



Exploring Competitive Advantages in Project Management: T A Case Study of Telecommunication Firms in Malaysia

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1.0 Introduction

Today's competitive environment has pushed all corporate firms, both in the private and public sector, to look for superior ways to realize competitiveness. Some organizations are using project management methods to increase the quality and efficacy of their business processes as part of their deliberate quest for success (Shwalbe, 2011). According to a diverse community of researchers, progressive modern organizations have become increasingly focused on completing a range of specific tasks, such as product creation and process reorganization through projects (Pinto, 2010; Rocha & Albergarias, 2012). Project management is a relatively recent idea in terms of its application to general business processes, but researchers accept that it can be used in several ways. For example, according to Richardson (2016), there are a plethora of different approaches to project management cues used in organizations, and no particular approach has been generally accepted as being explicitly superior to the others. Larson & Gray (2011) identified three key project management approaches, that is, the traditional project management approach; the adaptive project management (APM)

approach and the extreme project management as the most commonly used across different industries. They further assert that the three can be customized to fit any firms' environment within its' unique needs. Such fit would thus support the organization to realize benefits ranging from competitive market advantage, cut operational costs, satisfy compliance requirements, improve employee morale and help them achieve their strategic objectives. Pinto et al. (2010).

1.1 Background of the Study

The Malaysia telecommunications sector like in most parts of the globe continues to be a trendsetter on many fronts (Omenye, 2013). The sector has exhibited an abrupt paradigm shift in market transition, bolstered by the rapid development of ICT and high demand from customers. The telecommunication firms operate in a highly competitive environment that is complicated and clouded by a myriad of government regulations. The need for the sector to balance between careful compliance with the progressive government regulations and rapid network expansion to meet increasing customer demands has forced the sector to consider new approaches for efficiency.

Some companies have resorted to using project management methods to carry out their new projects (Omenye, 2013). According to some study, approximately 80% of top global executives agree that project management is a key competency that can assist their companies in achieving and sustaining competitiveness. The preceding suggests that a robust organizational commitment to PM will lead to improved performance and long-term market value for companies. As a consequence, the Malaysian telecommunications industry could benefit from the application of PM (Project Management) techniques (Shawlbe, 2015).

A project management strategy is a set of rules or concepts that can be adapted to a particular business situation and enforced. According to Wysocki (2013), a PM approach 3 entails implementing project execution at every level to produce value at every stage of an organization as a whole. Traditional project management approach, adaptive project management approach (APM), and severe project management approach are the three most popular project management approaches. Some organizations, according to academics, benefit from investing time, money, and capital in developing organizational project management expertise.

Malaysia's government has been actively active in the telecom and information technology industries' industrial policy. The Communications and Multimedia Commission Act of 1998, for example, established the Malaysian Commission for Multimedia Communications (MCMC) as an autonomous regulator. The body's functions include promoting access to communications and multimedia services, ensuring customers have a variety of services and a satisfactory quality of service at reasonable rates, and encouraging fair competition and productivity in the industry through consistent regulatory processes, ensuring the most effective use of spectrum and number tools, as well as engaging with customers and service providers regularly and promoting industry collaboration Malaysia has a range of telecommunications providers, including Telekom Malaysia, Maxis, Celcom, Digi, and Packet One (P1). Owing to a ferocious competitive climate, the majority of today's companies face various challenges in retaining consumer loyalty. This

research looks at consumer loyalty and partnership marketing in the mobile telecommunications industry (Putit & Abdullah, 2019).

Some of the Service Providers include the followings below:

- Telekom Malaysia (TM)
- Maxis Berhad (Maxis)
- Celcom Axiata Berhad (Celcom)
- Digi Telecommunications Sdn Bhd (Digi)
- U Mobile Sdn Bhd (U Mobile)

2.0 Problem Statement

Project management has been described as one of the main business solutions for achieving sustainability and enhancing business performance in modern companies by a wide body of previous research. According to a diverse community of researchers, modern companies are increasingly focused on undertaking a range of unique tasks in the form of product creation projects and reorganization projects (Pinto, 2010; Rocha & Albergarias, 2012). Jugdev & Thomas (2002) investigated the structures of project management maturity models and found that organizations that used project management as an integral building block of business value increased their efficiency and outcomes. Despite this claim, research on project management and how it contributes entirely to organizational competitive advantage, though still in its infancy, is still scarce.

A study was done by the Economist Intelligence Unit (2009) showed that about 80 per cent of top global executives believed that project management is a core competency that could help their organizations remain competitive. This means that a robust organizational commitment to project management will result in enhanced outcomes and long-term market value (Shawlbe, 2015). Emmanuel (2013) analyzed the dynamics of project strategy in creative banking enterprises, concluding that project autonomy and stakeholder feedback strengthened the organization's competitive advantage. Mukhwana (2013) researched the challenges of implementing Telehealth projects in Malaysia and discovered that telecommunication companies' failure to use a given PM approach was one of the main reasons for such projects' failure.

Olunga (2017) identified the use of project management cues as a response employed by Canar Telecom Limited to changes in the telecommunications industry. The previous research failed to create a clear correlation between project management methods and competitive advantage outcomes. As a result, this study attempted to fill in the gaps by directly connecting project management to firm competitive advantage and the conventional business organizational climate, as opposed to its general application in non-governmental community-based organizations. The research aimed to address the following broad question: what impact does project management have on organizational competitive advantage in Malaysian telecommunications firms?

3.0 Research objective

The following are the objectives of this research:

RO1: To determine the project management approaches used by telecommunication firms in Malaysia.

RO2: To investigate the competitive positioning of telecommunication firms in Malaysia.

