

**Impact of Strategic Orientation on New Product Success
with Mediation of New Product Development Knowledge
Management Capabilities**

**(An Empirical study in Pharmaceutical Industry of
Pakistan)**

By

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MASTER OF SCIENCE IN MANAGEMENT SCIENCES

(MARKETING)



**DEPARTMENT OF MANAGEMENT SCIENCES
CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY
ISLAMABAD**

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CERTIFICATE OF APPROVAL

Impact of Strategic Orientation on New Product Success with Mediation of

New Product Development Knowledge Management Capabilities:

(An Empirical Study in Pharmaceutical Industry of Pakistan)

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This is to certify that Mr. Muhammad Farrukh Abid having registration no MMS153012 has assimilated all the instructions made by his thesis supervisor holding the title for research thesis **Impact of Strategic Orientation on new Product Success with mediation of NPD knowledge management capabilities (An empirical study in Pharmaceutical Industry of Pakistan).**

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All errors in this research thesis is my sole responsibility.

(Muhammad Farrukh Abid)

DEDICATION

Dedicated to the martyres and victims of Army Public School
Peshawar attack december 16, 2014.

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ABSTRACT

The research study was conducted in order to study an impact of strategic orientation on new product success with mediation of NPD knowledge management capabilities in Pharmaceutical industry of Pakistan. The study was initiated from the stated choice of variables along with their dimensions to state clear evidence from the literature. The study has got positive outcomes that are clearly mentioned in this research study that supports the relationship of stated variables along with their behavioral components.

Secondly to prove the stated literature a set of 392 respondents were selected among the chosen sample from the overall population to provide valuable results for this research study.

Strategic orientation has proved to have positive impact on new product success through a response rate of 392 respondents. Reliability and validity was measured to ensure inter item consistency and accuracy of items included in the instrument for data collection for the relationship between the decided variables was proved significantly for this research study. Convenience sampling technique was used by the researcher for data collection.

Regression analysis was conducted to ensure change that brings through selection of independent variable and mediating effect of NPD knowledge management capabilities on new product success. Results were proved to be significant except customer orientation that was proved to be insignificant for the research study.

The research study has highlighted important aspects for future researchers to account for other important factors for strategic orientation and development process factors. Managers of pharmaceutical companies will aim to utilize beneficial information that serves to be a competitive edge for their new product offerings in the market.

CHAPTER 1

INTRODUCTION

The introduction area explains the background, significance, scope, underpinning theory, research questions, objectives and key terms used for this research study.

1.1. Background of the study

A firm's strategic orientation reflects the strategic guidelines implemented by a firm to create the proper manners for the continuous superior performance of the business (Narver & Slater, 1990). The strategy pursued by a firm is designed to guide management. We propose that a firm's strategic orientation has a significant impact on the characteristics of innovations that are introduced to the market through two major components market orientation and technology orientation (Xatignon & Xuereb, 1997). In general, marketing theory predicts that customer-oriented firms serve the needs of the consumers better, especially by providing products that fit their needs best (Griffin & Hauser, 1993).

To develop a concisions state of market orientation mainly demands from organization to have strategic vision on its designed goals and objectives through cross functional commitment of its employees for value creation in the market. This value than transforms itself into different development stages of new product in the market that satisfactorily achieved the desired expectations from their target audience. Therefore, marketing orientation is mainly focused to achieve two major objectives. First, to achieve the internal coordination among all the employees for value creation and second to develop certain competencies to acquire necessary resources like human competencies, strategic marketing efforts and continuous learning environment to implement those core values for value creation (Slater & Narver, 1994).

Market orientation is discussed on the basis of three behavioral dimensions that are customer orientation (to have continuous understanding about the needs and wants of your potential target audience), competitor orientation (to have firm knowledge about the necessary actions taken by the competitors in the market) and inter functional coordination (to have firm communication channel to coordinate and communicate necessary information about customers and competitors from the market), (Narver & Slater, 1998) . Based on different marketing concerns and origins

these definitions about three behavioral components puts great emphases on different marketing concerned activities about external environment that includes both customers and competitors with one unique inclusion of third component which is inter-functional coordination among every department that ultimately servers as a potential base for the success of new product in the market. (Kahn, 2001).

One of the prime reasons for the success of new product in the market is in depth understanding about the market in which an organization is operating (Ramaseshan, Caruana, & Pang, 2002) further describes the core reasons behind an ultimate success of any new offering in the market is solely dependent on the implementation of these three behavioral components along with proper usage of latest technology that helps an organization to convert those prime goal oriented values in successful finished product that lasts longer in the market with higher profitability for the firm. Any company that fails to implement those components or fails to act on any of those dimensions ended up facing problems like resource pressure, cultural differences, failed to understand the needs and wants of target audience at the time of new product offerings in the market. (Calantone, Garcia, & Droge, 2003).

Second major emphasizes that must be recognized and collectively needs to be looked on is the technology that is continuous changing and requires every firm which is involved in new product development to meet the technological capability (Kirca, Jayachandran, & Bearden, 2005) Therefore successful product development is dependent on the ability of an organization to collect, analyze and interpret the given information about their customers (Kleinschmidt, Brentani, & Salomo, 2007), actions of their competitors and how accurate the given information is interpreted throughout each cross functional department within an organization (Athaide & Klink, 2009).

Researchers in their further studies have emphasized on these internal resources must be align with inter functional activities to perform the tasks efficiently and effectively and organizational ability to innovate and survive in this competitive era is dependent on how strongly and effectively they focus and utilize on their internal situations and resources (Kraiczky, Hack, & Kellermanns, 2013).

1.1.Problem Statement

“To study if there is any significant impact of strategic orientation on the success new product development through addressing the aforesaid while measuring market orientation and technology orientation with mediating effect of knowledge management capabilities in pharmaceutical industry of Pakistan particularly in Rawalpindi and Islamabad”.

The research study will aim to address significant problem for the pharmaceutical industry of Pakistan through aforementioned statement from the included predictors that will help to aim their significant approach towards the accomplishment of their goals and objectives. The research study will help the management to reduce their investment procedures, increase in response time from customers and help in achieving competitive advantage in the market for a sustainable span of time.

As pharmaceutical industry is having huge set of innovative programs on daily basis to survive in the market due to sheer pressure from the competitive market. There has been a lack of specificity in which market research tools and techniques can be used to integrate user/customer needs and requirement into a new product development process in order to increase the likelihood for success. Therefore, this research will investigate how best to integrate user/customer market research techniques in a new product development process as defined by (Cooper & Robert, 2008).

1.2.Research Questions

- To what extent customer orientation, competitor orientation and Inter-functional coordination significantly effect on new product success?
- To what extent technology orientation significantly effect on new product success?
- To what extent NPD knowledge management capabilities mediate a relationship between customer orientation and new product success?
- To what extent NPD knowledge management capabilities mediate a relationship between competitor orientation and new product success?

- To what extent NPD knowledge management capabilities mediate a relationship between inter-functional coordination and new product success?
- To what extent NPD knowledge management capabilities mediate a relationship between technology orientation and new product success?

1.3. Research Objectives

The objectives of the current study are to:

- Explore the relationship between customer orientation and new product success.
- Explore the relationship between competitor orientation and new product success.
- Explore the relationship between inter functional coordination and new product success.
- Explore find out relationship between technology orientation and new product success.
- Explore the mediation of NPD-K.M.C between strategic orientation (customer, competitor, inter-functional coordination, technology orientation) and new product success.

1.4. Research significance/ Importance

The chosen research topic is having much of importance for two reasons. First, the chosen research topic is important for owners of pharmaceutical businesses. The research findings will be helpful for business owners to understand that how the use of strategic orientation, especially (Subin & Heiman, 2016) with chosen dimensions are helpful in satisfying the desires and needs of target audience. This will not only maximize the worth of new product offerings but also enhance their profitability for their business through proposed set of designed strategies (Xatignon & Xuereb, 1997). The research findings are also beneficial for business analysts understand the ways to enhance business profitability through achieving the benefits of technology orientation along with the first chosen dimension which is market orientation (Narver & Slater, 1990).

1.5.Underpinning theory

This research study tends to follow “organizational learning theory” (Subin et al, 2016). This theory supports the view that knowledge resources such as prior related knowledge provide NPD teams an ability to acquire new information, assimilate it, and apply it to develop new products (Cohen & Levinthal, 1990). Finally, organizational learning perspectives also indicate that acquiring and applying NPD knowledge inside and outside NPD teams contribute to the generation of future innovations (Leonard, 1995) which can help sustain competitive advantage over time.

1.6.Knowledge Gap/ Research Justification

Strategic orientation is an ultimate tool to grasp as much relevant knowledge from the market that provides constructive insights to acquire and implement the NPD knowledge capabilities to make the product successful in the market. This knowledge gap is adapted from (Dul, 2014) and further it was evidenced by (Ho, 2016) where the authors have provided certain limitations for future research like to treat the ultimate dimensions of strategic orientation at further dimensional level.

So this research study will tend to justify the gaps of this research domain by measuring strategic orientation at further dimensional level according to unit of analysis to produce efficient and effective outcomes for both managerial and research domains.

1.7.Key terms (variables) and Definitions

- **Strategic Orientation (S.O).**

A firm’s strategic orientation is defined as potential element for the management to acquire knowledge about new product development with determination to improve abilities of NPD teams to launch an efficient new product (Subin & Heiman, 2016).

- **Market Orientation (M.O).**

Market orientation is a business model that focuses on continuous improvement for superior value for their desired target audience with inclusion of all the employees working for the achievement of set objectives (Narver & Slater, 1990).

- **Customer Orientation (C.O).**

Customer orientation is the firm's efficient understanding of its potential target audience in order to be able to create superior value for them continuously (Narver & Slater, 1990).

“Set of beliefs that put customer interests first” (Xatignon & Xuereb, 1997).

- **Competitor Orientation (Cp.O).**

A competitor orientation can be defined as the ability of the firm to identify, analyze and respond to the actions taken by competitors (Narver & Slater, 1990).

- **Inter-functional coordination (I.F.C).**

Inter-functional coordination refers to those specific elements about the structure of an organization that helps to facilitate the communication among different functional departments of organization (Xatignon & Xuereb, 1997).

- **Technology Orientation (T.O).**

Technology-oriented firm can be defined as a ability of the firm to acquire potential technological background that can be utilized in the development of new products (Xatignon & Xuereb, 1997).

- **New product development Knowledge management capabilities (NPD K.M.C).**

The term NPD knowledge management capabilities are defined to an extent of NPD team's abilities to acquire and apply potential knowledge of new product development throughout the firm's NPD process (Subin & Heiman, 2016).

- **New Product Success (NPS).**

New product success is defined as the performance of the firm measured in percentage of the firm's sales in the previous year compared with new or significantly improved products (goods and services) introduced during the last three calendar years under review (Dul, 2014).

