

Research Types and Methodology in Construction Engineering and Architecture

Hussein Salama*

Department of Architecture and Urban Planning, Qatar University, Qatar

Abstract

The research methodology is a definite process or technique which is used to recognize, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to judgmentally estimate a study's overall validity and reliability. The methodology section answers two main questions: How was the data collected or generated? How was it analyzed?

Keywords: Research onion; Research philosophy; Methodology

Introduction

The Saunders Research onion illustrates the stages involved in the development of research work and was developed by Saunders et al. In other words, the onion layers give a more detailed description of the stages of a research process. Its usefulness lies in its adaptability for almost any type of research methodology and can be used in a variety of contexts. Saunders et al noted that while using research onion one has to go from the outer layer to the inner layer. Saunders et al see the research process as the unwrapping of an onion layer by layer, for the inner layer to be seen the outer layer must be unwrapped first.

Research Philosophy

Research philosophy deals with the source, nature, and development of knowledge. Although the idea of knowledge creation may appear to be profound, one has to be engaged in knowledge creation as part of completing the assignment based on the burning issue of the recent age researchers. In essence, addressing research philosophy in one's dissertation assignment involves being aware and formulating his/her beliefs and assumptions. The identification of the research philosophy is positioned at the outer layer of the 'research onion, accordingly, it is the first topic to be clarified in the research methodology chapter of any dissertation type assignments. This assignment evaluates all this criterion with full awareness to make any remarks for the topic.

Research Types

Types of research can be divided into two categories like quantitative and qualitative research.

Quantitative Research: Quantitative research describes, assumes, and resolves problems using numbers. The importance is placed on the collection of numerical data, the summary of those data, and the drawing of inferences from the data which is collected [1].

Qualitative Research: It has been noted that information is considered qualitative if it cannot be studied using measured techniques. This individual may also mean that an incident does not take place often enough to allow reliable data to be collected.

Here, a combination of both research types has been carefully analyzed to further conductance of the project and its outcomes [2].

Research Approach

The two main types of research are qualitative research and quantitative research. Qualitative research is descriptive because it

generally deals with non-numerical and no quantifiable things. For example, when student groups are first learning about the behavioral approach for buying homes only in Sri Lanka, then the survey should be done on the clients of that property buyers. However, getting the numbers of each legend of the survey questionnaire, there- it is to be analyzed through graphs and charts as numerical values identification of a case study on a specific group is 70% less effective in comparison with the other groups who just glimpsed the findings through flow-chart or any visual utility hosen to understand the current scenario of that topic. It can be matched with another simple example like-A biologist studying population numbers would use quantitative research [3].

On the other hand, qualitative research designs the pathway of spotting an issue with words to undergo further quantitative evaluation of the study. Here is a paradox though. Therefore, combinations of both the tools have been made the measurement unit of the topics relevant findings to move further to solution-based research up ahead.

Research Methods

Research methods are exact processes for collecting and analyzing data. Developing research methods is an essential part of the research design. Two key decisions have to take in mind before designing the research.

Firstly, decide how the data will be collected. The methods depend on what type of data is needed to answer the research questions. Secondly, how the data will be analyzed will have to make designs [4].

Research strategy

One of the key problems which are needed to address early on when writing the dissertation is that of the best strategy to use to conduct your research. This is, how the researcher will go about answering the

***Corresponding author:** Hussein Salama, Department of Architecture and Urban Planning, Qatar University, Qatar, Tel: 974-4403-4359; E-mail: hussein.salama@qu.edu.qa

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research questions. Defining the research strategy means deciding whether the researcher wants to do primary research or confine the existing literature.

Case study: In case study Data is collected by opinion, participation, and a range of other methods, including examining existing records, interviews, and tests.

Surveys: Surveys often gather numerical data, but can also gather qualitative information through open-ended questions [5].

Interview: Interviews are very flexible. They can be highly structured and formalized, with all the possible options determined in advance or unstructured and relaxed.

Here, for this research conductance survey comments on the questions and online case studies and interviews related to the field of REM and business studies as well as the chosen company Prime Land Pvt. Ltd. has mostly been taken into consideration. And, for recommending any solutions or discussing ways of increased attraction of home buyer’s choice due to increased housing quality and the offered price. Time constraint limits the number of business administration specialists or concerned REM fellows in the completion of the assignment.

