



**The Impact of Quality Processes, Earlier Time
Estimation and Engineers Efficiency Towards
Electrical Projects Performance**

by

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THE IMPACT OF QUALITY PROCESSES, EARLIER TIME
ESTIMATION AND ENGINEERS EFFICIENCY TOWARDS
ELECTRICAL PROJECTS PERFORMANCE

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Kesan Proses Kualiti, Anggaran Masa Terdahulu, Kecekapan Jurutera Terhadap Prestasi Projek Elektrik

ABSTRAK

Kesan ekonomi yang semakin meningkat kepada peningkatan bilangan projek pembinaan telah menyumbang kepada prestasi keseluruhan projek secara amnya. Kajian ini akan meneroka faktor-faktor yang sesuai seperti proses kualiti, anggaran masa lebih awal, dan kecekapan jurutera. Penyelidikan terdahulu bergantung terutamanya kepada projek pembinaan umum. Kajian ini memberi tumpuan kepada prestasi keseluruhan projek elektrik dan faktor faktor kebergantungan. Data dikumpulkan menggunakan kaedah tinjauan di mana pasukan kerja syarikat dari pelbagai projek elektrik. Data utama yang dikumpulkan melalui pertanyaan telefon dan wawancara. Data yang dikumpulkan melalui penyelidikan soal selidik berstruktur dan analisa dibuat. Kawalan kualiti adalah teknik berterusan yang ingin diketahui oleh kumpulan melalui projek ini. Sumbangan oleh pelbagai pihak yang mempengaruhi penyediaan projek. Berdasarkan kajian, hasil kajian ini akan memberi manfaat kepada pemain pembinaan untuk menyiasat kepentingan sumbangan pelbagai pihak berkepentingan ke arah penyediaan projek.

The Impact of Quality Processes, Earlier Time Estimation and Engineers Efficiency Towards Electrical Projects Performance

ABSTRACT

The growing economic lead to increasing number of construction project has contributed for overall performance of project in general. This study will explore the appropriate factors such as quality processes, earlier time estimation, and engineer efficiency. Previous research has primarily relied on general construction project. This study focusing on the electrical project performance and its consideration factors that will impact the performance. Data are gathered using survey method where working member from various electrical project. Primary data collected via telephone enquiries and interviews. Data collected through structured questionnaire research data had been analysed. Quality control is an ongoing technique that the group wishes to cognizance on all through the project. Contribution by various parties influencing project completion. From this study, it will benefit for construction player to investigate importance of various stakeholders' contribution towards project completion.

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CHAPTER 1 : INTRODUCTION

1.1 Research Background

A project has distinctive attributes that distinguish it from ongoing work or business operations. Projects are temporary in nature. They are not an everyday business process and have definitive start dates and end dates. This characteristic is important because a large part of the project effort is dedicated to ensuring that the project is completed at the appointed time. To do this, schedules are created showing when tasks should begin and end. Projects can last minutes, hours, days, weeks, months, or years.

Projects exist to bring about a product or service that has not existed before. In this sense, a project is unique. Unique means that this is new; this has never been done before. Maybe it's been done in a very similar fashion before but never exactly in this way. For example, Ford Motor Company is in the business of designing and assembling cars. Each model that Ford designs and produces can be considered a project. The models differ from each other in their features and are marketed to people with various needs. An SUV serves a different purpose and clientele than a luxury car. The design and marketing of these two models is unique projects. However, the actual assembly of the cars is considered an operation (i.e., a repetitive process that is followed for most makes and models).

In contrast with projects, operations are ongoing and repetitive. They involve work that is continuous without an ending date and with the same processes repeated to produce the same results. The purpose of operations is to keep the organization

functioning while the purpose of a project is to meet its goals and conclude. Therefore, operations are ongoing while projects are unique and temporary.

A project is completed when its goals and objectives are accomplished. It is these goals that drive the project, and all the planning and implementation efforts undertaken to achieve them. Sometimes projects end when it is determined that the goals and objectives cannot be accomplished or when the product or service of the project is no longer needed and the project is cancelled.

