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Project title

Al Rajhi Bank (C)

Risk Management, Customer Value, and Performance

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Chapter 3: Research Methodology

3.1 Introduction

This chapter provides a description of the research methodology that was used in the present study to investigate the impact of employee empowerment, artificial intelligence (AI), and electronic human resource management (E-HRM) on worker productivity, service quality, and customer loyalty in the banking and healthcare sectors. In order to guarantee that the research is carried out in a way that is both scientific and organized, the methodology serves as a framework that provides a systematic approach to the whole research process.

The research technique is an essential component of any academic study since it establishes the manner in which the research questions and hypotheses will be addressed and evaluated. This portion of the research is devoted to the methodology, which provides an overview of the processes, methods, and approaches that were applied in order to gather and evaluate the necessary data. Specifically, it describes the general design of the study, the research philosophy and methods, as well as the techniques for collecting and interpreting data from participants.

The operational definitions of the research variables are discussed in the first section of the chapter. These definitions provide an explanation of how each variable in the study is defined and quantified. A number of factors should be taken into consideration, including customer loyalty, service quality, staff efficiency, computerized human resource management systems, employee empowerment, and the use of artificial intelligence. When these criteria are effectively defined, it is much easier to guarantee that the research process yields results that are genuine, accurate, and consistent.

Additionally, the research technique and design that were used in the study are discussed in this chapter. The research design provides an explanation of the general structure of the study as well as the manner in which its several components collaborate to accomplish the investigation's

goals. The research approach places an emphasis on the use of data collection instruments such as questionnaires and surveys, which are often used in quantitative research endeavors.

Another essential component of this chapter is a description of the study population as well as the sample that was administered. When compared to the research population, which refers to the whole group of people who are a part of the study, the sample is a smaller portion of the population that has been chosen to take part in the study rather than the entire population. This section provides an overview of the sampling strategy that was implemented, the reasons why it was suitable for the research, and the methods that were applied to recruit participants.

Another topic that is covered in this chapter is the procedures that are used to acquire primary and secondary data. In order to gather primary data for this research, a structured questionnaire is sent to employees and customers of certain banks and hospitals. The questionnaire is expected to be completed by the participants. Books, academic journals, and past research on topics such as consumer loyalty, artificial intelligence, electronic human resource management, and employee empowerment are the sources from which secondary data is gathered once primary data has been collected.

Additionally, the techniques of data analysis that were applied in order to explore the data that was obtained are discussed in this chapter. Both the hypotheses that have been offered and the correlations that exist between the variables that are being researched are subjected to statistical analysis. Methods such as regression analysis, correlation analysis, and descriptive statistics are examples of some of these analytical techniques. The results of the research are improved in terms of their correctness and reliability when statistical analysis is applied to them.

Within the scope of this chapter, ethical issues pertaining to the study process and the methodology that were applied are also discussed. Participants are informed of the goal of the study, and their replies are guaranteed to be kept anonymous and used only for the purpose of conducting scientific research. The integrity and credibility of the study are both improved when ethical research procedures are continued to be used.

A comprehensive description of the research methodology that was used in this study is included in this chapter. Through providing a comprehensive description of the demographic and

sampling strategies, data collection techniques, data analysis processes, and study design, this chapter guarantees that the research process is both transparent and reliable. In this chapter, the methodological approach that is outlined serves as the basis for the analysis and conclusions that are provided in subsequent chapters of the study.

3.2 Operational Definitions for Research Variables

When conducting research projects, operational definitions are used to provide clarity on the manner in which each variable is understood and measured. It is possible for researchers to guarantee that the ideas they use are comprehensible, quantifiable, and consistent throughout the inquiry if they provide operational definitions. Employee empowerment, artificial intelligence (AI), electronic human resource management (E-HRM), employee productivity, service quality, and customer loyalty are the primary characteristics that will be considered in this research. For the purpose of describing the manner in which each variable is investigated within the scope of this research, an operational description is provided.

Employee Empowerment

The term "employee empowerment" refers to the degree to which workers are given authority, autonomy, and involvement in the decision-making processes of their respective organizations. In the context of this research, the operational meaning of employee empowerment refers to the degree to which workers believe they are able to make choices pertaining to their jobs, contribute ideas, and assume responsibility for tasks without being unnecessarily watched. In order to assess this variable, questionnaire questions are used to investigate the workers' perspectives on the availability of information, their autonomy, and their engagement in the choices made by the firm.