Method

Data collection is a procedure of collecting info from all the relevant sources to find answers to the research problem by experimenting with the hypothesis and evaluate the outcomes. Data collection methods are divided into two categories: primary methods of data collection and secondary methods of data collection.

Primary Method: This research assignment is dependent on the survey comments from interviews of correspondents related to Business faculty. Executives related to real estate business are interviewed with a survey questionnaire too [6].

Secondary Method: Secondary data sources for completing the assignment are from online books, journals, magazines, case studies, and research papers relating to the research topic. Those are mostly connected to the research topic and the chosen real estate company Prime Land Pvt. Limited in Sri Lanka.

Sampling techniques

There are several different sampling techniques available, and they can be subdivided into two groups: probability sampling and non-probability sampling. In this way, all eligible individuals have a chance of being chosen for the sample, and you will be more able to generalize the results from your study. In non-probability sampling, you do not start with a complete sampling frame, so some individuals have no chance of being selected.

Sampling Size

The sample size discusses the number of participants or comments involved in a study. This number is usually symbolized by n. N can be from as low as 0.N symbolizes the corresponding number of the participants. But the researcher has been going to communicate with the colleagues so that, they can join the discussion. The size of a sample influences two statistical properties:

- I. The precision of research’s estimates.
- II. The power of the study to conclude.

Here, the sample size, business postgraduates, and students, who

are familiar with the relation between product quality and purchase behavior will be surveyed. For this assignment, the author conducted 90 correspondents to say their opinions about the Survey questions. The following chapter shows the result of the survey report briefly with important charts to make it easy to identify the problems or concerns related to this topic chose for managerial project assignment [7].

Time Horizon

The time horizon outlines the period frame of the research cross-sectional or short term study. It contains the collection of data at a specific point in time. Longitudinal – a collection of data repeatedly over a long period to compare data.

The time horizon table for this research is given (Figure 1)

Reliability and Validity

A test is seen as being reliable when it can be used by several different researchers under stable conditions, with consistent results and the results not vary. Reliability reflects consistency and reliability over time.

Thereby Messick has accepted a unified concept of validity that includes reliability as one of the types of validity; thus contributing to the overall construct validity. As Messick states: Similar to internal consistency, separation reliability values of between 0 and 1 had to be obtained, and those that are high are beneficial to an assessment. In 1955, Cronbach and Meehl elaborated on the various methods to determine to construct validity.

For a construct to be scientifically acceptable it had to be located in a ‘nomological network’, made up of laws that are either statistical or deterministic. These inferences must be meaningful, trustworthy, and serve the purpose of the assessment for construct validity to reach its goal. If these three steps are integrated into an assessment then the degree of construct validity will be high. Linking the above to this assignment, the focus of construct for the overall assessment was to determine the relevant level of the academic knowledge and skills possessed by postgraduate business administration works learners across different fieldsHere, the different fields altogether connected with the home buyer’s choice, housing supplier’s reliability and linkage of these two attributes with description major areas of the REM and BA industry researchers [8].

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Identifying the topic and planning for the research	█	█	█									
Selecting the sample group				█								
Conducting the pilot survey				█								
Identifying limitations of the questionnaire and make the amendments					█	█						
Providing the survey questionnaire and obtain the results							█					
Data analyzing with graphs and charts from collected research findings								█	█			
Analyze computerized data for final research findings									█	█		
Preparing the research report based on the analysis and presenting the research paper										█	█	█

Figure 1: Gantt chart.

Ethical Consideration

Ethical Considerations can be specified as one of the most important parts of the research. According to Bryman and Bell, some issues represent the most important principles related to ethical considerations in dissertations.

- Research participants should not be subjected to harm in any way at all.
- Respect for the dignity of research participants should be prioritized.
- The protection of the privacy of research participants has to be ensured.
- Full consent should be obtained from the participants before the study.
- An adequate level of confidentiality of the research data should be ensured.

Background of the company

Prime Lands (Pvt.) Ltd was established 24 years ago (1996) with a Visualization of “Dedicated to Generate a Better Place on Earth”. This company has a very humble beginning with 04 employees. Though, with the clear marketplace focus, high level of monetary discipline, Innovative approaches to the market. Prime Group is the market leader in the real estate sector in Sri Lanka (Land Development) and its subsidiary company, Prime Lands Residencies are successfully entering into the housing industry in Sri Lanka with globally recognized technology with higher reliability. Now the Prime Group has individual housing projects and apartment complexes in prime locations [9].

