

Impact of Staff Competencies, Automation, & Accountability on Effective Procurement: A study from NGO Sector of twin cities



By:

Ahsan Basharat Hussain

01-220191-001

MBA 3.5

Supervisor:

Sir Raja Khalid Hafeez

Department of Business Studies

Bahria University Islamabad

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Names of Student(s):

- Ahsan Basharat Hussain 01-220191-001

Class: MBA SCM 3.5

Approved by:

Raja Khalid Hafeez

Supervisor

Dr. Rafeeq Ahmed Khan

Internal Examiner

Saqib Mushtaq

External Examiner

Dr. Syed Haider Ali Shah

Research Coordinator

Dr. Khalil Ullah Mohammad

Head of Department

Business Studies

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Abstract:

This study's primary objective is to assess the impact of staff competency, automation & accountability on effective procurement. A study from NGO sector of twin cities of Pakistan. Because the official apparatus is ineffectual and business is unable to provide effective development mechanisms at the grassroots level, NGOs play a crucial role as a third sector alongside the state and business sectors. NGOs working inside Pakistan faces a lot of challenges, one of the major challenges is accountability in using the resources that have being procured for helping needy people. NGOs are aware that they need to put their primary attentions on developing efficiencies and that they urgently need to establish a procurement system within their organizations. To be accountable in all the processes that NGOs do, they should develop an automated procurement structure. There is numerous aspect that explain the literature in term of efficient procurement. Furthermore, the study looks at which variables are most relevant in the field of procurement process. With the use of questionnaire design, the study uses a quantitative method to check its hypothesis in NGO Sector. There are five sections in questionnaire that will determine the impact of staff competency, automation & accountability on effective procurement. A total of 200 people were contacted from different NGOs and INGOs of Islamabad and Rawalpindi, the data was analyzed using statistical method and SPSS software. In descriptive analysis, table and their analysis were employed, while in inferential analysis, the regression approach was employed to evaluate the hypothesis. These strategies were adopting to learn more about the issue in depth. This study will help the policy makers to improve their processes in procurement by using the studied variables NGOs could be more efficient and accountable for everything they do, and that will help them to gain more trust. It will also help the policy makers which functions and areas of the procurement should be focused more to achieve max level of performance.

Keywords:

Automation, Accountability, Staff Competency, Effective Procurement, Procurement Process, NGOs, INGOs.

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CHAPTER 1

1. INTRODUCTION

1.1 Background of Study

Due to the inefficiency of the official apparatus and the failure of business to provide an efficient development mechanism at the grassroots level, the NGO sector in Pakistan is increasingly becoming a third sector alongside the state and business sectors. (Rehman, M. 2019). According to PCP (Pakistan Centre of Philanthropy), According to an agency that certifies NGOs and charitable institutions, there are between 100,000 and 150,000 NGOs and international nongovernmental organizations operating in Pakistan. Registering as a non-profit company under the company ordinance law, will may have to face more accountability.

An NGO should have a sound procurement system since it helps to ensure that products and services are bought in an open, honest, and competitive market and are worth the money. Additionally, it reduces the likelihood of abuse. Most of the NGOs in Pakistan are doing procurement processes through PPRA rules and some of the NGOs are doing customized procurement manuals for their procurement process. According to the Maczka & Hanfield (2012), effective procurement in any organization will enhance its productivity, hence it is very important factor for the NGOs to be more efficient in procurement so that they can go ahead with respect to other NGOs in Pakistan.

Furthermore, Recent Government in Pakistan is cracking down on NGOs, so the adoption of a procurement system with sufficient checks and balances is crucial for NGOs in order to prevent potential fraud or corruption and to improve accountability in the use of public funds.

For an NGO, a solid procurement system is crucial since it will ultimately enable them to guarantee that the products and services are acquired in an open, equitable, and competitive manner and that they are worth the money spent. It also aids in reducing or minimizing the likelihood of abuses and mistrust being directed at this sector. In addition to the instructions and guidelines that the Development Sector may occasionally provide, best practices in the NGO sector will assist them in creating a checklist of good practices for the purchase of products and services. (Ngetich S K. 2017).

Procurement process is a complicated process that encompasses all aspects of organizations management, from suppliers through the after-sale services, every process in procurement needs a competent staff that efficiently complete the assign tasks which provides the

competitive edge to any organization (Mukhlis et al., 2017). The need of automation in NGO sector will help them to be more responsible and answerable to the criticism against them, which will alternatively ease their processes and can be beneficial for the society as well as for state.

1.2 Problem Statement

According to Anzar, Uzma 2002 rural poor don't trust government schemes therefore NGOs in Pakistan help to ease the lives of rural poor, for doing so, NGOs need to efficiently and effectively procure the goods/services for the rural poor, which help them to be more competent in NGOs Sector of Pakistan and alternatively help them to gain more trust from State and Society. Efficient procurement ensures the quality of product and services of any organization whether it is a NGOs or any service/manufacturing firm.

The aim of this proposal is to study how Staff Competency & Automation in a NGOs impacts on its effective procurement process for an NGO. Recent studies revealed an association between businesses' levels of strengthened internal and external integration. and an increase in the organizational efficiencies which improves the customer satisfaction, customer support and cost reduction.

For NGOs it is very crucial for them to be cost savior in their buying to save more funds to future utilization, automation in the procurement processes with a competent staff who is accountable for their actions and work can be more beneficial for the NGOs to gain more funds and trust from the state and public, which will help them to survive in the market. One of the most important roles in public institutions is procurement, which must assure both the effective use of public resources and the timely provision of services.

