Role of Strategic Procurement in Projects Success in Construction Industry of Pakistan

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ABSTRACT

Procurement has evolved into strategy for quality improvement and production cost cutting to increase efficiency. Construction sector contribute a significant percentage to the GDP of any country. Strategic procurement practices are more interconnected and dynamic networks. In Pakistan, construction industry has been understudied and still relying on traditional procurement methods and practices. The objective of this research work is to scrutinize the key aspects of strategic procurement, correlation between them and strategic procurement and on project success in construction industry of Pakistan. This study is conducted through a broad survey of construction industry and focus is made on factors shape the procurement decision. During the research, both primary and secondary data were collected from big cities of Pakistan. Primary data collection was conducted through survey questionnaire covering the strategic role of procurement in project success. Data was collected from 249 respondents from 186 construction companies from different areas of Pakistan that includes Rawalpindi, Islamabad, Peshawar, Quetta, Karachi and other big cities through Non-probability convenient sampling technique. Sampling unit is managers and executives concerned with procurement and project management in construction firms. The collected sampling data was cleansed, purified and descriptive statistics and inferential analysis using statistical package for social sciences (SPSS) version 26 was employed to analyze the data. Findings of analysis confirm the strategic importance of procurement decision to project success. The finding show that project success has significant and positive correlation with strategic procurement ($\beta = 0.917$, $p = 0.000$) and strategic procurement mediates positive and significant with market forces and project success in construction industry of Pakistan. Practitioners will find this study useful to help them in enhancing procurement efficiency as compared to their corporate efforts. Researcher will similarly find details that extend body of knowledge by analyzing a large sample in depth that deals with role and effects of strategic procurement in project success. This study has presented implications by possible research gaps, trends and proposing new avenues for future research.

Keywords: strategic procurement, project success, supplier relationship, purchasing knowledge, supplier collaboration, process integration, information integration, organizational structure alignment, goal / outcome alignment.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICIES

ABBREVIATIONS AND ACRONYMS

AIA	American Institute of Architects
crf. / cf.	Cross reference
CSF	Critical Success Factors
CIPS	Chartered Institute of purchasing and Supply
e.g.	Example gratia
EJPM	European Journal of Purchasing Management
et al.	et alia
f.	Following Page
ff.	Following Pages
GA	Goal / outcome alignment
INFOINT	Information Integration
IPD	Integrated Project Delivery
IT	Information Technology
OS	Organizational Structural Alignment
p.	page
PK	Purchasing Knowledge
pp.	multi pages
PMBOK	Project Management Body of Knowledge
PS	Project Success
SC	Supplier Collaboration
SCM	Supply Chain Management
SP	Strategic Procurement
SR	Supplier Relationship
TI	Task/Process Integration
v.	Volume and Issue number

CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

Companies are facing more competition in market due to increased customer demand, innovative products and globalization. In Pakistan, construction is second most important sector that plays pivotal in GDP of country and has multiple forward and backward linkages with many other sectors. According to O' Brine (2011), well implemented procurement practices in an organization forms an accurate, quick and efficient toll that builds reliability and reduces cycle time thereby positively effecting organizational performance. The main purpose of this research is to scrutinize the impact of Strategic procurement on projects success in Construction industry of Pakistan. The field of strategic procurement performance and its impact on projects success is under explored in Pakistan and this research attempts to explore what factors are and how these factors are playing role in project success of construction industry.

1.2 BACKGROUND OF THE STUDY

Procurement has strategically over time been a leading player in the world's business structure, and thus ought to be considered as an important player in the management of any organisation globally. The success of construction industry mainly depends on project procurement techniques and the management team. Project management requirements can be briefly defined as to have specific knowledge and skills about the project, usage of techniques and tools to attain project standards (PMBOK, 2000). Processes and strategies used in procurement and delivery framework of projects are significant for their success (Rashid, R.A et.al, 2006). Strategic procurement techniques and methods are beneficial for the consumers, suppliers, contractors in acquiring required standards and services in the construction industry.

> Procurement has evolved from clerical, passive and reactive purchasing function to a more strategic and proactive function.

Strategic procurement function has advanced from supporting function in the business to a primary role to facilitate organizations to handle uncertain environment efficiently. The revolution of information, globalization and fastidious customer base has provided the

avenues to the evolution of strategic procurement within organizations (Van Weele and Rozenmeijer (1996). Procurement groups are more disposed toward supply base manageability and strategic sourcing models in the strategic system. Project Procurement Management is depicted as one of the nine primary information spaces of the Project Management (PMBok). Literature related to role of strategic procurement in mega-projects success very less or insignificant but it is evident from the available literature that suppliers are the ones that have significant expense impact on the venture – around 90 % in innovation projects (Nissen, 2002) with procurement.

It is evident that PMI guide contains very basic knowledge of procurement and only focus the administrative part of the procurement contracts (Walker et al, 2008). Furthermore, the available literature is lacking in theoretical clarity in procurement and interchangeable terms like supply, logistics management and purchasing (Van Weele, 2005). Role of supplier integration, procurement strategies and the potential opportunities endow with such collaborations, have been investigated very limited in depth and perceived very little in projects success (Macbeth et al, 2012).

Table 1.1: Summary of Distinctive features of Strategic Procurement

Author	**Distinctive Characteristics**							
	Strategic procurement	**Supplier relationship**	**Purchasing Knowledge**	**Supplier collaboration**	**Information integration**	**Task / Process integration**	**Org structure alignment**	**Goal / outcome alignment**
Kai Schütz et.al, 2019	●		●		●			
Amelia S et. al, 2020	●			●				
Yang J et al, 2020		●						
Kim KT et al, 2017	●	●				●	●	
Davis et al, 2007		●		●				●
Zadeh AV et al, 2020					●			
Kim J et al, 2020						●	●	●

Research in the field of collaborative procurement strategy and strategic procurement functions can provide significant opportunities to achieve project success. Considering

procurement as one of the most critical functions, it is never recommended to outsource the procurement function (KPMG Report, 2012). This nascent field of strategic procurement calls for due research within project setting as it plays strategic role in project performance and project success. It is further highlighted very limited attention has been given to the role of suppliers' integration in projects success in research studies. Therefore, this research study being conducted to explore strategic procurement role in realization of construction projects in Pakistan and how it impacts and mediates the success of construction industry projects.

1.3 BROAD PROBLEM AREA

The construction industry of Pakistan is plagued by non transparent, defective and outdated procurement rules and regulations except few exceptions. These outdated and defective procurement methods and processes impede the construction project success and leads to cost overrun, project delay and safety and quality nonconformance. In construction industry of developed countries, intensive research is required in the field of procurement and its impact on the project success (Ofori, 1993). The research knowledge undertaken so far in this field has been failure because of poor performance in the construction projects in cost reduction, delivery management and attainment of quality standards (Ofori, 1993). The current knowledge related to project procurement, administrative alignment and arrangement in developed countries has been acquired from developed.

1.4 PROBLEM STATEMENT

Over the period of time, the procurement has become strategic leading player in success of any business project and is considered as the important player in any organization globally. The global market demands implementation of more focused and advance skills to increase the profit which is core of any organization. The procurement is necessary to be strategic for effective functioning of any organization. If the procurement is not well managed, it will endanger the firm's value approval process and focus leading to inadequacies that will expose its risks (Masiko, 2013). In Pakistan, construction industry is operating on traditional methods of procurement. The experts are dissatisfied with traditional ways of business and they believe these methods results into increase in project cost, delay in scheduled delivery and ultimately project outcomes (Lichtig, 2006). The companies are striving to increase the profit margin through value addition in the processes. There is dire need to curtail the expenses through strategic procurement models like using the state of the art technologies, better supplier collaboration and supplier quality relation.

1.5 RESEARCH QUESTIONS

This study has following research questions:-

RQ1: Does suppler relationship impact project success in construction industry of Pakistan?

RQ2: Does purchasing knowledge affect project success in construction industry of Pakistan?

RQ3: Does suppler collaboration impact project success in construction industry of Pakistan?

RQ4: Does Information Integration influence project success in construction industry of Pakistan?

RQ5: Does Task / process Integration affect project success in construction industry of Pakistan?

RQ6: How does organizational structure alignment impact project success in construction industry of Pakistan?

RQ7: How does goal / outcome alignment affect Strategic Procurement and project success?

RQ8: Is there any mediating effect of Strategic Procurement these relationships?

1.6 RESEARCH OBJECTIVE

1. To identify the impact of suppler relationship on Strategic Procurement and project success.

2. To determine the impact of Purchasing Knowledge on Strategic Procurement and project success.

3. To scrutinize the impact of Suppler Collaboration on Strategic Procurement and project success.

4. To identify the impact of Information Integration on Strategic Procurement and project success.

5. To identify the impact of Task / process Integration on Strategic Procurement and project success.

6. To identify the impact of Organization Structure Alignment on Strategic Procurement and project success.

7. To identify the impact of Goal / outcome Alignment on Strategic Procurement and project success.

8. To investigate the moderating role of Strategic Procurement with Suppler relationship and project success.

9. To probe the moderating role of Strategic Procurement with Purchasing Knowledge and project success.

10. To investigate the moderating role of Strategic Procurement between Supplier Collaboration and project success.

11. To find out the moderating role of Strategic Procurement between Information Integration and project success.

12. To examine the moderating role of Strategic Procurement between Task / process integration and project success.

13. To investigate the moderating role of Strategic Procurement between Organization Structure Alignment and project success.

14. To explore the moderating role of Strategic Procurement between Goal / outcome Alignment and project success.

1.7 SIGNIFICANCE OF RESEARCH

Pakistan is a developing country and enjoying relatively strong growth rate in construction sector. This sector has played a significant part in economy revival and job facilitation and is second largest sector in Pakistan economy after agriculture. This study is conducted to investigate the relationship of strategic procurement critical success factors (Supplier relation quality, purchasing knowledge, supplier collaboration, information integration, task / process integration, organization structure alignment and goal / outcome alignment) with strategic procurement and their impact on project success in construction industry of Pakistan. Secondly, this study will scrutinize the role of critical factors in strategic procurement and project success which procurement managers, directors and executive observe as most significant in construction industry and require immediate attention. Findings of this research

are important for all stakeholders in construction industry to achieve desired outcome from the projects. Result of this research will open new avenues for further studies and same may be generalized to the other developing countries.

1.8 RESEARCH GAP

It has been observed in research and literature that lake of knowledge about key performance indicators and traditional informal procurement practices hinder project success in developing countries (Frimpong et al., 2003). Further research studies are recommended in the field of procurement performance in construction sector of Pakistan. Separate research studies have been done related to project success and strategic procurement in parts in developed counties. Despite addressing many important issues in literature, seldom are addressed in context of developing counties like Pakistan and there are huge gaps and voids to be filled. It warrants research in the field of strategic procurement enablers and it its impact at project success in construction industry. There is need to think and learn thing differently, to rethink the process that make construction industry self-sufficient to deliver projects successfully.

1.9 DEMARCATION OF RESEARCH

Table 1.2: Demarcation of the Research

Field of Application	Domain Independent		Domain Specific	
Focus of Impact	Supplier	Organization		Customer
Organizational Focus	Structure		Process	
Offering	Products		Services	
Process Scope	Internal	Overarching		External
Scientific Perspective	Positivism		Hermeneutics	
Research Approach	Deductive		Inductive	
Research Method	Qualitative	Mixed Method		Quantitative
Sampling Procedure	Non-Probability		Probability	
Sampling Technique	Convenient	Judgmental	Quota	Snowball

LEGEND	In Scope	Out of scope

1.10 STRUCTURE OF THESIS

The second part of this study presents the literature review regarding project success (D.V), supplier relation quality (I.V), Purchasing Knowledge (I.V), Supplier Collaboration(I.V), Information Integration (I.V), Task / process Integration (I.V), Organizational Structure Alignement (I.V), Goal / Outcome alignment (I.V) and project success being a moderator variable. It is followed by a theoretical framework having hypothesis development. The third section will include research methodology envisaging research design, data collection, sampling, variable measurement, unit of analysis and data analysis. Finding of this research work shall be deliberated in forth chapter while will conclude the discussion including directions pertinent to future research, limitations, implication pertinent to the findings of this research on the relevant sector etc.

Table 1.3: Research Thesis Structuring based on Umma Sekaran & Bougie, 2010

<table>
<tr><th colspan="2">Research Phases
(Sekaran & Bougie, 2010)</th><th>Research Structure</th></tr>
<tr><td>1</td><td>Observation
The broad area of research</td><td rowspan="2">Chapter 1: Introduction
Problem Domain, Contextual Analysis, Gap Analysis, Problem Statement, Research Questions, Objectives, Significance / Limitations</td></tr>
<tr><td>2</td><td>Problem definition
Research problem delineated</td></tr>
<tr><td>3</td><td>Preliminary Data gathering
Literature Review</td><td rowspan="3">Chapter 2: Literature Review
Literature Review, Theoretical framework, Hypothesis</td></tr>
<tr><td>4</td><td>Theoretical Framework
Variables identified and labeled</td></tr>
<tr><td>5</td><td>Generation of Hypothesis</td></tr>
<tr><td>6</td><td>Research Design</td><td>Chapter 3: Methodology
Overall Research Design, Sampling population, Unit of Analysis and Data Collection Techniques</td></tr>
<tr><td>7</td><td>Data Collection, analysis and Interpretation</td><td>Chapter 4: Results
Data Analysis, Reliability, Validity, Correlation, Regression, etc.</td></tr>
<tr><td>8</td><td>Deduction
Hypothesis Substantiated
Research Questions Answer</td><td>Chapter 5: Discussion and Conclusion
Summary of Findings and Future Recommendations</td></tr>
</table>

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This part of thesis deals theoretical framework, empirical literature, conceptual frame work, and gaps to be filled by the study. Strategic choice theory has been discussed in this chapter to established theoretical base of the research. Further, strategic procurement enablers, project success factors and key terminologies being used in the research work have been elaborated. Past studies related to current research are also presented in details in this chapter.