The vast majority of this waste is completely avoidable: simply get the right business needs (requirements) understood early in the process and ensure that project management techniques are applied and followed, and the project activities are monitored. Applying good project management discipline is the way to help reduce the risks. Having good project management skills does not completely eliminate problems, risks, or surprises. The value of good project management is that you have standard processes in place to deal with all contingencies.

Project management is the application of knowledge, skills, tools, and techniques applied to project activities in order to meet the project requirements. Project management is a process that includes planning, putting the project plan into action, and measuring progress and performance.

Managing a project includes identifying your project's requirements and writing down what everyone needs from the project. When everyone understands the goal, it's much easier to keep them all on the right path. Make sure you set goals that everyone

agrees on to avoid team conflicts later on. Understanding and addressing the needs of everyone affected by the project means the end result of project is far more likely to satisfy the stakeholders. On any project, it will have a number of project constraints that are competing for attention. They are cost, scope, quality, risk, resources, and time.

- i) Cost is the budget approved for the project including all necessary expenses needed to deliver the project. Within organizations, project managers have to balance between not running out of money and not underspending because many projects receive funds or grants that have contract clauses with a “use it or lose it” approach to project funds. Poorly executed budget plans can result in a last-minute rush to spend the allocated funds. For virtually all projects, cost is ultimately a limiting constraint; few projects can go over budget without eventually requiring a corrective action.
- ii) Scope is what the project is trying to achieve. It entails all the work involved in delivering the project outcomes and the processes used to produce them. It is the reason and the purpose of the project.
- iii) Quality is a combination of the standards and criteria to which the project’s products must be delivered for them to perform effectively. The product must perform to provide the functionality expected, solve the identified problem, and deliver the benefit and value expected. It must also meet other performance requirements, or service levels, such as availability, reliability, and maintainability, and have acceptable finish and polish. Quality on a project is controlled through quality assurance

(QA), which is the process of evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.

- iv) Risk is defined by potential external events that will have a negative impact on your project if they occur. Risk refers to the combination of the probability the event will occur and the impact on the project if the event occurs. If the combination of the probability of the occurrence and the impact on the project is too high, you should identify the potential event as a risk and put a proactive plan in place to manage the risk.
- v) Resources are required to carry out the project tasks. They can be people, equipment, facilities, funding, or anything else capable of definition (usually other than labour) required for the completion of a project.
Time is defined as the time to complete the project. Time is often the most frequent project oversight in developing projects. This is reflected in missed deadlines and incomplete deliverables. Proper control of the schedule requires the careful identification of tasks to be performed and accurate estimations of their durations, the sequence in which they are going to be done, and how people and other resources are to be allocated. Any schedule should take into account vacations and holidays
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accurate estimations of their durations, the sequence in which they are going to be done, and how people and other resources are to be allocated. Any schedule should take into account vacations and holidays.

1.2 Problem Statement

The project performance related to the electrical based on Morlidge (2015) facing a lot of internal and external issues based on certain related establish factors. This proposed study will explore the appropriate factors in Malaysia context like Quality processes, Earlier Time Estimation, Engineers Efficiency, ethical decision process and Electrical Projects Performance.

This study will provide clear picture on electrical projects performance indicator, and how the stakeholders in this area will affected on the Quality processes, Earlier Time Estimation, Engineers Efficiency and ethical decision process related to Malaysia situation. By this exploration, it will benefit to the all the parties involved in Electrical Projects. By future findings, it will be published in journal related to project and construction context.

1.3 Research Question

- a) What are the impacts of quality processes on Electrical Projects Performance?
- b) How the Earlier Time Estimation will affect on Electrical Projects Performance?

- c) What are the relationships of Engineers Efficiency towards Electrical Projects Performance?
- d) How the quality processes, earlier time estimation and an engineer's efficiency impact on Electrical Projects Performance?