CHAPTER 2

LITERATURE REVIEW

This chapter provides the citation in various choices of variables that are included for this research study with details provided as follows:

2.1. STRATEGIC ORIENTATION

In an increasingly growing global market place new product development (NPD) has become an important source of consideration to gain a sustainable competitive advantage in the market. One of the most important factors that ultimately contribute towards the success of new product development is firm's strategic orientation (Mu, Thomas, & Peng, 2016). It reflects firms core strategic decisions on how to conduct certain strategic planning to conduct a business; in short it is the philosophy of the firm to perform certain tasks in order to make the product successful (Covin & Slevin, 2006).

Different authors like (Gatignon & Xuereb, 1997) defined strategic orientation as the strategic directions that are planned, organized and implemented by the firm to endorse proper measures for the continuous performance and success of new product development. According to (Sriram, 1996) strategic orientation is how an organization change or adapt various aspects of its surroundings for favorable environment. Strategic orientation is considered as a critical component for not only profitability but the ultimate survival of any firm is depending on how an organization tends to use its available resources strategically (Chin-Chun & Zailani, 2016).

Strategic orientation serves as a strategic tool to achieve competitive advantage through designed orientations that are market orientation and technology orientation which directs an organization to achieve superior performance through designed techniques which serves as a core reasons to achieve strategic advantages which are rare, valuable and imitable firm's resource. Building a proper linkage between the exploration of risky ideas and exploitation of old certainties serves as a medium to achieve competitive advantage over its direct and indirect competitors in the market (Hong & Yoo, 2013).

Firms are now a days working on implementing those innovation strategies that are involved actively in grasping external knowledge acquisition in continuous changing environments. Firms

must grasp proper knowledge about the process of new product development that provide a vast knowledge exposure about the external environment (Lichtenthaler, 2016)

Research based primarily on strategic orientation focuses on individual drivers and helps to identify unexplored needs and wants of desired target audience through four basic components that includes market orientation, technology, entrepreneurial and relationship orientations. Literature has put emphasis on the scenario that those firms which are primarily focusing on only generalized view of strategic orientation faces much loss comparatively to those which are focusing on the mix of multiple orientations in the long run (Ho & Plewa, 2015).

A firm's strategic orientation is critical to the management of NPD knowledge because it helps determine how NPD knowledge is shaped, learned, relocated, and joined as a reserve base for developing and launching new products. Firms should understand, adapt, and achieve their strategic orientation to create and maintain positional compensations. Following (Gatignon and Xuereb's, 1997) study that examines the relationship between strategic orientation and innovation outcomes; we consider market orientation and technological orientation as two important ancestor strategic orientation dimensions that influence NPD knowledge management capabilities that ultimately blessed an organization with sustainable competitive edge to launch successful product in the market (Im, Vorhies, & Heiman, 2016).

The study primarily focusing on the multiple combination of strategic orientation (Subin et al, 2016); (Xatignon & Xuereb, 1997) that includes market orientation and technology orientation with the mediation of new product knowledge management capabilities to enhance the success of new product in pharmaceutical industry of Pakistan.

2.1.1. Market Orientation

Market orientation is a business model that focuses on continuous improvement for superior value for their desired target audience with inclusion of all the employees working for the achievement of set objectives through two basic approaches i.e. programmatic approach and market back approach. The first approach provides knowledge about the market scenario through different educational programs that implement change in proving superior value for their customers. Second approach deals with the opposite case as the organization learns from the market through its different marketing efforts to create value for their customers according to the

needs and wants of their desired customers (Narver, Slater, & Tietje, 1998) (Matsuno & Mentzer, 2015). The process of creating a market orientation mainly requires a cross functional commitment of an organization as stated by the Narver & Slater in the above statement that mainly transforms necessary skills into processes and then ultimately fulfilling an objective of core value for their desired target audience (Deshpande & Farley, 2004).

Market orientation as characterized by (Narver & Slater, 1990) consists of three behavioral components that are customer orientation(continuous understanding of both current and potential customers in the market and create superior value for them), competitor orientation(continuous understanding of your current and potential competitors present in the market along with their strategies they are using to create superior value for their customers) and inter functional coordination(the coordination and exchange of relevant knowledge among all the departments of organization to utilize the relevant knowledge to create superior value as per the needs and wants of desired target audience).

Development of market orientation is primarily concerned to create superior value for its desired target audience supported by the cross functional commitment from its employees of different departments. This value is then transform into activities performed by the company as per the needs and wants of its target customers. Thus market orientation is primarily dependent on two prime objectives, first to create organizational commitment to create superior value and second to develop certain skills to achieve those objectives (Deshpande & Farely, 1997).

For the ultimate success of new product development a continuous understanding of market is one of the key tools that directs an organization to achieve its core objectives and one of the prime reason for the failure of newly launched products as discussed by (Narver & Slater, 1998), (Kahn, 2001) and (Calantone, 2014) is the lack of understanding and ongoing fluctuating demands from the market like flux in technology, unsupportive environment and cultural differences leads to a major difference in the properties of new product and their desired target audience.

Market information is one of the key tool that is used by many organizations to create optimum understanding of the market that includes both the actions of their competitors and their target customers through both primary and secondary basis to examine their actions towards new

offerings duly launched products in the market through market surveys, information scanning and other techniques to maximize their information about the interest of their customers and actions of their competitors (Xu, Frankwick, & Ramirez, 2016).

With the increase in globalization and interacting demands of customers from every angle of the market makes it vulnerable for the companies to pay great emphasis on their market intelligence programs to maintain their market share in this stage of increased competition, continuous change in the demands of emerging markets with inclusion of technological advancements the products with limited features seems to be last longer for shorter span of time for any company rather operating domestically or globally (Kuester & Hildesheim, 2016).

So products having shorter span of life cycle are declined in this competitive environment and almost every firm in order to sustain their consistency and commitment towards creating value by winning the trusts of every single customer in the market, every firm is moving towards innovation programs by coping up with pace of latest technology to add distinguish and competent features in their new offerings that allows them to grasp maximum market share through creation of value for their customers (Morgan & Strong, 2015) further discussed the development of more complex products with greater ease of technological advancements provides some fruitful insights for the companies to enhance the level of performance and trust in the market and market orientation is an important tool as discussed in the light of literature that enables manager to enhance the effectiveness of new product in the market that serves as a contribution towards success of new product in the market.

Much of the focus is emphasized on the innovation procedures and techniques through knowledge driven activities from the external environment serves as a prime objective for any organization to utilize the ultimate components of market orientation that allows an organization with the scope of looking upon the each of the major side while going for the launch and development of new product in the market. Different companies tends to adopt different learning methods to overcome the duly stated components of market orientation according to the type of environment, market and competition they are facing (Liepe & Sakalas, 2015) discussed the elements that are collecting information about the market, grasp the information accordingly, implement an information according to available resources and monitor the activities performed

by the departments being considered by an organization for the success of new product in the market.

Due to sheer competition and continuous improvement in the competent features of new offerings in the market, companies tend to have firm knowledge about the actions of their competitors and respective needs and wants of their target audience to design their new products (Davicik, Nebojsa, & Sharma, 2016).

According to the available knowledge they have to seek proper learning and know how about the standards that are required for the distinctive competencies which in future can be served as a potential competitive advantage for the firm which in turn be further utilized by the members to introduce a new product offerings in the market and it can only be possible if firms will consider the behavioral components of market orientation the most important and collect complete information about the current needs and demands of customers along with the actions of their competitors through strong aligned network of communication regarding sharing of information and ideas while working on the development of new product and its performance in the market (Eisend, Evanschitzky, & Calantone, 2016).

Different elements are considered as one of the important jaw lines for the success of new product in the market that includes collecting relevant knowledge about the market, grasp that information accordingly, implements information according to the given resources and evaluate that information through market intelligence and activities performed with in an organization. Since organizational scholars puts great emphasis on the important role of communication network about the collected knowledge with in an organization as they can coordinate their interdependent tasks according to the external knowledge that serves as a key to a success of new product in the market (Sosa, Gargiulo, & Rowles, 2015).

2.1.2. Technology orientation

The term technology is defined as merger of various kinds of techniques, developments, approaches and skills for the tenacity of production of different kinds of goods and services (Gatignon & Xuereb, 1997). Different forms of technology can be the set of information, services and techniques that can be transformed into machines, gadgets and other kinds of

manufacturing factories to produce quality products as well as service to grasp maximum market share and brand equity in the minds of desired target audience (Wind, Jerry, & Mahajan, 1998).

As customer pull is the philosophy used for market orientation, technological push is the term referred for technology orientation which advocates the commitment towards R&D, acquisition of new technology and application of new technology to encourage implementation of new ideas adapted from the market or internal to an organization (Zhou & Tse, 2005).

Technology oriented firms are excellent in taking dynamic turns for their benefits that allows them to spend heavily on their research and development schedules to mold the behavior of knowledge as per the situations and circumstances they received from the market (Hakala & Kohtamaki, 2011). These turns are served as one of the critical drivers for break through innovation in new product offerings that allows a firm to indulge them in creativity and innovation that guide them to acquire competitive edge over competitors (Chen, Jin, & Li, 2014).

According to (Mattia & Bianchi, 2014) the success of the firm is widely dependent on its ability to alter its technological competences into valuable transformation. Specifically it focuses on keeping optimal balance among utilization of given resources on NPD with dynamic pace of technological advancement. Most of the firms are trying to extract maximum out of their technology capabilities which assists them in the production of new product development in the more well-organized way then before they are carrying out.

A firm can only pursue technology based innovation if it encourage its employees to adopt technology oriented culture i.e. come up with innovative ideas, dynamic nature to adjust with changing situations to pursue break through innovation culture and competitive strategies that equip a firm with competitive edge in the market (Kasim & Altinay, 2016).

From a rapidly changing perspective this resource will help an organization to increase its NPD knowledge management capabilities that ultimately increases the percentage of success in the market in which the product will be launched (Han, Kim, & Kim, 2001).

2.2.NPD KNOWLEDGE MANAGEMENT CAPABILITIES

Knowledge management is considered to be an important topic for discussion in the management literature and for the companies as well about what they know and to which extend they have knowhow about certain situations of the market. Companies intend to go beyond thinking about their capabilities and strengths through which they can make best use of the available knowledge they possess. Knowledge is considered as one of the key resources an organization has which allows them to compete in the market significantly and efficiently to achieve sustainable competitive advantage (Cepeda-Carrion & Leal-Millan, 2016).

NPD knowledge management capabilities refer to an NPD team's abilities to acquire and apply bundles of NPD-related knowledge throughout the firm's NPD process. Knowledge management capabilities constitute a major aspect of organizational learning, as a process or position through which knowledge develops and accumulates discussion of exploration and exploitation; we treat an NPD team's knowledge acquisition and application capabilities as two key components of innovative capabilities for managing and allocating relevant, knowledge-based resources and strategic orientations (Subin & Heiman, 2016).