Background of the Industry

The real estate market of Sri Lanka is growing very fast. It is because of two reasons, price growth and high demand. The Sri Lankan government started the macro-control policy that was based on "limit the buying and limits the loan" for the real estate market to curb speculations on real estate and control the growth of real estate prices. There was a sign of market recovery. In general, the price growth of real estate is controlled at a lower level, which means there is less speculation in the market, and the demand of the ones with rigid demand is catered, which was very obvious.

Analysis and Discussions

The analysis of the impact factors associated with the survey correspondents answer alongside online findings is the main topic to briefly and visually for better understanding. The other discussion component of this chapter incorporates the basis analysis tools to clarify the chosen real estate industry- Prime Land Pvt. Ltd [10].

Primary Data Analysis

For the primary data collection through an MCQ survey questionnaire, the sample size is 90. Now, as for the survey report findings, the numerical digits below represent the number of correspondents answering the Multiple Choice Questions

Housing suppliers' infrastructure quality positively influenced buyers' purchase decisions: Most of the correspondents' responses range in between Agree to Strongly Agree whereas Strongly Agree (54%) get the most percentage in amount (Figure 2).

If Prime Land Pvt. Ltd safeguards the highest quality products:

Most of the correspondents' responses range in between Agree to Strongly Agree whereas Strongly Agree (40%) get the most percentage in amount (Figure 3).

Does Prime Land Pvt. Ltd safeguards the highest quality products: Most of the correspondents' responses range in between Agree to Strongly Agree whereas Strongly Agree (40%) get the most percentage in amount (Figure 4).

Product quality affects the chance of getting any property purchased within the least possible period: Most of the correspondents' responses range in between Agree to Strongly Agree whereas Strongly Agree (58%) get the most percentage in amount (Figure 5).

Real estate high-end lands and properties directly enhance purchasers buying judgment: Most of the correspondents' responses range in between Agree to Strongly Agree whereas Strongly Agree (73%) get the most percentage in amount (Figure 6).

Real estate offerings have to face a difficult time coping with the maintenance of the sold properties due to international affairs: Most of the correspondents' response range in between Agree to Strongly Agree

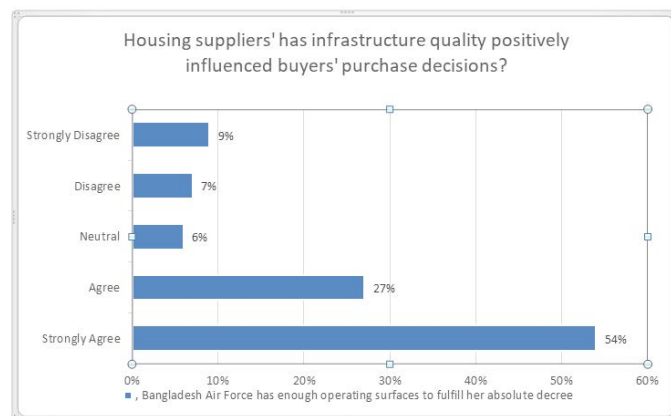


Figure 2: Housing suppliers' has infrastructure quality positively influenced buyers' purchase decisions.

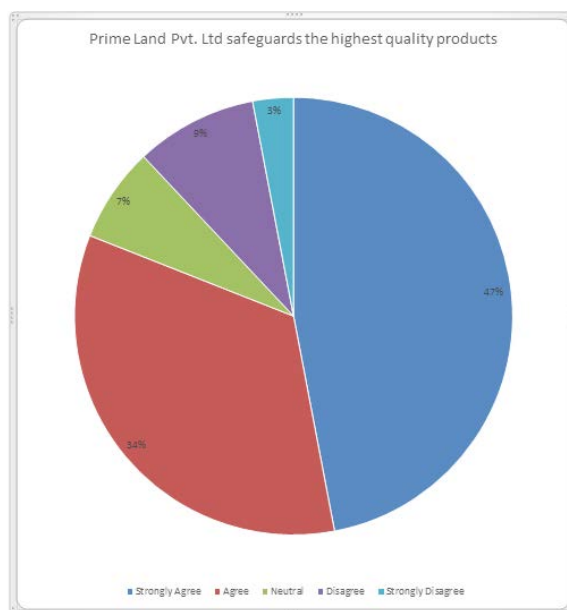


Figure 3: Prime Land Pvt. Ltd safeguards the highest quality products (Survey).