2.2 THEORETICAL FRAMEWORK

2.2.1 STRATEGIC CHOICE THEORY

This theory was designed to explain inadequacies in deterministic organization views. This theory clarifies the relationship between organization and its environment. This theory depicts the correlation of firm's performance with top leadership and manager's decisions. The decisions made by leadership and managers effects the firm performance and overall association between the external actors with organization. This clarifies and underlines the interaction between organizational activities and occasion.

Strategic choice model extends the resource dependence model to interdependence of organization and environment while making strategic choices. Thus, this theory integrates the relationship between top management and the business that lean over the period and their decisions are affected by strategic choices. The structure, goals and available opportunities are affected by consideration choices by the top leadership.

2.3 KEY TERMINOLOGIES

2.3.1 PROJECT MANAGEMENT

The term project may be characterized as a complex set of financial exercises, goals and objectives in which rare assets are committed in desire of benefits that surpass the costs of assets expended. It alludes to speculation movement in which assets are committed inside a given time system, to make resources over an amplified time in desires of benefits which surpasses the committed resources. Hence, project requires assets in form of resource. They are moreover anticipated to infer benefits. Projects are said to be alluring in case their benefits are more prominent than the costs caused on them. A project can too be allocated to as a non-repetitive action. A project is seen as a change process. Project management is all

about the game of utilizing techniques knowledge and adopts best strategy to accomplish a complete and unique one time task in available time, budget and quality. As per British standard that is used for project management explain as per following process of plan, monitor and then control all achievement that relate objective on time and more measured in term of quality, budgetary value and outcome of the project.

2.3.2 PROJECT SUCCESS

Project success has been mostly discussed and very critical and there is a need to understand the criteria to judge project success. Crawford (2002) explains that a project can be measured on technical specification and strategic mission performance and more important high level of outcome satisfaction. Key result ranges and basic success variables give evidences that offer assistance to reply the address of whether the organization is able to successfully mobilize its assets where there are clashing sub objectives, natural vulnerability, and inside legislative issues and limitations". Idrus et al, (2011) illustrate customarily, the project success parameters are accomplished by triple constraints; cost, performance target and venture time.

Table 2.1: Most important project success criteria from the literature

Most Important project Success Criteria Factors from Literature Review (Pinto and Slevin, 1988a; Ika, 2009: Atkinson, 1999, Lamprou & Vagiona 2018)			
Success Criteria	**Occurrence / Frequency of Reference**	**Success Criteria**	**Occurrence / Frequency of Reference**
Scheduled time	39	Strategic Goals/objectives & Competitiveness	16
Cost / Budget	39	Use	14
Quality / Performance	30	Health & Safety	14
User Satisfaction	30	Project Team/personnel Satisfaction	12
Business & Commercial Performance	24	Contractors' Satisfaction	12
Stakeholders' Satisfaction	20	Future Perspective	12
Technical Specifications & Requirements	19	Environmental Impact	10
Functionality	16	Effectiveness	8
		Suppliers' Satisfaction	2

2.3.3 PROCUREMENT

Procurement is broader term then purchasing. According to Lim (2014), procurement implies the process of acquiring the goods, services and work in return of equivalent payment or monetary that is vital to the organization. Procurement is comprises of sourcing and purchasing. Procurement is not just limited acquisition of good or services like purchasing but it covers broad span of activities like requirement determination, supplier selection and evaluation, bidding and bid evaluation, negotiation and award of contract, expediting and keeping eyes on contract materialization and delivery period, disposal of redundant materials and end of life management of materials. Purchasing is processes of procuring things in efficient way in which materials are supplied in right quantity, at right place, at right time and quality and most important consider cost factor that remain beneficial to gain competitive advantage through well form of integrated supply chain. The objective of the procurement

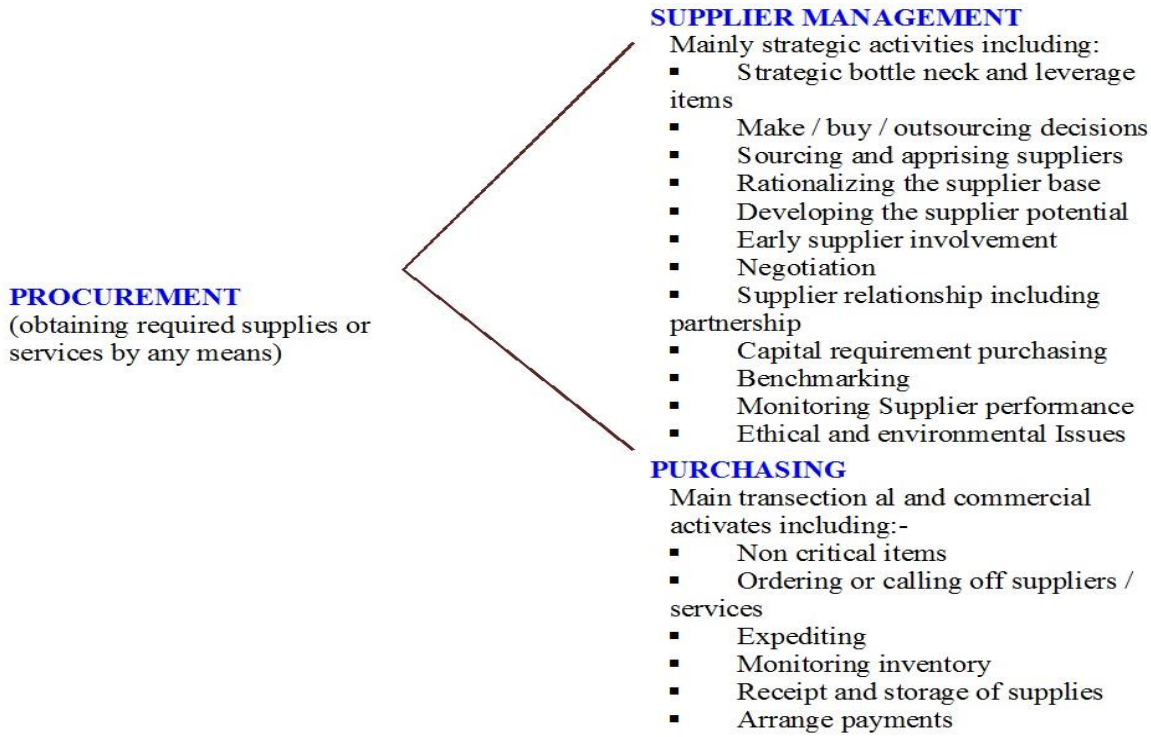

Figure 2.1: Procurement Functions

department is to integrate the procurement strategies with the organizations' goals and objectives and to support operational requirement of the organization. Procurement adds true value in the procurement process through efficient supplier selection, preparing procurement specification and setting evaluation criteria of the supplier's performance. Porter (1998) Value chain is comprises of primary and support activities. Procurement is one of the most important activities of value chin. The competitiveness and profit of the business is highly dependent on the procurement strategy. Kiarie et al. (2015) alluded that procurement has

changed in recent past through interconnecting the networks and integrating the firms, supporting the operations and harmonizing the production.

2.3.4 STRATEGIC PROCUREMENT

Strategic procurement is process of planning, implementing, controlling and consistently evaluating and re-evaluating most critical sourcing and purchasing decisions (Carr & Smeltzer, 1997). Effort for strategic procurement will be successful if a business is practicing following five fundamental principles (Carter & Naeasimhan) a) Integration and purchasing function with manufacturing function, b) Key suppliers integration, c) Goals of purchasing management and business strategy alignment, d) Human resource management effectiveness, d) Conducive environment within procurement department. In strategic management, the sources, methods and procedures are constantly re-evaluated to optimize the value to the firm.

Schneider and Wallenburg (2013) illustrates that in any case, the most approaches examined in this ponder include; methodology advancement, spend investigation, supplier relationship management, estimation plan, and innovation utilization. Strategic acquirement as an unused field for empirical estimation past the fundamental checking of obtainment forms. He states that going before investigate has already appeared that there's significance in organizing supply chain resources, structure, procedure, approach, duties, and arrangements have made extend execution more effective.

Cavinato (1990) describes that strategic purchasing has five considerable stages; purchasing, buying, acquisition, supply and facilitating networks. These all are depend on supply process management though we can control cost through resource based theory.

Masiko, (2013) explains the strategic procurement as the process of forming alliances, consistency of actions and creating alignments that establishes long range goals and all courses of action and strategies that enables the procurement in realizing the mission of the organization.

2.3.5 PROCUREMENT PERFORMANCE

In current global and competitive era, organizations are striving to achieve excellence in the respective fields. Organizations are working hard to improve their performance through controlling the effectiveness and efficiency. In procurement, purchasing effectiveness and efficiency result into performance. Organizations are struggling to achieve performance through low cost and high quality. Thus companies are trying to improve their internal

processes as well as relations with external customers. Organizations try to determine their performance through high turnover, high profit margin, high quality and low cost. Performance of procurement systems can also be improved the concentrating on internal customers and external suppliers. Thus procurement performance is systematic method of measuring the effectiveness and efficiency of the procurement system.

2.3.6 SUPPLIER RELATIONSHIP

It is the interactive functioning of two or more chain members to achieve competitive advantage through making joint decision and sharing information to seek greater profitability by satisfying customer needs than working in isolation (Togar and Sridharan, 2002). The level of confidence, reliance and assurance between the supplier and buyer determines the relationship quality. The performance satisfaction between parties also increases the quality of relationship. Higher the level of trustworthiness and confidence, higher will be supplier to buyer collaboration. Five traits of relationship quality have been proposed by the researchers. These are integration, trust, power, profit and mutual understanding of needs. Few other researchers have termed relationship quality as level of satisfaction, long term orientation, communication quality and information sharing.

2.3.7 PURCHASING KNOWLEDGE

Kim et al. (2016) illustrates that naturally, consumers' item information can impact both the level of certainty a customer has and the level she wants, and subsequently influences the selection of consumer. Generally, the buyer cannot choose or realize an option about which he does not has real knowledge. Park et al. (1981) states that information develops, the buyer is progressively commonplace with item properties and more arranged to look for particular points of interest around each item choice. There is a knowledge gap about market between what is known and unknown to a consumer. In this regard, higher item information encourages the consumer and enables the purchasing department to utilize the accessible data in decision-making. In fact, such information is likely to permit ensuing and broader data to bear meaning and be legitimately related with earlier data, in this way cultivating extra information almost the subject.

2.3.8 SUPPLIER COLLABORATION

Barlow et al. (1998) states that Supplier collaboration is a good tool in reducing production cost and wastes, enhancing production efficiency and adding value to overall production process. It helps in developing strategic relationship among all stockholders, improve trust

level and nurture client-supplier relationship in project environment. Brindly et al. (2004) describes that aim of supplier collaboration is to reduce the adversarial relationship and replacing it with long term relationship based on trust and benefit to harmonize working environment and reducing traditional risks. Johnston et al. (1988) highlights that supplier collaboration can reduce and mitigate lot of traditional risks and adversarial relationships that become problem in the business environment.

The impacts of supplier collaboration, expressed that the benefits emerging when firms adjust to one another in terms of specialized arrangements, logistics or authoritative schedules was bizarre in development businesses. He concluded that these characteristics have an impeding impact on both productivity and development. A lot of researchers still have opinion that supplier collaboration is still in its infinity (Holwig et al. (2005), Brindleyet al. (2004) and Polat et al. (2003).

2.3.9 INFORMATION INTEGRATION

Yu et al., (2018) elaborated that information and knowledge sharing is important contributor in integrated information flow for both way communications between the organizations. He further explained that information is the biggest asset of companies that help them to get strategic advantage of cost and services in SCM to their competitors. Flynn et al., (2010) defined Supply Chain Information Integration (SCII) as the condition where producers' shares information within organization functions and across the partners in supply chain strategically to manage intra and inter-processes collaboratively. Yu et al., (2018) defines SCII as the extent which the organizations focus on exchange of information during the transactions with other organization or strategically with parties within supply chain departments and partners outside to facilitate inter and intra-organizational processes streamlining. Huo et al., (2016), Yu et al., (2018) explains that SCII is consisting of two dimensions. One is internal information integration and other is external information integration.

Rai et al., (2006) describes the internal information integration as the producers develop information systems that are integrating the departments to facilitate the information sharing among all functions to manage intra-organization functions. Internal Integration is concerned with the procedures, practices and behaviors in organizations to collaborative, synchronized and manageable processes to meet customer requirement. Internal integration is achieved through ERPs and other real-time sharing platforms.

Cai et al., (2010) explains external information integrations as the conditions where companies cooperates with key members of the supply chain outside the company which focuses on procedures, strategies, behavior and practices among the organizations into a process that is synchronized, collaborative and manageable. Yu et al., (2018) elaborates that external information integration can be further divided into two dimensions. They are integration of supplier information and integration of customer information.

2.3.10 TASK / PROCESS INTEGRATION

Integration of task and processes is the foremost critical component in all types of projects. Asif et al. (2010) highlights that integration is deliberate process of developing governance structure which organize the key stakeholders to work more systematically. The speed, delivery, cost effectiveness and quality of the project is based on the well integration of tasks. Eisner et al. (1993) investigated that effective coordination among extend exercises is guaranteed by best integration administration. Best of the task / process integration is the integration of prerequisites, interfacing, interoperability, influences, checks, program confirmation and approval, and design advancement in the most components. Besides, in the administration integration of the project includes most components as planning, costing, budgeting, setup administration complete auditing of the project. PMBoK illustrates the process integration as one of the main knowledge that is necessary for project managers.