Knowledge management capabilities play an important role for supporting an organization to enhance innovation for survival of their existence in the market for longer span of time. The process involved is much complex and is overcome through tough mechanism of acquiring, sharing and application of new and improved knowledge not only for the development of new product but also for their successful survival in the minds of desired target audience (Chen & Huang, 2009).

Organizations not only domestically but globally they find initiatives to find the better ways of knowledge management to enhance the productivity as well as the ways and procedures to design the new products as per the needs and wants of customers which is an important aspect of market orientation to ensure the success of new product in the market (Donate & Pablo, 2014).

Knowledge management capability emerges as an important factor between customer value, strength of communication among employees and analyzing the strategic outcomes from the direct and in direct competitors competing in the market from the literature as (Capon, Farley, & Hulbert, 1992); (Zahra & Das, 1993); (Li & Calantone, 1998) (Zack, McKeen, & Singh,

2009) discussed the importance of knowledge application through practical exposure that not only enhance the integration among existing knowledge but also encourage an employees to solve the problems in an efficient and effective manner. Developing a proper connection among three dimensions of knowledge management equipped an organization to enhance the innovation platforms for the success of new products launched in the market.

More over knowledge management enhances the firm level to obtain high quality product technologies from the knowledge that is acquired by the key individuals from external sources through an interaction between knowledge storage and creating values among employees of certain teams to work accordingly to achieve the desired goals and objectives set by an organization (Tzokas, Kim, & Dajani, 2015).

The knowledge based view of an organization as discussed by the (Clercq, Dimov, & Thongpapanl, 2015) is based on the exchanges between different areas and domains of different knowledge that ultimately explains how well an organization will expand its innovative activities through increased coordination and sharing of knowledge within an organization. Such exchanges not only enhance the effectiveness but allow employees to produce productive ideas through team work creativity and fuel the creation of new knowledge about new product development.

Organizations are able to perform more dynamic outcomes if they are able to examine the importance of knowledge regarding their potential customers and competitors in the market (Evanschitzky, Eisend, & Calantone, 2012).

Information grasp through external market from three discussed behavioral components of market orientation if manages it successfully by the firm in terms of acquisition, sharing among employees of an organization and effectively applying knowledge among employees to enable them to perform their tasks more efficiently with given information to achieve sustainable competitive advantage through innovative product outcome launched in the market (Castro, 2015).

Any organization is bound to collect relevant information about their surroundings regarding their competitors, their needs and wants of target audience through any feasible tool, techniques they tends to opt (Aujirapongpan & Cooperat, 2010) and knowledge management strategies to

scrutinize the available knowledge about both customers and competitors is a strong requirement for the firms to make successful offerings in the market (Nguyen & Neck, 2009).

2.3.NEW PRODUCT SUCCESS

NP success is defined as the degree of improvement in firm sales from previous year by introducing new products and services with significant features introduced in current year. It mainly consists of two main components: percentage of sales from products that are new to the market and percentage of sales from products that are new to the firm (Dul & Ceylan, 2014).

Innovation success for any firm can be estimated or understood by the effective combination of utilization of available resources based on the collective information from the market, skills required to convert that information into valuable offerings and competence to sustain those features in new offerings (Paladino, 2007).

Innovation can be classified into process innovation and product innovation (Ar & Baki, 2011). Understanding drivers that stimulate the performance of NP in the market is very significant. Components of strategic orientation aim to focus on the fulfillment of needs and wants of targeted customers through market orientation (Narver & Slater, 1990) and secondly it aims to overcome the technological hazards to significantly convert the available information into valuable new product offerings (Henard & szymanski, 2001) .

As discussed in the literature NPS involves continuous transformation of valuable information, key knowledge strategies into competent products (Keuster & Hildesheim, 2016), which is carried out by the firm through complex phenomenon covering several stages to launch a successful product in the market (Pentina, Strutton, & Holmes, 2016) .

Another point of comparison discussed by author as the estimation of new product success in comparison with similar products launched by competitors is defined by major components: having clear vision about the product before it initiates, detailed knowledge about the market oriented components, their technical limitations and high quality NPD process control (Relich, 2015).

The first two dimensions concern with the collection of relevant knowledge about competitors and their actions, proper identification of needs and wants of your potential customers through market orientation and last one is about the implementation of that knowledge in the process of NPD i.e. idea generation, concept selection and testing it effectively and efficiently (Ulrich & Eppinger, 2011).

One of the key challenges faced by an organization is to acquire knowledge edge from the market, implement it in a way that is distinctive in context of technological advance and dynamic market conditions (Relich, 2013). Though managers do not feature the same level of standing to different performance gauges, therefore every firm has different criteria to measure success of new product (Molina-Castillo & Munuera-Aleman, 2009).

Certain requirements are considered valuable information regarding customers (e.g. installation, user training, documentation, maintenance and repair, online support, warranty and upgrading) during NPD, particularly at the design stage. Spreading this kind of information might encourage target audience to participate at various stages of NPD, to clarify their support needs with regards to newly designed and developed products. If dynamic natured NPD teams can develop new products more rapidly (are proficient in launching products), their new product success rate is likely to increase (Siohong, 2016).

Research has discovered that those firms who are actively involved in acquiring external knowledge efficiently and effectively, sharing relevant information and knowledge with concerned departments will ultimately increase internal coordination that increases the ratio of success for the launch of new product in the market (Lau, 2011).

2.4.HYPOTHESIS DEVELOPMENT

2.4.1. Customer Orientation and New Product Success

Firm's key benefit considered to be a main cause of customer co creation through the innovation course. So, customers are lively involved in the firm's advancement procedures and take the control of modernization activities usually executed by a firm to enhance success of new product development in the market (Mahr, Lievens, & Blazevic, 2013).

Increasing body of literature hints that the success of new product development (NPD) course in technical based, industrial markets is purely based on the involvement of customers and managers looking for direction on how to tackle their NPD linkages with success factor always consider their target audience during development stage. Whereas, the deficiency of proper perceptions not amazingly, unsuccessful connection management is a basic factor in the failure of new product (Athaide & Zhang, The Determinants of Seller-Buyer Interactions during New Product Development in Technology-Based Industrial Markets, 2015).

There is rising appreciation in selling research of the status to include customer insight as a core objective towards the success of new product development in the market. This acknowledgement has been bigoted by prominent changes in the nature of B2B and B2C markets. This acknowledgment has boast the attention in the motivation of salesperson's attitudes like customer orientation, interpersonal listening in personal selling and adaptive selling on events of sales efficiency that serves as a medium towards successful launch new offerings in the market (pelham & tucci, 2015).

Current literature allows a slight assistance on the edge of bonding between the radical abilities of the organization and the involvement of customer and how they actually move along to increase and brighten the superiority of the services and motivate company's performance. Depicting on the work which mark the company's skills/abilities and bridge management specifically customer involvement, this work suggests that customer involvement may held responsible for the firm's ability to create superior value for their target audience and make the new offerings successful in the market (Bartl & Ernst, 2012).

Authors like (Schreie & Dahl, 2012) consider customer insights as a prime concern behind their development procedures of company that sell products duly designed and features as per the needs and wants of their target audience. In comparison with the outdated structure mode, firms are now a days seeking for the ways and procedures that fits according to the requirements of the market and launch such product offerings that lasts longer in nature with best suited technological support in which specialized product developers engaged by firms tackle the design task, commonly design by consumers includes the firm's ability in developing new product designs for the wider user market.

The interaction between customer orientation, modernization, and business innovation observes a closed relationship as the success of any new product in the market is purely dependent on the ability of the firm to grasp the tools for innovation with modern techniques as per the direction from their customers. So customer orientation is an important reason for the firm while they are going for any new offering in the market to look upon carefully the needs and demands in specific culture of their respective target audience in the market (Grissemann & Sperdin, 2013).

Customer-oriented products mean products that customer's value and that meet and/or exceed their desired goals or expectations. It is utmost responsibility for a firm to deliver such products in the market that exceeds an expectation of their desired target audience. To create such products the marketing department of every organization must carefully drives out such knowledge tools that provide them relevant information regarding customer needs and must carefully drive that information among every employee, so that it can work to translate customer needs into product features (Kotler & Armstrong, 2006).

NPS depends essentially on how a product is observed by its target customers and the functionality and quality of its performance is keenly observed as a medium for the success of new product in the market. It has been observed that NPD managers distinguish between short and long-term new product performance and fluctuate the features as per the responses they receive from their potential customers and increases the chances of NPS not only at the new product introduction stage but throughout its life cycle it serves as a medium for the core competitive advantage for the organization which helps to ensure and prolong its success in the minds of desired target audience (Castillo & Alema, 2009).

Customer orientation enables a firm's capability to listen to the opinions of its customers, respond to their needs and thereby maximize its long-term profitability and success for the new offering in the market therefore

It was hypothesized that:

H1: Customer Orientation positively and significantly impact on new product success.

2.4.2. Competitor Orientation and new product success

Competitor orientation is considered to be one of the key components for the firm marketing strategy as it assists firm to grasp knowledge regarding competitor's activities, operations, and assessment of their products and services so firm can response in accordance with the strategies designed to tackle the actions of their competitors in the market (Beneke, Blampied, & soriano, 2016). It helps firms to design their products and services more accurately in response to customer demand and competitor strategies which tends to involve in the not only the development of new product but also the success of new product development (Kim, Shin, & Min, 2016).

Competitor orientation is defined as the sum of activities designed to grasp information regarding the actions of their competitors in the market. It is considered to be an important tool for the firm to respond according to the actions or tackle certain ways to protect their competitive edge in the market (Shoham, 2013).

It helps the firm to identify not only their short term strengths and weaknesses but explore their long term capabilities that enables them to endorse in their new product offerings in the market in a successful and meaningful manner (Blessy, Patel, & Agarwal, 2014). It comprises of certain activities as discussed by the above authors in literature about intelligence programs particularly designed to look for the actions, operations and assessment of their new offerings in the market (Gotteland, 2016).

Market orientation plays a significant role in development and success of new product offerings in the market (Robson, 2015). Competitor orientation provides comprehensive knowledge about the needs and wants of their market, strategic operations of their competitors that directly effects their contribution role for not only in the development of new product but ensure to have a successful journey in the market (Dacco & Furrer, 2015).

Competitor orientation is one of the key components and is the major persuasive in the development of the new product. The companies which are market oriented need to be more precise and organized about information as they are totally reliant on such information if they did not perform appropriately it will ultimately results in the lack of firms performance and product failures (Brexendorf, Bayus, & Keller, 2015).

It was hypothesized that:

H2: Competitor Orientation positively and significantly impact on new product success.