1.4 Research Objective

This study designed to examine the objectives (time, cost and quality) in Electrical Projects Performance and usually the scope of study will include numerous industries for comparison purpose.

1.5 Definitions

- a) **Quality Processes:** A process is a high-level description of the quality requirements, summarizing the objectives, specifications and required resources. A procedure adds more detail, specifying the responsibilities, the tools to be used, what is to be measured and how.
- b) **Earlier Time Estimation:** The term "time estimation" refers to the assessment of the number of hours needed to complete a task or a series of tasks. The deeper your understanding of work specifics and nuances is, the more accurate time estimates you can receive.
- c) **Engineer Efficiency:** Engineering efficiency is the ratio between the energy needed to power an engine or process and the energy the engine or process creates. The greater the engineering efficiency ratio, the more efficient the process.

CHAPTER 2 : LITERATURE REVIEW

2.1 Introduction

The BS ISO 10006:2013 defines a project as: “a unique process consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including constraints of time, cost and resources”. Projects have specific characteristics and rules in comparison to operational work. Contemporary literature outlines such findings and offers ample definitions, highlighting the uniqueness of every project. Projects are temporary organisations, established to achieve desired goals and objectives, resulting in project teams being also temporary, redundant or reassigned after the completion of the project. A major drawback in temporary organisations is that project teams know that their contribution is only required for a limited period of time.

Wen Qi (2019) places emphasis on the common misconception that projects are alike and argues that one of the reasons why projects fail is that project managers are using the same tools and techniques for all projects similarly. Projects are unique and demand distinctive judgment. Therefore, it appears difficult to implement a static management methodology capable of successfully managing projects on a consistent level as the “unique”, “particular aim” and the individual project “objectives” point towards aiming at a moving target.

2.2 Project Management

Project management has increasingly been a strategy used by organizations to construct their plans to achieve their goals. Since the beginning of the 2000s, project management (PM) and its issues have been growing in relevance in a more specific way, even being adopted as organizational model (MM Carvalho, R Rabechini Junior, 2015). This new tendency has become strong enough to create a new category of organizations, composed by those that conduct all or almost every organizational activity by projects: project-based organizations (PMI, 2017). Considering this new scenario faced by most of the moderns firms, their managers also need to be much engaged to achieve success in project management. Looking for a better understanding of this reality, the Project Management Institute (PMI) – one of the most recognized project management organizations worldwide – developed a speech about project management success that can be easily found at PMI's most traditional guide (PMBOK). A product's profit, schedule and budget adherence are a few of the criteria analyzed when project management success is discussed.

However, a lot of debate exists about the capability of a single criteria to assess the complete success of the management process of a project, and because of this, many approaches and models are proposed in the literature. Since being successful in the project management is a controversial topic (MM Carvalho, R Rabechini Junior, 2015), it is expected that it be grounded in numerous researches worldwide that would allow a well-developed discussion of the subject. Considering this reality, this study is proposed as an attempt to answer the following research question: How is the recent scenario of project management success research characterized? To answer the question, this

research aims to measure the recent scenario (the last five years) of the project management success field as a way to better understand this field of research.

2.3 Project Success

The definition of project success has changed over time; at first in the 1970s it focused only on the application of project management tools but nowadays it is concerned with satisfying stakeholders' needs (Davis, 2014). The attention of project managers is usually focused on delivering projects on time and within budget. However, project sponsors (funders) demand a return on investment from every project, wishing to realise strategic benefits from it. Therefore, project success is measured from a different perspective, which may be that of project efficiency, team and customer influence, business success or preparing for the future (Mir, F. A., & Pinnington, A. H. 2014).