Artificial Intelligence (AI)

There are a number of jobs that need human intelligence, such as data analysis, decision support, and customer interaction. Artificial intelligence refers to the use of modern digital technology

and automated systems that are capable of doing these tasks. In the context of this study, the operational definition of artificial intelligence (AI) refers to the use of AI-based technologies like as chatbots, automated customer care systems, and predictive data tools for the purpose of enhancing operational efficiency and service delivery. In order to quantify the variable, survey questions are used to determine how consumers and staff evaluate the value and usefulness of artificial intelligence technology in the process of enhancing services.

Electronic Human Resource Management (E-HRM)

With the term "electronic human resource management," we are referring to the use of digital platforms and information systems for the purpose of managing HR activities such as employee interactions, performance assessments, training, and candidate recruitment. The extent to which businesses make use of digital HR technologies in order to enhance HR operations and employee performance is the operational definition of organizational human resource management (E-HRM) in this research. The efficacy, accessibility, and availability of the organization's electronic human resource systems are evaluated via the use of questionnaire questions, which are used to measure the variable.

Employee Efficiency

The term "employee efficiency" refers to the capacity of a worker to efficiently carry out their duties while simultaneously making the most of the resources available to the firm. According to the findings of this study, the operational definition of employee efficiency is the degree to which individuals in their respective jobs demonstrate a high level of productivity, task completion, and job performance. It is evaluated based on the replies to surveys and questionnaires about worker productivity, timeliness, and general job performance.

Service Quality

When we talk about service quality, we are referring to the degree to which an organization's services meet or surpass the expectations of its clients. The operational definition of service quality in this research is based on the customers' assessments of the dependability, responsiveness, and efficacy of the services supplied by healthcare institutions and financial organizations. This variable is evaluated by the use of questionnaire questions that measure response speed, service correctness, and customer satisfaction with the delivery of services.

Customer Loyalty

When we talk about customer loyalty, we are referring to the propensity of a consumer to continue using a company's goods and to suggest those items to other people. According to the findings of this study, the operational definition of customer loyalty is the extent to which consumers have a desire to maintain a long-term connection with the company, make frequent use of the services offered by the company, and have favorable thoughts toward the company. To quantify this variable, survey questions are used to determine the level of trust that customers have in the company, as well as their desire to use the company again and their willingness to recommend it to others.

The research guarantees that each notion can be correctly tested and extensively investigated by ensuring that these criteria are operationally specified. The statistical analysis that was carried out later in the study was also aided by these definitions, which helped to discover the links that existed between the other variables.

3.3 Research Design (Research Onion)

In order to answer research questions and put hypotheses that have been offered to the test, the research design is the comprehensive strategy that directs the process of gathering, evaluating, and interpreting data. This research design is based on the research onion model, which is a framework that offers a precise and rigorous framework for constructing a research technique. The research onion model serves as the foundation for this development. The research onion, which starts with research philosophy and finishes with data collecting methodologies, is a representation of the several layers of methodological possibilities that researchers are required to take into consideration.

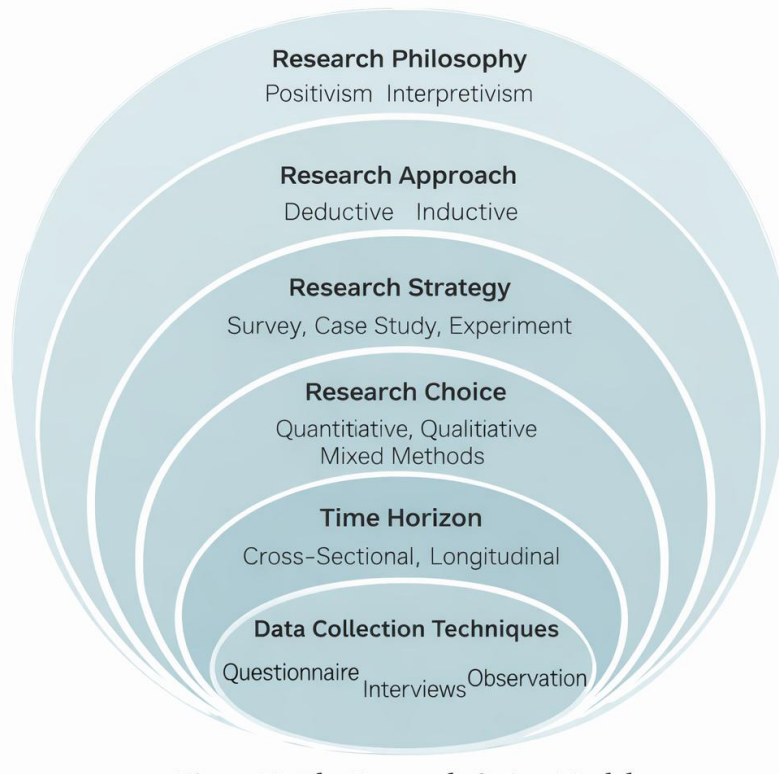


Figure 1: The Research Onion Model

A significant methodological decision is represented by each layer of the onion that represents the research. The research philosophy, technique, strategy, choice, time period, and methods for data collecting are all included in these stages. Every strata is discussed in relation to the inquiry that is currently being conducted.