2.4.3. Inter functional coordination and new product success

For the success of any new product launch is not only dependent on the external factors and components like customer preferences and competitors orientation but it can only be achieved if an organization can successfully draw the gathered information about external components and utilize that information through strong communication and collaboration with ultimate use of given resources in an effective and efficient way to develop a new product that provides them a successful competitive edge in the market with long term survival (Swink & Schoenherr, 2015).

New product development process and both of the formal and informal means of communication within an organization, within different teams while performing certain tasks and activities acts as building blocks for achieving new product innovation and successful launch in the market to sustain their product offerings last longer in the minds of their target audience (Griffith, Lee, & Calantone, 2014).

One of the key barriers that are faced by any organization is the flow of accurate information from one department to another and that is the key spot point where firms lay behind in the success of their new offerings in the market. Knowledge barrier is one of the key hurdles any organization has to face to make their product successful in the market (Roper & Vahter, 2016).

Certain barriers are overcome by any organization if the communication is shared and flows in accordance with proper channels and hierarchies with every responsible staff in the organization to promote the level of production in accordance with needs and wants of their target audience and perform their tasks according to the information obtained from external environment (Kou & Lee, 2015). This helps an organization to design their functions and allocation of their resources in ways that will enable them to achieve a desired outcome of NPD process (Lewrick, Williams, & Lee, 2015).

It was hypothesized that:

H3: Inter-Functional coordination positively and significantly impacts on new product success.

2.4.4. Technology Orientation and new product success

A firm having strong technology orientation can ultimately sense and respond to rapidly changing market environments as well as the changing needs and wants of their desired target audience. This adaption from the market will provide fruitful insights to the NPD teams that ultimately utilize that knowledge and implements to develop a successful product in the market (Atuahene, Slater, & Olson, 2014).

Technology serves organizations as a gift to pursue their desired goals and objectives in order to sustain in the particular market. It assists and gear up the development schedule of many firms to keep their pace in the global era of advancement (Parayi, 1991). Firms with innovative culture always emphasize their focus on the learning and participative decision making process. Their ability to take risk and nature to adopt change according to market situations are top priority which serves as medium to build a strong relationship between development of new product and ability to change its features as per the given circumstances (Acur, Kandemir, & Boer, 2012).

Success of any firm is widely dependent on the ability to adapt technological changes and convert them into certain values. With the process of technology misuse widely approach the internal and external ways to market the firm technologies. Specifically it focuses on the effects of corresponding resources on NPD and has positive relation in the technology and development of new product (Beuk, Malter, & Cocco, 2014).

Most of the firms are trying to abstract maximum out of their technology capabilities which succors them in the production of new product development in the more efficient way then before they are carrying out. Firms try to convert their technological capacity into something more economic values these days (Yannopoulos, Auh, & Menguc, 2012). The development of new product pledges with the defining concept of serious elements of performance advantages, and the progressive technology provides the source of stimulus for the successful development of new products (Luke, 2014).

It was hypothesized that:

H4: Technology orientation positively and significantly impacts on new product success.

2.4.5. NPD K.M.C with customer orientation and new product success

(Wu & Cui, 2015) Inspects the backgrounds and effect of three types of involvement of customers in innovation i.e. customer participation as an informative source, customer participation as co-developers, and customer participation as innovators.

According to the authors the three types of customer participation engage several habits of using customer knowledge and thus are affected in a different manner, by the nature of customer knowledge, the firm's knowledge administration abilities and organizational assistance for knowledge management application allows a firm to produce such product that satisfy their needs and wants and enable the product to be successful in the existing market (McClure, 2010).

Customer centric organizations have their core values surrounded by meeting the needs and demands of their desired target audience. Relevant knowledge about customers is one of the key tools to fulfill their needs and demands (Pantouvakis & Bouranta, 2013). Knowledge about customers, products, brands and existing ongoing competition in the market enables the firm to fight against uncertain circumstances as well as to develop certain features in their new product offerings that fits according to the demands of their target audience (Selden & MacMillan, 2006).

A customer centric culture in an organization leads to customer centric knowledge creation and thus, improves organizational effectiveness through an increase in customer satisfaction leading one step ahead towards customer delight (Bedarkar & Saini, 2016). Innovation is basically considered to be the application of new knowledge based purely on the needs and wants of target audience that built an ability to create successful new products in the market (Lin, Che, & Ting, 2012).

Customer knowledge management is defined as the acquisition of customer knowledge to advance firms' products, thereby creating extraordinary value for customers through sharing of customer knowledge with in an organization. It facilitates knowledge sharing between customers and organizations in innovating new products and enhancing competitive advantages among competitors in the market (Murillo & Annabi, 2002).

It was hypothesized that:

H5: NPD knowledge management capabilities positively and significantly mediate a relationship between customer orientation and new product success.

2.4.6. NPD K.M.C with competitor orientation and new product success

As the organizations are predisposing more towards market oriented culture they tends to hold more relevant update knowledge about the market including their customers and competitors that helps them to create superior value through different wisdom techniques throughout their novelty process to create such standards for the buyer that leads an organization to brook a competitive advantage through the process of new product development (Chuang, Morgan, & Robson, 2015).

Competitor orientation helps a firm to gather relevant information about activities regarding their strategic moves to acquire strategic edge in the market (Homburg, Schwemmler, & Kuehnl, 2015). It will help the firm to implement the available knowledge to design their products and services more accurately as per the requirements and strategies adapted by their competitors (Carneiro, 2000).

Most of the firms have faced such difficulties in developing a competent knowledge system that serves as base reason for them to lack the opportunity to make their product successful in the market (Li & Calantone, 1998). Therefore having knowledge is not a big deal rather a firm must know how to utilize the information in a valuable manner to convert raw information into valuable offering.

It was hypothesized that:

H6: NPD KMC positively and significantly mediates a relationship between competitor orientation and new product success.

2.4.7. NPD KMC with inter-functional coordination and new product success

One of the key barriers faced by any organization in the development of new product is the integration of every department along with the flow of information that is passing from one member to another and quest for the integration of knowledge across different functional areas to overcome the knowledge barrier is one of the main hurdle for any organization to achieve in order to launch a successful product in the market (Tavani, Sharifi, & Najafi-Tavani, 2016).

To align different peoples from different geographical boundaries having different backgrounds create certain communication problems that require effective handling to integrate knowledge and flow of information in order to achieve the desired goals and objectives (Chatzoudes & Vraimaki, 2015).

Market oriented firms are unable to achieve their desired objectives unless they are able to implement knowledge oriented culture within their organizations (Brand, 1998). Knowledge oriented culture tends to go for certain communication channels within their organizations that helps them to share the acquired knowledge across various functional departments (Darroch & Mcnaughton, 2003), therefore extending market information around the organization, circulate knowledge among the employees, using techniques that serves as a favorable medium to provide fruitful outcomes (Knudsen, 2007).

Coordination among different employees on the other hand also dominates a firm with strength to convert their available knowledge to value creation for their customers in the market that enable an organization to enjoy a successful market edge among their competitors in the market (Zack, 1999).

It was hypothesized that:

H7: NPD knowledge management capabilities positively and significantly mediate a relationship between inter-functional coordination and new product success.

2.4.8. NPD K.M.C with technology orientation and new product success

Managing the knowledge capabilities acquired from external sources, being shared within an organization among every active department and implemented accordingly to meet the needs and wants of desired target audience through technology oriented capabilities will develop a flux in an organization to respond accordingly in a given situation. This mechanism helps a firm to maintain a balanced alignment with market conditions and changing environments through successfully develop and launch new products in the market (Kim & Slater, 2013).

The development of new product initiates with the defining concept of critical elements of performance advantages, and the evolution technology provides the source of inspiration for the development of new products (Luke, 2014). Technologies serve a platform and inspiration for

NPD teams to motivate and develop new things more precisely and persistently to serve potential customers and it provides opportunities for the firm to keep on changing and build strong relations with their potential customers in the market (Subin et al 2016).

Technology serves as a basis of organized knowledge for practical implications. Technology symbolizes knowledge and knowledge in turn defines technology (MacDonald, 1983). Knowledge and information are always interlinked in the development of new products as the individuals are tied in a relationship of sharing fruitful insights and in turn development of successful products through latest technology (XU, 2016).

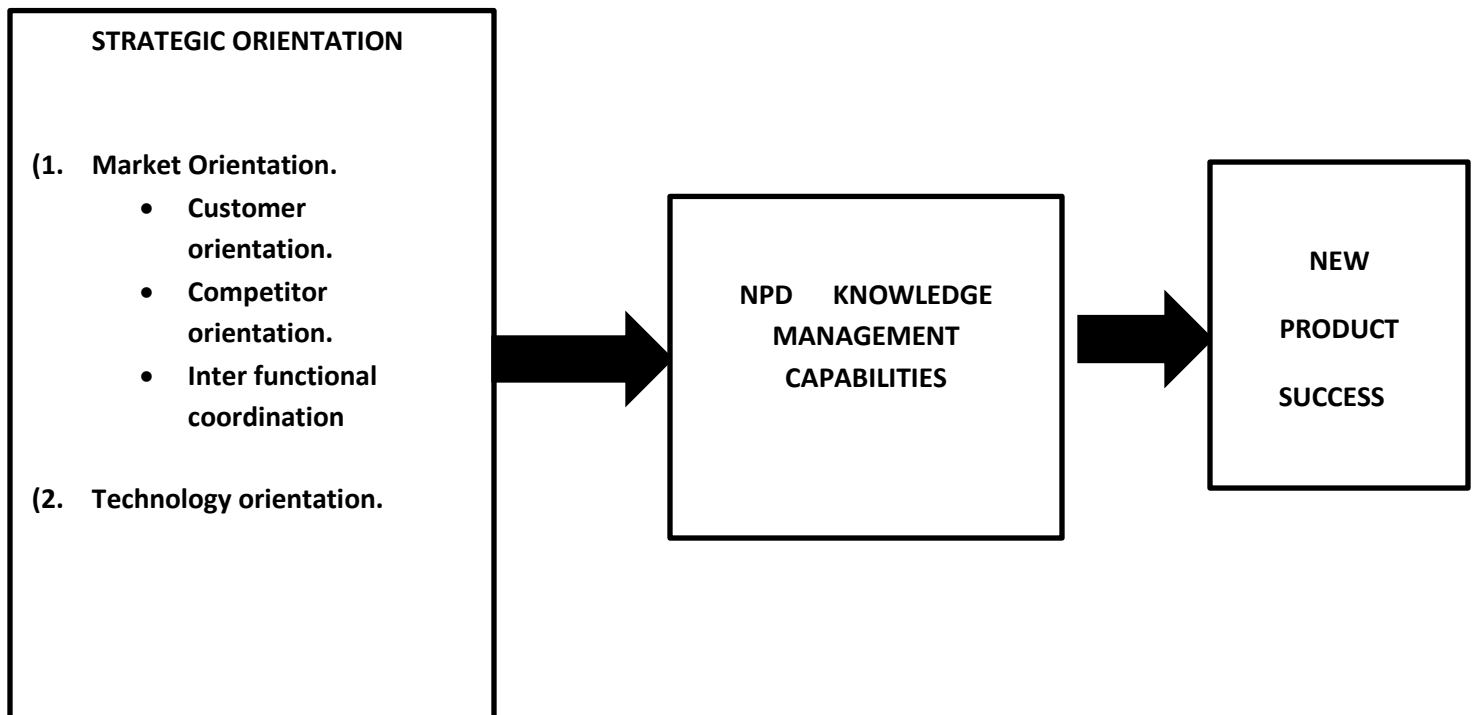
An important source for innovation is the ability of the firm to engage in social relations (Brown & Duguid, 2000), whereas social linkages improves an ability of the firm to gather relevant knowledge for their desired purpose which enable an organization to move one step closer for the development of new offerings (Lin N. , 2001).