RO3: To develop an effect of project management approach on organizational competitive advantage in telecommunication firms in Malaysia.

4.0 Literature Review

4.1 Introduction

This comprises the theoretical framework on which the study is founded and also summarizes information from other scholars who have carried out their research in the same field of study closely related to the theme and objectives of this study. The major areas of project management and organizational competitive advantage which greatly contributed to the conceptualization of this study are also discussed. The thinking to position project management approaches as superior sources of value influencing the outcome of organizational competitive advantage is founded on the Resource-Based Theory (RBT). This theory positions competitiveness to be a result of the unique configuration of firm resources. Drawing from RBT, the three project management approaches if configured distinctively can drive the strategic outcome of competitiveness (Putit & Abdullah, 2019).

4.1.1 Telecommunications in Malaysia

Malaysia's telecommunications industry has grown rapidly in recent years. For example, in 2004, only 0.85% of people used broadband services, but by 2008, that figure was projected to grow to 10%. (Lim, 2004). The mobile market has risen even faster, from three million subscribers in 1999 to over 33 million by the end of 2010, with a 119.2 percent penetration rate (SKMM, 2011). Malaysians, on the other hand, accounted for 41% of all Internet users in 2010, a rise of 15% over the previous year. People in their 20s and early 30s had the highest Internet use, with almost six out of ten (57%) spending an average of 22.3 hours a week online. Malaysians mainly use social networking sites while they are online. Almost three-quarters (71%) of people use these platforms to communicate with friends and family, up 24% from 2009. The top three online tasks were text messaging and reading local news (Nielsenwire, 2011).

The Malaysian government has been heavily engaged in the industrial policy for telecom and information technology sectors. The Communications and Multimedia Commission Act of 1998, for example, established the Malaysian Commission for Multimedia Communications (MCMC) as an autonomous regulator. The body's functions include facilitating access to communications and multimedia services, ensuring customers have a variety of services and a satisfactory quality of service at reasonable rates, providing consistent regulatory mechanisms to encourage fair competition and productivity in the sector, ensuring the best use of spectrum and number resources, and engaging with consumers and service providers regularly. Malaysia has a range of telecommunications providers, including Telekom Malaysia, Maxis, Celcom, Digi, and Packet One

(P1). Owing to a ferocious competitive climate, the majority of today's companies face various challenges in retaining consumer loyalty. This research looks at consumer loyalty and partnership marketing in the mobile telecommunications industry (Putit & Abdullah, 2019).

4.1.2 Some selected Telecommunication firms in Malaysia

1. Telekom Malaysia (TM): Established in 1984, Telekom Malaysia Berhad (TM) is a Malaysian telecommunications company. It began as the country's sole provider of fixed-line, radio, and television broadcasting services, and has since expanded to become the country's largest provider of cable, data, and fixed-line, pay television, and network services. With the launch of TMgo, the company's first 4G offering, it entered the Long Term Evolution (LTE) space. In January 2018, TM's 850 MHz service was renamed unifi Mobile. Unifi is Malaysia's first high-speed fibre-optic broadband service, with 2.23 million subscribers as of 2014. With more than 28,000 employees and a market capitalization of more than RM25 billion, TM is one of Malaysia's largest government-linked firms, owing to the country's rapid adoption of digital technology.

2. Maxis Berhad (Maxis): Maxis Communications, or Maxis Berhad, is a Malaysian telecommunications company. Centered in Kuala Lumpur, Malaysia, the company provides a wide range of communication products, software, and value-added services to customers, large companies, and small and medium-sized businesses. "011 12000000 to 12499999," "012," "014-2," and "017" are the dialling prefixes used by Maxis. Ananda Krishnan, a billionaire, owns the majority of the firm. In the Klang Valley, Maxis has 100% 4G population coverage with a minimum signal frequency of -110dBm as of 2016, Both state capitals have 95 percent 4G population coverage with a minimum signal strength of -110dBm; nationally, there is 88 percent 4G population coverage with a minimum signal strength of -110dBm. Maxis reported in July 2018 that its 4G LTE network covered 92 percent of the country's population. Maxis has signed many high-profile celebrities as spokespersons, including Siti Nurhaliza, a contestant on the Malaysian reality television show *Akademi Fantasia*, as well as Jessy Wong the Diva, Arthur the Brave, and Fluffy. On January 1, 2013, Maxis was the first company in Malaysia to introduce LTE services, beginning in the Klang Valley.

3. Celcom Axiata Berhad (Celcom): Celcom Axiata Berhad, also known as Celcom, is Malaysia's oldest mobile telecommunications provider. Celcom is a corporation that belongs to the Axiata group of firms. It successfully implemented mobile telephony in Malaysia through its ART-900 (Automatic Radio Telephone) service, which used first-generation (analogue) UK ETACS (Extended Total Access Communication System) specifications, a derivative of the US-AMPS (Advanced Mobile Phone System) technology. The prefix "010" was first used on the ETACS ART-900. Celcom now uses the "013" and "019" dialling prefix identifiers and provides wireless GSM (Groupe Speciale Mobile), an initially European standard that is now essentially a world standard for mobile communications. GSM's original frequency band was 900 MHz, but it was quickly increased to 1800 MHz to meet much greater bandwidth requirements. Their dual-channel HSPA+ network operates on the 2100 MHz band. Celcom is also licensed to run FDD-LTE on the 1800 and 2600 MHz frequencies. Celcom also offers Virtual Mobile Operator services through the Malaysian Communications and Multimedia Commission's Mobile Number Portability scheme. The company also offers CDMA technology and satellite phone services to remote areas.