2.3.11 ORGANIZATION STRUCTURE ALIGNMENT

Alagaraja et al. (2015) describes that organizational structural alignment is broadly recognized and very important and noteworthy in organizational functions execution. Alignment of organizational structure with the goals and objectives leads to more sustainable success. Despite of variation and differences in role and task of various segments or departments of the organization, they address the organizational strategic elements more actionably and support the mission, vision and goals more effectively.

Brown et al. (2008) scrutinized Organizational structural alignment is based on shared vision and understanding of organizational objectives and goals by supervisors at different levels and inside different units of the organizational chain of command. The competitive advantage of a firm is based on the firm capacity to acquire and disposal of resources that are necessary for organization to be competitive. Be that as it may, a few procedure analysts have contended that as well much arrangement may result in firms with components that are exceptionally firmly coupled and lead to issues with adjusting to external environment

2.3.12 GOAL / OUTCOME ALIGNMENT

In management literature, scholars have emphasized on the necessity of alignment between the personnel and organizational goals. Devis et al. (2007) believe that organizational success mainly depends upon the coordination, which means more the personal and organizational goals are achieved, the greater success the organization will attain. It is the process in which goals of all work groups are design in such a way to support the single outcome of the organization. Tosti et al (2003) explains that goal alignment increases cohesiveness, transparency and organization so that everyone is working for higher cause. Alignment of goals that are established from business side and outcome which are mostly get through customer satisfaction level which in turn automatically create profit for organizations and more alignment of strategies which create value. Harvey et al. (2006) describes that better alignment increases the chances of mission accomplishment and decreases the costs and when an organization is aligned everyone knows his / her role and tries to fulfill it. There is always need for continuous improvement, changes and continuous up to date goals to deal with market expectations. Organizational processes have been troubled due to non-alignment of business and operational goals. There is need for processes improve for success of any organization that can only be achieved through changing the process so that they meet business goals more efficiently and effectively. Strategic alignment is very popular concept in the business studies. Strategic alignment is to strive for consistently adopting organizational goals and rearranging the internal infrastructure according to external environment. Alignment ensures effective cooperation among different parts of the organization and business platforms and helps to accelerate new business processes. Reich et al. (2001) describes alignment is a strategic process that determines the degree of compatibility between personal and organization goals.

2.4 RESEARCH FRAMEWORK

The conceptual framework of this research is shown in Figure No 2.2. This study focuses on the role of Strategic Procurement on Project Success in construction Industry of Pakistan. Thus, the hypotheses of this research are based on the connection between:-

(a) Strategic procurement factors (i.e. SR, PK, SC, TI, OSA and GA) carryout favorable effect on project success.

(b) Strategic procurement positively impacts project success in construction industry and it helps in achieving the cost, quality and calendar time of the project.

(c) The mediation results of strategic procurement effectively improves the project timelines, quality and cost which helps in successfully completion of the projects and increase the revenue of the construction industry. Strategic procurement helps in improving the competitive edge of the organizations and reputation as compared to competitors.

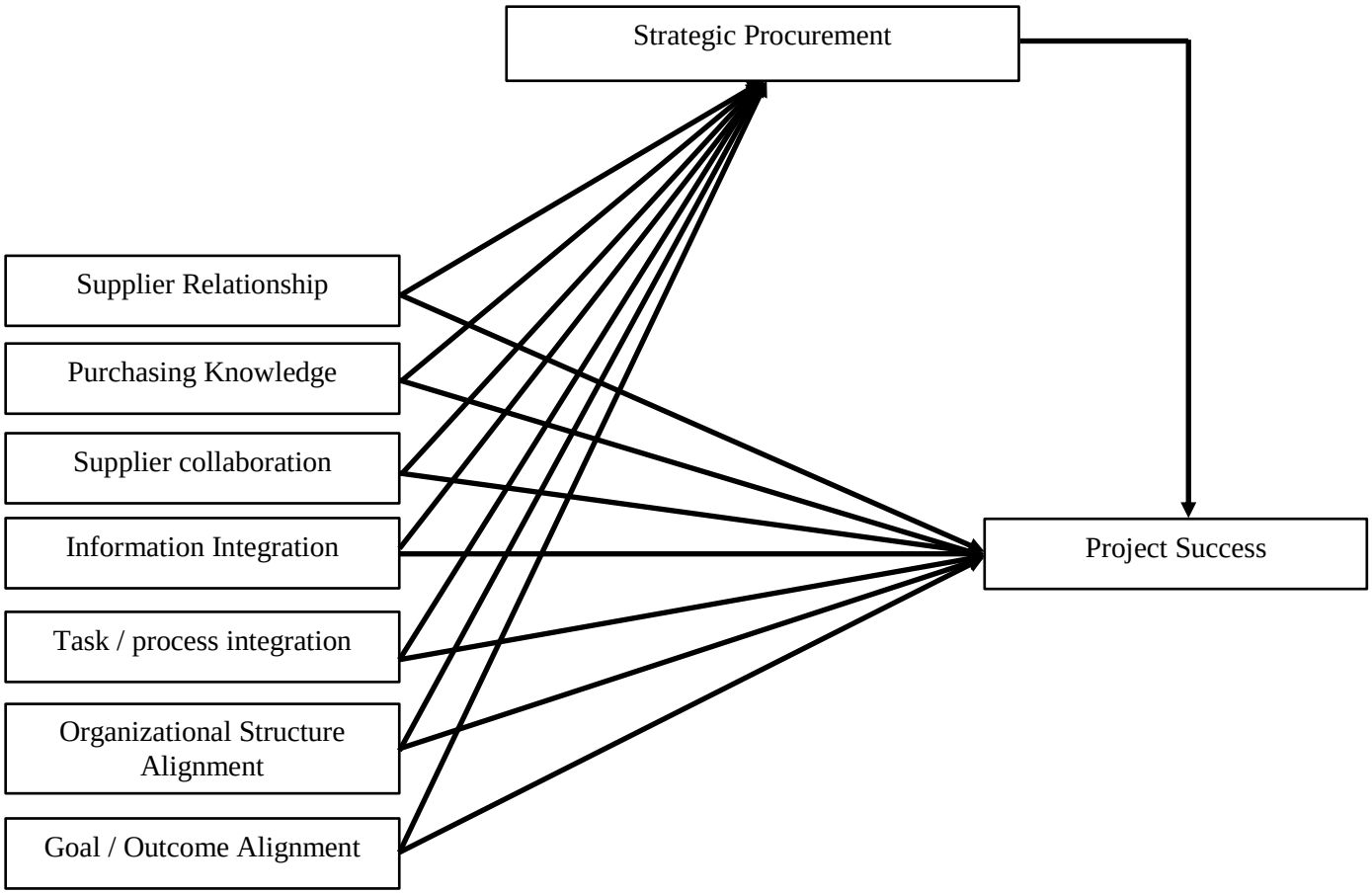

Figure 2.2: Research Framework

2.5 THEORETICAL FRAMEWORK

The theoretical framework of this research is shown in Figure No 2.3.

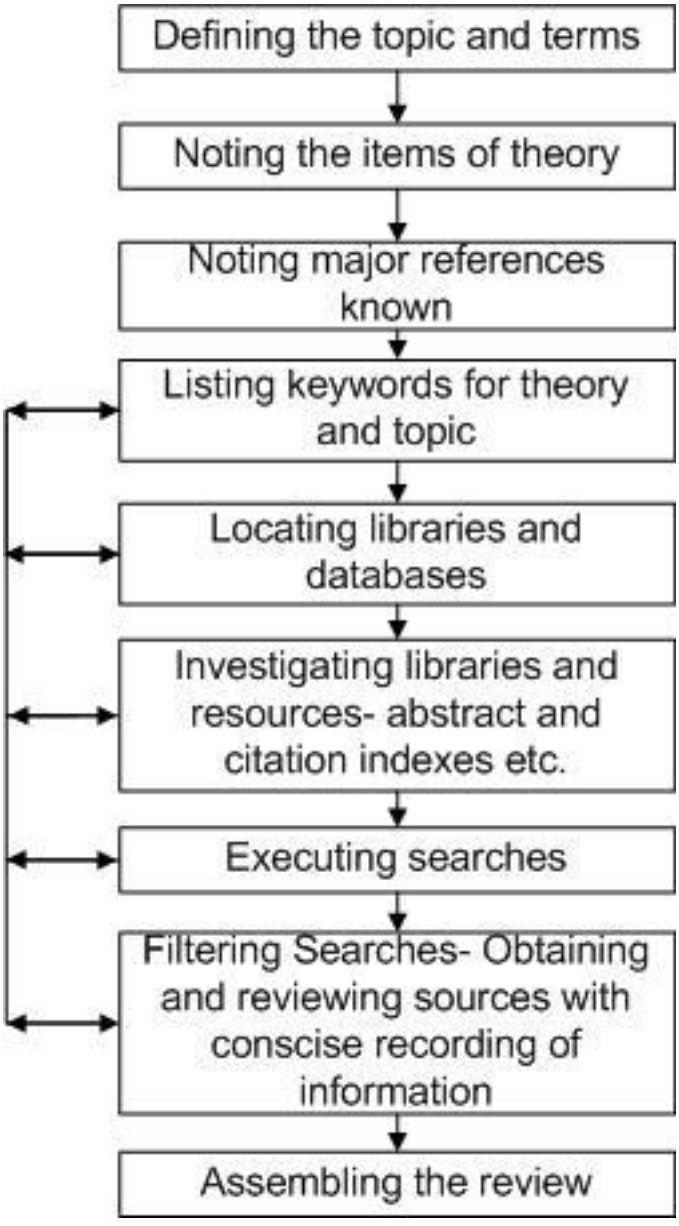

Figure 2.3: Theoretical Framework

2.6 HYPOTHESIS

2.6.1 PRIMARY HYPOTHESIS

Strategic procurement performance positively affects Project Success with positively mediation of Strategic Procurement.

2.6.2 INTERNAL HYPOTHESIS

H1a: Supplier relationship has a positive impact on project success.

H1b: Purchasing Knowledge has a positive impact on project success.

H1c: The supplier collaboration has a positive impact on project success.

H1d: Information integration has a positive impact on project success.

H1e: Task / process integration has a positive impact on project success.

H1f: Organizational structure alignment has a positive impact on project success.

H1g: Goal / outcome alignment has a positive impact on project success.

H2a: Supplier relation quality has a positive impact on strategic procurement.

H2b: Purchasing Knowledge has a positive impact on strategic procurement.

H2c: The supplier collaboration has a positive impact on strategic procurement.

H2d: Information integration has a positive impact on strategic procurement.

H2e: Task / process integration has a positive impact on strategic procurement.

H2f: Organizational structure alignment has a positive impact on strategic procurement.

H2g: Goal / outcome alignment has a positive impact on strategic procurement.

H3a: Strategic procurement mediates the relationship between supplier relationship and project success.

H3b: Strategic procurement mediates the relationship between Purchasing Knowledge and project success.

H3c: Strategic procurement mediates the relationship between supplier collaboration and project success.

H3d: Strategic procurement mediates the relationship between Information integration and project success.

H3e: Strategic procurement mediates the relationship between Task / process integration and project success.

H3f: Strategic procurement mediates the relationship between Organizational structure alignment and project success.

H3g: Strategic procurement mediates the relationship between Goal / outcome alignment and project success.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This section highlights the sequential flow of events that will allow the researcher to evaluate the role of strategic procurement on project success in a systematic and logical manner. This does not only seek to explain how data will be obtained, organized, cleaned, analyzed and presented. It will also seek to demonstrate the sufficiency / appropriateness of the methodology to achieve the desired results. I will seek to identify the research procedures, design, population, sampling size and design, data collection methods and analysis and subsequent brief in the chapter.

3.2 RESEARCH STRATEGY

It is necessary to differentiate between main approaches of research to establish research methods at optimum level:-

3.2.1 QUALITATIVE

3.2.2 QUANTITATIVE

The former is in the form of words and subjective in nature. It endeavors to explain the nature of people and process and latter is related to numbers and collection of factual data with data analysis. Quantitative approach will be adopted for this research study.

Quantitative research methodology will be utilized to investigate the cognizance of project and procurement managers and their knowledge related to strategic procurement, procurement performance and mega-project success. Quantitative approach limits the type of answers due to objective in nature and compromise the response validity.

3.3 RESEARCH PHILOSOPHY

Philosophical research framework describes the evolution in knowledge and basics, in-depth quality of knowledge. (Saunders et al, 2009, p.107). It is further divided into two parts; Objectivism and Subjectivism. Objectivism refers to interdependence between social entities and social actors. Subjectivism is outcome of appreciation and outcome of social actors. (Saunders et al, 2009, p.111). Project success is particularly depending upon networks of social actors like project group individuals, suppliers, contractors, subcontractors in supply

chain. Even one actor can trigger the phenomenon transformational change. These actors play fundamental importance in behavior shaping and cannot be separated from project culture. To develop comprehensive approach and substantial analysis, objectivist approach is required for this study. This approach is enabled through the subjectivist philosophy to research.

3.4 RESEARCH DESIGN / TYPE OF STUDY

The research will assume a descriptive design of study as it gives depth to the subject being studied. Similar studies such as strategic procurement practices and procurement performance and its role in project success and impact of different variables at strategic procurement and project success and the impact of strategic procurement and impact of strategic procurement on project success adopted the same approach. According to Gill and Johnson (2006) descriptive surveys address particular properties of a selected sample for a specific and purpose of to study the interaction of variables.

Descriptive studies are undertaken explain the correct picture of events as it happens in natural situations. This research can be utilized explain the ground situation, decision making and theories development Further, a descriptive survey method enables information on beliefs, perceptions and motives to be collected (Burns & Grove, 2003).The study will seek to gather information from the various cadres of staff on their perception of the role of strategic procurement on the organization's performance.