Similarly, Zwikael, O., & Smyrk, J. (2012). offer a taxonomy of project success and hence divide project success into project management success and project investment success. On the one hand, project management success focuses on the efficiency of a project in terms of delivering something of the right scope on time and within budget. Indeed, the use of “triple constraints” (cost, time and scope) as a criterion of project performance is the traditional way of defining project success Radujković, M., & Sjekavica, M. (2017). Therefore, respondents were asked to indicate how far they agreed that their organisations' IT projects were delivered on time and within cost. These questions are derived from the literature and include questions used to measure project efficiency (Cha, 2018).

The ultimate purpose of implementing project management practices is to achieve consistency in project success. Yet, there is no agreed definition of project success, which only further complicates the achievement of such. The experience of the project manager directly influences the success of projects. Radujković, M., & Sjekavica, M. (2017) highlight that project management has its role in achieving project success, but several other factors beyond the control of project management, also affect project success. Peters and Horner (1997) argue that project management does not possess the power to control time, cost or quality. These measures are traps, purely to be seen as either self-created or imposed, but rarely objective yardsticks. Some projects miss all three parameters and are still hugely successful. Also, Dvir et al. (2006) highlight that traditional project success measures are incomplete and may be misleading.

Although all three constraints are met as planned, a project may not meet the sponsor requirements. Such findings lead Baccharini (1999) to conclude that only the combination of project management success with product success will create project success, whereas Lim and Mohamed (1999) suggest that a project is only successful, when achieving its objectives. Typically, project success is perceived as a single measure, either the project was a success or it failed. Lim and Mohamed (1999) introduced the micro and macro perspective that looks at project success from a different perspective. The micro view focuses and assesses project management success at project completion, whereas the macro perspective incorporates the operational aspect of projects and concentrates on long-range customer satisfaction. Such a concept is an analogue to Al-Hajj, A. (2018) distinction between project success and project management success. Al-Hajj, A. (2018) highlights that project success is measured against the overall project objectives following project completion.

Milosevic and Srivannaboon (2006) [25] focus on the link between project management and the projects final product as the new dimension for achieving project success, whereas project success is not achieved by completing the project within its constraints, but only after achieving end-user satisfaction. According to Globerson and Zwikael (2002) [40], the project manager is fully accountable for the success of the project. The project manager is ultimately responsible for developing the project execution strategy, which shall align with the parent organisations primary strategy, highlighting the importance of properly trained project managers.

2.4 Project Management Practices

The level of implementation is measured by the level of agreement that the respondents' organisations engage in the following practices in their projects: having a project charter before starting to implement a new IT project; reviewing cost plans periodically; reviewing time plans periodically; and implementing communication plans. These four practices are used to emphasize different aspects of the level of implementing project management: project governance; reviewing and using the basic plans of time and cost; and using communication plans.

Without clearly identifying the project manager, it is difficult to manage projects effectively, because the mechanism for assigning the responsibility of managing organisational resources is imperfect. Therefore, the first question, on the use of a project charter before starting a project, is used as a governance requirement to delegate the responsibility for implementing the project to a project manager (Project Management Institute, 2013a,b). Project planning is perceived to have an impact on project efficiency,

in terms of delivering the output on time within cost; and on effectiveness, in terms of project performance and customer satisfaction (Yu, 2017; Zwikael et al., 2014).

However, planning which takes no account of changes in the environment and goals is probably useless (Yu, 2017). Therefore, in this research, planning goes hand in hand with controlling the index at the level of PM implementation. The next two questions were about reviewing the cost and time plans. Unlike the studies that use specific practices to indicate planning (Papke-Shields et al., 2010; Zwikael et al., 2014) as indicators for measuring the concept of planning, this research asked about “reviewing plans periodically”. The reason is that changes in plans are more important to project success than the quality of planning itself (Yu, 2017). Finally, stakeholders' engagement is negatively affected unless effective and continuous communication with them is maintained throughout the identifying, planning, executing and controlling of the project (Beringer et al., 2013; Heravi et al., 2015). A project may fail if poor communication leads to the stakeholders' feeling uninvolved. Thus, a question was asked about implementing a communication plan because it is one of the basic requirements for successful project management.