Products that are built on firms technological competencies are obviously on the knowledge platform that are gathered from the external environment and as per the above literature products designed accordingly are of sure chances to be success full in the desired target market (Tarko, 2015). Technology and innovation not only helps to develop updated products but enable an organization to be cost effective that can be an optimum situation to endorse competitive advantage by producing such products that are accepted by their desired customers in the market (Low, Chapman, & Sloan, 2007).

It was hypothesized that:

H8: NPD knowledge management capabilities mediate a relationship between technology orientation and new product success.

2.5.THEORATICAL FRAMEWORK:



The following hypotheses were developed:

H1: Customer orientation positively and significantly impacts on new product success.

H2: Competitor orientation positively and significantly impacts on new product success.

H3: Inter-functional coordination positively and significantly impacts on new product success.

H4: Technology orientation positively and significantly impacts on new product success.

H5: NPD knowledge management capabilities positively and significantly mediate a relationship between customer orientation and new product success.

H6: NPD knowledge management capabilities positively and significantly mediate a relationship between competitor orientation and new product success.

H7: NPD knowledge management capabilities positively and significantly mediate a relationship between inter functional coordination and new product success.

H8: NPD knowledge management capabilities positively and significantly mediate a relationship between technology orientation and new product success.

CHAPTER 3

3. RESEARCH METHODOLOGY

The purpose of describing research methodology is to evaluate the different tools and methods and also choose the best mix of tools and methods, which can lead towards reaching desired results, answering research questions and achieving research objectives. The research methodology consists of following methodology mix, consists of multiple tools and methods that includes research design, philosophy, approaches, population, sampling and research ethics which will be used in completing a research study.

3.1. Research Design

To gather the information from large population based on respondent's perception survey design is the most appropriate. The data was collected from the sample selected by the researcher from pharmaceutical industry and generalized options are developed for the wide population. But the appropriate sample should be according to the scientific research methodology of concern.

3.2. Philosophy

This research will specifically put emphasis on positivist approach as it examines the results similar to law like generalizations having a phenomenon of reality is stand alone and is free from the actions of social actors, so the research conducted will be bias free and following the points of positivist approach.

3.3. Unit of Analysis

The units of analysis for this research thesis are specifically those managers who are working in pharmaceutical industry of twin cities of Pakistan.

3.4. Research Type

Research type is cross sectional because data collected at one point of time and from multiple respondents.

3.5. Population

The population of this study will consist of those managers who are working in pharmaceutical industries in twin cities of Pakistan legally registered at drug regulatory authority of Pakistan (Ministry of health) given in appendix with relative knowledge and education, who can respond to question asked.

3.6. Sampling

In this research study, non-probability sampling has been used following the convenience type of sampling. The sampling frame in this research study includes a response of 392 top level managers working with being part of the pharmaceutical companies. The aforesaid is being proposed on the basis of the established procedure of non-probability sampling; convenience sampling (Saunders et al, 2009).

3.7. Data Collection

In this research study, primary sources of data has been used for collecting data which means that first hand data has been collected for achieving the research objectives and answering the research questions. A total of 445 questionnaires were distributed in 24 pharmaceutical companies in twin cities of Pakistan and a response rate of 392 was found to be accurate from the distributed questionnaires that were included for analysis.

3.8. Ethical Issues

During the course of conducting this research study following ethical considerations has been included which are:

- Informed Consent.
- Research integrity assurance.
- Protecting privacy of respondents.

3.9. Research Instruments

A survey questionnaire having 5 point likert scale has been used as a research instrument in this research study. The aforesaid questionnaire has been compiled from various previously published research studies on this topic and includes a total of 46 items out of which 27 items

containing 21 items (7 items for customer orientation, 8 for competitor orientation and 6 items for Inter functional coordination) for market orientation adapted from (Langrek et al, (2004), 6 items for technology orientation adapted from (Subin et al, (2016) to measure an impact of strategic orientation. 11 items containing 5 items for NPD knowledge acquisition and 6 items for NPD knowledge application are adapted from (Subin et al, (2016) for mediating variable NPD knowledge management capabilities. 7 items adapted from (Siohong & Reilly, (2016) for new product success are included for optimal level of results for this research.

3.10. Data Analysis Techniques

- Filled questionnaire were sorted out to separate incomplete or inappropriate questionnaire.
- Each item of the questionnaire was coded.
- Coded data was entered into SPSS.
- Correlation analysis was used to find out the association between independent and dependent variables.
- Multiple regression analysis was used to find out the prediction of NPD knowledge management capabilities by different independent variables.

Table 3-1 Items adapted for questionnaire

Construct	Number of items	Relevant literature for scale items
Customer orientation	7	Langrek et al, (2004)
Competitor orientation	8	"
Inter Functional Coordination	6	"
Technology orientation	6	Subin et al. (2016)
NPD knowledge Management Capabilities	11	"
New Product Success	7	(Siohong & Reilly, 2016)

CHAPTER 4

4. ANALYSIS AND DISCUSSION

Analysis and discussion for the techniques included for this research study are as follows:

4.1. Reliability

Reliability is referred as the degree to which calculation tool commonly known as instrument creates reliable results (Sekaran & Bougie, 2013) Internal consistency reliability is an explanation about the stability of the results delivered in a test ensuring that multiple items used to measure different construct produce consistent scores (Saunders & Thronhill, 2009).

(Gliem & Gliem, 2003) extended that most reliable and commonly used test for measuring internal consistency reliability is cronbach alpha. Aforementioned researcher further explained that value of reliability coefficient greater than 0.6 is acceptable, whereas 0.8 should be considered as excellent value (Xatignon & Xuereb, 1997). (George & Mallery, 2003) further evidenced the study of aforementioned author about the value of alpha as acceptable standard for research domain.

Cronbach alpha was developed by (Cronbach, 1951) is an indicator to measure reliability of instrument that will indicate a researcher about designed instrument is accurately measuring the latent variable according to the acceptable criteria given by above authors.

Table 4-1 Reliability

RELIABILITY ANALYSIS		
LEVEL	ALPHA VALUE	NO. OF ITEMS
Instrument	0.87	45
Variable level Reliability		
NPD Knowledge Management Capabilities (MV)	0.65	11
NPD Success (DV)	0.75	6
Customer Orientation (Dimension-IV)	0.69	7
Competitor Orientation (Dimension-IV)	0.62	8
Inter-functional Coordination (Dimension-IV)	0.79	6
Technology Orientation (Dimension-IV)	0.69	7

Instrument used for data collection from chosen sample has 45 items in total. Scale reliability analysis has been conducted to measure the inter item reliability of each variable used for this research study and values corresponding each variable along with their each dimension is mentioned above.

A total of 45 items were developed to collect a response rate from potential sample of 445 managers out of which 392 qualified to be included for this research study, out of which 28 items consists of Independent Variable (S.O), which is further narrow down according to unit of analysis at dimensional level comprising of customer orientation (7 items), competitor orientation (8 items), 6 items inter functional coordination and technology orientation (7 items), 11 items consists of mediating variable (NPD KMC) and 7 items for dependent variable (NPS).

As per the given direction of aforementioned authors the values for each of variables fulfills the acceptable standard of greater than 0.6 therefore it indicates that scale used for collecting the response from potential sample for this particular research is reliable. Three items from competitor orientation are deleted because of their low inter item correlation and deleting them

improved the value of alpha in an acceptable domain. Individual values for independent, mediating and dependent variable along with their dimensions is given in the table mentioned above.

4.2. Descriptive

This portion contain information regarding demographics including age, gender, income level, qualification of employees who have participated in this research study along with detailed descriptive statistics of different constructs used in this research study.

Detailed information is explained as follows:

Table 4-2 Descriptives

Construct	N	Minimum	Maximum	Mean	St.Deviation
Customer Orientation	392	2.00	5.00	4.2376	.51211
Competitor Orientation	392	2.50	5.00	4.2376	.42402
Inter-functional coordination	392	1.33	5.00	4.0268	.74378
Technology Orientation	392	1.57	4.86	4.1090	.55016
NPD Knowledge Management Capabilities	392	1.91	4.82	4.2201	.40477
New Product Success	392	1.50	4.83	4.0298	.66097

The information displayed in the table above provides the various numerical values for descriptive statistics for both our variables and their respective dimensions. It can be observed from the information displayed in the table above that strategic orientation is a cumulative for its potential driver's customer, competitor, inter-functional coordination and technology orientation. The mean value reported for new product development knowledge capabilities is reported to be 4.2201 with the standard deviation of .40477, whereas, the mean value for new product success is reported to be 4.0298 with the standard deviation of .66097. In addition to the aforementioned

information, the information regarding the behavior of dimensions of the independent variable had also been included in the table above. The mean value for customer orientation is 4.2 with the standard deviation of .51211; the mean value for competitor orientation is also 4.2 but with the standard deviation of .42402; in addition to the mean value for inter-functional coordination having the mean value 4.0268 with the standard deviation of .74378 and the mean value for technology orientation is 4.1090 with the standard deviation of .55016.

Table 4-3

Measures	Items	Frequency	Percentage
Age	18-25	70	17.9
	26-33	133	33.9
	34-41	103	26.3
	42-49	66	16.8
	50 or above	20	5.1
Gender	Male	288	73.5
	Female	104	26.5
Qualification	Bachelors	204	52.0
	Masters	114	29.1
	MS/M.Phil	74	18.9
	Others specify	0	0
Income level	15,000-24,000	25	6.4
	24,001-34,000	125	31.9
	34,001-44,000	111	28.3
	44,001 and above	131	33.4
Level of Employment	Directors	112	28.6

Senior Managers	163	41.6
Product Managers	111	28.3
Others specify	6	1.5

The above described table represents the frequency of different audience and their distribution about our floated questionnaire of 445 among the chosen sample of pharmaceutical companies of twin cities. Out of 445 questionnaire 392 were able to qualify for the inclusion of data analysis out of which 288 were filled by male respondents having 73.5% and 104 were filled by female respondents having 26.5% who were selected through conveniencr sampling approach.