3.5 POPULATION FRAME

Population frame is a set of statistics regarding specific and already selected population for which information are required to be collected. According to Ngechu (2014), a population is a well-defined group of things or households or set of elements, events, people or services that are under investigation. So we can define population as a large group of defined individuals, personnel, events or objects in which the researcher is interested to apply the finding of his study. Keeping in view the scope of this research, the population frame is the construction industry of Islamabad, Lahore, Peshawar, Rawalpindi and Karachi area of Pakistan. A number of construction firms have already been contacted as possible respondents for this research.

3.6 SAMPLE SELECTION

Data sampling is done through two methods:-

3.6.1 PROBABILISTIC SAMPLING

3.6.2 NON-PROBABILISTIC SAMPLING.

All units of the population have equal opportunity of being selected as a sample unit. It envisages multistage sampling, random sampling as well as stratified sampling. In comparison to probabilistic sampling, in non-probabilistic sampling certain subsets of the population have little or no chance of being selected as sampling unit and become part of convenience or judgmental sample (Blanche and Durrheim, 2002). The participants of this research are the managers of construction industry, so convenient non-sampling technique shall be used to analyze the responses.

3.7 SAMPLE SIZE

Sampling is the process of including a subset or set of events, persons or objects in a study in such a way that selected individuals, events, or objects show representation of whole family to whom they belong (Mugenda & Mugenda, 2003). The sampling will be based upon convenient sampling. The investigation aims to collect 450 samples after contacting the manufacturing organizations and keeping in view the scope of this study.

3.8 RESEARCH INSTRUMENT

Research instruments may be defined as tools and techniques being used for collection of data (Mbweza, 2006). In quantitative research questionnaire are used for collection of data. A questionnaire is a group of predefined items in written form for which reaction of respondents is collected for further study and investigation. For data collection, structured questionnaires will be adopted. To measure the construct seven IVs (Supplier Relation Quality, Purchasing Knowledge, Supplier Collaboration, Information Integration, Task / process Integration, Organizational Structure Alignment and Goal / Outcome alignment) and a DV(Project Success) a five-point Likert scale comprising of “strongly disagree to strongly agree is used. This scale is adopted with reference to multi-dimensional scales that were used in prior literature.

3.9 UNIT OF ANALYSIS

Primary data for study is collected by distributing questionnaires for the purpose of analyzing the model based on hypothetical approach for the construction industry of Pakistan. The samples were taken from construction firms located in Islamabad, Lahore, Peshawar, Rawalpindi, Quetta, Haiderababd and Karachi cities of Pakistan. The supply chain, purchasing, project managers and operations managers, directors and CEOs were including

in the respondents and for the mentioned matter the questionnaires were distributing among all of them personally and Researcher considering the 150 valid respondents for data collection.

3.10 RESEARCH TIMELINE

The study will be initiated from 1st April, 2021 and would be completed by 30 July, 2021 in all aspects.

Table 3.1: Research timeline

Details	April		May		June		July	
	15 April	30 April	15 May	30 May	15 June	30 June	15 July	30 July
Introduction								
Literature Review								
Teamwork / Model								
Methodology								
Proposal Submission								
After proposal defense, In detail literature review & Date collection								
Analysis of Data								
Result, Discussion and Implication								
Final Submission								

3.11 SCIENTIFIC PERSPECTIVE

The scientific perspective of this study is positivism as after observation, the data collection from literature can be rationally interpreted. Secondly, on the basis of real-time and hand-on experience of the respondents, empirical information can be collected, and interpretation can be made.

3.12 PROPOSED DATA COLLECTION METHODS

Primary and secondary data will be collected from the respondents of preselected population. Primary source of data include direct interviews and questionnaires to be administered to the respondents and employee registers. Questionnaires technique will be used for to gather qualitative and quantitative data, the questionnaires will have close ended questions. It is worth noting that the questionnaires will be designed to cross reference the information gathered to enhance reliability. The questionnaires will be piloted to confirm reliability and

completeness of the data collection tools. Questionnaire to the employees will be comprises of two groups. The first part will include questions related to respondents profile data and the other part will be consisting of questions related to research area.

The use of structured questionnaires to collect data from employees is considered most convenient due to the need to get as many responses as possible while being cognizant to keep the time taken to fill it as short as possible. The five point scale will be utilized to collect respondents perception related to select variables and asses the hypothesis with responses.

3.13 PROPOSED DATA ANALYSIS TECHNIQUES

Before the data is analyzed, it will be cleaned and coded. Thereafter the responses will be transferred into Microsoft Excel, under assigned variable names. Being a process that resort to conclusions, data analysis envisages data filling, the goodness of data, and hypothesis testing. For testing hypothesis, statistical evidence is essential for which inferential statistics accomplish the purpose (Sekaran and Bougie, 2010). It is divided into descriptive and inferential statistics. Descriptive statistics enables the researcher to validate instrument reliability. The measure of central tendencies, graphs, and frequencies, all fall under descriptive statistics.

Inferential statistics: Includes predictions or inferences about population through observations as well as sample analysis. Correlation analysis, SEM (Structure equation modeling and regression will be applied so as to analyze the direct, indirect effect and moderation within variables of hypothesis. Attained data will be investigated through SPSS and ANOVA.

Table 3.2: Summery of Research Methodology

Scientific perspective	Positivism
Scientific Approach	Deductive
Research Method	Mix-Method
Sampling Method	Non-Probability Convenient Sampling
Data Collection	Online and offline surveys
Data Analysis	SEM, Co-relation, Reliability & Regression
Data Collection Technique	Questionnaire (Online, Offline)
Time Horizon	1st April – 30 July, 2021
Unit of Analysis	Managers Construction Projects
Data Analysis Software	SPSS & ANOVA

3.14 CONTRIBUTION OF RESEARCH

3.14.1 SCIENTIFIC CONTRIBUTION

This research will contribute by investigating the relationship between different aspects of Strategic management and in role in project success in construction industry of Pakistan. It will help in the refinement of current knowledge and procurement methodologies being practiced by the practitioners in construction industry of Pakistan.

3.14.2 INDUSTRIAL RELEVANCE

This research would help companies to better recognize and measure the positive effects of strategic procurement on the internal and external environment of the organizations. Furthermore, it will demonstrate the advantage of competitive edge over compotators by developing strategic integration, collaboration and alignment with the suppliers, employees and other internal and external factors and will help in making strategic decision making.

3.14.3 RELEVANCE FOR BAHRIA UNIVERSITY

This research is conducted within the research scope of research work being conducted by the Bahria University. The reach will capitalize and existing knowledge pool of SIL and enhance it with research findings, data pool and gaps to explore the environmental risks associated with construction industry. It will also provide insight for future research to the students in this field.

CHAPTER 4

RESULTS AND FINDINGS

In this Chapter, results and findings of field survey after processing through SPSS ANOVA has been discussed. A total of 450 respondents were selected from different cities of Pakistan. The survey feedback of 349 respondents is received.

4.1 RELIABILITY ANALYSIS

Reliability of data is checked though SPSS software. Frequencies and correlations have been analyzed. Following are the results of reliability Analysis.

Table 4.1: Reliability Analysis

Variable Name	Cronbach's Alpha	No of Items	Number of Response
Supplier Relationship	0.74	5	349
Purchasing Knowledge	0.647	5	349
Supplier Collaboration	0.753	5	349
Information Integration	0.77	5	349
Task / Process Integration	0.804	5	349
Organizational Structure Alignment	0.857	5	349
Goal / Outcome Alignment	0.863	6	349
Strategic Procurement	0.793	5	349
Project Success	0.904	10	349

Table 4.1 represents the reliability value of Supplier Relationship, Purchasing Knowledge, Supplier Collaboration, Information Integration, Task / Process Integration, Organizational Structure Alignment, Goal / Outcome Alignment, Strategic Procurement and Project Success. Cronbach's Alpha was highest Project Success that is $\alpha = 0.904$ so it has highest reliability among all variables. Goal Alignment also has high reliability that is $\alpha = 0.863$, Organization structure Alignment has $\alpha = 0.857$, Task / Process Integration has reliability $\alpha = 0.804$. Strategic procurement has reliability value $\alpha = 0.793$, Information integration has reliability value $\alpha = 0.770$, Supplier Collaboration has reliability $\alpha = 0.753$, Supplier Relationship has reliability $\alpha = 0.740$ and purchasing knowledge has least reliability $\alpha = 0.647$ among all variables.

4.2 CORRELATION ANALYSIS

The correlation analysis was generated using Pearson Product Moment Correlation to examine bivariate relationships between Supplier Relationship, Purchasing Knowledge, Supplier Collaboration, Information Integration, Task / Process Integration, Organizational Structure Alignment, Goal / Outcome Alignment, Strategic Procurement and Project Success.

Table 4.2: Correlations Matrix among variables

		SR	PK	SC	INFOINT	TI	OS	GA	SP	PS
SR	Pearson Correlation	1								
	Sig. (2-tailed)	0								
	N	349								
PK	Pearson Correlation	.473**	1							
	Sig. (2-tailed)	0								
	N	349	349							
SC	Pearson Correlation	.411**	.665**	1						
	Sig. (2-tailed)	0	0							
	N	349	349	349						
INFOINT	Pearson Correlation	.350**	.566**	.652**	1					
	Sig. (2-tailed)	0	0	0						
	N	349	349	349	349					
TI	Pearson Correlation	.444**	.438**	.511**	.549**	1				
	Sig. (2-tailed)	0	0	0	0					
	N	349	349	349	349	349				
OS	Pearson Correlation	.455**	.474**	.613**	.610**	.764**	1			
	Sig. (2-tailed)	0	0	0	0	0				
	N	349	349	349	349	349	349			
GA	Pearson Correlation	.449**	.492**	.622**	.611**	.619**	.537**	1		
	Sig. (2-tailed)	0	0	0	0	0	0			
	N	349	349	349	349	349	349	349		
SP	Pearson Correlation	.576**	.563**	.513**	.382**	.434**	.480**	.543**	1	
	Sig. (2-tailed)	0	0	0	0	0	0	0		
	N	349	349	349	349	349	349	349	349	
PS	Pearson Correlation	.386**	.462**	.487**	.399**	.509**	.436**	.511**	.798**	1
	Sig. (2-tailed)	0	0	0	0	0	0	0	0	
	N	349	349	349	349	349	349	349	349	349

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

The correlation Matrix (Table 4.2) represents that purchasing knowledge has significant positive correlation with Supplier relationship (r=0.473, p<0.05). It represents that when there is good purchasing knowledge, and then there is strong relationship with the suppliers and vice versa. In addition, there is significant relationship between information integration and Supplier relationship (r=0.350, p<0.05) and information integration and purchasing knowledge (r=0.566, p<0.05). Moreover, there is very strong correlation between Strategic procurement and Project success (r=0.798, p<0.05) and between goal alignment and strategic procurement (r=0.543, p<0.05). There is strong correlation between Task integration and outcome alignment (r=0764, p<0.05). Results indicate that there is positive and significant correlation between all variables.

4.3 SIMPLE REGRESSION ANALYSIS

H1a: Supplier relation quality has a positive impact on project success.

The regression analysis was done to test if supplier relationship significantly predicts project success.

Table 4.3: Regression Analysis Results SR-PS

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386[a]	0.149	0.146	0.29904

a. Predictors: (Constant), SR

As indicated in Table No 4.3, we can see that R-square value is 0.149. This shows that our independent variable SR causes 14.9 % change in dependent variable i.e. PS.

Table 4.4: ANOVA Results SR-PS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.43	1	5.43	60.722	.000[b]
	Residual	31.031	347	0.089		
	Total	36.461	348			

a. Dependent Variable: PS

b. Predictors: (Constant), SR

The Table No 4.4, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. SR and dependent variable i.e. PS.

Table 4.5: Coefficients SR-PS

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.869	.240		11.978	.000
	SR	.395	.051	.386	7.792	.000

a. Dependent Variable: PS

The Table No 4.5 shows the coefficient results. This Table indicates the beta value is .386. It means that change in independent variable i.e SR by one unit will bring about change in dependent variable i.e. PS by .386 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. SR and dependent variable i.e. PS. In other words we can say that when SR increases by one unit the PS will also increase by 0.386 units. This hypothesis was accepted as supplier relation positively impacts the project success.

H1b: Purchasing Knowledge has a positive impact on project success.

The regression analysis was carried out to test if purchasing knowledge significantly predicts project success.

Table 4.6: Regression Analysis Results PK-PS

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.462[a]	0.213	0.211	0.28751

a. Predictors: (Constant), PK

As indicated in Table No 4.6, we can see that R-square value is 0.213. This shows that our independent variable PK causes 21.3 % change in dependent variable i.e. PS.

Table 4.7: ANOVA Results PK-PS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.777	1	7.777	94.085	.000[b]

	Residual	28.683	347	0.083
	Total	36.461	348	

a. Dependent Variable: PS
b. Predictors: (Constant), PK

The Table No 4.7, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. PK and dependent variable i.e. PS.

Table 4.8: Coefficients PK-PS

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.401	.241		9.970	.000
	PK	.498	.051	.462	9.700	.000

a. Dependent Variable: PS

The Table No 4.8 shows the coefficient results. This Table indicates the beta value is .462. It means change in independent variable i.e PK by one unit will bring about change in dependent variable i.e. PS by .462 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. PK and dependent variable i.e. PS. In other words we can say that when PK increases by one unit the PS will also increase by .462 units. This hypothesis was accepted as purchasing knowledge positively impacts the project success.

H1c: The supplier collaboration has a positive impact on project success.

The regression analysis was performed to test if supplier collaboration significantly predicts project success.

Table 4.9: Regression Analysis Results SC-PS

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.487[a]	0.237	0.235	0.28311

a. Predictors: (Constant), SC

As indicated in Table No 4.9, we can see that R-square value is 0.237. This shows that our independent variable SC causes 23.7 % change in dependent variable i.e. PS.