2.5 Relationship Between Project Planning and Project Success

Success on a project implies that specific desires for a given member are met, whether proprietor, organizer, designer, temporary worker, or administrator. The accompanying are some different definitions of "Project Success" in general: Project success is alluded as having results much superior to anything expected or typically saw as far as cost, calendar, quality, security, and member fulfilment Radujković, M., & Sjekavica, M. (2017).

A project is viewed as a general success on the off chance that it meets the specialized execution specification or potentially mission to be performed, and if there is an abnormal state of fulfilment concerning the project's result among key individuals in the parent association, enter individuals in the project group and key clients or customers of the project exertion.

Success for a given project member as how much project objectives and desires are met. They included that these objectives and desires may incorporate specialized, financial, instructive, social, and expert angles. (Tedla, 2016). Numerous exact reviews demonstrate the positive effect of project anticipating project success (Fabricius, 2015). The process of planning through what's more, making unequivocal the targets, objectives, and procedures important to bring the project through its lifecycle to a fruitful end when the project's item, management, or process assumes its legitimate position in the execution of project proprietor methodologies.

Various specialists have explored extend possibilities that impact of anticipating project success. Zwikael, O, (2014) Planning and determination of the ideal project lifecycle for the project being embraced can significantly affect the success of that project. Thus, upon the above-mentioned literature, first hypothesis is derived. Project planning is the process of deciding ideal strategies, arrangement and timing of project exercises, and obliged assets to boost the possibility for a Successful Projects. Extend planning viability can be conceptualized as the degree to which a project accomplishes its arranged targets.

Choices taken amid the planning procedure have been found to affect the plausible result of a project. Project Planning can be utilized to devise new items, administrations, inside operations, or hierarchical strategies. Most creators concur that a project is an interesting attempt, an extraordinary undertaking that has not been done some time recently. Subsequently, it is extremely troublesome or even difficult to know exactly at the underlying planning stage that what is every one of the exercises that should be done to finish the project and what are their cost and length parameters .

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CHAPTER 3 : METHODOLOGY

3.1 Introduction

The methodology step is to formulate a research design. This means planning a strategy of conducting research. It is a detailed plan of how the goals of research will be achieved.

3.2 Research Design

Research design is exploratory, descriptive or experimental in nature. It is helping the investigator in providing answers to various kinds of social/economic questions. After collecting and analysis of the data, the researcher has to accomplish the task of drawing inferences. Only through interpretation researcher can expose relations and processes that underlie his findings and ultimately conclusions. Interpretation refers to the task of drawing inferences from the collected facts after an analytical study.

3.3 Survey Method

The survey method is the technique of gathering data by asking questions from people who are thought to have the desired information. Every effort should be made to state the objectives in specific terms. The survey design can be defined as: “gathering information about a large number of people by interviewing a few of them” (Backstrom & Hursh, P3). The definition can be modified by stating that collecting information with other data collection alternatives available to survey researcher in addition to interviewing i.e. questionnaire, personal observation etc. Surveys are conducted in case

of descriptive research studies with the help of questionnaire techniques in most appropriate manner. Survey type of research studies usually have larger sample. It is concerned with conditions or relationships that exists, opinion that are held, processes that are going on effects that are evident or trends that are developing. Thus, in surveys variables that exist or have already occurred are selected and observed. It is the example of field research.

3.4 Data Collection

Data collection means to a purposive gathering of information relevant to the subject matter of the study from the units under research.

Primary Data

Primary data are empirical observations gathered by the researcher or his associates for the first time for any research and used by them in statistical analysis. There are several methods of collecting primary data particularly in descriptive researches.

3.4.1.1 Telephone Enquiries Postal/Mail Questionnaire

Telephonic inquiries and mailing questionnaires are the best's method for gathering quickly needed information at the cheapest way.