The above mentioned table provides realistic information about the dispersal of different audience that belongs to different age group chosen from the given population. Respondents chosen for this research study are having different age groups with different frequencies. Respondents having age group between 18-25, 26-33, 34-41, 42-49 and 50 and above are having a frequency of 70, 133, 103, 66 and 20 with valid percentage of 17.9%, 33.9%, 26.3%, 16.8% and 5.1%.

The above mentioned table provides factual information regarding the qualification of respondents who have participated during the survey. Out of 392 questionnaires that were included in research study for data analysis 204 were having bachelor's degree, 114 were having master's degree, and 74 were having MS/MPhil with percentage of 52%, 29.1% and 18.9%. Maximum number of candidates were having bachelor's degree and least were having MS/MPhil who were found to be eligible for inclusion in this research study.

The above described table provides factual information about the income level of different managers working in chosen companies of pharmaceutical industry of twin cities of Pakistan. a total of 445 questionnaires were distributed among potential managerial staff of 24 pharmaceutical companies of Rawalpindi and Islamabad out of which 25 managers are having an income level ranging from 15,000-24,000 with percentage of 6.4%, 125 managers are having

income level of 24,001-34,000 with percentage of 31.9%. 111 managers are having an income level ranging from 34,001-44,000 with percentage of 28.3% and managers with income level ranging from 44,001 and above are 131 in number with percentage of 33.4%.

Out of potential response rate of 392 candidates of pharmaceutical companies of Rawalpindi and Islamabad, 112 board of directors with percentage of 28.6% had participated by providing fruitful response in this research study, 163 were senior managers with percentage of 41.6%, 111 were product managers having a percentage of 28.3% and 6 were managers having some other designation in the selected pharmaceutical companies of twin cities of Pakistan.

4.3. Normality Test

Normality test refers to the assessment that sample data is drawn from population which is normally distributed or not. Numerous tests are available to a researcher to check normality with in data set. These tests actually measures and compare the score in the sample with scores of normal distribution sets having same mean and standard deviation (Ghasemi & Zahediasl, 2012)

Every normality test will have p value that indicates the estimation of probability about random number which will generate data that does not follow normal distribution based on the significance value; which is p that is usually taken 0.05 known as alpha. Normality measured in this research study is through Shapiro-Wilk test, and normality will deviate with in this test because of the fact that when sample used with in research study is large, then no better implication can be drawn as more chances of deviation from normality is there as compared to the case with small sample size (Pallant, 2007).

Table 4-3 Normality

Normality Test (Statistical Measure)		
Shapiro-Wilk Test		
Statistic	Degree of Freedom	Significance
0.869	392	.000
0.770	392	.000
0.800	392	.000

Criteria for SW test for normality can be assumed through comparison of statistical value for SW with significance level achieved in research study which is set at a level of 0.05. as the SW test is

applied on all predictors as well as the outcome variable for this research study and based on the factual information mentioned in the above table it can be seen clearly that data is not following normal distribution as the significance level for all three predictors are less than 0.05 and it can be because of several different indicators out of which one of the most important is the sample size of this research study. (Shapiro & Wilk, 1965) discussed prominently that any sample size greater than 30 will be having insignificant values for SW test.

Therefore reducing number of sample size will be not possible as the other statistical analysis procedures will be disturbed so the procedure to check normality for this research study will be based on other graphical techniques and one of them is Q-Q plot and other less reliable graphical methods such as histogram as recommended by (Royston, 1991) to estimate the assumption of normality for all three independent, dependent and mediating variable for this research study.

According to Q-Q plot the data is assuming normality because of the fact that all the data points are residing close to the fitted line for all three independent, dependent and mediating variable. Plot is also showing some outliers that are viewing far from fitted line but these outliers are having some relevant importance because of the fact that they are providing valuable insights for my variables based on the sample being used in this research study. Thus, the extreme opinions extended by a few of our respondents were not excluded based on their importance to our research study. In the light of the facts and figures being reported, it can be safely concluded that the data for all of our three variables is following normal distribution.

4.4. Validity

Validity is an instrument is referred to the degree of extent to which the chosen instrument is measuring what is supposed to be measured (Sekaran & Bougie, 2013), further explains that Construct validity analyzes to the extent implication can logically be made from the view point of research study in comparison to the view point of the literature. It can be established from two main dimensions that are convergent validity and divergent validity (Yen, 1998).

Convergent validity refers to the extent where measures of constructs that theoretically are related to each other is in actual have positive and significant relationship and are supposed to be related with each other. Divergent validity on the other hand explains that both constructs that are theoretically having no such relationship that can affect the research are in actual should have

no relationship. It is important to consider that both convergent and divergent validity works together to provide an actual outcome for construct validity and evidence for both domains should be calculated to prove construct validity in research study (Green, 1998).

Table 4-4 Validity

	Construct Validity										
	Gender	Age	Quali f	Income	Employ	C.O	Cp.O	I.F.C	T.O	NPD – KMC	NPS
Gender	1										
Age	-.294	1									
Qualification	.063	.13	1								
Income	-.112	.23	.179	1							
Employment	.073	-.24	-.060	-.523	1						
C.O	.024	.013	.014	.074	.104	1					
Cp.O	.100	.058	.037	.025	.095	.546	1				
I.F.C	-.010	-.01	.099	.026	-.029	.372	.296	1			
T.O	.055	-.11	.044	.051	-.071	.194	.131	.270	1		
NPD - KMC	.047	-.12	.013	-.028	.013	.422	.176	.355	.399	1	
NP Success	.005	-.05	.060	.046	-.016	.496	.274	.449	.336	.522	1

****Correlation is significant at 0.01 level**

***Correlation is significant at 0.05 level.**

Customer Orientation= C.O, Competitor Orientation= Cp.O, Inter-functional Coordination= I.F.C, Technology Orientation= T.O, New product development knowledge management capabilities= NPD-KMC, New product Success= NP success.

To establish construct validity as per the direction from the aforementioned literature has significantly drawn that there is no significant relationship between any age group, income level and any demographical domains that can affect the success of new product at any stage. To establish construct validity the researcher has primarily draw a relationship between demographics and constructs of this research.

Gender is having ($r=.047$) and ($r=.005$) with both mediating and dependent variable that clearly depicts that both of these variables are having no disturbance or casual affect from any form of gender either male or female who have participated in this research study. Age on the other hand is having a negative association with mediating variable of ($r= -.126^*$) that shows and proves the literature of having no concerns of knowledge with age factor and same is the case for dependent variable that ($r= -.053$) which shows that dependent variable is having no change from the presence of any age group in the company or market.

Qualification is also showing more or less similar type of results of ($r= .013$) and ($r= .060$) and same is the case for income level ($r= -.028$) and ($r=.046$) which shows that success of new product is independent from the level of income individuals are having in the organization. This clearly satisfies the first dimensional criteria of construct validity that is divergent validity of having no factual relationship between any demographics and constructs used in this research study.

The results have shown positive actual outcome that there is no relationship of gender with any of the constructs used for this research study. Similarly there is no relationship between age group and dependent variable new product success, however a negative correlation is established between mediating variable and age group. Same is the case for other three demographical constructs are having no or negative correlation with established variables for this research study. As per the instructions from the given authors research study fulfills the criteria for establishing divergent validity, hence no variable is controlled as they are already giving negative or no correlation with variables used to establish impact for this research study.

Strategic orientation on the other hand is having a positive and significant relationship with mediating and dependent variable hence convergent validity is established to fulfill the criteria for construct validity for this research study as per the directions from above mentioned authors. Detailed outcome values with each variable are shown in the table above.

4.5. Correlation

According to (Grimm & Yarnold, 2000) one of the most important method or level among many given alternatives is Pearson (bivariate) correlation that was proposed by (Barnard, 1992) that ultimately examines a relationship between two variables on the basis of two major aspects

magnitude and direction. Strength of relationship between two variables is examined through magnitude and direction will provide a stance positive and negative relationship for researcher.

(Lomax & Vaughn, 2007) in their study further contributed that value of correlation for any two variable lies between +1 and -1. An absolute value of 1 indicates a perfect positive correlation between any two variables and vice versa. Zero indicates no linear relationship, correlation coefficients having relationship ≥ 0.4 indicates a moderate relationship and those having correlation ≥ 0.5 indicates a strong relationship in any research study.

For analyzing probability values both 0.05 and 0.01 are used to standardize effective level of correlation between two variables with the purpose of establishing an actual relationship between two constructs strength and direction is rather significant or not (Delucchi, 2006).

Table 4-5 Correlation

	Correlation					
	Customer Orientation	Competitor Orientation	Inter-functional Coordination	Technology Orientation	NPD-KMC	NP Success
Customer Orientation	1					
Competitor Orientation	0.53**	1				
Inter-functional Coordination	0.35**	0.30**	1			
Technology Orientation	0.30**	0.33**	0.27**	1		
NPD-KMC	0.20**	0.38**	0.36**	0.40**	1	
NP Success	0.26**	0.37**	0.45**	0.34**	0.52**	1

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

***Correlation is significant at 0.05 level.**

New product development knowledge management capabilities= NPD-KMC

To justify the gap of this research study correlation was measured at both variable and dimensional level to prove the in depth relationship among the chosen constructs. The results at dimensional level provide a fruitful outcome for positive and significant relationship with every dimension of the chosen independent variable with dependent and mediating variable, thus bringing the developed hypothesis in an acceptable domain.

Literature has suggested a positive correlation among dimensions of strategic orientation and new product success which is successfully calculated through Pearson correlation at significance level of 0.01 P value which successfully justify the gap of this research study. Dimensions like customer orientation and competitor orientation are showing weak significant relationship with mediating and dependent variable but they are as discussed in the light of literature are contributing positively and significantly towards the success of new product in the market. Detailed results for this correlation are shown in the table mentioned above.

Gap of this research study is justified as every dimension according to unit of analysis is having a positive and significant relationship with both dependent and intervening variable as customer orientation is having a correlation of ($r=0.26^{**}$) and ($r=0.20^{**}$) respectively which depicts a positive and significant relationship at dimensional level. Similarly competitor orientation is having a relatively weak positive relationship of ($r=0.18^{**}$) with mediating variable and ($r=0.27^{**}$) with dependent variable. Inter functional coordination on the other hand serves as an important dimension of market orientation that depicts a relatively strong relationship with both mediating variable at ($r= 0.36^{**}$) and dependent variable ($r=0.45^{**}$) which shows a strong positive and significant relationship of coordination with in an organization on the success of new product in the market.

Technology orientation also shows an interesting outcome as discussed in the literature that knowledge is served as a medium for adopting new technology and results have justified it accordingly as ($r=0.40^{**}$) that throws an image of strong relationship with mediating variable NPD KMC and also a strong association of ($r=0.34^{**}$) on the success of new product in the market.