Table 4.10: ANOVA Results SC-PS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.647	1	8.647	107.886	.000[b]
	Residual	27.813	347	0.08		
	Total	36.461	348			

a. Dependent Variable: PS
b. Predictors: (Constant), SC

The Table No 4.10, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. SC and dependent variable i.e. PS.

Table 4.11: Coefficients SC-PS

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.386	.226		10.536	.000
	SC	.497	.048	.487	10.387	.000

a. Dependent Variable: PS

The Table No 4.11 shows the coefficient results. This Table indicates the beta value is .487. It means change in independent variable i.e SC by one unit will bring about change in dependent variable i.e. PS by .487 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. SC and dependent variable i.e. PS. In other words we can say that when SC increases by one unit the PS will also increase by .487 units. This hypothesis was accepted as supplier collaboration positively impacts the project success.

H1d: Information integration has a positive impact on project success.

The regression analysis was conducted to test if information integration significantly predicts project success.

Table 4.12: Regression Analysis Results INFOINT-PS

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.399[a]	0.159	0.156	0.2973

a. Predictors: (Constant), INFOINT

As indicated in Table No 4,12, we can see that R-square value is 0.159. This shows that our independent variable INFOINT causes 15.9 % change in dependent variable i.e. PS.

Table 4.13: ANOVA Results INFOINT-PS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.791	1	5.791	65.521	.000[b]
	Residual	30.67	347	0.088		
	Total	36.461	348			

a. Dependent Variable: PS

b. Predictors: (Constant), INFOINT

The Table No 4.13, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. INFOINT and dependent variable i.e. PS.

Table 4.14: Coefficients INFOINT-PS

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.953	.220		13.400	.000
	INFOINT	.381	.047	.339	8.094	.000

a. Dependent Variable: PS

The Table No 4.14 shows the coefficient results. This Table indicates the beta value is .339. It means change in independent variable i.e INFOINT by one unit will bring about change in dependent variable i.e. PS by .339 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. INFOINT and dependent variable i.e. PS. In other words we can say that when INFOINT increases by one unit the PS will also increase by .339 units. This hypothesis was accepted as information integration positively impacts the project success.

H1e: Task / process integration has a positive impact on project success.

The regression analysis was performed to test if task / process integration significantly predicts project success.

Table 4.15: Regression Analysis Results TI-PS

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.509[a]	0.259	0.257	0.27896

a. Predictors: (Constant), TI

As indicated in Table No 4.15, we can see that R-square value is 0.259. This shows that our independent variable TI causes 25.9 % change in dependent variable i.e. PS.

Table 4.16: ANOVA Results TI-PS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.458	1	9.458	121.548	.000[b]
	Residual	27.002	347	0.078		
	Total	36.461	348			

a. Dependent Variable: PS
b. Predictors: (Constant), TI

The Table No 4.16, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. TI and dependent variable i.e. PS.

Table 4.17: Coefficients TI-PS

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.338	.218		10.741	.000
	TI	.505	.046	.509	11.025	.000

a. Dependent Variable: PS

The Table No 4.17 shows the coefficient results. This Table indicates the beta value is .509. It means change in independent variable i.e TI by one unit will bring about change in dependent variable i.e. PS by .509 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. TI and dependent variable i.e. PS. In other words we can say that when TI increases by one unit the PS will also increase by .509 units. This hypothesis was accepted as task integration positively impacts the project success.

H1f: Organizational structure alignment has a positive impact on project success.

The regression analysis was used to test if organization structure alignment significantly predicts project success.

Table 4.18: Regression Analysis Results OS-PS

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.436[a]	0.190	0.188	0.29165

a. Predictors: (Constant), OS

As indicated in Table No 4.18, we can see that R-square value is 0.190. This shows that our independent variable OS causes 19.0 % change in dependent variable i.e. PS.

Table 4.19: ANOVA Results OS-PS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.944	1	6.944	81.639	.000[b]
	Residual	29.516	347	0.085		
	Total	36.461	348			

a. Dependent Variable: PS
b. Predictors: (Constant), OS

The Table No 4.19, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. OS and dependent variable i.e. PS.

Table 4.20: Coefficients OS-PS

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.903	.203		14.302	.000
	OS	.389	.043	.436	9.035	.000

a. Dependent Variable: PS

The Table No 4.20 shows the coefficient results. This Table indicates the beta value is .463. It means change in independent variable i.e OS by one unit will bring about change in dependent variable i.e. PS by .436 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. OS and dependent variable i.e. PS. In other words we can say that

when OS increases by one unit the PS will also increase by .436 units. This hypothesis was accepted as organization structure alignment positively impacts the project success.

H1g: Goal / outcome alignment has a positive impact on project success.

The regression analysis was used to test if goal / outcome alignment significantly predicts project success.

Table 4.21: Regression Analysis Results GA-PS

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511[a]	0.261	0.259	0.27871

a. Predictors: (Constant), GA

As indicated in Table No 4.21, we can see that R-square value is 0.261. This shows that our independent variable GA causes 26.1 % change in dependent variable i.e. PS.

Table 4.22: ANOVA Results GA-PS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.506	1	9.506	122.38	.000[b]
	Residual	26.954	347	0.078		
	Total	36.461	348			

a. Dependent Variable: PS

b. Predictors: (Constant), GA

The Table No 4.22, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. GA and dependent variable i.e. PS.

Table 4.23: Coefficients GA-PS

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.424	.209		11.585	.000
	GA	.487	.044	.511	11.063	.000

a. Dependent Variable: PS

The Table No 4.23 shows the coefficient results. This Table indicates the beta value is .511. It means change in independent variable i.e GA by one unit will bring about change in dependent variable i.e. PS by .511 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. GA and dependent variable i.e. PS. In other words we can say that when GA increases by one unit the PS will also increase by .511 units. This hypothesis was accepted as goal alignment positively impacts the project success.

H2a: Supplier relation has a positive impact on strategic procurement performance.

The regression analysis was done to test if supplier relationship significantly predicts Strategic Procurement**.**

Table 4.24: Regression Analysis Results SR-SP

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.576[a]	.332	.330	.27026

a. Predictors: (Constant), SR

As indicated in Table No 4.24, we can see that R-square value is 0.332. This shows that our independent variable SR causes 33.2 % change in dependent variable i.e. SP.

Table 4.25: ANOVA Results SR-SP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.568	1	12.568	172.073	.000[b]
	Residual	25.345	347	.073		
	Total	37.913	348			

a. Dependent Variable: SP
b. Predictors: (Constant), SR

The Table No 4.25, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. SR and dependent variable i.e. SP.

Table 4.26: Coefficients SR-SP

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	1.891	.217		8.765	.000
	SR	.601	.046	.576	13.118	.000

a. Dependent Variable: SP

The Table No 4.26 shows the coefficient results. This Table indicates the beta value is .576. It means change in independent variable i.e SR by one unit will bring about change in dependent variable i.e. SP by .576 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. SR and dependent variable i.e. SP. In other words we can say that when SR increases by one unit the SP will also increase by .576 units. This hypothesis was accepted as supplier relation positively impacts the strategic procurement.

H2b: Purchasing Knowledge has a positive impact on strategic procurement performance.

The regression analysis was done to test if Purchasing Knowledge significantly predicts Strategic Procurement.

Table 4.27: Regression Analysis Results PK-SP

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.563[a]	.317	.315	.27317

a. Predictors: (Constant), PK

As indicated in Table No 4.27, we can see that R-square value is 0.317. This shows that our independent variable PK causes 31.7 % change in dependent variable i.e. SP.

Table 4.28: ANOVA Results PK-SP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.019	1	12.019	161.063	.000[b]
	Residual	25.894	347	.075		
	Total	37.913	348			

a. Dependent Variable: SP

b. Predictors: (Constant), PK

The Table No 4.28, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. PK and dependent variable i.e. SP.

Table 4.29: Coefficients PK-SP

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	1.827	.229		7.985	.000
	PK	.619	.049	.563	12.691	.000

a. Dependent Variable: SP

The Table No 4.29 shows the coefficient results. This Table indicates the beta value is .563. It means change in independent variable i.e PK by one unit will bring about change in dependent variable i.e. SP by .563 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. PK and dependent variable i.e. SP. In other words we can say that when PK increases by one unit the SP will also increase by .563 units. This hypothesis was accepted as purchasing knowledge positively impacts the strategic procurement.

H2c: The supplier collaboration has a positive impact on strategic procurement performance.

The regression analysis was done to test if supplier collaboration significantly predicts Strategic Procurement.

Table 4.30: Regression Analysis Results SC-SP

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.513[a]	.264	.261	.28366

a. Predictors: (Constant), SC

As indicated in Table No 4.30, we can see that R-square value is 0.264. This shows that our independent variable i.e. SC causes 26.4 % change in dependent variable i.e. SP.

Table 4.31: ANOVA Results SC-SP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.992	1	9.992	124.177	.000[b]
	Residual	27.921	347	0.080		
	Total	37.913	348			

a. Dependent Variable: SP
b. Predictors: (Constant), SC

The Table No 4.31, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. SC and dependent variable i.e. SP.

Table 4.32: Coefficients SC-SP

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.203	.227		9.709	.000
	SC	.534	.048	.513	11.143	.000

a. Dependent Variable: SP

The Table No 4.32 shows the coefficient results. This Table indicates the beta value is .513. It means change in independent variable i.e SC by one unit will bring about change in dependent variable i.e. SP by .513 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. SC and dependent variable i.e. SP. In other words we can say that when SC increases by one unit the SP will also increase by .513 units. This hypothesis was accepted as supplier collaboration positively impacts the strategic procurement.

H2d: Information integration has a positive impact on strategic procurement performance.

The regression analysis was done to test if information integration significantly predicts Strategic Procurement.

Table 4.33: Regression Analysis Results INFOINT-SP

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.382[a]	.146	.143	.30547

a. Predictors: (Constant), INFOINT

As indicated in Table No 4.33, we can see that R-square value is 0.146. This shows that our independent variable i.e. INFOINT causes 14.6 % change in dependent variable i.e. SP.

Table 4.34: ANOVA Results INFOINT-SP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.533	1	5.533	59.297	.000[b]
	Residual	32.380	347	.093		
	Total	37.913	348			

a. Dependent Variable: SP
b. Predictors: (Constant), INFOINT

The Table No 4.34, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. INFOINT and dependent variable i.e. SP.

Table 4.35: Coefficients INFOINT-SP

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.986	.226		13.186	.000
	INFOINT	.372	.048	.382	7.700	.000

a. Dependent Variable: SP

The Table No 4.35 shows the coefficient results. This Table indicates the beta value is .382. It means change in independent variable i.e. INFOINT by one unit will bring about change in dependent variable i.e. SP by .382 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. INFOINT and dependent variable i.e. SP. In other words we can say that when INFOINT increases by one unit the SP will also increase by .382 units. This hypothesis was accepted as information integration positively impacts the strategic procurement.

H2e: Task / process integration has a positive impact on strategic procurement performance.

The regression analysis was done to test if task / process integration significantly predicts Strategic Procurement.

Table 4.36: Regression Analysis Results TI-SP

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.434[a]	.188	.186	.29777

a. Predictors: (Constant), TI

As indicated in Table No 4.36, we can see that R-square value is 0.188. This shows that our independent variable i.e. TI causes 18.8 % change in dependent variable i.e. SP.

Table 4.37: ANOVA Results TI-SP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.146	1	7.146	80.600	.000[b]
	Residual	30.767	347	.089		
	Total	37.913	348			

a. Dependent Variable: SP
b. Predictors: (Constant), TI

The Table No 4.37, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. TI and dependent variable i.e. SP.

Table 4.38: Coefficients TI-SP

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.644	.232		11.379	.000
	TI	.439	.049	.434	8.978	.000

a. Dependent Variable: SP

The Table No 4.38 shows the coefficient results. This Table indicates the beta value is .434. It means change in independent variable i.e. TI by one unit will bring about change in dependent variable i.e. SP by .434 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. TI and dependent variable i.e. SP. In other words we can say that when TI increases by one unit the SP will also increase by .434 units. This hypothesis was accepted as task integration positively impacts the strategic procurement.

H2f: Organizational structure alignment has a positive impact on strategic procurement performance.

The regression analysis was done to test if organizational structure alignment significantly predicts Strategic Procurement.

Table 4.39: Regression Analysis Results OS-SP

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.480[a]	.230	.228	.29002

a. Predictors: (Constant), OS

As indicated in Table No 4.39, we can see that R-square value is 0.230. This shows that our independent variable i.e. OS causes 23.0 % change in dependent variable i.e. SP.

Table 4.40: ANOVA Results OS-SP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.727	1	8.727	103.756	.000[b]
	Residual	29.186	347	.084		
	Total	37.913	348			

a. Dependent Variable: SP
b. Predictors: (Constant), OS

The Table No 4.40, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. OS and dependent variable i.e. SP.

Table 4.41: Coefficients OS-SP

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.675	.202		13.250	.000
	OS	.436	.043	.480	10.186	.000

a. Dependent Variable: SP

The Table No 4.41 shows the coefficient results. This Table indicates the beta value is .480. It means change in independent variable i.e. OS by one unit will bring about change in dependent variable i.e. SP by .480 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. OS and dependent variable i.e. SP. In other words we can say that

when OS increases by one unit the SP will also increase by .480 units. This hypothesis was accepted as organization structure alignment positively impacts the strategic procurement.

H2g: Goal / outcome alignment has a positive impact on strategic procurement performance.

The regression analysis was done to test if goal / outcome alignment significantly predicts Strategic Procurement.

Table 4.42: Regression Analysis Results GA-SP

Regression Analysis Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.543[a]	.295	.293	.27759

a. Predictors: (Constant), GA

As indicated in Table No 4.42, we can see that R-square value is 0.295. This shows that our independent variable i.e. GA causes 29.5 % change in dependent variable i.e. SP.