4. Digi Telecommunications Sdn Bhd (Digi): Digi Telecommunications Berhad (d.b.a. Digi; MYX: 6947) is a Malaysian mobile service provider. Telenor ASA of Norway is the company's largest shareholder, with a 49 percent stake. Digi was the first telco in Malaysia to launch and operate a fully digital cellular network on May 24, 1995. On 14 May 2004, they were the first in Malaysia to deliver GPRS (2.5G) and later EDGE (2.75G). DiGi's GSM network code is 502-16, and it runs on the 1800 MHz band. Digi is a company that is listed on Bursa Malaysia under the Infrastructure Act. It uses the native dialling prefix identifiers "010," "011 16000000 through 16499999," "016," "0143," "0146," and "0149," though this does not extend to subscribers who moved from their old mobile service provider to Digi due to the Malaysian government's mandated introduction of mobile number portability. Switching to Digi is currently free.

5. U Mobile Sdn Bhd (U Mobile): MiTV Networks Sdn Bhd was established in 1998 as U Mobile Sdn Bhd (223969-U), a Malaysian mobile telecommunications service provider. U Television Sdn Bhd, formerly known as U Telecom Media Holdings Sdn Bhd and MiTV Company Sdn Bhd, is a wholly-owned subsidiary of U Mobile. The Malaysian Communications and Multimedia Commission (MCMC) issued the company the 018 and 011 prefixes, but this does not extend to subscribers who moved from their old mobile service provider to U Mobile due to the Malaysian government's mandated introduction of mobile number portability. U Mobile is a 3G UMTS provider Networks include 3G HSPA, 3G HSPA+, 4G LTE, and 4G LTE-A. U Mobile reported to have 95 percent population coverage as of 2015, thanks to a mix of over 10,000 3G and 4G LTE own-built locations, 3G RAN share, and 2G Domestic Roaming with Maxis. 3G RAN share has been in operation with Maxis Communications since October 2011, but it came to an end on October 27, 2018, when the government awarded U Mobile two additional spectrum bands of 2x15MHz of 1800 MHz bands and 2x5MHz of 900 MHz bands in 2016.

4.2 Project Management

A project is a series of distinct, interconnected activities with a single objective or purpose that must be accomplished on time, on budget, and according to specifications. Scholars have established five constraints that affect any project initiative in an organization: scope, efficiency, expense, time, and organizational resources. These constraints are interconnected and form a framework that must stay balanced for the project to succeed. A change in one constraint will lead to a change in another constraint, restoring the project's equilibrium (Wysocki, 2013). Project management is a process and collection of strategies for preparing, forecasting and managing work activities to achieve the desired result on schedule, within budget, and according to requirements. It is based on ten generally accepted management principles. It is made up of a series of processes that are applied to various projects to produce a particular service or product (Shwalbe, 2011; Pinto, 2011).

Investing time, money, and capital in cultivating organizational project management experience continues to pay off for companies (Shwalbe, 2011; PMI, 2010). Almost all companies have recognized benefits such as reduced costs and increased efficiency, increased efficiencies, enhanced consumer and stakeholder loyalty, and competitive advantage. Other advantages of organizational ventures, according to the Project Management Institute (2010), include shorter production cycles, improved efficiency, and increased

reliability, higher profit margins, stronger internal collaboration, a positive effect on achieving strategic targets, and higher staff morale.

4.3 Related Work in Area of Study

This comprises the theoretical framework on which the study is founded and also summarizes information from other scholars who have carried out their research in the same field of study closely related to the theme and objectives of this study. The major areas of project management and organizational competitive advantage which greatly contributed to the conceptualization of this study are also discussed. The thinking to position project management approaches as superior sources of value influencing the outcome of organizational competitive advantage is founded on the Resource-Based Theory (RBT). This theory positions competitiveness to be a result of the unique configuration of firm resources. Drawing from RBT, the three project management approaches if configured distinctively can drive the strategic outcome of competitiveness (Wenerfelt, 1991).

Collyer (2019) the cycle build phase works best as a team event, where teams schedule the cycle build to build cycle functionality and monitor or adjust the cycle build. The team begins the creation of the micro-level schedule by taking the tasks that make up this cycle's functionality and further decompose them to the subtask level. Once the micro-level WBS has been created, Post-It notes for each of these subtasks are made and laid out in a time-scaled network diagram. A grid showing the timelines daily is done with complete resource allocation. The functionality prioritized for this cycle is then built. Even though the cycle is short and the build not very complex, things will not go according to plan. Depending on the severity, managers either finish the current cycle or cancel the current cycle and immediately move into the cycle plan phase for the next cycle (Collyer, 2019).

Shenhar (2012) scholars have also proposed that companies should use various forms of data to assess if a competitive advantage has been gained based on the firm's orientation type. Tests of consumer inputs such as satisfaction and loyalty, as well as a balancing of competitor focus, should be used to complete the evaluation of a firm's competitive advantage. A competitor-focused business will concentrate on relative resources or cost positions, while a customer-focused company will focus on segment gaps and differentiation advantages. Quality picture, market profile, alliance development, forward integration, competence, culture, information technology, and meeting consumer needs on time and every time have all been established in strategic management literature as factors used to determine how firms build and sustain competitive advantage in various industries (Shenhar, 2012).