In the procurement process, contracts are made with suppliers and then those contracts are fulfilled. The procurement department's primary accountability lies with the administration that manages the procurement contracts. Due to their connections to foreign nations, NGOs in Pakistan have recently come under fire, and they are not subject to audits for their work.. To be more accountable in the processes and NGOs need to bring accountability in their processes with automation.

1.3 Objectives of Research

- To determine how automation may affect efficient procurement in a Pakistani NGO sector.
- To determine how employee competencies affect efficient procurement in Pakistan's NGO sector.
- To determine how accountability affects efficient procurement in a Pakistani NGO sector.
- To Find How NGOs achieve competitive advantage through effective procurement.

1.4 Research Questions

- How Automation impacts on effective procurement in an NGO Sector of Pakistan?
- How Employees Competencies impacts on effective procurement in an NGO Sector of Pakistan?
- How Accountability will impact on effective procurement in an NGO sector of Pakistan?
- How NGOs achieve competitive advantage through effective procurement?

1.5 Limitation

Limitation of this study is that three variables i.e., staff competency, automation & Accountability were taken to see the impact on effective procurement but in future more variables like IOT, ICT can be considered. Furthermore, NGOs that belong to different cities of Pakistan like Karachi and Lahore can also be consider for this study in future.

1.6 Scope of study

This study is conducted in only twin's cities of Pakistan i.e., Rawalpindi and Islamabad. Local and International NGOs from these twin cities were selected to take the data for questionnaires. This study will identify the impact of Staff Competency, Automation and

Accountability on Effective Procurement, as both these variables play important role in a procurement function of any organization.

1.7 Significance of study

For being efficient in the procurement processes the NGOs need to adapt the merit-based selection of suppliers who can provide the timely and ease supplies to the required destination, this is only possible through the automation in the procurement processes. Most of the organizations look for a supplier who can provide good quality material and is very efficient in lead time, information and communication, and have network with other suppliers around the globe. For NGO sectors that is known as the development sector of Pakistan it is important that they should shortlist the vendors and select the suppliers that can provide the required quality on time.

Since the current study's goal is to additionally investigate the fundamental causes of variables, the outcome of the present study may suggest a shift towards such organizational designs that impede the emergence of improved overall process of efficient procurement. Furthermore, the present study thus strengthens the argument that various factors are vital aspects that are extremely important to unleash performance of NGOs & INGOs Sector of Pakistan. This study will significantly assist the funds provider to raise more funds for the Development Sector of Pakistan.

1.8 Ethical Consideration.

Ethical considerations were made when gathering the data for this study. After receiving approval, a questionnaire with a Likert scale was created and completed by NGO and INGO staff. The space of mentioning the name was made optional for the respondent in order to protect their privacy.

CHAPTER 2

LITERATURE REVIEW

2.1 Effective Procurement

One of the most crucial roles in every organization is procurement, which ensures the effectiveness and efficiency of resource use as well as efficient service delivery. The person in charge of the organization's procurement should make the purchase, and all processes should be checked in accordance with that. Effective procurement also known as in-depth knowledge of what is required by the organizations. Procurement includes actors that play different roles to make it effective and all actors should participate their roles for the success of the procurement as it is a complex function to perform (Sadiq, H. 2020). NGOs supply chain required proper accountability, The procurement process in an NGO should ensure the needs of different department and the procurement rules, objectives, standards, and procedures should represent an NGO's main objective in order for projects to be completed on schedule and effectively. (NRSP, 2018). Furthermore, A successful procurement enables both parties to a contract to fulfil their duties and accomplish the goals set forth in the procurement process. (Bhardwaj. 2011). The Objective of effective procurement is to fulfill the needs of the organization and the stakeholders. Effective procurement carryout all the activities in a manner that best enables the organization to attain their goals and objective of project agreement in compliance with applicable procurement procedures. NGOs with having effective procurement within their organizations can lead them to better manage their services, facilities, supplies and resources. It will also provide the data to organizational staff and to donor for planning, monitoring, and evaluation.

Christopher (2005) recognized highlights of a responsive association. Capabilities to process, benefit to execute, items to clients, stock to data, exchanges to connections—these are all significant shifts. Basic proportions of acquisition execution should be persistently checked. 'Key Performance Indicators' (KPI) that's what structure proposes though there are many proportions of obtainment execution to be sent in an association, just few basic aspects offer more than proportionately to progress or disappointment. A decent scorecard can give

direction on basic regions where activity might be expected to guarantee accomplishment of objectives. Three vital results of accomplishment are: better, quicker, and less expensive. The objectives join client-based proportions of execution regarding all out quality with interior proportions of asset and resource use. Benchmarking identifies present best practices, then focuses on how cycles should be redesigned and determined how to achieve excellence in fundamental acquisition locations. Accentuation ought to be on look for systems that offer unrivaled benefit according to clients looking for more prominent responsiveness and dependability.

Additionally, there is a connection between automation and effective procurement. To shift from being reactive to proactive and achieve the specified goals and degree of performance through automation, procurement performance begins with the purchase of efficiency and effectiveness in the procurement function. (Van Weele, 2006). Automation and Accountability gives the fundamental tools for any business to assess how well it is moving toward its predefined goals. It also identifies the procurement function's strengths and weaknesses and the primary activities that must be taken to reach those goals. Performance in procurement is a tool to govern and monitor the procurement function rather than being an aim in itself.