4.6. Regression

Regression analysis is explained as a statistical process of evaluating a relationship among different variables. As per the discussion headed by (Chatterjee & Hadi, 2006) analysis is used to estimate or measure an impact and strength on dependent variable with series of different independent variables based on different values that examine the strength of dependent variable with series of different independent variable.

(Amstrong & Scott, 2012) extended the light of discussion and explains to implement this statistical process when a researcher is seeking causal relationship or effect of one variable to another. Linear regression estimates an equation that ultimately maximizes the relationship between all the data points and fitted line. Difference between the observed variable and models predicted values are the main course of attention and model fits the data well only if the difference between observed variable and the values of models predicted variable are small and unbiased (Stinjin & Miller, 1999).

While a research is based on cross sectional data 0.4 is considered as an efficient model fit (Gujarati & Damoder, 2009). F-statistic in regression estimates the fits of different linear models with comparison of no predictor to the model justified by the researcher (Amstrong & Scott, 2012). F value is basically an indicator that expresses if there is any significant change exists between intercept only model and intercept slope model and its significance value will lies ultimately at $p \leq 0.05$. If the value of F statistic falls below this significance value it will depicts that there is a significant change with presence of different predictors specified by the researcher in research study.

Similarly T- statistic is also significant at $p \leq 0.05$ which ultimately defines a concept as the presence of different indicators in specified model are good enough to develop a consensus on particular research study.

Above mentioned concepts as discussed by different authors in the light of literature can be concluded that significance level of these statistic values will make an impact that predictors included in our model are well enough to observe the variation in dependent variable and are experiencing valuable change that proves to be significant for particular domain of research study.

Coefficient table in regression analysis provides factual information required to predict the relationship between dependent and series of independent variables through providing us the values for beta and their significance value $p \leq 0.05$.

Table 4-6 Multiple Regression technique

Model	Coefficients ^a		T	Sig	R	R ²	Adj R ²	
	Standardized Coefficients							
	B	Std. Error						
1	C.O	0.043	.812	.417				
	Cp.O	.122	2.355	.019				
	I.F.C	.338	.56729	7.050	.000	.520	.271	.263
	T.O	.222		4.916	.000			

a. Dependent Variable: New product Success

N=392, *P<0.05, **P<0.01

b. Predictors: Customer Orientation= C.O, Competitor Orientation= Cp.O, Inter-functional coordination= C.O, Technology Orientation= T.O

Model: = R=.520, R²=.271, Adj R²=.263, F= 35.948, p-value= .000

In an attempt to validate our prepositions (sub hypothesis) the researcher had executed the regression analysis at the dimensional level evaluating both the cases; impact of predictors on outcome variable with and without mediation. In the case explaining the impact of customer orientation, competitor orientation, inter functional coordination and technological orientation on new product success without the mediating role of new product development knowledge management capabilities; the value of F- statistic being significant level of 0.000 clearly indicates that there exist zero percent chance out of 100 percent that the regression model without the predictors and with the predictors results in the same amount of variations caused in the new product success. Furthermore, the values of β for customer orientation ($\beta=0.043$), competitor orientation ($\beta=0.122$), inter functional coordination ($\beta=0.338$), technology orientation ($\beta=0.222$) being significant at the level of 0.000, besides the insignificant value of customer orientation at the level of 0.417 Suggests that all of our prepositions have been accepted expect for the sub hypothesis (preposition) H1.

Therefore, in the light of the evidence discussed in the preceding lines it can be safely concluded that H2, H3, H4 has been accepted whereas H1 has been rejected. In an attempt to generalize these findings, we will conclude by saying that H1 as a whole has been accepted because of the fact that it has been validated at the variable and also three out of fourth portions at the dimensional level and it explains approximately 26% of the variations caused in the dependent variable (new product success).

Table 4-7 Multiple Regression technique

Model	Coefficients ^a		T	Sig	R	R ²	Adj R ²
	Standardized Coefficients						
	B	Std. Error					
1	C.O	0.026	.477	.417			
	Cp.O	.241	4.902	.003			
	I.F.C	.244	.35735	4.913	.000	.478	.229
	T.O	.322		6.902	.000		.221

c. Dependent Variable: New Product Development knowledge management capabilities
N=392, *P<0.05, **P<0.01

d. Predictors: Customer Orientation= C.O, Competitor Orientation= Cp.O, Inter-functional coordination= C.O, Technology Orientation= T.O

Model: R=478, R²=.229, Adj R²=.221, F= 28.664, p-value= .000

In an attempt to validate the hypothesis the information displayed in the table include above has been materialized by the researcher in this research study. The value of F-statistic being significant at the level of 0.000 clearly indicates that the value for model including customer orientation, competitor orientation, inter-functional coordination, technology orientation as a predictor and the values for the model does not including any predictor is not same. Moreover, the β value for customer orientation ($\beta= 0.026$), competitor orientation ($\beta= 0.241$), inter-functional coordination ($\beta= 0.244$), technology orientation ($\beta= 0.322$), being significant at the level of 0.003,0.000 and 0.000 except for customer orientation having insignificant value of 0.634 that depicts that preposition for hypothesis is rejected . Therefore, preposition for the hypothesis competitor orientation, inter-functional coordination and technology orientation are accepted as per the given static values in the above table which significantly shows that strategic

orientation positively and significantly impacts on new product development knowledge management capabilities which was justified by the literature and is supported statistically.

Table 4-8 Mediated Regression Analysis

Coefficients^a				
Model		standardized Coefficients B	T	Sig.
1	NPKMCM	.522	12.075	.000
2	NPKMCM	.369	8.056	.000
	Cp.O	.120	2.834	.005
	I.F.C	.255	5.676	.000
	T.O	.104	2.353	.019

a. Dependent Variable: New Product Success

b. predictors: New Product Development Knowledge Management

Capabilities= NPD-K.M.C

c. predictors: New Product Development Knowledge Management

Capabilities= NPD-K.M.C, Competitor Orientation=Cp.O, Inter-functional coordination=I.F.C, Technology Orientation= T.O

N=392, *P<0.05, **P<0.01

Model 1: R=.522, R²=.272 Adj R²=.270, R² change=.272, F=145.796, p-value=.000

Model 2: R=.612, R²=.375, Adj R²=.368, R² change=.102, F=57.935, p-value=.000

Moreover, while discussing the case of the model incorporating the mediation effect, the information included in the table above can be interpreted as follows. The F-statistics of the model being significant at the model of 0.000 clearly indicates that the research model specified by the researcher including competitor orientation, inter-functional coordination, technology orientation and new product developed knowledge management capabilities as a predictor and

the research model without any predictor does not accounts for same the variations caused in new product success.

Therefore, the research hypothesis H6, H7, and H8 had been validated. However, the ultimate decision regarding the acceptance and rejection of these prepositions will be based on their individual significant t-values discussed as follows. The values for the standardized coefficients of each dimension is as follows; competitor orientation ($\beta=0.12$, $p= 0.005$), inter functional coordination ($\beta=0.255$, $p= 0.000$), technology orientation ($\beta=0.104$, $p= 0.019$), and new product development knowledge management capabilities ($\beta=0.369$, $p= 0.000$).

All of the aforesaid values of beta indicates no insignificance in model two having a R^2 change of .102 that shows a 1 percent change in predictor will cause a change of .102 in dependent variable. Above mentioned analysis clearly shows a partial mediation because no values for independent variables are insignificant so the research study can safely concludes that independent variables without any mediation are having some casual change in dependent variable. Furthermore results clearly indicate that each indicator is causing changes in the outcome variable (new product success) significantly and positively, expect for the customer orientation, because of insignificant behavior for direct relationship analysis for further assumptions cannot be calculated. Therefore, H5 is rejected, whereas, H6, H7, and H8 has been accepted. The value for R^2 in this model accounts for causing approximately 37% variations in the outcome variable (new product success) which is greater the than the variation caused by the model without mediation effect of new product development knowledge management capabilities.

<i>Hypothesis #</i>	<i>Statement</i>	<i>Result</i>
H1	Customer orientation positively and significantly impacts on new product success.	Rejected
H2	Competitor orientation positively and significantly impacts on new product success.	Accepted
H3	Inter functional coordination positively and significantly impacts on new product success.	Accepted
H4	Technology orientation positively and significantly impacts on new product success.	Accepted
H5	NPD knowledge management capabilities positively & significantly mediate a relationship between customer orientatic and new product success.	Rejected
H6	NPD knowledge management capabilities positively and significantly mediate a relationship between competitor orientation and new product success.	Accepted
H7	NPD knowledge management capabilities positively & significantly mediate a relationship between inter function: coordination and new product success.	Accepted
H8	NPD knowledge management capabilities positively and significantly mediate a relationship between technology orientation and new product success.	Accepted

CHAPTER 5

5. DISCUSSION, RECOMMENDATIONS, MANAGERIAL IMPLICATIONS,

FUTURE DIRECTIONS & CONCLUSION

5.1. Discussion

The empirical results suggest that strategic orientation is potential element and contributes towards development of new product in an efficient way to increase innovativeness and uniqueness towards the launch of new product in the market. Research study has successfully justified the gap of this research study by incorporating the evaluation of strategic orientation at dimensional level (Ho, 2016) with mediating effect of NPD knowledge management capabilities.

Research objectives that were designed initially were fulfilled through statistical analysis for this research study as this research study contributes to develop understanding regarding the strategic factors that contributes towards the success of new product in the market through combined effect of all three dimensions proposed by (Narver & Slater ,1994) demonstrated in (Kahn, 2001) evidenced by (Subin et al, 2016) that safely concluded that drivers for market orientation serves as a key potential to acquire the potential knowledge regarding potential customers, competitors and our market.

Research questions and problems were successfully answered proving a significant relationship between aforementioned variables in the chosen industry (Rielly, 2016) through stated choices of analysis techniques that provides significant and positive association between the choices of variables chosen for this research study.

This research study confirms the relative importance of strategic orientation towards new product development knowledge management capabilities through acquisition and application of knowledge about the potential market. Implication of knowledge serves as prime reason for nay firm to make their new offerings successful in the market and this research study through their statistical evidence provides valuable contributions that inter-functional coordination serves a main driver that enable the success of new product in the market (Griffith, Lee & Calantone, 2015).

The research study had proved interesting insights of insignificant behavior of customer orientation with new product success that restricts to further analyze the impact of this behavioral component with mediating at both simple and multiple regression analysis. Furthermore this component is having a positive association with dependent variable which clearly depicts to interpret that customer orientation is having positive association but insignificant impact on new product success. (Xatignon & Xuereb, 1997) in his research study stated a clear explanation of these components which shows certain insignificant impact under certain circumstances.