4.4 Relationship between Project management and organizational competitive advantage

With so many advantages associated with the successful use of project management methods in our organizations, the contribution of these approaches to the competitive advantage of our organizations has gained more attention. According to Richardson (2016), using the PM strategy in companies increases organizational competitiveness. This is done by optimizing operational procedures and maximizing the usage of available organizational capital. This can be demonstrated by citing project management as one of the top

ten factors influencing project success. Scholars believe that the use of project management methods in organizations increases corporate competitiveness by enhancing operating processes and optimizing the use of limited organizational capital. Project management techniques also support companies in learning from their previous achievements and constantly redesigning their organizational processes to enhance the project culture of the organization. Firms using project management approaches thus realize value through the tools ability to help the organization tweak the standard and tested approach in the delivery of effectiveness and/or use most of it to fit their different project initiatives instead of thinking through a complete project plan each time they launch a new project initiative thus realizing efficiency (Richardson, 2016). The two prospects would help to boost the organization's competitive place in the industry by reducing the time to market for its goods and services. Alternatively, the company benefits from the implicit awareness and mutual learning acquired through the implementation process, which can be used to strengthen procedures and produce better results (Richardson, 2016).

4.4.1 Project management view

A project management strategy is a set of rules or concepts that can be adapted to a particular business situation and enforced. According to Wysocki (2013), a PM approach 3 entails implementing project execution at every level to produce value at every stage of an organization as a whole. Traditional project management approach, adaptive project management approach (APM), and severe project management approach are the three most popular project management approaches. Some organizations, according to academics, benefit from investing time, money, and capital in developing organizational project management expertise. Lower costs and enhanced efficiency, greater efficiencies, improved customer and stakeholder satisfaction, higher quality, increased reliability, higher profit margins, better internal co-ordination, achieving strategic targets, and higher staff morale have all been related to project management approaches in research (Shwalbe, 2011; Project Management Institute-PMI, 2010). According to Wysocki (2013), the characteristics of various project initiatives can be used to assess which project management strategy better suits a given organization's needs. A project management strategy is a set of rules or concepts that can be adapted to a particular situation and implemented. According to Wysocki (2013), the characteristics of various organizational project initiatives indicate which subset of the conventional approach should be used on the project, and this definition must be expanded to include selecting the PM approach based on the project's characteristics.

4.4.2 Organizational competitive view

Organizational competitive advantage is a competitive advantage obtained over rivals through offering greater value to customers, either by cheaper prices or by delivering more goods and services to justify a higher price (Al-alak et al, 2011). In their quest for sources of competitive advantage, businesses concentrate on the factors that lead to competitive advantage. Most companies have established superior resources (tangible resources) and superior skills (intangible resources) as sources of competition. Furthermore, rare, important, non-imitable, and non-substitutable tools are said to have a higher potential for rising organizational competitiveness. Competitive advantage in this case is realized only when organizations combine an assortment of resources and skills in such a way that they achieve a unique competency or capability that is

valued in the market place (Hoffman, 2000). Intangible assets are listed as major contributors to an organization's competitive advantage due to their ability to combine with other resources in unique and enduring ways that produce superior outcomes. Project management is one best example of such a combination of resources and skills in current business environments. It can help organizations in meeting time and budget goals as well as in creating competitiveness and value for the organization (Crawford & Cooke-Davies, 2012).

Organizations have recognized superior abilities and superior resources as sources of competitive advantage. According to Scholars Barney (1991), rare, important, non-imitable, and non-substitutable resources have the potential to build organizational competitive advantage. Another source of competitive advantage has been touted as the definition of core competencies. Only by integrating a range of resources and expertise in such a way that they achieve a specific competency or competence that is respected in the marketplace can companies obtain a competitive advantage (Crawford & Cooke-Davies, 2012). Intangible assets, according to researchers, contribute the most to value development and, as a result, to the achievement of competitive advantage for the enterprise (Vallejo-Alonso et al 2011; Hoffman, 2000).

4.5 Review related to Project Management

Research by (Luiz, Schelini, Dai, Martens, & Piscopo, 2017), This research concentrates on three theoretical axes: project management (PM), company internationalization, and the Resource-Based View (RBV). Its goal was to determine whether and how PM maturity contributes to Brazilian companies' international strategy from a resource-based perspective. In three Brazilian companies, the research strategy used was a multiple case study with a descriptive exploratory approach using intercase and intracase analysis. As a result of the study's groundbreaking findings, five characteristics of mature project management were identified: Stakeholder engagement, goal setting and strategy, change management, and risk management are all aspects of project sustainability. Furthermore, according to the RBV-VRIO analysis, all of these factors contributed to the internationalization of the companies in question, resulting in a competitive advantage. As a result, the study adds to the field by assisting businesses that are starting or planning to start internationalization processes, allowing them to achieve better results through PM. The study's limitation is the small number of cases examined, which could be viewed as an opportunity for future research.

Research by (Jugdev, K. 2004), Project management as a strategic asset: Companies are increasingly turning to project management as a way of working in the global marketplace, and the discipline is gaining traction as a valuable organizational asset. Strategic assets are critical to a company's strategy and position of competitive advantage. Strategic assets are a company's diverse resource bundles that are valuable, rare, one-of-a-kind, and have a clear organizational purpose. Although the link between strategy and project management is still relatively new, it is important to many organizations in terms of gaining a competitive advantage. The Resource-Based View (RBV) of the firm is a strategy that focuses on a company's internal assets as sources of advantage. Most strategic assets are knowledge-based rather than physical or financial, and project management is a knowledge-based organizational asset.

Research by (Hsing Hung Chen, 2017), A Project Management Strategy for a Photovoltaic (PV) Manufacturer to Gain Long-Term Competitive Advantage: Since the skills, expertise, and management needed for exploitation and exploration are incompatible, companies continue to struggle to find realistic ways to reconcile exploitative and exploratory activities. As a consequence, a mathematical model is proposed to solve the aforementioned vacancy. To begin, computer-mediated social groupware with Delphi technique is built to handle disputes to assign scarce resources flexibly while executing projects. In the long run, however, these operations can result in path dependence or lock-in technologies. Second, a fuzzy analytic network process with fuzzy target programming is proposed to promote project selection in exogenous and endogenous environments to change unbalanced exploitation and discovery over time. After looking at a real-life case of a photovoltaic (PV) producer, the paper concludes that by balancing discovery and exploitation, long-term competitive advantages can be achieved.