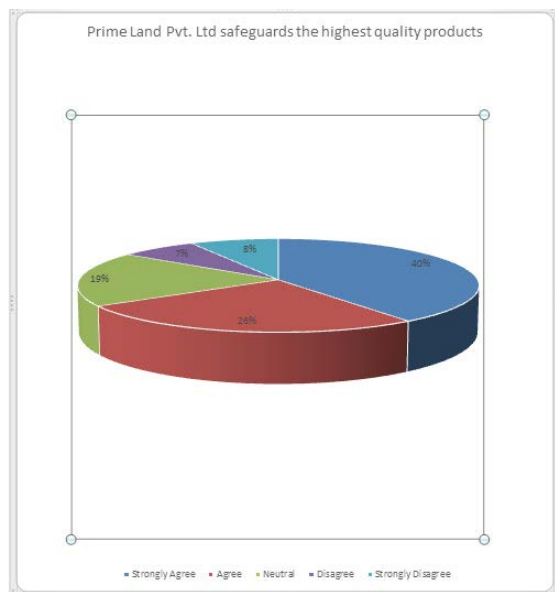


Figure 4: Prime Land Pvt. Ltd safeguards the highest quality products (Survey).

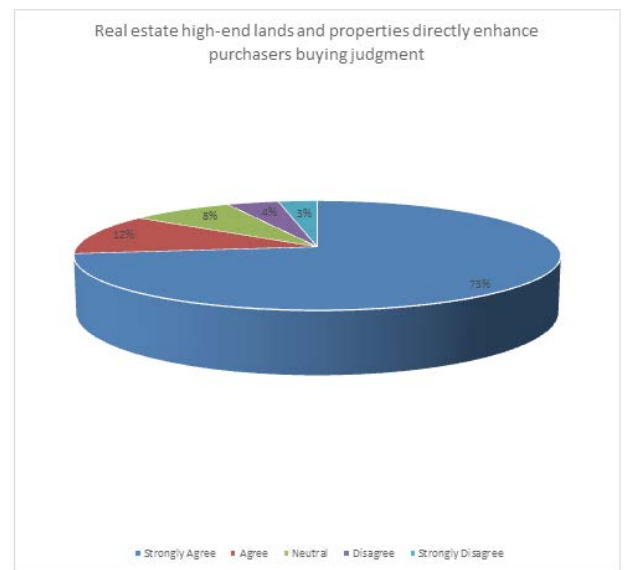


Figure 6: Real estate high-end lands and properties directly enhance purchasers buying judgment (Survey).

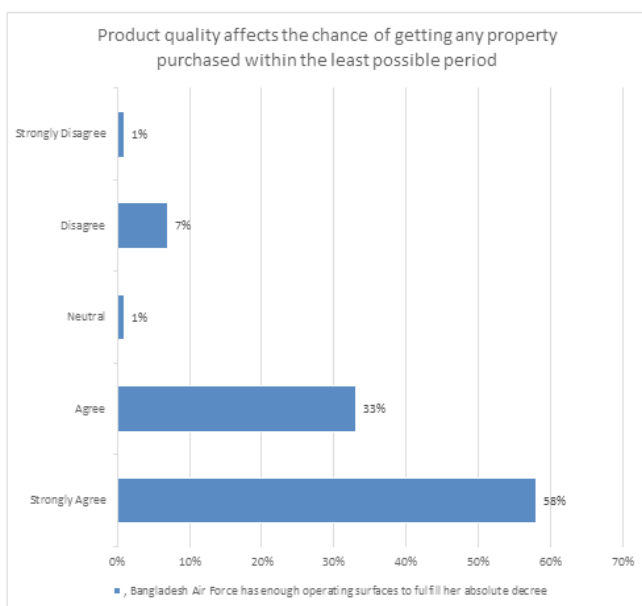


Figure 5: Product quality affects the chance of getting any property purchased within the least possible period (Survey).