Research Philosophy

In the context of research, the term "research philosophy" refers to the ideas and presumptions that underpin the process of knowledge development and comprehension. This strategy adheres to the positivist mentality, which places an emphasis on objective measurement and statistical analysis in order to identify the links that exist between several variables. Because it makes use of quantitative data, the positivist method is an excellent choice for this study because it investigates the ways in which customer loyalty, staff productivity, and service quality are affected by employee empowerment, artificial intelligence, and computerized human resource management.

Research Approach

The research technique provides an explanation of the progression of the investigation from theory to data or from facts to generalizations. The deductive method was used in this investigation, which began with well-established concepts and previous research before moving on to the formulation of hypotheses that can be substantiated by empirical evidence. Because the objective of this research is to make use of statistical tools in order to investigate the connections that exist between the variables that have been discussed, the deductive method is the most suitable approach to use.

Research Strategy

In this context, "research strategy" refers to the manner in which the study was carried out in its entirety. The researcher is able to conveniently and methodically gather data from a big number of participants via the use of the survey approach, which is why it is being used in this study. For the purpose of evaluating attitudes, behaviors, and perceptions of organizational practices, surveys are often used in the fields of social science and management research.

Research Choice

In this particular investigation, the quantitative research method that was employed centered on the collection of numerical data for the purpose of statistical analysis. The use of quantitative research is the most effective method for examining the connections that exist between the independent elements (employee empowerment, artificial intelligence, and electronic human resource management) and the dependent variables (employee efficiency, service quality, and customer loyalty).

Time Horizon

What is meant by the term "time horizon" is the duration of the data collection process. On account of the fact that this research makes use of a cross-sectional time horizon, the data from the participants is gathered all at once rather than over a more extended period of time.

Data Collection Techniques

In the last layer of the research onion, the procedures for data collecting are the primary emphasis. In order to gather data for this research, a standardized questionnaire is sent to

employees and customers of certain banks and healthcare facilities. These individuals are asked to complete out the questionnaire. With the use of a Likert scale, the questionnaire contains a number of statements that are intended to evaluate the factors that are being investigated.

Within the context of this study, the research onion structure is used to guarantee that the research design is transparent, methodical, and in accordance with the aims of the studying. This methodical approach helps to provide a clear picture of the manner in which the study was carried out, which in turn increases the validity and dependability of the conclusions of the research undertaken.

3.4 Research Population & Sampling Methods and Technique

The research population is comprised of the whole group of individuals who participated in the study and from whom the researcher intends to draw conclusions while doing the research. Customers who make use of banking and healthcare services, as well as workers who are employed by these organizations, make up the population of this research. The reason why these companies were chosen is that they have direct expertise with electronic human resource management systems, employee empowerment, and the implementation of technologies that use artificial intelligence. Consequently, their perspectives and experiences are essential in order to comprehend the manner in which these aspects impact the loyalty of customers, the productivity of employees, and the quality of service supplied.

Given the difficulty of collecting data from each and every member of the community, it is necessary to pick a sample that is representative of the whole population. A subset of the population that has been selected for participation in the study is referred to as the sample. In this particular research, the sample consists of a number of workers and consumers from a variety of financial organizations and medical facilities. People who had firsthand experience with the services and organizational procedures that were being considered in this research were selected as participants because of their involvement in the study.

For the purpose of this investigation, a non-probability convenience sampling strategy was used to choose the sample. Research volunteers are chosen using this approach, with consideration given to their willingness to take part in the study as well as their ease of access. When doing research in the fields of social science and management, convenience sampling is often used, particularly in situations when the researcher has limited time and resources. Additionally, it enables the researcher to get significant insight about the aims of the study while simultaneously facilitating the effective collection of information.

Within the framework of the sampling strategy that is being used in this investigation, questionnaires will be distributed to employees and customers who are accessible throughout the duration of the data collecting period. A request for input is extended to participants about the use of artificial intelligence technologies in the provision of services, the implementation of employee empowerment strategies, and the function of electronic human resource management systems in the enhancement of employee performance. It is also requested of the customers that they rate the amount of loyalty they have to the company as well as the quality of service they get.