Table 4.43: ANOVA Results GA-SP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.175	1	11.175	145.032	.000[b]
	Residual	26.738	347	.077		
	Total	37.913	348			

a. Dependent Variable: SP
b. Predictors: (Constant), GA

The Table No 4.43, ANOVA results shows that p-value is 0.000 which is less than 0.05. Hence we can say that there is a significant relationship between independent variable i.e. GA and dependent variable i.e. SP.

Table 4.44: Coefficients GA-SP

Coefficients[a]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficient Beta	t	Sig.
1	(Constant)	2.222	.208		10.664	.000
	GA	.528	.044	.543	12.043	.000

a. Dependent Variable: SP

The Table No 4.44 shows the coefficient results. This Table indicates the beta value is .543. It means change in independent variable i.e. GA by one unit will bring about change in dependent variable i.e. SP by .543 units.

Furthermore, the beta value is positive which shows the positive relationship between independent variable i.e. GA and dependent variable i.e. SP. In other words we can say that when GA increases by one unit the SP will also increase by .543 units. This hypothesis was accepted as goal alignment positively impacts the strategic procurement.

4.4 MEDIATION ANALYSIS

Mediation Analysis was conducted through Andrew F Hayes (2004) Model 4 in SPSS for mediating research to mediation relashionship between independent variables, mediator and dependent variables. Mediating testing was conducted to assess whether or not the mediator mediates the relationship between independent variables and dependent variables.

H3a: Strategic procurement mediates the relationship between supplier relationship and project success.

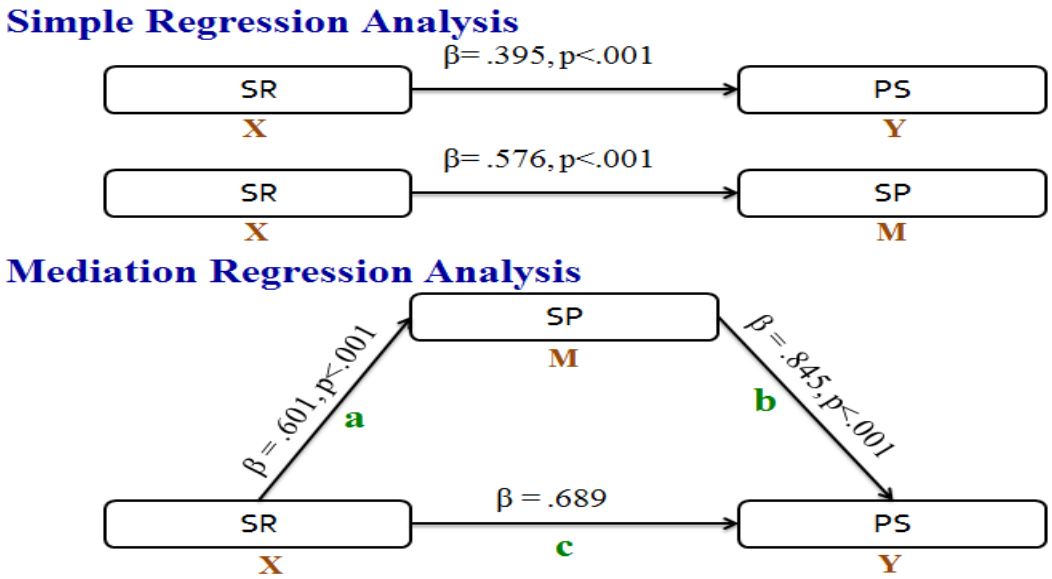

Figure 4.1: Regression Analysis SR-SP-PS

Table 4.45: Mediation Analysis SR-SP-PS

Path	β
SR (X) to SP (M) Path a	0.601***
SP (M) to PS (Y) Path b	0.845***
Direct Effect SR (X) to PS (Y)	0.689***
Total Effect of SR (X) to PS (Y)	0.113***

Bootstrap Indirect Effect	0.508***

Table No 4.45 represents mediation results indicating the strategic procurement significantly and positively predicts Supplier relationship β = 0.6011, SE = 0.0458, 95%CI[.5510, 0.6913], p=0.000. Project success significantly and positively predicts the strategic procurement β = .8451, SE = .0384, 95% CI[.7696, .9206], p = 0.000. Supplier relation is a positive and significant predictor of project success after controlling the mediator β = .1129, SE = 0.041, 95%CI[.19, 0.03], p = 0.005. Approximately 33.15% of variance was accounted with (R2 = .3315). The indirect effect was calculated by bootstrap method with results indicating coefficient β = .508, SE = 0.043, 95%CI[.42, .59]. The direct effect was calculated with results indicating coefficient β = 0.112, SE = .04, 95%CI[.19, .03]. The analysis of the result indicate that Supplier relationship positively impacts Strategic procurement and is significant as β=.601, p < .001, moreover, results also indicate that strategic procurement has positive and significant impact as β=0.5851 and p<0.001. Analysis also predicts that direct effect of SR is positively related to PS as the values indicate that they are both positively and significantly related hence is hypothesis is accepted.

H3b: Strategic procurement performance mediates the relationship between Purchasing Knowledge and project success.

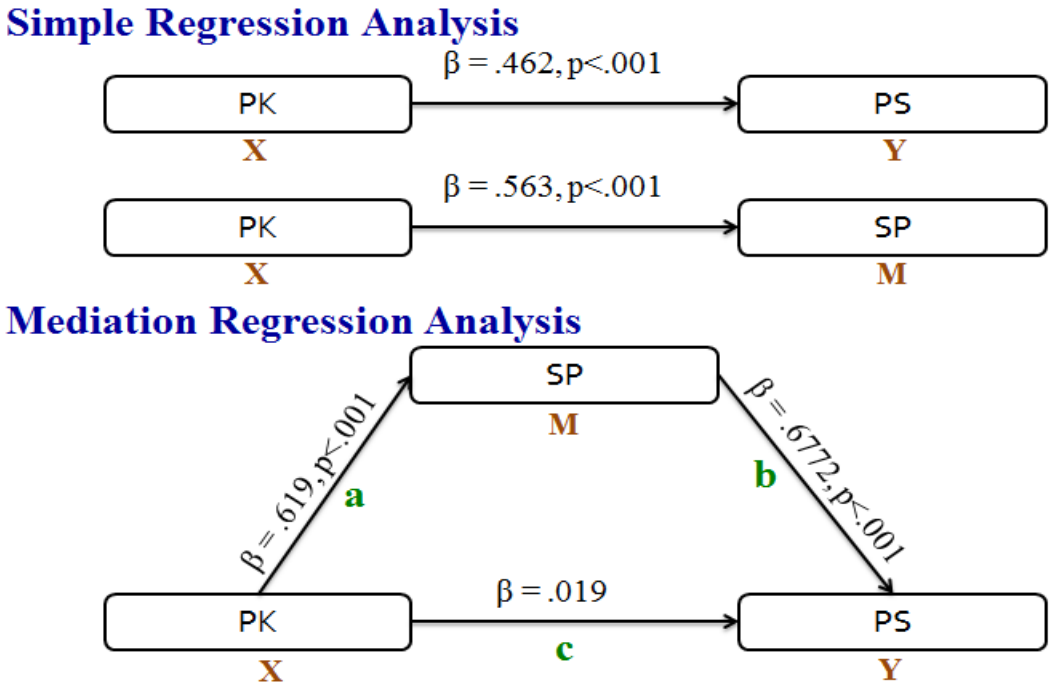

Figure 4.2: Regression Analysis PK-SP-PS

Table 4.46: Mediation Analysis PK-SP-PS

Path	β
PK (X) to SP (M) Path a	0.619***
SP (M) to PS (Y) Path b	0.677***
Direct Effect PK (X) to PS (Y)	0.019***
Total Effect of PK (X) to PS (Y)	0.195***
Bootstrap Indirect Effect	0.478***

Table No 4.46 represents mediation results indicating the strategic procurement significantly and positively predicts Purchasing knowledge β = .619, SE = 0.0488, 95%CI[.52, .71], p=0.000. Project success significantly and positively predicts the strategic procurement β = .7729, SE = .0384, 95% CI[.69, .84], p=0.000. Purchasing knowledge is a positive and significant predictor of project success after controlling the mediator β = .0195, SE = 0.042, 95%CI[.06, 0.10], p = 0.000. Approximately 31.70% of variance was accounted with (R2 = .3170). The indirect effect was calculated by bootstrap method with results indicating coefficient β = .478, SE = 0.047, 95%CI[.383, .574]. The direct effect was calculated with results indicating coefficient β = 0.019, SE = .042, 95%CI[.063, .102], p<.001. The analysis of the result indicate that purchasing knowledge positively impacts Strategic procurement and is significant as β=.619, p < .001, moreover, results also indicate that strategic procurement has positive and significant impact on project success as β=0.019 and p<0.001. Analysis also predicts that direct effect of SR is positively related to PS as the values indicate that they are both positively and significantly related hence is hypothesis is accepted..

H3c: Strategic procurement performance mediates the relationship between supplier collaboration and project success.

Table No 4.47 represents mediation results indicating the strategic procurement significantly and positively predicts Supplier collaboration β = 0.5342, SE = 0.0479, 95%CI[.4399, 0.6285], p=0.000. Project success significantly and positively predicts the strategic procurement β = .7301, SE = .0366, 95% CI[.6581, .8021], p = 0.000. Supplier collaboration is a positive or significant predictor of project success after controlling the mediator β = .1069, SE = 0.0381, 95%CI[.03, 0.18], p = 0.000. Approximately 26% of variance was accounted with (R2 = .2635). The indirect effect was calculated by bootstrap method with results indicating coefficient β = .3900, SE = 0.044, 95%CI[.30, .47]. The direct effect was calculated with results indicating coefficient β = 0.1069, SE = .038, 95%CI[.032, .181],

p<.001. The analysis of the result indicate that Supplier collaboration positively impacts Strategic procurement and is significant as p < .001, moreover, results also indicate that strategic procurement has positive and significant impact project success as β=0.730 and p<0.001. Analysis also predicts that direct effect of SR is positively related to PS as the values indicate that they are both positively and significantly related hence the hypothesis is accepted.

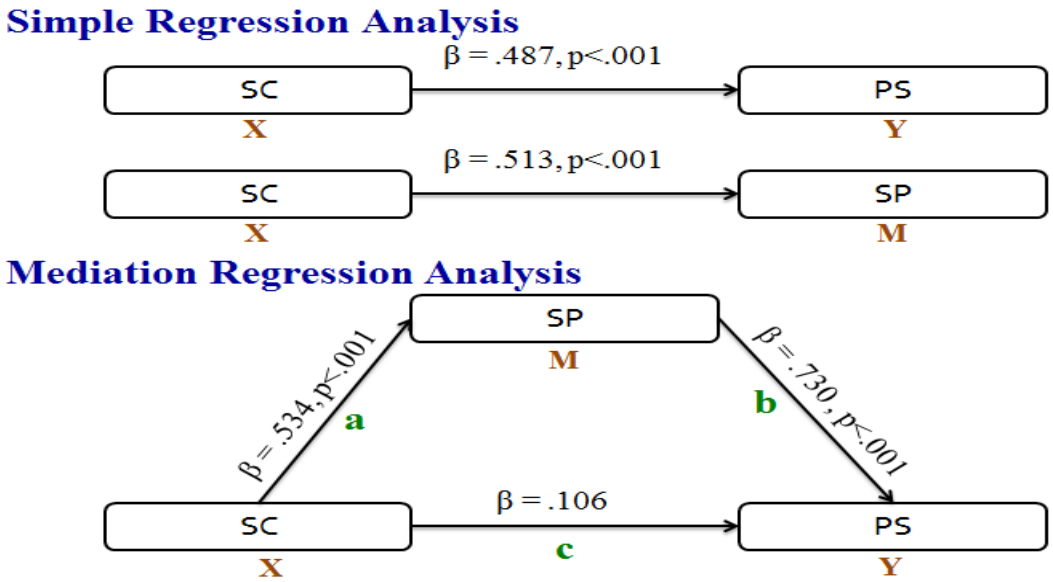

Figure 4.3: Regression Analysis SC-SP-PS

Table 4.47: Mediation Analysis SC-SP-PS

Path	β
SC (X) to SP (M) Path a	0.534***
SP (M) to PS (Y) Path b	0.730***
Direct Effect SC (X) to PS (Y)	0.106***
Total Effect of SC (X) to PS (Y)	0.381***
Bootstrap Indirect Effect	0.390***

H3d: Strategic procurement performance mediates the relationship between Information integration and project success.