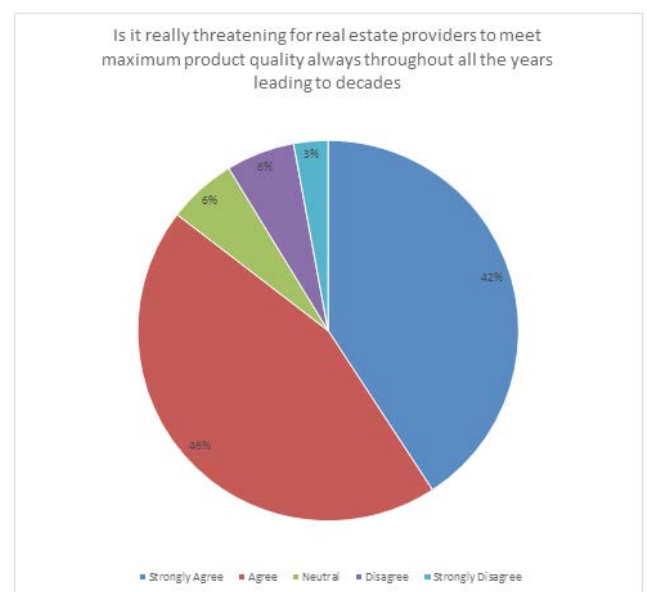


Figure 7: It's threatening for real estate providers to meet maximum product quality always throughout all the years leading to decades (Survey).

whereas Strongly Agree (60%) get the most percentage in amount (Figure 7).

Product quality affects the chance of getting any property purchased within the least possible period: Most of the correspondents' responses range in between Agree to Strongly Agree whereas Strongly Agree (82%) get the most percentage in amount (Figure 8).

On the 9th MCQ survey question, Product quality solely is the most necessary factor to boost the purchasers buying decision most of the correspondents' responses range in between Agree to Strongly Agree whereas Strongly Agree (56%) get the most percentage in amount (Figure 9).

Conclusion

The most trending behavioral approach of mass people nowadays hovers to acquire a specific area to live on for their mental satisfaction. It is the person registered home to live on the next days of life. This issue has firmly increased due to the rapid and mostly uncontrolled increase of population within most of the countries. Now that, it is the conscious craving for men to settle up for a property that has the highest credential service and maintenance ease possibility; it leads them to the housing provider with the highest product quality offering. The easiest way is to redirect them to go for a trustworthy name in the REM providers. Now, narrowing down to a developing country such as Sri Lanka, its Real estate developers have rewarded investors with strong returns post 2009. It is the time when Sri Lanka saw the end of the civil conflict. When the real estate sector has always been a major

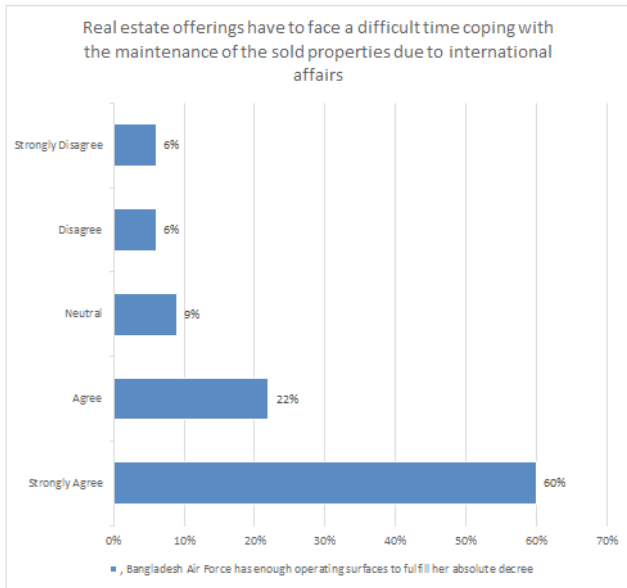


Figure 8: Real estate offerings have to face a difficult time coping with the maintenance of the sold properties due to international affairs (Survey).

factor in the development of the economy in every country. Regionally, Sri Lanka remains attractive as an emerging market, when considering the ROI on Real Estate. For an effective discussion, this paper states the linkage of consumer behavior to the highest quality housing provider offers to them. The paper discusses all the necessary factors to prove the enhanced purchase of supreme quality property company dealers like Prime LnadPvt. Ltd is a leading real estate company in Sri Lanka. However, the valuation of property is most vital for the real estate industry. It depends on the type of artifact, the real estate sector offers to its clients. For this industry, infrastructure quality is

the most important factor. All the contributing factors, analyses reveal this lesson. This truth is supported by many theories and analyses to lead today’s provider, meeting the original demand factor of the mass people.

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