There are around 150 people who participated in the research as respondents. These individuals include employees and clients of a variety of financial institutions and medical facilities. A standardized questionnaire that was prepared based on prior research was used in order to capture the data at hand. A Likert scale with five points was used to analyze the responses to the questionnaire questions. The scale included choices ranging from strongly disagreeing to strongly agreeing. The replies that were gathered were first coded, and then statistical analysis was performed on them in order to examine the correlations that existed between the study variables.

3.5 Data Collection Method

Within the context of the research process, the technique of data collection is an essential component since it establishes the means by which the information that is necessary to answer the research questions will be obtained. The data for this study was collected via the use of a

structured questionnaire, which is generally regarded as one of the most popular and effective tools for conducting quantitative research in the fields of management and the social sciences. The questionnaire was developed with the purpose of collecting information on a wide range of study topics, such as the empowerment of employees, the application of artificial intelligence, electronic human resource management (E-HRM), the effectiveness of staff, the quality of service, and the loyalty of customers.

The questionnaire was developed using the ideas and measuring items that were employed in earlier academic research on the subject matter serving as the foundation for the development of the questionnaire. In order to guarantee that the questions used for the analysis of the variables in the research are relevant, valid, and trustworthy, this approach helps to do so. Specifically, the questionnaire is divided into two primary portions. The initial component of the survey is dedicated to gathering fundamental demographic information about the respondents, including their age, gender, educational attainment, and job experience history. A number of statements that are intended to investigate and assess the correlations between the study variables are included in the second part.

A Likert scale with five points was used to evaluate the replies of the participants in the research. This scale gave them the opportunity to express the degree to which they agreed with each statement. On this scale, one indicates that you strongly disagree, and five indicates that you firmly agree. In order to facilitate the process of converting the participants' thoughts and emotions into numerical values that can be subjected to statistical analysis, a Likert scale was developed.

We sent the questionnaire to customers as well as workers of a few different banks and medical organizations. There was a request made to the participants to freely fill out the questionnaire at the time that the data was being collected. The questionnaire might be delivered either directly or online. The researcher was able to make touch with a significant number of respondents in a very short amount of time by using this strategy.

Following the collection of responses, the data were subjected to a thorough examination, categorized, and prepared for statistical analysis and interpretation. The data that was obtained

was then subjected to statistical analysis in order to evaluate the links that existed between the independent factors and the dependent variables of the research. The findings of the analysis are presented and discussed in more depth in the fourth chapter of this study.

The researcher was able to collect reliable and quantitative data from a large number of participants by relying mostly on a standardized questionnaire. This allowed the researcher to gather quantitative data. The reliability and dependability of the conclusions of the study are increased as a result of this.

ID Code: _____

Research Study Questionnaire

Please answer the following questions based on your personal views and experiences. Your responses will be kept confidential and used for academic purposes only. Thank you for your participation.

Demographics

1. **Age:** ☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55 and above
2. **Gender:** Male ☐ Female ☐
3. **Education Level:** High School ☐ Diploma ☐ Bachelor's Degree ☐
4. **Experience in the Current Organization:** Less than 1 year ☐ 1-3 years ☐ 4-6 years ☐
5. **Role in the Organization:** Employee ☐ Customer ☐

Research Variables

Please indicate your level of agreement with the following statements.

Description	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Employee Empowerment					
I have the authority to make decisions related to my work.	☐	☐	☐	☐	☐
I am encouraged to suggest ideas and take initiative in my job.	☐	☐	☐	☐	☐
I feel trusted by my manager to handle job responsibilities independently.	☐	☐	☐	☐	☐
Artificial Intelligence (AI)					
AI tools (e.g. chatbots, predictive analytics) in our organization improve service quality.	☐	☐	☐	☐	☐
AI technologies make work processes more efficient and effective.	☐	☐	☐	☐	☐
I believe AI enhances customer service in our organization.	☐	☐	☐	☐	☐
Electronic Human Resource Management (E-HRM)					
The HR system in our organization is effective in managing HR-related tasks. (e.g. recruitment, performance evaluation).	☐	☐	☐	☐	☐
I can easily access and use digital HR tools and platforms in my organization.	☐	☐	☐	☐	☐
Employee Efficiency					
I feel that I can complete my tasks on time efficiently.	☐	☐	☐	☐	☐
I believe I am productive and perform my job well.	☐	☐	☐	☐	☐
Service Quality					
The services provided by this organization are reliable and accurate.	☐	☐	☐	☐	☐
The organization is quick to respond to customer needs and inquiries.	☐	☐	☐	☐	☐
Customer Loyalty					
I intend to continue using this organization's services in the future.	☐	☐	☐	☐	☐
I would recommend this organization to others based on my experiences.	☐	☐	☐	☐	☐

3.6 Types of Data

Research studies classify data according to the places from where the investigator gleans the facts needed to resolve the research questions and accomplish the study's objectives. Major and secondary data sets were the backbone of our investigation. Both forms of information are necessary for a thorough comprehension of the study's subject and its results.