3.4.1.2 Focus Group Interviews/Personal Interviews/Field Notes

The data collection strategies used in this study consisted of focus group interviews, personal interview and field notes. Focus groups are an efficient method for

obtaining contributions from multiple participants and the social nature of the focus group allows participants to be prompted by and to build upon the other participants' interactions (Onwuegbuzie, Dickinson, Leech & Zoran, 2009).

Owing to their flexibility and utility, personal interviews are the most common method of gathering qualitative data and allow for an in-depth exploration of a participant's particular experiences, attitudes, and viewpoints (Ryan, Coughlan & Cronin, 2009). Recognizing that there are benefits and limitations to each methodology, personal interviews were chosen because the number of healthcare providers, their availability, and their same geographical location (i.e., they each lived in different cities) was insufficient to conduct one focus group interview with everyone at the same time in the same place. While conducting personal interviews instead of the planned focus groups may have eliminated the interactivity between participants that focus group interviews provide, the author was able to gain a richness of data and a coincidental agreement that conducting personal interviews provides.

Field notes are a valuable tool in data collection in that they are meant to capture the observations of the researcher in order to provide context and richness of description (e.g., emotions, body language, etc.) not present in audio recorded transcripts (Montgomery & Bailey, 2007).

3.4.1.3 Panel Research

Panel research is a method for collecting data repeatedly, from a pre-recruited set of people. These individuals generally provide demographic, household and behavioral data, which can make conducting future studies easier.

3.4.1.4 Special Survey Technique (Questionnaire)

The questionnaire has a list of questions to be asked and spaces in which the respondents record the answer. It is either printed or typed in definite order on a form or set of forms. Each question is worded exactly as it is to be asked also, the questions are listed in an established sequence. Generally, it is mailed to respondents who are expected to reply in the space provided in itself or may be approached personally to explain the purpose and meaning of questions in the questionnaire, they are conducted by enumerators. Often questionnaire is considered as heart of a survey operation hence should be drafted carefully. Hence structured questionnaire ensures easy quantifications.

In present study, the required data was collected through Sample survey using structured questionnaire. Since 'Customer's inclination towards Online marketing' is the core focus of the study, a structured & closed ended questionnaire was prepared for customers only. The questionnaire incorporated questions related to customers' preference for online marketing and other traditional mediums for getting awareness on various brands and making purchase decision. Though questionnaire is an economic tool for data collection, non-response or incomplete response is high in this case. However, proper follow up was taken to overcome this barrier by making sure that each questionnaire is completely filled.

Secondary Data

Secondary data is the data collected by others in the past and used by others. It may be either being published or unpublished data. It includes the following:

- i) Various publications of central, state and local governments.
- ii) Various publications of foreign governments or international bodies.
- iii) Technical and trade journals.
- iv) Books, magazines, and new paper.
- v) Reports prepared by research scholars and university economists.
- vi) Reports publications of various associations connected with business and industry, bank, university and economists.

Sources of unpublished data are mainly diaries, letters, unpublished biographies; autobiographies etc. before using secondary sources the researcher must ensure reliability sustainability and adequacy of data.

3.5 Sampling Methods

Sample selection is undertaken for practical impossibility to survey entire population by applying rationality in selection of samples we generalize the findings of our research. A complete enumeration of all items of the population is known as census enquiry. But practically considerations of time and cost almost invariably lead to a

selection of respondents called sampling techniques. A sample design is a definite plan for obtaining a sample from a given population.

3.6 Data Analysis Tools for Research

To analyse data collected through structured questionnaire researcher used Ms-Excel Add-In Data Analysis.

3.7 Validity of the Data

The approach of content validity was used in order to verify whether the context of measure covers the full domain of the content. It helped to assess how items used in the survey represent their context domain and how clear they are. Verification made to assess whether questions asked to the respondents covers all the necessary details related to dissertation topic. Thus, the present study adopts descriptive research design and undertakes the survey method with questionnaire as a research instrument in order to collect primary data required in the research. Stratified probability sampling is the sampling technique used to select the appropriate sample. And content validity is used for the verification of data.

