of Islamic banking branches in Kedah.

The hypothesis is accepted and shows significant influence of IT capability (IT knowledge, IT operations and IT objects) towards the overall performance of the Islamic banking branches in Kedah. According to Tippins and Sohi (2003), he define that IT capabilities as the extent to which an organization is equipped with IT objects, IT knowledge as well as effective IT operations. A high level of IT knowledge enables the smooth implementation of the organization's strategy, develops reliable and cost effective systems within the organization, and anticipates customer needs (Bhatt & Grover, 2005). Besides that, other scholars that study IT suggested that IT capabilities provide a basis of gaining competitive

advantage and increasing the organizational performance (e.g., Santhanam & Hartono, 2003; Bhatt & Grover, 2005). Therefore, this study indicates that IT capability (IT knowledge, IT operations and IT objects) is able to influence the overall performance of the Islamic banking branches in Kedah.

H2   There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of educating individual.

The hypothesis is accepted and shows significant influence of IT capability towards the performance of the Islamic banking branches in Kedah towards educating individual. Many scholars support that IT capability is able to drive the performance to be better than previous Islamic banking performance. According to (Fauziah and Ringim, 2008) state that educating individual as the important thing in order to implement the IT capability in the Islamic banking that can influence the successful of the performance of the Islamic banking. Bhatt & Grover, 2005 indicated that a high level of IT knowledge enables the smooth implementation of the organization's strategy, develops reliable and cost effective systems within the organization, and anticipates customer needs. Clark (1997) noted that IT experienced in combination with other IT elements directly determines an organization's ability to rapidly develop and deploy more innovative techniques to increase their performance. The superb thinkers and proactive learner is able to improve organizational performance through the continuous learning for improvement and learn from mistakes and error (Sujan, Weitz, and Kumar, 1994). Therefore, this study show that there are significant relationship between IT capability and performance of the Islamic banking branches in Kedah in term of educating individual.

H3   There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of establishing justice.

The hypothesis is accepted and shows that the influence of IT capability towards the overall performance of the Islamic banking branches in Kedah is significant. It means that the IT capability will affecting the overall performance of the Islamic banking branches in Kedah in term of establishing justice. Floyd et al. (1990) said that IT capabilities can reduce transaction errors and increase consistency in performance. According to (Fauziah, 2003) Islamic banking more focusing on avoiding riba. The need to enhance the profitability of Islamic banks is vital because it will consequently boost Islamic economy. This is how the Islamic banking use the money according to the shariah and not making interest. The profit of the investment will be give according to what have been agreed before dealing the business. This is also to avoid people to take a chance to making the interest. Previous studies confirm that IT capabilities enhance banks performance (e.g., Bhatt & Grover, 2005; Santhanam & Hartono, 2003) Therefore, this study proves the significant relationship between IT capability and overall performance of the Islamic banking branches in Kedah in term of establishing justice.

H4   There is an influence the IT capability toward the performance of Islamic banking branches in Kedah in term of public interest.

The hypothesis is accepted and shows there is influence of IT capability towards the overall performance of the Islamic banking branches in Kedah in term of public interest. It means that the IT capability will affected the overall performance of Islamic banking branches in

Kedah in term of public interest. According to (Fauziah, 2008), public interest includes profitability of bank (net income and total assets), redistribution of income and wealth (zakkah and net income) and investment in vital economic sectors (investment in real sector and investment in services). This is important thing in Islamic banking. Zakkah have to be pay by the Islamic banks. The customer relationship management and customer service. These items were related to customer service relationship management (Kotler, 2003; Khong & Richardson, 2003). Hence, the name Customer service management is used. So, this study proves there are significant relationship between IT capability and overall performance of the Islamic banking branches in Kedah in terms of public interest.

4.8   Summary

In this chapter, the researcher discussed the hypothesis tested that has been formed to implement the analysis which related to the variables of the research. The research findings show that there is significant influence of IT capability towards the overall performance of Islamic banking branches in Kedah.

Based on the Table 4.8, the research analysis using the Multiple Regression analysis found that 11 from 16 hypotheses are significant and the dependent variables have an ability to influence the independent variables. The IT capability and the dimension of IT capability (IT knowledge, IT operations and IT objects) have a significant influence towards overall performance of Islamic banking branches in Kedah.