Research by (McKinsey & Co., 2010), Project Management's Value: Businesses are turning to project management to reliably generate business outcomes as a way to remain ahead of the pack in today's dynamic and volatile global economy. Disciplined project management begins at the portfolio level, where initial investments are guided by the strategic strategy and value measures are developed. A well-coordinated project, program, and portfolio management approach cover the entire enterprise, dictating project execution at all levels and striving to deliver value at every stage. Project management is a term that refers to the management of ventures, services, and portfolios. And more organizations are realizing the advantages of investing time, money, and capital in building organizational project management expertise: reduced costs, increased efficiencies, enhanced customer and stakeholder satisfaction, and competitive advantage. According to the report, "many businesses acknowledged that the economic downturn exposed their project management deficiencies and pressured them to improve." Project management experience and oversight are helping companies streamline their delivery process, cut costs, and avoid risks as there is less space for error and fewer resources to rely on, enabling them to ride out the recession and implement stronger project management practices for the future (McKinsey & Co., 2010).

Research by (Shenhar, A. J. & Dvir, D. 2010), Project management as a strategic advantage for Brazilian businesses seeking to grow globally. This research focuses on three theoretical axes: project management (PM), organization internationalization, and resource-based thinking (RBV). It aimed to see whether and how PM maturity contributes to Brazilian companies' international strategy from an RBV viewpoint. In three Brazilian firms, the research technique used was a multiple case study with a descriptive exploratory approach using intercase and intracase analysis. The study discovered five features of mature project management that were previously unknown: project sustainability, stakeholder participation, target setting and strategy, change management, and risk management. Furthermore, according to the RBV-VRIO report, both of these variables led to the internationalization of the companies in question, resulting in a competitive advantage. As a result, the study adds to the field by assisting businesses that are starting or preparing to start internationalization processes, helping them to produce better results through project management. A limitation of the study is the small number of cases investigated, which may be viewed as an opportunity for conducting further studies.

Research by (Hsing Hung Chen, 2017), A Project Management Plan to Reach Sustainable Competitive Advantage for a Photovoltaic (PV) Manufacturer: Since the skills, expertise, and management needed for exploitation and exploration are incompatible, companies continue to struggle to find realistic ways to reconcile exploitative and exploratory activities. As a consequence, a mathematical model is proposed to solve the aforementioned vacancy. To begin, computer-mediated social groupware with Delphi technique is built to handle disputes to assign scarce resources flexibly while executing projects. In the long run, however, these operations can result in path dependence or lock-in technologies. Second, a fuzzy analytic network process with fuzzy target programming is proposed to promote project selection in exogenous and endogenous environments to change unbalanced exploitation and discovery over time. After looking at a real-life case of a photovoltaic (PV) producer, the paper concludes that by balancing discovery and exploitation, long-term competitive advantages can be achieved.

5.0 Research Methodology

This chapter presents the procedures that were used in the research, including research area and design, population and sampling techniques, methods of data collection and data analysis techniques. This part covers the examination region, study configuration, target populace and study, inspecting structure and techniques, explore apparatuses, moral contemplations, information assortment, information quality control, information the board and investigation. The exploration procedures and methods applied in the examination to break down the information gathered will be depicted in detail, the investigation network, the area wherein the examination was led will likewise be resolved, just as the investigation structure and information assortment. Data analysis assisted with the use of SPSS for analysis basing on descriptive analysis.

A quantitative method was used through a survey questionnaire in this study in order to precisely identify an exploration of organisation competitive advantages in project management: A case study of Telecommunication firms in Malaysia. This research adopted positivism research philosophy that argues reality is stable and can be observed and described from an objective viewpoint. As with positivist research philosophy, the researcher believed that there was an objective reality that could be observed and measured without bias. The researcher carried this study in a neutral position and evaluated the success of this research based on how closely the findings match or otherwise with previous studies. Data collection instruments used in this research work was standard tools that have been used before and can be used in the future. The tools used in data collection were valid in that they actually were able to measure the underlying concept they were meant to measure, the study applied theories that are relevant to the problem. The research was designed to test the hypothesis holding external factors constant Rubin & Rubin (2012).

5.1 Research Design

The researcher used a descriptive cross-sectional survey. This helped the researcher to gather data that is systematic and factual about the behaviour, opinion and characteristics of the study variables. The design was also useful because it has been advanced in literature as an applicable factfinding tool for educational studies, and was preferred because of its appeal for generalization within a particular parameter (Cooper & Schindler, 2018). This type of design has also been employed in various studies of similar breadth as the current study

such as Mukhwana (2013), who evaluated the challenges facing implementation of Telehealth projects in Malaysia, a case study of Safaricom Limited, Nokia and Orange Limited. Ngobia (2013) also used this design in his study of the basis of competition in the mobile phone industry in Malaysia.

5.2 Analysis Software

The thesis is to allow the statistical analysis of the data obtained using the Statistical Kit for Social Sciences (SPSS version 26). SPSS statistics is a statistical analysis software package used to author and execute the survey, data mining, text analysis, and collaboration and implementation (batch and automated scoring services). SPSS Statistics provides a range of applications for the software.