According to Tracy (2014), Efficiency in procurement is very important and the same way is very critical function for the development sector as they depend upon the supplier's selection, their quality and accountability, service, information and communication. They have to utilize the public funds and the supplier selection with its lead time & quality make them accountable for their processes. Lead-time and proper procurement planning with the measurement of all basic instruments which improves the efficiency of procurement is directly link with the performance of organization. Gonzalez and Quesada (2015) stated that if the firm in any industry wants to achieve the productivity in terms of quality of the product the most important and key thing is that that particular organization should have a clear focus on the procurement function and that function should be integrated with their other functions as well, this will help them to create synergy which results in creating a competitive edge. If their purchase is handled efficiently, it has a favorable impact on the organization's competitive advantage. Effective procurement in any industry is very complex process as it comprises many procedures, stages, ministries, agencies etc. beside this many rules and

regulations which are to be followed during the process of procurement and all of the mechanism must be obeyed successfully Percy & Giunipero (2015).

According to Peter (2012), a good procurement plan should portray the cycle in detail in order to identify appropriate providers with authority. The items that are anticipated to be acquired are described early on, and the steps involved in doing so are then thoroughly explained. Finally, a time slot for transportation has been reserved. In addition, in light of Quentin (2003), procurement arranging is significant because of the accompanying reasons in particular, it allows organizers to determine whether assumptions for the mentioning elements, which typically expect their requirements met without prior notice over a more limited period than the use of the corresponding procurement technique permits, are reasonable. Additionally, it gives all partners involved with the cycles the chance to come together to examine specific procurement requirements.

2.2 Staff Competency

According to Telewa (2014), staff competency is a collection of comparable traits that helps a person to perform his or her job in an effective manner. It also enables a person to act effectively in a given position or circumstance. Armstrong and Baron (1995) define competency as the application of knowledge and skills, performance delivery, and the conduct necessary to do things extremely effectively. According to Aketch and karanja (2013) Competent behavior is made possible by having the knowledge and abilities to act appropriately in a variety of circumstances. Lack of sufficient information in the field of procurement is crucial and can impede the process, which also involves breaking norms of behavior. (Russell. 2004).

Many businesses, according to Banda (2009), lack the qualified personnel with the necessary knowledge and abilities to conduct efficient procurement. Furthermore, Sultan (2012) explained that it is important for organization to make it employees contribute toward its aim and goals that could help organization to performance effectively. Therefore, competent staff is very important that ensure the effectiveness of the procurement in NGO sector, As Hamza, S.B. & Gerbi, A. (2016) explained that Competence may make sure that the appropriate person in the organization is made aware of the advantages of new products and services. According to Nzau, A. (2014) Competencies are an aspect of an organization's intangible

resources, which are emphasized as strategically significant resources for achieving a sustained competitive advantage.

Smith & Conway (2009) identified seven main factors that influence procurement, Competencies are an aspect of an organization's intangible resources, which are emphasized as strategically significant resources for achieving a sustained competitive advantage. A last element is very important for the procurement process and that is communication internal and external, Competent staff should be able to develop this skill through training in order for communication to become effective at all levels and become a crucial component of the organization's success. They should also be able to develop a procurement strategy that could lead to continuous improvement in value for money. Based on total cost, quality, automation, and the improvement of suppliers' competitiveness through better procurement procedures.

According to Saunders (1997), the caliber and capability of the employed employees determines how well organizational systems and creating plans control systems operate. Data on the acquisition, development, usage, and reward of human property should be included in strategic planning. The benefits of training far outweigh the investment in terms of returns. All employees require extensive and continuous training in order to further the objectives of cost-based management. Education, education, and professional development must follow a strategic course that is ability, method, and continuously oriented since its status may alter.

Leander's and Fearon (2002), noticed enormous things in many numbers, immense financial volume included, need for a review trail, serious outcomes of terrible showing, and the likely commitment with the procurement function and there are no of reasons to develop a sound procurement system. They further assert that skills are essential for esteem-based management, which calls for employees to assess and improve processes while boosting team performance. Furthermore, capabilities improve staff capacity to perform, empowering them to go with better choices, fill in collectively, and adjust to change, while expanding proficiency, quality, efficiency and occupation fulfillment. Preparing is frequently for working on prompt work while instruction creates individuals for the long term. To empower people to make esteem reliably, both schooling and preparing are required.

Additionally, Cousins (2013) emphasized the need to examine each procurement staff member's educational background due to the growing popularity of the purchasing partnership mindset. With procurement apparent development from an administrative support

of an essential business work, the type of staff as far as preparing, training and abilities should increment to live up to its essential potential. The creator attested that representative need to master new abilities for further developing work execution. Procurement contains a wide scope of SC cycles, for example, the executives of significant worth examination processes, provider dealings and quality confirmation; and supply statistical surveying as well as early provider contribution in cycles like improvement of details logistics. Higher expert abilities are required for improved execution in this.

Procurement experts need a bunch of adaptable abilities because of changing neighborhood government settings. No single ability can be satisfactory to deal with the acquirement arrangement of extraordinary intricacy in neighborhood government frameworks. Procurement errands request experts with undeniable level key, strategic as well as functional abilities. These abilities ought to possibly take a more extensive production network multi-disciplinary and integrative methodology.