As a conclusion, IT capability is the important dimension in which can influence the performance of Islamic banking branches in Kedah. Therefore, the adaptation of IT capability is very effective to Islamic banking branches in Kedah in order to enhance their performance.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction

In this chapter, the researcher will summarize an overview and provides the findings which obtained from the Chapter 4 before. It is important that the researcher need to conclude and provides recommendation in this study based on research findings. In this section this chapter are divided into five categories which are research implication, recommendation of the research, limitation of the study, suggestion for future research and conclusion.

Research implication is divided into two components that are include managerial and practical implication, and academic implication. The recommendations of the research are include opinion from the researcher and also opinion from the bank's branch manager/executive. Besides that, the researcher also provides suggestion for future research in order to enhance the value of the study that will benefitting in the future.

By dividing the section in this chapter, it will easily help the reader to be more understand the implication of this study, recommendation, and suggestion for the future research. It benefitted many parties surely for the banks in order to be more effective and efficient in their performances.

5.2 Research Implication

The results from this study have provided several implications to some parties. There are two types of implications that has been categorized which is managerial implications and academic implications.

5.2.1 Managerial Implication

Several studies have identified IT capability as a strong source that provides a basis of gaining competitive advantage and enhancing organizational performance (Adam, 1993; Bharadwaj, 2000; Quinn et al., 1994; Santhanam & Hartono, 2003). Empirical evidence predicts that IT needs to interact with other human and business resources to create IT resources that are valuable, rare and applicable to achieve the initial, short-term competitive advantage. This study contributes to managerial implications for managers, especially in the banking setting.

Previous studies have acknowledged that organizations that are IT oriented towards efficient and effective service delivery for competitive advantage indirectly enhance organizational performance (Yongmei et al., 2008; Shao et al., 2010; Said et al., 2009). The overall results of the present study confirm that IT capability dimensions contribute towards banking performance.

The Islamic banks branches in Kedah should strive to become technologically oriented banks to achieve competitive advantage and enhance the banking performance. Banks should consider that IT capability as a competence within the organization to achieve the competitive advantage. The present study identified IT capability as a

competence that contributes towards customer service management performance and overall performance. Among the IT skill-knowledge that can contribute to organizational performance are proactive in e-banking innovation and regular training courses for IT staff.

Banks should consider IT capability (IT knowledge, IT operations and IT object) as a competency that has been found to be positively associated with customer service management performance and operation's efficiency performance. Some of the IT operation's activities include communication links to the branch network online through wide area network (WAN) and local area network (LAN) with the minimal system down time. IT Object complements the IT operation's activities by providing comprehensive procedures and detailed requirements for operational transactions. The detailed operational procedures provide an explanation of the computerization of operational services and IT objects.

A key managerial implication from the study is the interaction between IT capabilities in achieving a higher banks performance.

5.2.2 Academic Implication

In general, this study is able to enhance the contribution to expand the existing knowledge, especially related with the topic of learning organization. According to Drucker (1993), the only meaningful resource in today's world is knowledge. This research is very interesting and able to help the reader to be more experience according to the current situation of Islamic banks performance in adapting with the IT capabilities. On the other hand, this study will increase the collection of IT implementation research in this country due to the

lack of studies about this topic. Therefore, the researcher hopes that this study will help the readers to improve their knowledge, understanding, and attract readers to do research on the learning organization topic.

5.3 Recommendations from the Research

In this part, the researcher and the representative from Islamic banks provide an opinion for the development of the banks in embracing the learning organizational practices. So, this part will clarify the recommendation from researcher and the Islamic bank Branch Manager/Executive.

5.3.1 Recommendation from the Researcher

In the study that have been done, there are some recommendation from the researcher that can be used in order to be successful in implementing the IT capability towards Islamic Banking branches in Kedah. Firstly, the Islamic banking branches in Kedah should prepare some funds to invest in employees training and development, and any kind of methodologies that are helpful in order to increase their performance. Examples, having the workshop for employees, on the job training, and others are able to enhance worker's job skills and knowledge.

Secondly, the Islamic banking branches in Kedah should be stress more in recruiting the candidates and give more priority by looking at the required knowledge, skills and ability. This is because these kinds of individuals are capable to perform and

encourage the implementation of IT capability in the Islamic banking. The effort by the individuals will helps the banks to achieve good performance more effectively.

Finally, the manager should also can support the vision of IT implementing by encouraging their workers to learn from one another and applying knowledge sharing technique in order to improve their IT skills. Variety of instrument can be used to share knowledge such as through communication by social media or using e-mail, etc.

5.3.2   Recommendation from the Branches Manager/Branches Executive

In order to attain some knowledge or experience from the respondents, researcher gave an opportunity for respondents to give their recommendation. From the questionnaire, the researcher has provide some space in Section C for respondents to give their knowledge or recommendation. Some of the respondents were willing to share their recommendation and some views that they experienced.