Primary Data

When a researcher collects information specifically for the purpose of a study, this is known as primary data. A comprehensive questionnaire was sent to both employees and clients of various financial and healthcare organizations in order to gather primary data for this study. Customer loyalty, service quality, staff efficiency, electric human resource management (E-HRM), employee empowerment, and AI utilization were some of the important attributes that the questionnaire aimed to measure.

The attitudes of the respondents were evaluated using a five-point Likert scale that extended from strongly disagree to strongly agree. One source of primary data is interviews with current or former employees of the company under scrutiny. The actual opinions and experiences of employees and consumers on the tools and procedures used at work are captured by this kind of data, which is crucial.

Secondary Data

Secondary data is information that has already been collected and published by other researchers, academic institutions, or organizations. This study's secondary data came from scholarly articles, books, journals, and reputable online sources covering topics including employee empowerment, AI, electronic HRM, service quality, and customer loyalty.

The literature review and theoretical underpinnings of the research variables were mostly supported by secondary data. The researcher may have a better grasp of the field's present state and identify knowledge gaps that will be addressed by the current study by reviewing prior research.

The research has the potential to provide both theoretical grounding and empirical proof from actual participants by integrating primary and secondary data. Using this method, we may more confidently evaluate the connections between the variables and boost the research's credibility.

3.7 Statistical Analysis Procedures

After the data was collected from the questionnaire, many statistical methods were used to analyze the answers and investigate the connections between the study's variables. To get findings that can be understood and maybe linked to research questions and hypotheses, statistical analysis is a crucial part of quantitative research.

The gathered surveys were checked thoroughly to make sure every answer was complete and suitable for research. A popular statistical analysis application in social science and management research, Statistical Package for the Social Sciences (SPSS), was used to code the replies. To facilitate statistical analysis, researchers often code data in order to convert participant responses into numerical values.

The acquired data was described and characterized using descriptive statistics before the analytical method was begun. Frequencies, percentages, means, and standard deviations are all part of descriptive statistics. All of the survey takers' demographic data and broad reactions to the questions may be seen in one place with the use of these metrics.

After that, we used Cronbach's Alpha to check how reliable the questionnaire was and how consistent the items were that measured. Reliability coefficients are considered good when study variables are consistently measured by the questionnaire questions.

The study's variables—empowerment of employees, AI, E-HRM, staff efficiency, service quality, and customer loyalty—were examined using correlation analysis after the reliability test. Finding a connection between two or more variables is possible with the use of correlation analysis.

In addition, the study hypotheses and the effects of the independent variables on the dependent variables were assessed using regression analysis. Researchers may use regression analysis to

find out how much E-HRM, AI, and employee empowerment impact things like service quality, staff productivity, and consumer loyalty.

By providing a transparent view of the correlations between the research variables, the findings from these statistical techniques aid in rejecting or accepting the research hypotheses. In the fourth chapter, the complete results and interpretations of these studies are laid forth.

3.8 Conclusion

The research technique used to examine the links between E-HRM, employee empowerment, AI, service quality, customer loyalty, and employee productivity is described in this chapter. In order to meet the study goals in a scientific and trustworthy way, the methodological framework was meticulously created.

Presented at the beginning of the chapter was the study design that was based on the research onion model. This model offered a structured approach to choosing the best research philosophy, methodology, strategy, and data collecting procedures. The study used a positivist ideology and a deductive method, both of which are well-suited to quantitative research, to explore theoretical relationships between variables.

Highlighting that the study was limited to clients and staff of particular banks and medical facilities, the chapter further explored the research population and sampling procedures. To make the most of limited time and resources, we used convenience sampling to choose a subset of respondents to our survey.

The data collecting approach was also covered in this chapter. It included giving a standardized questionnaire using a five-point Likert scale to assess the main aspects of the research. In addition, the study used primary and secondary data to provide a thorough grasp of the research issue.

At the end of the chapter, we cover several statistical analysis techniques, including descriptive statistics, reliability testing with Cronbach's Alpha, and regression and correlation analyses.

Using these statistical tools, we tested the research hypotheses and looked into the connections between the study's variables.

As a whole, the methodology laid forth in this chapter makes the study that follows much easier to understand and implement. In the following chapter, we will provide the statistical results that were generated from the data that was gathered. We will also explain how these findings relate to the study's assumptions and objectives.