6.0 Data Analysis

This chapter presents the data analysis and findings of the study as set out in the research methodology. The chapter also provides the interpretation of the results of the data derived from the 160 respondents within the two telecommunication companies in Malaysia which included Telekom Malaysia, Maxis Berhad and in comparison, to the literature review. All the 160 respondents issued with the questionnaire responded and returned their questionnaires. The realized response rate was therefore 100% and was deemed to be excellent. According to Mugenda and Mugenda (1999), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is considered to be excellent. This excellent response rate is attributed to the extra efforts made by the researcher in developing an online questionnaire and making courtesy calls to remind the respondents to fill in and return the questionnaires.

The data collected was coded and analysed using graphs, tables and percentages to provide summaries of the respondents under study. Means were used to identify the project management approaches and competitive positioning of the telecommunications firms in Malaysia. Standard deviation was used to establish consistency of application of project management approach and the competitive positioning of these organizations.

6.1 Respondent Demographic information

This section sought to ascertain the general information on the respondents involved in the study about the departments/ business unit they serve, their length of service to the organization, their highest academic qualifications, age, gender and the company particular project initiatives that were being implemented in their respective departments.

Out of 160 questionnaires, 160 were usable. There is no unusable questionnaires or any missing in the survey instrument. Therefore, the data from 160 respondents were analysed in this study. As stated in Chapter 3. Below are the respondent's statics for the demographic data information.

		Gender	Age	Working experience	Qualification	In which department do you work in this company
N	Valid	160	160	160	160	160
	Missing	0	0	0	0	0

6.1.1 Respondents gender

Table 2 clearly indicates that the majority of the respondents are male (70.6%) while females contributed with (29.4%) of the respondents. This demonstrates gender very well and illustrates that both genders are well served. Where the male percentage is the highest. There is no discrimination on gender equality and there is no discrimination. These findings also indicate that most respondents were male.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	113	70.6	70.6	70.6
	Female	47	29.4	29.4	100.0
Total		160	100.0	100.0	

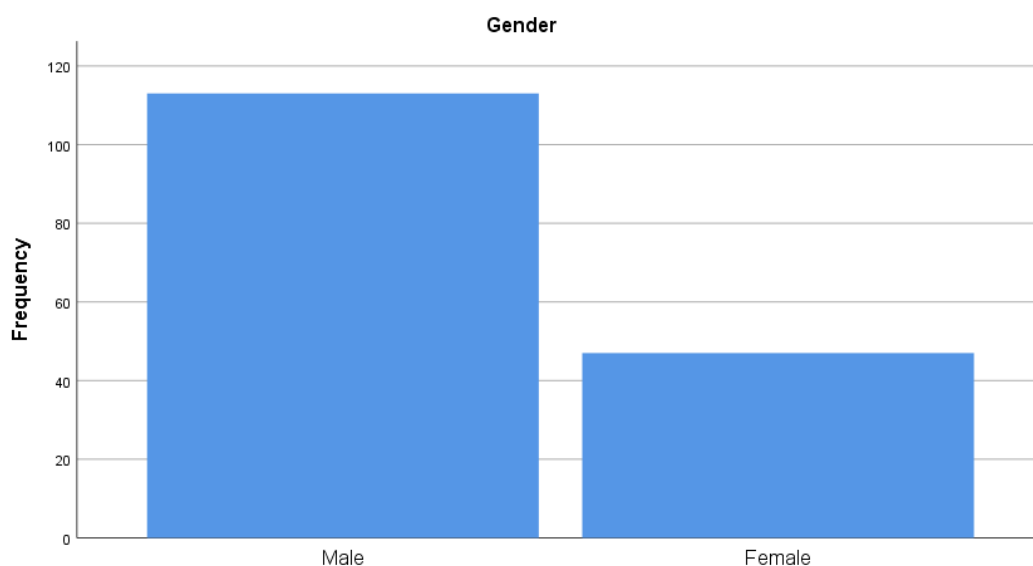


Figure 1: Respondents Gender

6.1.2 Respondents Age

Table 3 clearly indicates that the majority of the respondents are 19 – 20 with (39.4%) followed by 21 – 24 (24.4%), 31 and above (23.1%) and less percentage from 25 – 30 (13.1%). This demonstrates age very well and illustrates that age genders are well served. Where the 19 – 20 percentage is the highest. These findings also indicate that most respondents were age.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19 - 20	63	39.4	39.4	39.4
	21 - 24	39	24.4	24.4	63.7
	25 - 30	21	13.1	13.1	76.9
	31 and Above	37	23.1	23.1	100.0
	Total	160	100.0	100.0	