2.3 Automation

Automation is the use of technology to gather, select, calculate, and analyze data. Users can make decisions and control processes more effectively with the aid of automation. (Hoff, K. 2015) (Huang, H. 2017). According to the Williamson (2002), Automation is a term which is associated with the mean to get and utilize a new innovation. Procurement is the core activity for many businesses and automation in the procurement will empower the business in no time (Cui, R. 2020). Staff competency will increase productivity, and the automation of procurement necessitates an IT system to digitalize its procurement procedures (Benzidia, 2013). Globally supply Chain have deployed procurement to engage its base and the resulting globalization is the main source of automation (Viale, L. & Zouari, D. 2020). As NGO is mostly involved in purchasing side according to the Aman and Kasimin, (2011) Automation in procurement will effectively monitor all the works and services. Furthermore, Eziyi, O. Ibem and Laryea, A. (2014) explained that Automation has become increasingly common in various companies over the past fifty years. It can boost productivity, production, marketing, and procurement of goods and services. The procurement process like material ordering and others, for an organization can be done automatically by ERP – systems (Kleemaan, G. 2016) or cloud-based Kanban System (Shahin et al., 2020)

The effectiveness of procurement is impacted by automation. According to Leenders & Fearon (2002), The requirement for good supplier performance is underscored by decisions to improve the purchasing of goods and services that increase product quality, reduce inventory costs, integrate supplier and buyer systems, and foster cooperative relationships. The current trend is toward automation, which includes long-term contracts, e-procurement, and increasing the quality, price, and service of suppliers. This calls for coordination and communication between the procurement and other partners. One of the primary methods of supply chain automation is using electronic means.

Each stage of automation for procurement procedures has the potential to lower the risk of corruption. According to Matechak (2002), there are three main stages in the acquisition process: planning and organizing the acquisition, seeking the acquisition, and awarding and executing the contract. The five steps of the acquisition process are proposed by Szymanski (2007) as follows: acquisition planning and needs assessment, item plan and documentation, delicate cycle, contract grant and execution, and bookkeeping and review. Recognizable evidence of the debasement gamble included a lack of transparency, a restriction on access to data, and a lack of accountability and control at every stage. According to Product et al. (2012), the four steps of venture recognizable proof and configuration are advertising, prequalification, archive arrangement for bids, and accommodation of offers; bid evaluation, post-capability, and award of perpetual contract execution, organization, and oversight. Automation can consolidate data to enhance audit and analysis. It can also remove direct human interaction from bids and other work and services. As a result, corruption is considerably reduced and internal departmental efficiency is increased. By boosting openness in work and services and keeping track of all data in the procurement process, it facilitates improved communication between suppliers, vendors, and citizens (Adebiyi Ayo & Adebiyi Marion, 2010). The use of an online invoicing system automatically lowers bidder cartel, collusion, and rigging (Pathal el al., 2016).

Enterprise resource planning (ERP) systems are essential for allowing internal data exchange, according to Sriram and Stump (2004). To facilitate data sharing with clients and providers remotely, inter-organizational information systems (IOIS) made up of shared computerized data frameworks by many businesses might be used. Through its ability to store, communicate, and manage data, ICT contributes to further developed interchanges designs, increased enthusiasm for coordination of joint exercises, and new authoritative designs. It also speeds up between hierarchical exercises. Associations have a tone of undeveloped

acquisition data, but they struggle to convert it into market data. In order to clarify and advance serious procurement execution, they should try to uncover patterns, examples, and relationships in the material.

2.4 Accountability

Accountability in procurement is the responsibility for any actions and decisions, as well as the requirement to inform or respond to a specified oversight agency with the results of those actions and decisions (Jorge Lynch., 2017). Any activity that violates the public procurement legislative framework and principles exposes a procurement practitioner and those involved in the procurement process to sanctions as a remedy. Accountability includes the idea of carrying out procurement activities in a way that can be traced and defended, is transparent and consistent, meets and manages stakeholders' expectations, is fair and transparent, and abides by ethical norms sets within group and organizational setting in order to be more advantageous to gain trust and funds from the stakeholders who will provide financing to be used in a non-governmental organization (Schnequa N. Diggs., 2012). Accountability emphasizes how the procurement process is dynamic, intricate, and ever-evolving since it is influenced by the timeline, environment, and constraints that are there. Additionally, when everyone is in agreement that the procurement process and procurement specialists must be responsive and responsible to stakeholder, it must be fair and equitable, and it must maximize the value for the company in return by using public funds. Accountability compels the employees to follow these guidelines.

One of the four main problems that arise while working to build capacity with local and national governments is accountability. When both duty bearers and right holders fulfil their commitments, accountability occurs (UNDP 2008). This theoretically connects responsibility to the three concepts of "inclusive rights for all people, the right to participate, and the obligations of states and other duty bearers to preserve and promote the achievement of rights" (Gaventa 2002). It's crucial to make people seek accountability when doing so would be difficult in order to establish accountability. However, seeking account has become an implicit and perhaps indirect expectation due to the area's rising importance and the ease with which information may be accessed Kearns (2006).

Accountability plays an important role in implication of a proposed administration change in a procurement procedure. When faced with a decision, a procurement specialist makes an

effort to predict, to some extent, how the stakeholders would respond. Being responsible for one's actions while engaging in procurement process activities is essential; doing otherwise will negatively impact the process' performance. This also covers expectations and pathways for responsibility. Theoretically, this supports the notion that Friedrich and Fener's (2007) dimensions of accountability are insufficient; nonetheless, the reconciliation does provide an appropriate foundation upon which to construct an adequate understanding (Acar et al., 2008).

They compose that accountability matters since it assists with guaranteeing that applicable substances reply to the people who will be impacted by choices or moves made by them. Accountability can decrease defilement and different maltreatments, guarantee consistence with principles and methodology, and further develop execution and hierarchical learning. It likewise requests that establishments make sense of and legitimize their outcomes to interior and outside screens or partners and force sanctions when execution misses the mark or defilement is found (Schedler A., 2005)

Accountability is the "tool that makes people or offices responsible or sensitive to their specific publics," according to Vain. T. & Forete. G. (2017). Accountability, according to Vian and Kohler (2016), refers to the mechanisms that enable foundations to be receptive to the audiences they serve. That's what they compose accountability matters since it assists with guaranteeing that important substances reply to the people who will be impacted by choices or moves initiated by them. Accountability can diminish defilement and other manhandles, guarantee consistence with principles and techniques, and further develop execution and authoritative learning (Brinkerhoff DW., 2017) (Vian T, Kohler JC. Medicines 2016) (Vian T, Savedoff W, Mathisen H., 2010). It likewise requests that organizations make sense of and legitimize their outcomes to inside and outer screens or then again partners and force sanctions when execution misses the mark or defilement is found. In an unexpected approach, responsibility is defined as the point at which "An is responsible to B when A is obligated to inform B about A's (past or future) behaviors and choices, to justify them, and to face punishment due to potential wrongdoing".