Validity test as well as reliability test are the tests conducted on the questionnaire for the purpose of ensuring the questions included in the survey will not result in any issue when the respondents answer them. In addition to this, these two tests are also used to ensure the responses and answers that will be obtained from these respondents shall be helpful in answering the questions of the research study. Reliability in the context of this

research, will be referring to the measurement used to measure the consistency of the data being studied (Nunnally & Bernstein, 1994). As for validity, it is the extent to which an empirical measure is considered to be sufficient in reflecting the exact meaning behind the concept(s) being studied (Henn, Weinstein, & Foard, 2006).

3.8 Data Analysis

According to De Vos, Delport, Fouché, & Strydom (2005) and Patton (2002), analysis conducted on the collected data of a study will help transform information obtained from these data into findings through the process of conveying the meaning, order as well as structure to the mass of the data that have been collected. In addition to this, the process of data analysis will also help to identify the trends and patterns that exist in the information while simultaneously develop a framework for communication in the essence revealed by the collected data (De Vos, Delport, Fouché, & Strydom, 2005).

Quantitative data that have been collected in this study shall be analysed with the use of Statistical Package for Social Sciences (SPSS) version 21. Due to this reason, every quantitative question included in the questionnaire will be thoroughly referenced with the each of the items being coded for the purpose of facilitating data entry. Subsequent to the completion of data collection process, the author will have to clean those data to check for errors before analysing them in order to test the hypotheses developed at the earlier stage of the study.

As for the qualitative responses obtained through the questionnaire, they will be put through the process of transcribing and translating for the identification of the patterns

of factors related to the impact of leadership on the competitive advantage of the credit and leasing companies in Malaysia. Such actions were believed to be able of bringing about better awareness on the heterogeneous or homogeneous themes that exist in this study as more data have been unfold by information obtained from the quantitative data. In accordance to this, referring back to the statement made by De Vos, Delpont, Fouché, & Strydom (2005), data analyses actually do not provide any answer in itself to the research questions, hence, such answers were said to only be found through data interpretation made on the result of data analysis.

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CHAPTER 4 : RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of this study on the impact of Quality processes, Earlier Time Estimation, Engineers Efficiency towards Electrical Projects Performance: Ethical decision process as moderating variables.

4.2 Staffing

Table 4.1 Staffing

No	Description	Strong Agree	Agree	No Opinion	Disagree	Strongly Disagree
1	Organization's HR executives are fully aware of the business needs and strategies.	11	2	0	0	0
2	Efforts are taken to generate awareness amongst the employees about the organization's financial position, customers' needs, quality of product/service, cost etc.	10	9	1	0	0
3	The organization's human resource requirements are systematically ascertained and an appropriate plan is formulated for satisfying the requirements.	13	10	2	0	0
4	The organization has a formal policy of career planning and development.	15	11	7	0	0
5	The organization favours passing of authority and responsibility to	11	7	11	0	0

individuals at the lower level of hierarchy

Total	60	39	21	0	0
%	50	32.5	17.5	0	0

From Table 4.1, it is observed that when respondents answered in organization are 50% were strongly agreed, 32.5% shown agreement, 17.5% had no opinion on this question, 0% shown disagreement and 0% were strongly disagreed.

4.3 Appraisal and Evaluation

Table 4.2 Appraisal and Evaluation

No	Description	Strong Agree	Agree	No Opinion	Disagree	Strong Disagree
1	Dependability	0	0	5	4	5
2	Initiative	3	5	1	0	0
3	Overall output	5	5	1	0	0
4	Attendance	6	1	0	0	0
5	Attitude	5	5	3	1	1
6	Cooperation	5	8	0	0	0
7	Quality of work	5	2	3	2	2
8	Punctuality	3	7	2	0	0
9	Work commitment	1	3	2	0	0
10	Work conduct/ethics	3	1	8	0	0
11	Teamwork	5	2	0	0	0
	Total	41	39	25	7	8
	%	34.2	32.5	20.8	5.83	6.67