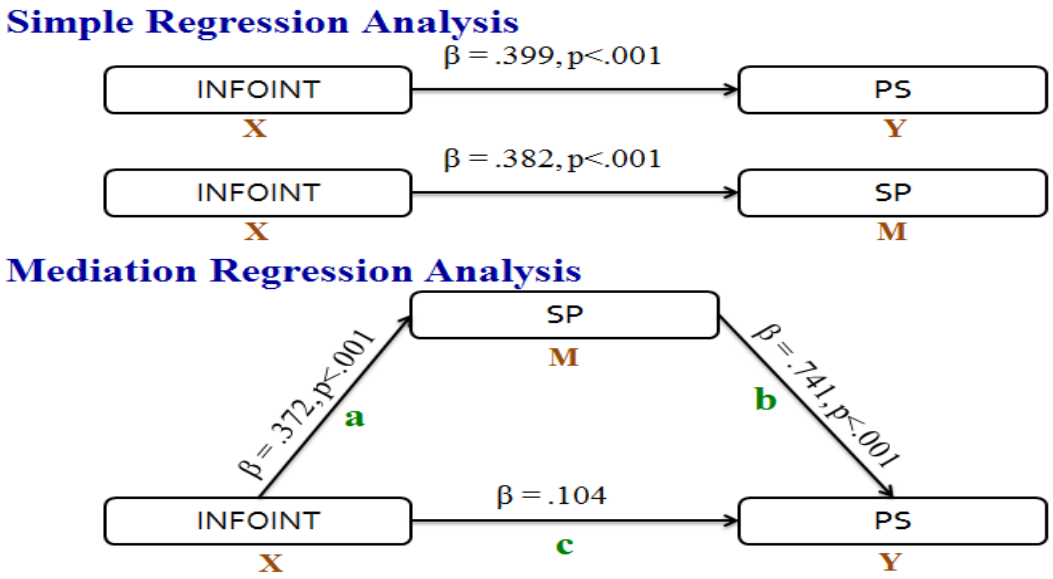

Figure 4.4: Regression Analysis INFOINT-SP-PS

Table 4.48: Mediation Analysis INFOINT-SP-PS

Path	β
INFOINT (X) to SP (M) Path a	0.372***
SP (M) to PS (Y) Path b	0.741***
Direct Effect INFOINT (X) to PS (Y)	0.104***
Total Effect of INFOINT (X) to PS (Y)	0.399***
Bootstrap Indirect Effect	0.276***

Table No 4.48 represents mediation results indicating the strategic procurement significantly and positively predicts INFOINT β = 0.372, SE = 0.048, 95%CI[.277, 0.567], p=0.000. Project success significantly and positively predicts the strategic procurement β = .7418, SE = .033, 95% CI[.675, .808], p = 0.000. INFOINT is a positive or significant predictor of project success after controlling the mediator β = .104, SE = 0.033, 95%CI[.039, 0.169], p = 0.001. Approximately 14% of variance was accounted with (R2 = .1459). The indirect effect was calculated by bootstrap method with results indicating coefficient β = .2762, SE = 0.042, 95%CI[.194, .361]. The direct effect was calculated with results indicating coefficient β = 0.104, SE = .033, 95%CI[.039, .169]. The analysis of the result indicate that INFOINT positively impacts Strategic procurement and is significant as p < .001, moreover, results also indicate that strategic procurement has positive and significant impact on project success as β=0.741 and p<0.001. Analysis also predicts that direct effect of SR is positively related to

PS as the values indicate that they are both positively and significantly related hence is hypothesis is accepted.

H3e: Strategic procurement performance mediates the relationship between Task / process integration and project success.

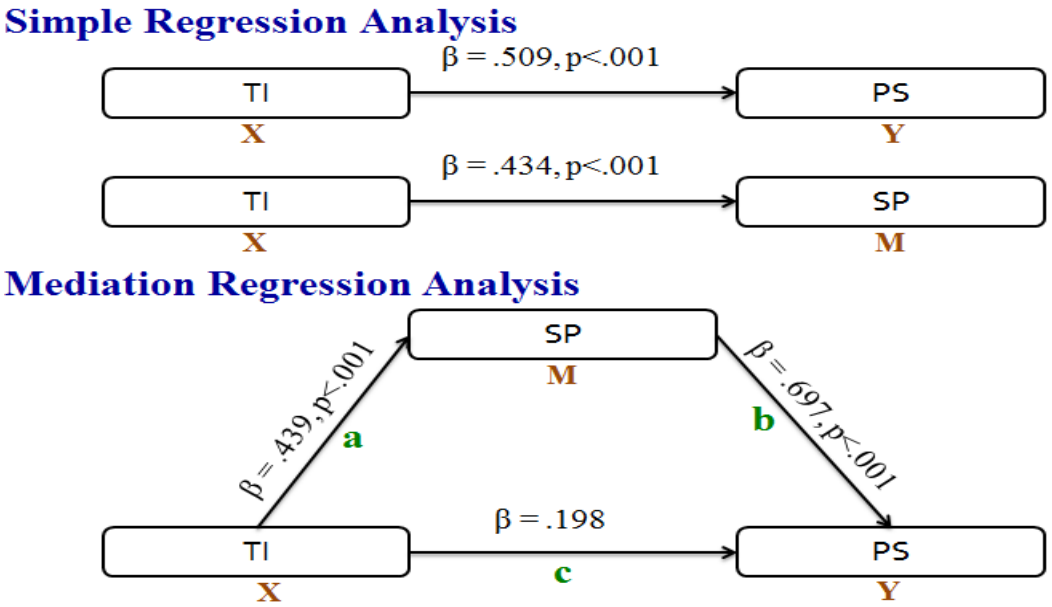

Figure 4.5: Regression Analysis TI-SP-PS

Table 4.49: Mediation Analysis TI-SP-PS

Path	β
TI (X) to SP (M) Path a	0.439***
SP (M) to PS (Y) Path b	0.697***
Direct Effect TI (X) to PS (Y)	0.198***
Total Effect of TI (X) to PS (Y)	0.509***
Bootstrap Indirect Effect	0.306***

Table No 4.49 represents mediation results indicating the strategic procurement significantly and positively predicts task / process integration β = 0.439, SE = 0.048, 95%CI[.342, 0.535], p=0.000. Project success significantly and positively predicts the strategic procurement β = .697, SE = .0336, 95% CI[.631, .763], p = 0.000. Task / process Integration is a positive or significant predictor of project success after controlling the mediator β = .198, SE = 0.034, 95%CI[.132, 0.265], p = 0.000. Approximately 66.99% of variance was accounted with (R2 = .6699). The indirect effect was calculated by bootstrap method with results indicating

coefficient β = .306, SE = 0.041, 95%CI[.222, .385]. The direct effect was calculated with results indicating coefficient β = 0.198, SE = .034, 95% CI[.132, .265], p=.000. The analysis of the result indicate that task / process integration positively impacts Strategic procurement and is significant as p < .001, moreover, results also indicate that strategic procurement has positive and significant impact project success as β=0.198 and p<0.001. Analysis also predicts that direct effect of SR is positively related to PS as the values indicate that they are both positively and significantly related hence is hypothesis is accepted.

H3f: Strategic procurement performance mediates the relationship between Organizational structure alignment and project success.

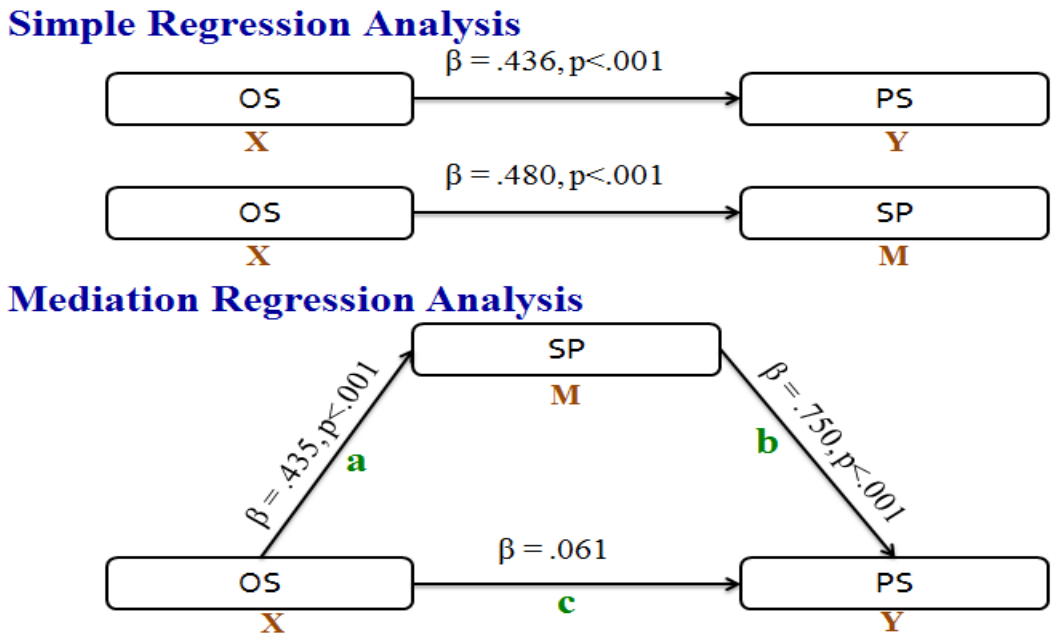

Figure 4.6: Regression Analysis OS-SP-PS

Table 4.50: Mediation Analysis OS-SP-PS

Path	β
OS (X) to SP (M) Path a	0.435***
SP (M) to PS (Y) Path b	0.750***
Direct Effect OS (X) to PS (Y)	0.061***
Total Effect of OS (X) to PS (Y)	0.618***
Bootstrap Indirect Effect	0.326***

Table No 4.50 represents mediation results indicating the strategic procurement significantly and positively predicts organization structure alignment β = 0.435, SE = 0.042, 95%CI[.351,

0.519], p=0.000. Project success significantly and positively predicts the strategic procurement β = .750, SE = .036, 95% CI[.679, .821], p = 0.000. Organizational structure alignment is a positive or significant predictor of project success after controlling the mediator β = .061, SE = 0.032, 95%CI[.205, 0.1261], p = 0.000. Approximately 64.10% of variance was accounted with (R2 = .6410). The indirect effect was calculated by bootstrap method with results indicating coefficient β = .326, SE = 0.039, 95%CI[.247, .403]. The direct effect was calculated with results indicating coefficient β = 0.618, SE = .032, 95%CI[.205, .126]. The analysis of the result indicate that organizational structure alignment positively impacts Strategic procurement and is significant as p < .001, moreover, results also indicate that strategic procurement has positive and significant impact on project success as β=0.750 and p<0.001. Analysis also predicts that direct effect of SR is positively related to PS as the values indicate that they are both positively and significantly related hence is hypothesis is accepted.

H3g: Strategic procurement performance mediates the relationship between goal / outcome alignment and project success.

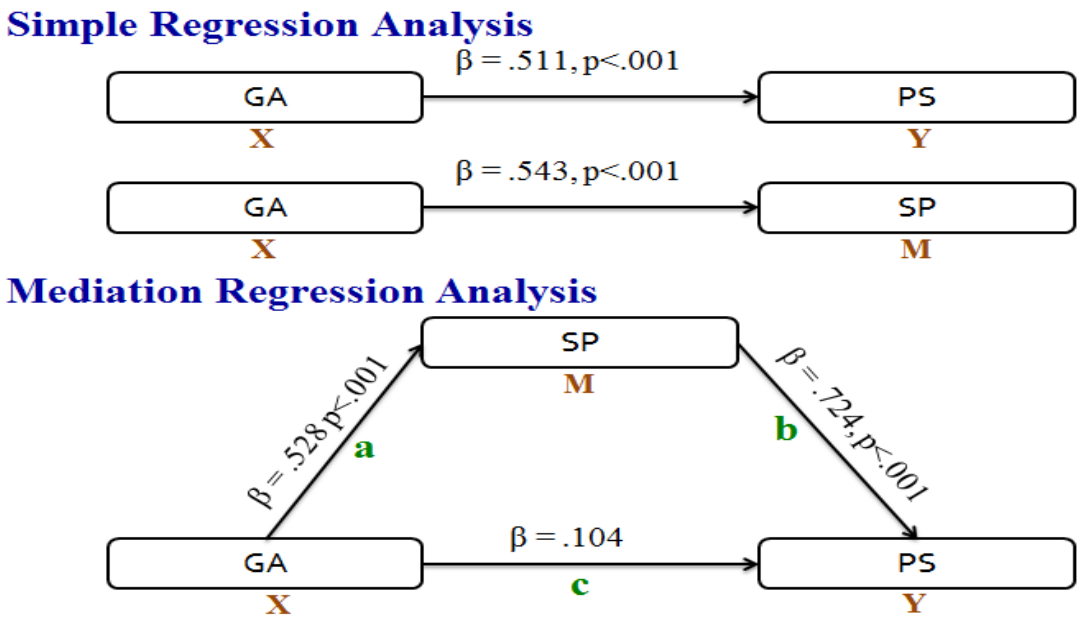

Figure 4.7: Regression Analysis GA-SP-PS

Table 4.51: Mediation Analysis GA-SP-PS

Path	β
GA (X) to SP (M) Path a	0.528***
SP (M) to PS (Y) Path b	0.724***
Direct Effect GA (X) to PS (Y)	0.104***

Total Effect of GA (X) to PS (Y)	0.617***
Bootstrap Indirect Effect	0.382***

Table No 4.51 represents mediation results indicating the strategic procurement significantly and positively predicts goal / outcome alignment β = 0.5283, SE = 0.043, 95%CI[.442, 0.614], p=0.000. Project success significantly and positively predicts the strategic procurement β = .724, SE = .037, 95% CI[.651, .798], p = 0.000. Goal / outcome alignment is a positive or significant predictor of project success after controlling the mediator β = .104, SE = 0.036, 95%CI[.032, 0.176], p = 0.000. Approximately 64.57% of variance was accounted with (R2 = .6457). The indirect effect was calculated by bootstrap method with results indicating coefficient β = .3821, SE = 0.043, 95%CI[.299, .469]. The direct effect was calculated with results indicating coefficient β = 0.104, SE = .036, 95%CI[.032, .176]. The analysis of the result indicate that goal / outcome alignment positively impacts Strategic procurement and is significant as p < .001, moreover, results also indicate that strategic procurement has positive and significant impact on project success as β=0.724 and p<0.001. Analysis also predicts that direct effect of SR is positively related to PS as the values indicate that they are both positively and significantly related hence is hypothesis is accepted.

4.5 SUMMARY OF HYPOTHESIS

The summary of all hypothesis tests is shown in Table No 4.52.