2.5 Research Hypothesis

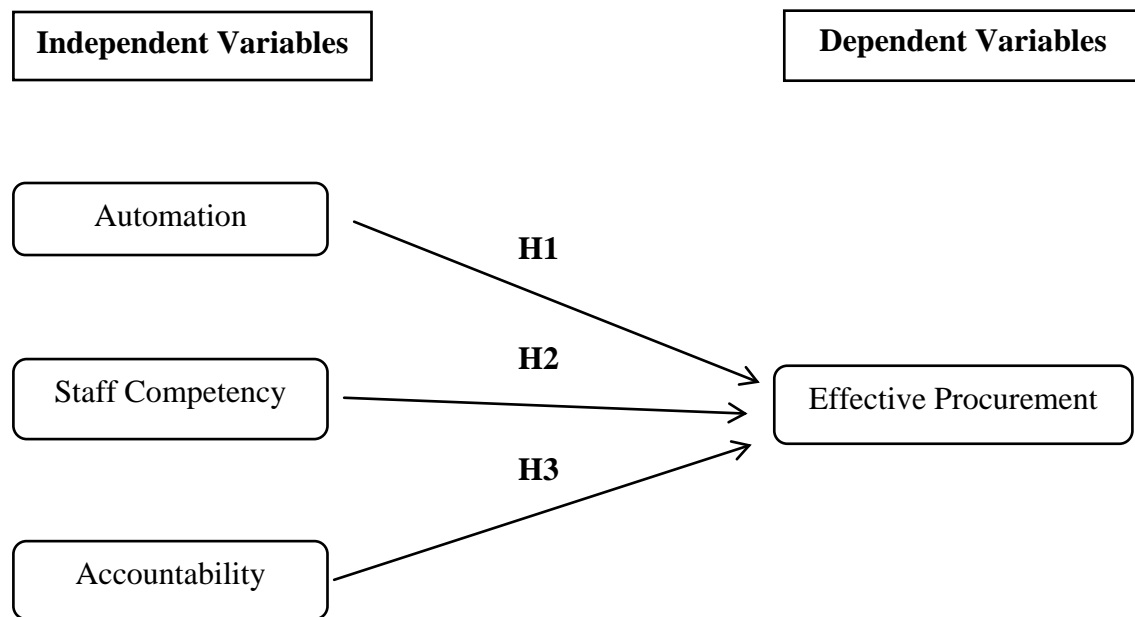
H1: Automation has positive impact on effective procurement.

H2: Staff Competency has positive impact on effective procurement.

H3: Accountability has a positive impact on effective procurement.

2.6 Conceptual Framework

Framework has been taken from the impact of factors that influence procurement performance by Gamble (2016), Published in International Journal of Economic Development.



CHAPTER 3

METHODOLOGY

This chapter contains information on the technique, approach, and research design used to carry out the current study. In order to conduct the study, questionnaires that were particularly created with questions addressing the effects of automation, employee competency, and responsibility were used. This chapter has been separated into portions so that each segment covers a methodology-related topic in depth, such as population, data source, and study factors, as well as the methods used to analyze the data in current research.

3.1 Research Design

This research is quantitative in nature. The reason of using quantitative approach is that it is a systematic approach to collect information via questionnaires. The design of this research is cross-sectional. In quantitative research, random sampling is used to examine how automation and personnel competency affect efficient procurement. The research design also employs a deductive method to speculatively investigate current theories that are pertinent to the study object. Deductive method to determine whether conclusions may be drawn from a research outcome. The best method for creating a framework for determining the relationship between variables and concepts is deductive (Wilson, 2010).

De Vaus (2001) defined the research design as an outline to gather, assess and examine the data to reach a conclusion. Yin (2009) further emphasized by referring it to as base of

research, without it the conclusion drawn will fail to answer and fulfill the research questions and objectives. Kumar (2019) has addressed three types of methodologies when conducting a research study. The term "Qualitative methodology" refers to a methodology that gauges the emotions and sentiments of the subject. "Quantitative methodology" study statistical variations between variables and "mixed methodology" are a blend of quantitative and qualitative information. This research is being studied under quantitative methodology.

3.2 Research Type:

This research is cross-sectional. It focuses on collecting data from one group at one certain occasion. Salyer (2021) identified cross-sectional study as the best option when examining the prevalence of an outcome at a specific time. The type of this research is explanatory in nature as it will investigate the phenomenon that is not studied in depth in NGO sector of Pakistan. Explanatory research is appropriate for the current study since it will aid in comprehending the research topic more effectively. The problem of the study hasn't been completely investigated in the past, especially in the context that this study has chosen.

3.3 Data Source:

The primary data source for this study is a standardized questionnaire that was used to collect the data. Reasons for selecting the primary data is that it provides the better accuracy in results, higher level of control, and up to date information to prove hypotheses of this research. The data is collected to investigate the relationship between variables is collected from the responses from the employees working in NGOs & INGOs with in the Pindi & Islamabad, that they provided against specifically designed questionnaire with 5 Likert scale.