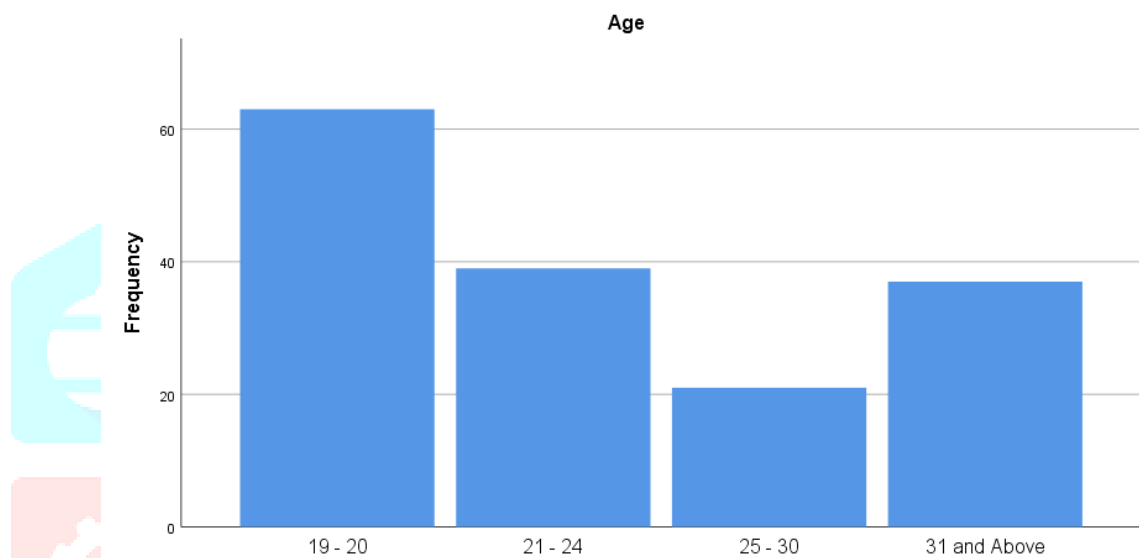


Figure 2: Respondents Age

6.1.3 Respondents Qualification

Table 4 clearly indicates that the majority of the respondents are Bachelor Degree (46.9%), followed by Diploma (18.8%), PhD Degree (18.8%), less percentage from Master's Degree (15.6%). This demonstrates age very well and illustrates that qualification is well served. Where the Bachelor Degree percentage is the highest. These findings also indicate that most respondents were Bachelor Degree.

Table 4: Respondents Qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	30	18.8	18.8	18.8
	Bachelor Degree	75	46.9	46.9	65.6
	Masters Degree	25	15.6	15.6	81.3
	PhD Degree	30	18.8	18.8	100.0
	Total	160	100.0	100.0	

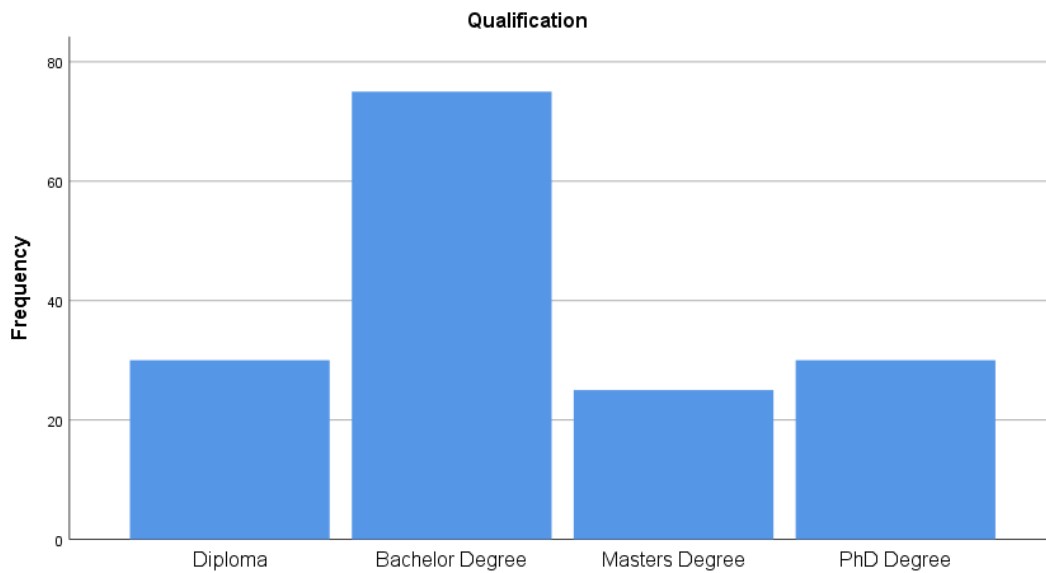


Figure 3: Respondents Qualification

6.1.4 Respondents Working Experience

Table 5 clearly indicates that the majority of the respondents are 0 – 1 years (29.4%) followed by 2 – 3 years (23.1%), above 5 years (28.7%) and less percentage from 4 – 5 (18.8%) This demonstrates working experience are well and illustrates. Where the 2 – 3 percentage is the highest. These findings also indicate that most respondents were 2 – 3 years.

Table 5: Working experience

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0 - 1 years	47	29.4	29.4	29.4
2 - 3 years	37	23.1	23.1	52.5
4 - 5 years	30	18.8	18.8	71.3
Above 5 years	46	28.7	28.7	100.0
Total	160	100.0	100.0	



Figure 4: Respondents Working Experience

6.1.5 Respondents Department

Table 6 clearly indicates that the majority of the respondents are Planning (31.3%), followed by Accounting & Finance (29.4%), Human resources (28.7%) and less percentage from others. This demonstrates department are well and illustrates are well served. Where the planning percentage is the highest. These findings also indicate that most respondents were from the planning department.

From the foregoing table, the respondents were drawn from a good spread of all organizational functional departments thus being a representative sample of all the departments within the respective organizations. This was an important aspect of the study due to its need to collect data that was unbiased

Table 6: In which department do you work in this company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accounting & Finance	47	29.4	29.4	29.4
	Human Resources	46	28.7	28.7	58.1
	Planning	50	31.3	31.3	89.4
	Others	17	10.6	10.6	100.0
	Total	160	100.0	100.0	