Firstly, the implementation of IT capability should be clear among the staff to achieve the future improvement. In other words, implementing the IT capability will help the banks in order to be more easily increase their performance and achieve their objective successfully. Banking industry should create more understanding in using IT in all entire branch of banking firms.

Secondly, the top management of the Islamic banks also are recommended to maximize the usage of technology because technology is the main character in building creativity and innovative individuals and banks. Through the data access, the workers can effectively doing their job quickly, accurately and more efficiently. Technology is able to

enhance the communication between people and with the assistance from technology equipment, the knowledge can be generated. Therefore, it will directly enhance the implementation of the workers in the Islamic banks. Through the IT technology, the firms also can develop new strategies and approaches to boost their performance positively.

5.4   Limitation of the Research

There are some limitations of the study in this study. The first one is where the study is only focused on Islamic banking. On the other hand, the sampling frame for this research was only limited to the Islamic banking branches in Kedah only. Therefore, the finding and result of this study was unable to be generalizing to all population of Islamic banking branches in Kedah as well as Malaysian firms.

Secondly, there are another limitation in doing this study which is respondents cooperative. Some of the respondents were not answering the questionnaire. There are a total of 59 questionnaire were distributed to the respective respondents in the banks in order to increase the data accuracy based on data sample, but the researcher only gained back the total of 57 of total questionnaires.

By the way, the third is the researcher select the simple random sampling method because it is cheap and fast way to gain the information from the respondents. Questionnaire is commonly method used by the researcher due to many benefits. The accuracy of the data collected through the questionnaire was depending on the sincerely and responsibility the answer given by the respondents. The method is limited due to many kinds of method can be used such as interviews or observations etc.

For the last limitation of the study is the time constraint. The researcher was only given 5 month period to complete this research and submit the study that have been done. Thus, the researcher needs to work hard and spend more time efficiently in order to complete the study based on the time that have been given.

5.5   Suggestion for Future Research

To overcome the limitations to the study, this research suggests the need for further investigation. According to Kamaruddin (2009), due to the different culture and the way of life compared to other country in the world especially west country in which pioneered this research, in fact, the characteristic possess by Malaysian community is definitely different with other nation. In that case, it will make that Islamic Banking in Malaysia is an interesting topic to be viewed by future researcher.

- Since the present study employed the quantitative technique in the design and analysis, the information gathered is limited to the questionnaire's response. The use of qualitative information should be incorporated in future research because this approach provides insights and understanding of the problem setting. The results from the study will be more meaningful if both quantitative and qualitative techniques are employed as both can complement each other.

- The use of a single person to answer the questionnaires may result in bias. Thus, future research should consider multiple respondents to provide a

more balanced perspective of IT capability and banks performance perspectives.

- The sample from the study is limited to Islamic banking branches in Kedah. Future research should consider replicating this study in other cultures or countries, especially on the effect of IT capability dimensions.

In addition, further research also needs to be conducted in other sectors or industries besides banking, such as manufacturing or the construction sector.

5.6 Conclusion

The objective of the study is to investigate the relationship between IT capability and their effect on Islamic banking branches in Kedah. The population sample was the branches manager or branches executive which is from the top management of the Islamic banking branches in Kedah. The total questionnaire gathered from respondents was 57.

The results of the present study establish the important role of IT capability towards competitive advantage and organizational excellence. IT operations, IT objects and IT knowledge is the most important dimensions of IT capability attributes that contribute to higher organization performance. Stakeholders in the organization should recognize the important role that IT operations play in managing the banks. The role of IT capability is not only to coordinate but also to provide the competitive advantages for organizational profitability performance and growth.

The overall findings from the study found that, the relationship between IT capability and performance of the Islamic banking branches in Kedah had been established

for the study. The statistical multiple regression analysis have shown that the IT capability is positively associated and able to influence the overall performance of Islamic banking branches in Kedah.

Finally, the conceptual model of this research was developed from relevant extant literature which covers the key variables such as IT capability and Islamic banking branches in Kedah. Attempt was made in chapter three to synchronize and relates the variables in the conceptual model. This study provides new empirical contribution to academic knowledge and practitioners. To the academia, more research on multi-disciplines needs to be conducted to establish the relationship beneficial for the industry and society in general. To the practitioners, the search for banks performance and competitive advantage should not be dependent on a particular management technique but multiple management initiatives, which are important for survival and success.