3.4 Research Philosophy

Saunders (2015) has proposed 4 types of research philosophy. This study uses "Positivism" Philosophy which believes that only knowledge that has been obtained by observation, including measurement, can be trusted. The basis of "Positivism" is quantitative observations that result in statistical analyses.

3.4 Data Analysis:

This research uses convenience sampling strategy to make samples and tested hypothesis with the help tool i.e., SPSS version 21.0 which is develop by IBM and data is analyze through statistical technique such as correlation and regression are used as well. This study uses Likert scale in questionnaire to gathered data and then analyze accordingly through the tool and technique.

Measurement table is given below:

S. No	Variables	No of Items	Design Criteria	Source
01	Effective Procurement	06	Adopted	Mikalef, et al. 2013
02	Automation	06	Adapted	Barbieri, et al. 2019 (The PTT scale of 6-item)
03	Staff Competencies	10	Adopted	Hamza, S B 2016
04	Accountability	05	Adopted	Han, Y 2020

3.5 Population Sample

According to ICT Administration there are at least 1000 NGOs and INGOs are actively working in twin cities of Pakistan. This research focus on top 5 NGOs and 5 INGOs in twin cities of Pakistan. Around 700 fulltime and volunteer employees are working in these 10 INGOs and NGOs in twins' cities of Pakistan. A total of 300 questionnaires was sent to INGOs and NGOs in twin cities, the response rate is 60% excluding the unfilled questionnaire. This research has utilized deductive approach which is concerned with creating a hypothesis based on a theory already in existence, and then establishing a research method to test the assumption made on base of theory (Jahn, 2011). This approach has four parts as

identified by Abdugarimova, (2021), creation, formulation, gathering, and analysis of hypotheses.

3.6 Statistical Tools:

3.6.1 Correlation Analysis

A statistical tool known as correlation analysis illustrates the strength and direction of the relationship between dependent variables (such as effective procurement) and independent factors (automation, staff competency and accountability).

3.6.2 Regression Analysis

A statistical tool known as regression analysis illustrates the strength of the link between dependent variables (such as effective procurement) and independent factors (automation, staff competency and accountability).

3.6.3 Reliability

An inner consistency metric, or how closely a group of items are related, is the Cronbach alpha. It serves as a gauge of the scale's dependability. A high alpha value does not necessarily indicate a one-dimensional computation.

CHAPTER 4

DATA ANALYSIS & RESULTS

4.1 Data Analysis

The results of the data gathered using the structured questionnaire have been reviewed in this section. The reader will have a thorough understanding of the entire body of information, including how it was organized, where it came from, and the histories and credentials of those who contributed to it, by the time this part is finished. In relation to this study.

SPSS statistics is used to test the data. The researcher presents the data's findings in this chapter utilizing the reliability test, correlation, regression, ANOVA, and coefficients approaches.

4.2 Demographic description

To make it simpler to understand, the researcher has separated the data she collected into various classifications. The sample size consists of workers from Pakistan's development sector. The development sector responds to this research from Islamabad and Rawalpindi. The demographics were divided into groups based on gender, age, and experience. There were three categories of responses from the 179-person sample of NGOs employees: management, executives, and junior workers. Five NGOs from Islamabad and Rawalpindi were selected for this study.

4.2.1 Managerial Position

out of 179 responders representing various managerial positions from various apparel companies and divisions. Lower-level managers, middle-level managers, and upper-level managers are three different levels of managerial employees. Upper-level responses made roughly 27% of the total. 34.4 percent came from lower-level managers, 38.6 percent from middle-level managers.

4.2.2 Experience

Experience of respondents was also categorized into 4 sections. One was below five years, second was below ten years, third was below fifteen years and fourth was below the twenty years.

4.3 Cronbach Alpha.

Table 1
Reliability Statistics:

Variables	Accepted Range	Cronbach's Alpha	No of Items
Automation (AM)	0.70 – 0.95	.829	6
Staff Competency (SC)	0.70 – 0.95	.758	10
Effective Procurement (EF)	0.70 – 0.95	.701	6
Accountability (AC)	0.70 – 0.95	.896	5

In terms of this investigation, the Cronbach's alpha values provided by reliability statistics are very respectable. The precise source, the coefficient of reliability, provides information on the degree to which chosen items in a set have positive connections with one another. The Cronbach's alpha values clearly demonstrate the better level of consistency and reliability that the questionnaire employed for the majority of the study's research possessed. The independent variables Automation, Staff Competency, and Accountability all have Cronbach alpha values of .829,.758, and.701, respectively, indicating that they meet the standards for acceptability.

The values of Cronbach's alpha, which fall between the established standard of 0.7 and 1.00, are quite close to 1, demonstrating the reliability of the questionnaire utilized as well as the dependability of the responses provided by the respondents. This Cronbach alpha demonstrates the higher consistency in the Likert scaling and the genuine and understandable nature of the floating questionnaire used in this quantitative study.

4.4 Correlation

Correlation measures the strength of a link between two variables. When there is a strong association between two variables, the correlation is considered to be high or strong in comparison to a relationship that is weak or low. When the correlation is low, it denotes that the variables are not very closely associated to one another.

Correlation analysis is the process of analyzing the strength of relationships utilizing the data that is already available. A correlation coefficient's range is between -1 and +1. When the value of the correlation is negative, or -1, it means that when the value of one variable decreases, the value of the other variable increases. In contrast, when the value of the correlation is positive, or +1, it means that the value of one variable increase along with the value of the other variable.

the correlation coefficient that Pearson r most frequently uses. The two variables under analysis are assessed on an interval scale using increasing values. In this study, the Pearson correlation was also employed to determine the link between the two variables.