Table 4.52: Summary of Hypothesis

S No	Hypothesis	Proposed direction	Results
H1a	Supplier relation quality has a positive impact on project success.	+	Supported
H1b	Purchasing Knowledge has a positive impact on project success.	+	Supported
H1c	The supplier collaboration has a positive impact on project success.	+	Supported
H1d	Information integration has a positive impact on project success.	+	Supported
H1e	Task / process integration has a positive impact on project success.	+	Supported
H1f	Organizational structure alignment has a positive impact on project success.	+	Supported
H1g	Goal / outcome alignment has a positive impact on project success.	+	Supported
H2a	Supplier relation quality has a positive impact on strategic procurement performance.	+	Supported
H2b	Purchasing Knowledge has a positive impact on strategic procurement performance.	+	Supported
H2c	The supplier collaboration has a positive impact on strategic procurement performance.	+	Supported
H2d	Information integration has a positive impact on strategic procurement performance.	+	Supported
H2e	Task / process integration has a positive impact on strategic procurement performance.	+	Supported
H2f	Organizational structure alignment has a positive impact on strategic procurement performance.	+	Supported
H2g	Goal / outcome alignment has a positive impact on strategic procurement performance.	+	Supported
H3a	Strategic procurement performance mediates the relationship between supplier quality and project success.	+	Supported
H3b	Strategic procurement performance mediates the relationship between Purchasing Knowledge and project success.	+	Supported
H3c	Strategic procurement performance mediates the relationship between supplier collaboration and project success.	+	Supported
H3d	Strategic procurement performance mediates the relationship between Information integration and project success.	+	Supported
H3e	Strategic procurement performance mediates the relationship between Task / process integration and project success.	+	Supported
H3f	Strategic procurement performance mediates the relationship between Organizational structure alignment and project success.	+	Supported
H3g	Strategic procurement performance mediates the relationship between Goal / outcome alignment and project success.	+	Supported

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 DISCUSSION

This study makes a substantial contribution to the supply chain management's body of knowledge and has implications on both practices and theory. This study contributes to supply chain theory by empirically testing the proposed framework linking various supply chain forces like relationship, collaboration, integration and alignment with strategic procurement and project success. This study encompasses supply chain theory by validating multi-dimensional nature of supply chain construct and empirically providing the impact of these factors on strategic procurement and project success.

The findings show that relational characteristics associated with strategic procurement and project success are dependent on supplier relationship, purchasing knowledge, supplier collaboration, information integration, Task / process integration, organization structure alignment and goal /outcome alignment. Each factor correlated positively and significantly with strategic procurement and project success. This study also proves that strategic procurement has positive and significant impact on project success in construction industry. Different variable effect the project success and strategic procurement perform mediating role in ensuring the project success.

The supplier relationship has positive and significant relation with project success as well as strategic procurement. The remarkable results of this research provide insightful managerial implication for firms. The supplier relationship has far more significant effect on long term orientation and completing construction projects within timeline, forecasted cost and according to quality standards. The purchasing knowledge has moderate significant and positive relation with strategic procurement and project success.

The perceived supplier collaboration has positive impact on increasing project success and strategic procurement performance. Additionally, supplier collaboration has significant positive correlation with supplier relationship and purchasing knowledge. This mean when there is higher supplier – buyer collaboration there are more strong relation and integration between buyer and supplier and chances of project success will be higher. In other words, suppliers maintain good relationship to seek higher collaboration, integration and alignment

to achieve the goal of project success. When there is high risk in projects, there is more requirement of collaboration, integration and goal alignment that motivates the managers and suppliers to communicate more frequently that leads to more strategic relationship and project success. These results are align with the previous academic literature (Parker, 2000; Vagen and Huxham, 2003; Merkert and O' Fee 2013.

The information integration moderately effects the strategic procurement and project success. The higher level of information integration relates to competency in strategic procurement and project success. The firms with higher integrated information and processes lead to more success.

Task / process alignment has moderate to high positive correlation with project success and strategic procurement. This result offers wider prospective on goal alignment's ability to increase project success and strategic procurement performance.
Goal / outcome alignment creates "clear line of sight" and better connect the individuals outcome with organization outcome. Goal alignment has positive and significant correlation with project success and strategic procurement.

5.2 LIMITATIONS

The findings and results of this study are very similar to those studies that are conducted previously in this field in other areas of the globe. The statistical method shows adequate validity. Nevertheless, broader data set will be required to compare the findings. It is further highlighted that data was collected from the renowned construction companies of Pakistan, thus increasing the sample size will also help to confirm the results of this findings. This study did not cover the whole facets of strategic procurement and project success, thus many other variables can be included and moderator and mediators can be changed and their impact may be studied on the project success.

5.3 FUTURE RESEARCH

It is essential for academicians and practitioners to know the role that strategic procurement play in cost reducing, increasing profitability, quality of product and service in enhancing efficiency of any firm. The future studies may be conducted in field of marketing. The analysis presented is based upon a sample derived through most convenient sampling method, making optimistic about the positive results limited to construction industry that have been presented in the thesis. Taking a more widely prospective might be next step in future or many other market or supply chain factors may be included to improve the body of

knowledge. In this study we conducted survey in construction sector only. The same study may be applied to other sectors of the business firms in future to study the validity and reliability of the research.

The study emphasizes the strategic supplier and buyer collaborating in construction sector. It takes a step forward in showing what issues must be emphasized to aim the solid partnership in government as well as other sectors. Although the basic principles and procurement processes of what is "economically most advantageous" are same and identical in other sectors, there might be still some divergent characteristics that may only appear by replicating this study in other sectors. New ways of processes and goal alignment may be explored in future research.

This research is based on the responses of firms' managers and executives. The responses of employs and suppliers are also important and need to be analyzed that will provide important insight about the strategic procurement.

5.4 CONCLUSION

This study demonstrates that project success is significantly related to strategic procurement, goal alignment and information integration. This research further illustrate that SR, PK, SC, INFOINT, OS and GA have significant and positive impact on the project success in construction industry and strategic procurement in Pakistan. The strategic procurement has positive and significant mediating role in the model. The dynamic business environment is demanding more strategic and proactive procurement techniques to achieve the low cost, high quality, more profitability, product supply and project completion with lucidity. These factors support the project management in ensuring project success and achieving the project goal efficiently and effectively.

Furthermore, this research is significant from industrial as well as educational pint of view and can be tested and applied in other manufacturing as well as services fields.

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Appendix A: Survey Questionnaire

1. Supplier relationship	1	2	3	4	5
Zhizhong Jiang Stephan C. Henneberg Peter Naudé, (2011),"Supplier relationship management in the construction industry: the effects of trust and dependence", Journal of Business & Industrial Marketing, Vol. 27 Iss 1 pp. 3 - 15 Nyamai J.K, Ismail N (2018) Role of Strategic Procurement Practices On Procurement Performance in State Corporations in Kenya, American Based Research Journal, Vol-7-Issue-5 May-2018 ISSN (2304-7151)					
Maintaining a long-term relationship with this supplier is important to us.					
We are satisfied with the financial gains from our business relationship with supplier.					
Even if we could, we would not drop the supplier because we like being associated with it.					
We want to remain a member of the supplier's network because we genuinely enjoy our relationship with it					
We always keep the supplier informed about events or changes that may affect the supplier.					
2. Purchasing knowledge S Carr, R Smeltzer. (1997) An empirically based operational definition of strategic purchasing, European Journal of Purchasing & Supply Management, Vol. 3, No. 4, pp. 199-207 Geoffrey B, Andrew R.J, Millett S. (2001), Construction supply chain partnerships: skills, knowledge and attitudinal requirements, European Journal of Purchasing & Supply Management 7 (2001) 243–255 Schütz, K., Kässer, M., Blome, C., Foerstl, K., How to achieve cost savings and strategic performance in purchasing simultaneously: A knowledge-based view, Journal of Purchasing and Supply Management (2019), doi: https://doi.org/10.1016/j.pursup.2019.04.002.					
Purchasing professionals have the necessary skills to monitor and interpret changes in the supplier market/product base.					
Purchasing professionals have the technical capabilities to help our suppliers improve their processes and products.					
Purchasing is eager to take risks when appropriate opportunities are present.					
Purchasing professionals have the necessary skills to improve the firm's total cost of doing business with the firm's suppliers.					
Purchasing focuses on longer term issues that involve risk and uncertainty					

3. Supplier collaboration Grudinschi D, Sintonen S, Hallikas J (2014) Relationship risk perception and determinants of the collaboration fluency of buyer–supplier relationships in public service procurement, Journal of Purchasing & Supply Management, http://dx.doi.org/10.1016/j.pursup.2014.03.004 Koolwijk J.S.J, Oel C.J, Wamelink JWF (2018), Collaboration and Integration in Project-Based Supply Chains in the Construction Industry, J. Manage. Eng., 34(3): 04018001					
The partnership efficiently uses all parties' knowledge (Crockett et al., 2011; Black and Porter, 1996).					
Facilitative routines have been created for our collaborative activities (Crockett et al., 2011; Sari et al., 2010)					
The partnership has the needed resources and capabilities for successful operation (Crockett et al., 2011; Flynn et al., 1995).					
Seamless service is realized through partnership (Crafts et al., 2002).					
We focus on long-term goals in collaborative relationship					
4. Information Integration Rajesh Rajaguru, Margaret J Matanda, (2019) "Role of compatibility and supply chain process integration in facilitating supply chain capabilities and organizational performance", Supply Chain Management: An International Journal, https:// doi.org/10.1108/SCM-05-2017-0187					
Our supply chain partners' information systems are technically compatible with those of our firm.					
Our integrated systems allow us to share customer needs and wants through sales data.					
Our integrated systems allow our firm to project and plan future demand with supply chain partners.					
Integrated systems allow us to share delivery schedules with supply chain partners					
Integrated systems allow sharing of inventory data between supply chain partners					
5. Task / Process Integration Stank T.P, Keller S.B, Closs D.J. (2015) Performance Benifits of Supply Chain Logistical Integration, Transportation Journal, Vol. 41, No. 2/3, pp. 32-46					
My firm successfully integrates operations with customers and /or suppliers by developing interlocking programs and activities.					

My firm experiences improved performance by integrating operations with supply chain partners.					
My firm believes that the strategic direction, role, and performance of our supply chain partners are critical to achieving our success.					
My firm shares technological resources with key suppliers to facilitate operations.					
Our firm has an integrated electronic fund transfer system with our supply chain partners.					
6. Organizational Structure Alignment Ayers R.S. (2015), Aligning Individual and Organizational Performance: Goal Alignment in Federal Government Agency Performance Appraisal Programs, Public Personnel Management 2015, Vol. 44(2) 169–191 Versendaal, J.M., Beukers, M. & Batenburg, R.S. (2005). *Business Alignment in the Procurement Domain*. Technical Report. Retrieved on 27 February 2009 from: http://archive.cs.uu.nl/pub/RUU/CS/techreps/CS-2005/2005-001.pdf.					
Your employees involved in the purchasing of items have the complete individual responsibility within their functions to make independent procurement decisions.					
There is a formal appraisal scheme for procurement staff involved in the purchasing of items.					
The employees involved in the purchasing of items are permanently coached on their working processes.					
Your purchase employees involved in the purchasing work in multidisciplinary teams.					
Your purchase employees involved in the purchasing of your items work in teams with employees of your suppliers.					
7. Goals / Outcome Alignment Stephen A.T, Coote L.V, (2007) Interfirm behavior and goal alignment in relational exchanges, Journal of Business Research 60 (2007) 285–295					
Procurement vision, strategy and policy for your organization are evaluated periodically.					
The purchasing department makes procurement decisions from a context of their impact on your organization as a whole.					

There are competency profiles available for the complete purchase staff involved in the purchasing of items.					
In your organization the authorization of purchases of items is clearly settled by corporate goals.					
Your procurement function is expected to minimize costs against the purchase budget for your items.					
By constantly reviewing the internal procurement business function, purchasing efficiency for the focus is improved.					
8. **Strategic Procurement** Nyamai J.K, Ismail N (2018) Role of Strategic Procurement Practices On Procurement Performance in State Corporations in Kenya, American Based Research Journal, Vol-7-Issue-5 May-2018 ISSN (2304-7151) Schütz, K., Kässer, M., Blome, C., Foerstl, K., How to achieve cost savings and strategic performance in purchasing simultaneously: A knowledge-based view, Journal of Purchasing and Supply Management (2019), doi: https://doi.org/10.1016/j.pursup.2019.04.002.					
Are you satisfied with procurement's contribution from innovations to generate competitive advantage (e.g., via new supplier markets, tooling, etc.					
Are you satisfied with procurement's contribution to optimize cash flow beyond classical Purchasing savings?					
Are you satisfied with strategic procurement contribution in reducing total cost of ownership (TCO) for your project?					
How satisfied are you with Purchasing's contribution to support and develop long-term business goals?					
How satisfied are you with Purchasing's involvement in challenging demand to ensure strategic contribution to company goals?					
9. Project Success	1	2	3	4	5
Keun C.W, Zailani S, Fernando Y (2009) Critical factors influencing the project success amongst manufacturing companies in Malaysia, African Journal of Business Management Vol.3 (1), pp. 016-027 Shawn W. Hughes, Donald D. Tippett & Warren K. Thomas (2004) Measuring Project Success in the Construction Industry, Engineering Management Journal, 16:3, 31-37, DOI: 10.1080/10429247.2004.11415255					
The results of the project represent a definite improvement in performance over the way clients used to perform these activities.					

The project has directly lead to improve or more effective decision making or performance for the clients.					
The project has made a positive impact on those who make use of it.					
The project has no or minimal technical start-up problems because it was readily accepted by its intended users.					
I am satisfied with the process by which the project was implemented.					
Given the problem for which it was developed, the project seems to do the best job of solving that problem.					
The project has directly benefited the intended users either through increasing efficiency or employee effectiveness.					
The project has completed according to the budget allocated.					
The project has completed on time.					

All of the constructs were measured with a five-point Likert-type **scale (5 strongly agree, to 1 strongly disagree).**