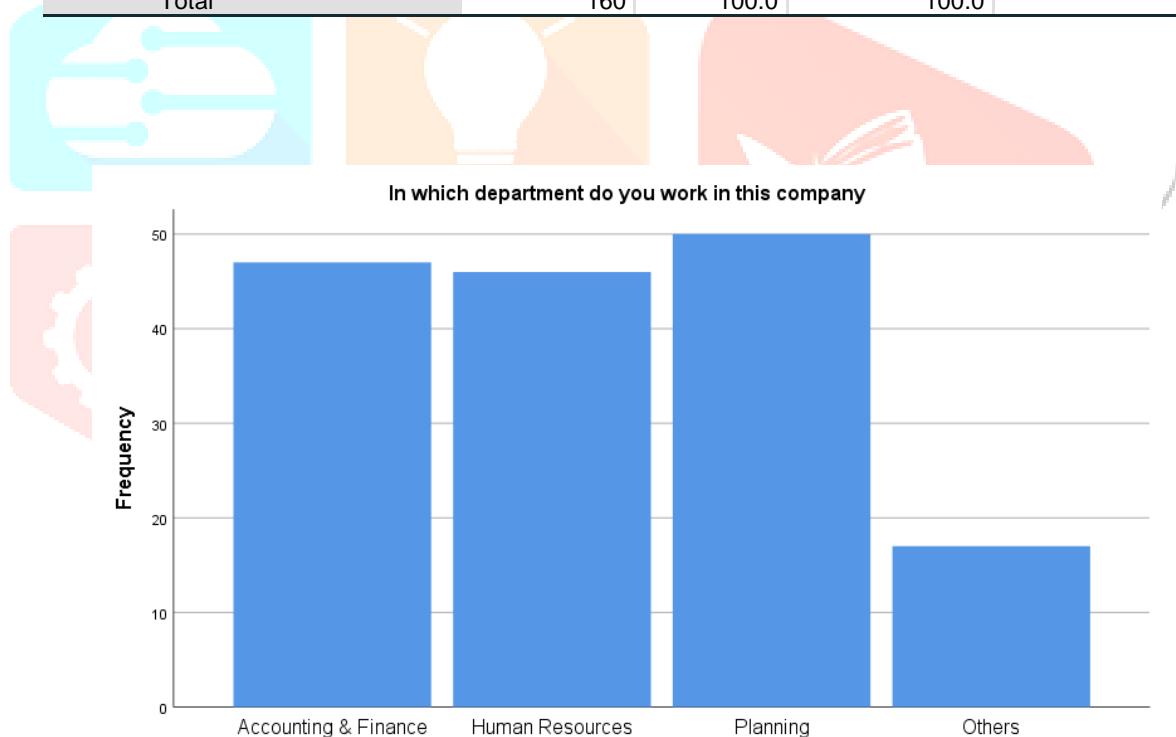


Figure 5: Respondents Department

The majority of respondents in all organizations served for 2-5 years, according to the results. This indicated that the majority of respondents had worked in their organization for 2 to 5 years, which is within a reasonable strategic implementation period, and therefore had a good understanding of the processes in place and had been there long enough to provide credible information on the project management and organizational competitiveness.

6.2 Project Management Approach

The first objective of the study was to establish the particular project management approaches employed by the telecommunication firms in Malaysia and specifically in the two major firms under study. To achieve this, the respondents were requested to indicate their level of agreement on the questionnaire items on the subject. The responses were rated on a five-point Likert scale. The mean and standard deviations on these particular items and responses were generated and are presented in the tables below.

Table 7 clearly indicates that the majority of the respondents are Agree (38.8) followed by strongly disagree (21.9%), disagree (20.0%) and less percentage from strongly agree (19.4). This demonstrates that our project goals are clearly documented at the start of our project initiatives are well served. These findings also indicate that most respondents were agree.

Table 7: Our project goals are clearly documented at the start of our project initiatives.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	35	21.9	21.9	21.9
	Disagree	32	20.0	20.0	41.9
	Agree	62	38.8	38.8	80.6
	Strongly Agree	31	19.4	19.4	100.0
	Total	160	100.0	100.0	

Table 8 clearly indicates that the majority of the respondents are strongly agree (40.0%), followed by strongly disagree (20.6%), neutral (19.4%), agree (18.8%) and less percentage from disagree (1.3%). This demonstrates that the budget allocated to our project initiatives is fixed are well served. These findings also indicate that most respondents were strongly agree.

Table 8: The budget allocated to our project initiatives is fixed.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	33	20.6	20.6	20.6
	Disagree	2	1.3	1.3	21.9
	Neutral	31	19.4	19.4	41.3
	Agree	30	18.8	18.8	60.0
	Strongly Agree	64	40.0	40.0	100.0
	Total	160	100.0	100.0	

7.0 Discussions

The study discovered that each of the three companies had project projects going in each of their departments, indicating that them all used project management methods in their business processes. This was supported by the fact that all three companies used project management methods in different ways, with Maxis Telecom Berhad primarily using APM in its business processes with a mean of 3.5; Telekom Malaysia (TM) primarily used all project management approaches with a mean of 3.6 for conventional project management and 3.7 for

APM Malaysia earned a score of 3.5 for its extreme project management approach. Berhad used a moderate amount of all project management methods, scoring 2.9 for conventional project management, 3.1 for APM, and 2.9 for extreme project management. These findings support Larson & Gray's (2011) assertion that all three project management frameworks are widely used across industries and that all three can be tailored to meet any organizational environment's specific needs.

With a mean of 3.84 and a standard deviation of 0.270, the study determined that Telekom Malaysia (TM) was the most successful. With a mean of 3.54 and a standard deviation of 0.641, Maxis Berhad came in second and Malaysia Berhad came in third in terms of competition, with a mean of 3.01 and a standard deviation of 0.390. This suggests that the project management techniques used by telecommunication companies affected their market competitiveness. This can be explained by the Pearson's product moment correlation statistic of .802 which showed that there was a statistically significant strong positive relationship between project management approaches and organizational competitive advantage.

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