Table 2
Correlation:

		Automation	Staff Competency	Effective Procurement	Accountability
Automation	Pearson Correlation	1	.570**	.541**	.558**
	Sig. (2-tailed)		.000	.000	.000
	N	179	179	179	179
Staff Competency	Pearson Correlation	.570**	1	.798**	.771**
	Sig. (2-tailed)	.000		.000	.000
	N	179	179	179	179
Effective Procurement	Pearson Correlation	.541**	.798**	1	.814**
	Sig. (2-tailed)	.000	.000		.000
	N	179	179	179	179
Accountability	Pearson Correlation	.558**	.771**	.813**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	179	179	179	179

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

The association between automation and staff competency is significant at the 0.01 level, has a magnitude of .570**, and is moving in the right direction, according to the aforementioned data. Similarly, there is a significant and positive association between automation and effective procurement, with a magnitude of .541**. Additionally, there is a positive link between Staff Competency and Effective Procurement that is significant at the 0.01 level and has a magnitude of .789**. Furthermore, the relationship between automation and

accountability does exist, and it is very significant at the 0.01 level with a magnitude of .558** and is going in the right direction. The association between staff competency and accountability is also significant at the 0.01 level and has a positive magnitude of .771**. Additionally, the link between Accountability and Effective Procurement is significant at the 0.01 level with a magnitude of .813** moving in the right direction.

4.5 Regression

Regression analysis is a different phrase used in the data analysis process. This step is crucial for figuring out if the relationships between the variables are independent or dependent, and whether they are directly or indirectly proportional. The variables in this study were subjected to a linear regression analysis. These results, when compiled from the entire procedure, can offer the most pertinent and reliable information.

Table 3

Regression:

Hypotheses	Regression weight	R	Beta Coefficient	R ²	Adjusted R ²	t-value	p-value
H1	AM → EP	.617 ^a	.617	.381	.377	5.868	.001
H2	SC → EP	.834 ^a	.834	.695	.695	.291	.000
H3	AC → EP	.836 ^a	.836	.699	.698	4.091	.000

Regression analysis's model summary is shown in the table above. R denotes a straightforward association. For Hypothesis H1, the value of R is .617, which strongly suggests that the independent variable Automation and the dependent variable Effective Procurement have a high degree of connection. Similar to H1, H2's R value is .834, which indicates a great degree of association between staff competency and successful procurement. Additionally, the value of R for H3 is .836 which strongly suggests that Accountability and Effective Procurement have a high degree of association. R² displays the percentage change from dependent to independent variables. R² for this study is exceptionally high at .381, .695, and .699, respectively.

The independent variable automation can have a significant impact on the dependent variable effective procurement (b=.617, p .001), just as staff competency can have a significant impact

on the dependent variable ($b=.834$, $p .001$) and accountability can have a significant impact on the dependent variable effective procurement ($b=.836$, $p .001$). These results demonstrate that all independent variables have a favorable impact on the dependent variable, which is efficient procurement.

4.6 ANOVA

ANOVA aids in determining whether differences between groups of data are statistically significant, just like the t-test does. It functions by examining the levels of variance present within each group using samples drawn from each.

There is a greater likelihood that the mean of a sample taken from the data will deviate by chance if there is high variance (spread of data away from the mean) within the data groups.

	Model	Sum of squares	df	Mean Square	F	Sig.
1	Regression	25.977	3	8.659	187.812	.000 ^b
	Residual	7.746	168	.046		
	Total	33.723	171			

- a. Depended Variable: EPM
- b. Predicators: (Constant), AMM, ACM, SCM

According to the results of the ANOVA, the model's F value is greater than 4 and its significance value is less than .05. It has therefore been clear that the model has statistical significance.

4.7 Data Findings

Variables	Significance Level	Result	Hypothesis Statement
Automation	0.000	Positive Impact on Effective Procurement	Hypothesis accepted
Staff Competency	0.000	Positive Impact on Effective Procurement	Hypothesis accepted
Accountability	0.000	Positive Impact on Effective Procurement	Hypothesis accepted

CHAPTER 5

DISCUSSION, CONCLUSION, & RECOMMENDATIONS

5.1 Discussion

Like Developing sector many other sectors and industries use efficient procurement to recognize, identify, and contract with suppliers. The efficient procurement procedure makes extensive use of a company's financial resources. Managers, supervisors, and operations staff, among others, are procurement sector actors who might be crucial in the acquisition of goods and services for the development sector. In the meantime, expecting one or few providers to satisfy the demands of the companies is frequently ludicrous. As a result, businesses should rely on a variety of providers to ensure that their operations work smoothly. Thus, NGOs must need to analyze the primary determinants to make their efficiency level at its peak while seeking effective procurement process to be more accountable and answerable to the stakeholders. NGOs need to build their trust so that they can get more funds to help and develop the social problems of any state, they need to have a sound procurement system so that they could gain more trust from the state and stakeholders. The current study indicates that to have a sound procurement system in development sector requires the technical advancement in the procurement processes, it should be automated, processes will have a track system that will help the decision makers to take the future decisions. The players involved in the procurement process should be skilled and educated enough to be able to handle the automation as another sign that they are qualified to do so. Lastly, all the actors involved in procurement process should be accountable for every activity they do in the procurement process, this will enhance the productivity of their processes and give value in return. Finally, the findings of current study demonstrated that the respondents believed that the more the staff is competent with automation and accountability of its steps can makes the procurement more effieicient for the organization.

5.2 Conclusion

Procurement is the core function of any organization in development sector. Careful planning, data handling, feedbacks and reviews make this function easier than it looks. All NGOs in the development sector recognize the critical relevance of the effective procurement. The NGOs activities in any state is heavily influenced by effective procurement characteristics.

The results of this study show significant results that the managers, supervisors or any actor involves in the procurement process should know the importance of its task, he should the critical and dimensions of evaluation of the efficient and productivity performance. The criteria and dimensions will help NGOs to gain more growth and continuous development in any state.

Procurement process in any NGO is very important which required huge detail and accountability. Variables like automation, staff competency and accountability will ultimately play a huge role in order to make these processes more efficient. Procurement efficiency makes a significant contribution to productivity in any industry or organization.

Development sector uses a wide range of procurement techniques in order to boost efficiency by excelling in all supply chain activities and functions. All of the factors included in the study suggest that efficient procurement has a beneficial impact on the Development's sector productivity.

There are risks and vulnerabilities implied in the NGOs exercises e.g., political, lawful, worldwide, and natural. Productive procurement helps the NGOs in working on the cycle, frameworks, and business methodologies to perform well in every one of the tasks. Cost-efficient, quality committed, operations, rehearses in the advancement area answer as a central point for keeping up with ceaseless organic market with lesser the lead time

Because of the contribution of firmness and vulnerability in the advancement area including operations that affect lead time and stock stockpiling, the nature of the materials is the greatest test in this period. Automation, staff competency, and accountability improved the acquisition viability. NGOs can reveal open doors and kill dangers to set aside cash and time while accomplishing the greatest degree of efficient execution with the assistance of powerful and effective procurement of the executives.

5.3 Recommendation and Future Research

For an NGO, according to the current study, the most important drivers in efficient procurement are Automation, Staff Competency and Accountability, but they are not the only ones that have an impact on overall procurement system. Other consideration can be use to study further phenomenon regarding procurement such consideration can be financial competency, competitive price quotation, vendor clients' portfolios, technical competency, political stability, and prior performance in NGOs. This will help an NGO in development sector to remain in its given budget. There should be a political stability when the supplier goes over-buying for a cross. As we all know, we live in a global community with advanced technology, thus the provider prefers to work with international standards, which can only happen if political stability allows an NGO working in state to maintain and practice the international standards.

The current study is of quantitative investigations propose that the utilization of effective procurement the executives might expand the efficiency of the NGO. Consequently, experts in the improvement area might involve this outcome to make sense of funding and support for procurement and efficiency. The ability to track and assess success, an incremental or comprehensive approach to the efficient procurement plan is recommended. The accentuation will be on subsidizing the significant achievement drivers for the organizations to be laid out through examination. The report recommends that advancement area ask the public authority to authorize permitting limitations in view of the examination of outside components in acquirement, like political and monetary worries. Licensees who pay duties to the public authority are qualified for security from simultaneous criminal operations. the capacity to follow and survey achievement, a steady or thorough way to deal with the productive acquisition plan is suggested.

Since procurement concerns are indispensable to the improvement area, laying out a focal point of greatness for tasks would be valuable. The focal point of greatness for the advancement area will remember examination and firm advising for compelling acquisition techniques.

Concentrates on acquisition, money, and valuing models in light of overall prescribed procedures are empowered, especially in non-industrial countries like Pakistan, on the grounds that the discoveries can assist with settling issues that seem to create bottlenecks that hamper the NGOs seriousness. Moreover, the ongoing review utilized a small example size, making extrapolation of discoveries to different Pakistani development sector problems.

Studies on procurement, finance, and pricing models based on worldwide best practices are encouraged, particularly in developing nations like Pakistan, because the findings can help resolve issues that appear to produce bottlenecks that hamper the NGOs competitiveness. Furthermore, the current study used a tiny sample size, making extrapolation of findings to other Pakistani Development sector problematic.

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QUESTIONNAIRE:

Name: _____

Gender: _____

Maximum Education Level: _____

Working Organization: _____

Designation: _____

Work Experience: _____

SCALE:

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

	AUTOMATION:	SA	A	N	DA	SD
		5	4	3	2	1
AM1	I trust Automation					
AM2	Automation helps me solve many problems					
AM3	I think it's a good idea to rely on Automation					

AM4	I don't trust the information I get from Automation (R).					
AM5	Automation is reliable					
AM6	I can rely on Automation.					

	STAFF COMPETENCY:	SA	A	N	D	SD
		5	4	3	2	1
SC1	Staff training improves procurement performance					
SC2	Staff understand procurement procedure					
SC3	Organization motivate staff					
SC4	Organization value skills and experience					
SC5	Loss of key competencies affects procurement performance					
SC6	Procurement negotiation skills exist					
SC7	Staff creativity improves procurement performance					
SC8	Organization deploy staff based on their skills					
SC9	Analytical skill exists					
SC10	The ability to leverage interpersonal skills					

	EFFECTIVE PROCUREMENT:	SA	A	N	D	SD
		5	4	3	2	1
EP1	Procurement plays an important role in our organization					
EP2	Our organization understands the responsibilities of procurement department.					
EP3	Our organization consider procurement department role is to deliver the right material at right amount, place, time, and cost					
EP4	Procurement focuses on making processes efficient through purchase order in our firm					
EP5	A buyer-supplier relationship is considered as an important factor for procurement effectiveness in our organization					
EP6	Procurement is linked to production, which enhances our firm's profitability					

	ACCOUNTABILITY:	SA	A	N	D	SD
		1	2	3	4	5
AC1	What I do is noticed by others in my organization					
AC2	If I make mistake, I will be caught					
AC3	The exact contribution I make in my organization is recognized					
AC4	I am constantly watched to see if I follow my organization's policies and procedures					
AC5	I often feel that I am monitored by my supervisors.					

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