Such integrating mechanism will provide valuable insights for screening the uncommon ideas through application of acquired knowledge through potential drivers of strategic orientation that proves to be cost effective and valuable in the gate process for the development of new products. Though a weak but positive association between the aforementioned variables clearly stated that the chosen frame work was valued and is applicable in the future by both managerial and research point of view. Results have confirmed strategic orientation as an organizational learning process enables a firm to acquire relevant knowledge through intelligence programs and apply such knowledge to enjoy competitive advantage (Kohli & Jaworski, 1990).

There is a positive and significant relationship exists between every dimension of strategic orientation i.e customer orientation, competitor orientation, inter-functional coordination and technology orientation that has produced productive outcomes at both managerial and researcher point of view. Any pharmaceutical firm that tends to focus on the development of new product in the market must focus consider strategic orientation as critical factor for new product development as it allows the firm to observe deeply for the factors that contributes towards the success of new product in the market.

Normality test for this research study was insignificant as the data for shapiro wilk must not be more than 30 so the value was insignificant diverging to choose Q-Q plots for normality (Royston, 1991) which shows a normal distribution for data with certain outliers that cannot be eliminated as they are showing certain response which is beneficial for this research study and cannot be ignored.

The research study is having no positive association with any demographics that significantly allows the research study to directly check an impact of independent variable on new product success hence no variables are controlled for this research study.

Out of those four critical dimensions customer orientation has proved to be insignificant through regression analysis but is showing a weak but positive relationship through correlation that allows the researcher to discuss on the issue for not considering the dimension in this frame of constructs. Another critical outcome this research study has provided that ultimately supports the literature in positive and effective manner is the role of inter-functional coordination while going for the development of new product in the market. As this dimension is having strongest association of ($r=0.45^{**}$) with new product success which clearly depicts as per the light of literature. Any information or knowledge about both customer and competitors are irrelevant unless and until the gathered knowledge is being shared and communicated through each functional department that helps a NPD team to produce exact outcome which fulfills the needs and wants of desired target audience and provide competitive edge in the market.

Literature had suggested recently that a market-oriented culture leads to superior performance, at least in part, because of the new products that are developed and are brought to market. Others have reinforced this wisdom by revealing that a strategic-oriented culture enhances organizational innovativeness and new product success, both of which in turn improve organizational performance. These scholars do not reveal, however, through which new product development (NPD) activities a market-oriented culture is converted into superior performance (Brand, 1998).

To determine how critical NPD activities are for a market-oriented firm to achieve This study responds to a call by (Knudsen, 2007) for cross-level research. These scholars argue that the strategic orientation of the firm, which includes market orientation, has a vital role to play in the NPD process, and that examining NPD from a cross-level perspective leads to an enhanced understanding of the factors leading to new product performance and hence to organizational performance. Therefore, strategic orientation and organizational performance are examined at the organizational level; through proficiency in launch activities and new product performance.

Results have shown positive and significant outcomes for intervening variable which have shown a valuable change of almost 37% in the dependent variable that clearly depicts mediation is having an equal importance. This mediational interaction is found to be beneficial for both managers and researchers as the mediating role of NPD knowledge management capabilities allows the firm to acquire as well as implicate the gathered information in an efficient manner with integration of inter-functional coordination that ended up for the launch of successful new product in the market. Empirical study further enhances the level of discussion about technology oriented culture and provides evidence that technology oriented culture alone does not provide productive outcomes rather it advances the pace of firms strategic capabilities to acquire and implicate available knowledge about its surroundings in the market.

Customer orientation is proved to be insignificant as the value for beta is insignificant that shows and depicts the arguments development by (Narver & Slater, 1990) who had proposed these behavioral components are having criteria of showing different valuable outcomes at different stages of new product development depending on the behavior of market like B2B or B2C. this research study is focusing on the B2B market where direct customers are supposed to be the doctors and this tend to be shoeing some different targets set according to the predefined agreement between two parties.

New ventures tend to explore different valuable insights by utilizing the defined frame of constructs for this research study and tend to avail the maximum number of opportunities available in the market through cost effective measure for providing exactly those products that are demands of its existing market. Purpose of this research study is to contribute knowledge of strategic orientation through proposed dimensions in industrial channels by providing new insights into the effect of new product development in the market (Langerak, 2004).

Strategic orientation as antecedents of knowledge management capabilities, Managers should not underestimate the importance of market and technological orientations in enhancing NPD knowledge acquisition and application capabilities. This research study will enhance a firm's abilities to acquire new intelligence and apply new and existing intelligence for NPD. New product development is a means for a company to gain advantage, secure a position, or win a new customer. The more successful and timely an organization can develop new products, the more likely it is that organization will not only survive but prosper.

It will be beneficial for the product managers from chosen pharmaceutical industries to establish known conditions that allow them to take certain measures to prevent failure of new products in the market. It will be also necessary to identify the standard for considering a new product a “success” and over view those factors that will be examined in this research study. Knowledge gained from market orientation will be used by NPD team to better understand what elements produce a successful new product in the market.

5.2. Recommendations

Results have indicated a positive correlation of ($r= 0.50^{**}$) with dependent variable and (0.42^{**}) with mediating variable that clearly depicts that organizations must draw a combinations of different strategic orientations along with exact acquisition and application of knowledge management capabilities to enjoy a successful competitive product in the market.

A detailed and comprehensive analysis is drawn at each dimensional level of strategic orientation that clearly states a positive and significant relation of different orientations like customer, competitor, inter functional coordination and technology orientation that significantly contributes towards the success of new product in the market. However, out of these 4 orientations it is recommended that organizations should focus on inter functional coordination that provides a highest association ($r= 0.36^{**}$) with mediating variable and ($r=0.45^{**}$) with dependent variable that depicts a visual information for managers that whatever information they acquire from external environment must be coordinated accurately with an organization in order to develop a successful product in the market.

Competitor and customer orientation proves to be rather a bit less significant than other two as the research is clearly stating that information acquired through knowledge management regarding these two orientations are equally important but they are only fruitful if they are communicated accordingly as per the requirement of NPD teams for the development of new products in the market.

Regression analysis also provides concrete evidence of gradual change in specified model with inclusion of knowledge management as a mediating variable. So, it can be safely said that as discussed in the light of literature and analysis that success of new product in the market especially in this particular industry is impossible without presence of inter functional

coordination and acquired knowledge about the external environment. Presence of technology orientation, customer orientation and competitor orientation are equally important as the knowledge has to be acquired on these outcome variables but any organization that successfully acquired knowledge about these orientations but fails to coordinate and implement such valuable information or knowledge will end up having a low or no success rate of new product in the market.

Different level of orientations produces different impact depending upon the state of competence and need present in the market. Pharmaceutical companies tend to focus their attention on innovation and their direct customers are supposed to be those doctors that approve their prescribed products and involve certain other factors in this particular domain that are most of the time predefined from both sides of the coin. So, their major concern is dependent on the improvement of communication and coordination within an organization to communicate such valuable information according to the requirement of target market so knowledge management capabilities proves to be a good indicator for those companies who find themselves difficult to attain a competitive position in the market.

The future research in launching new products in the markets should include these orientations to effectively and efficiently work on those concerns that are the exact demand of target market with application of latest technological advancements to convert relevant and fruitful knowledge in successful product. Therefore managers should focus to develop strong inter functional coordination in order to utilize the acquired knowledge towards the success of new products efficiently and effectively. Furthermore, it is recommended that a sample of broader scope should be included in the research studies; i.e. larger sample based on the implication of new product development in the context of developing, developed and under developed countries. Moreover, it is recommended that the strategic orientation must be used as a predictor of new product success with the incorporation of new dimensions like contemporary environmental factors which are impacting both internal and external environment of the firm's business operations.

5.3. Managerial Implications

This research study will help managerial staff of selected pharmaceutical companies to look for the gaps they are seeking for bringing improvements in the development and success of new product in the market. As this era is booming towards highly competent age and technological advancements are continuously booming that helps researchers and NPD experts to find out ways to develop more efficient ways that are not only providing cost effective approach but also indulging the qualities in the execution of key activities that helps an organization to achieve competitive edge in the market.

This research study will help an organization to analyze the basic reasons that plays an important role in the development of new product through analyzing the overall situation of market in which they are operating and deeply look for the needs and wants of customers along with the actions of their competitors. It provides fruitful insights with flexibility to adopt new ways and procedures that fits according to the needs and wants of their desired target audience by analyzing the knowledge available outside the organization and adapts it accordingly to keep the pace in such competitive fact paced markets.

Our research depicts a relationship between strategic orientation and its success of new product in the market through major concerns of organizational strategic orientations: customer orientation, competitor orientation, inter functional coordination and technology orientation. Out of which this research has provided fruitful outcomes for target industry like for a firm to be involved in the strategic oriented market must analyze these dimensional domains in order to have proper know how about its surroundings.

Secondly, firms should be customer oriented and must have proper knowledge about the needs and wants of its desired target audience. Moreover, third organizations must coordinate their activities and share their knowledge that has been attained from the external environment about their customers and competitors as this dimension serves as a prime reason to develop a successful product in the market. Furthermore, organizations must keep themselves up to date with latest technological advancements that help them attaining competitive edge over their competitors.

Pharmaceutical companies spend their major investment portion on R&D so technology orientation along with proper communication of knowledge with in several NPD teams and departments allows a firm to attain competitive edge in the market. Managers seeking to have successful launch of product in the market must focus on knowledge management capabilities to acquire relevant knowledge through competitive intelligence programs and apply it accordingly to produce such products that not only satisfy the needs and wants of their target audience but make an organization capable to enjoy competitive edge in this fact pace emerging markets.

The research through its selected predictors and outcome constructs provided a strong vision for those companies who are working in this competitive industry but are unable to find a strong and valid reason behind their failure of new products in the market. Designed objectives and goals of this research study were initially drawn in order to provide guide lines for those managers who are unable to keep their pace alive in this era of competition. These orientations will not only provide a better guide lines for producing better products in the markets but also it will enable them to enjoy success and competitive edge through market innovations and achieving a superior level of performance in the existing markets.

5.4.Limitations & Future Directions:

This research study includes several limitations like it only focuses on twin cities of Pakistan, several other major cities should be considered to have fruitful outcomes. Secondly, it only focused on one industry future research should include multiple industries to have various different outcomes with selected constructs. Future research should consider various other factors like development process factors and market environment factors with choice of specified model to have various productive outcomes for different industries included by future researchers (Dul, 2014).

This research study focused on small sample size as it is evidenced by (camery,1991) that a sample of 1000 is considered as excellent one to have efficient results, so future research should employ large sample size with multiple industries operating in different cities of Pakistan. Future research should include other dimensions of strategic orientation to seek an efficient and effective impact on the success of new product in the market. This research study has only

focused on quantitative approach due to time and resource constraints, future research should include both qualitative and quantitative techniques to have more efficient results that serve as a prime reason for many companies to launch successful product in the market.

Customer orientation as a dimension is insignificant with both mediating variable and dependent variable so a different set of constructs should be used as mediator or independent variable to record the evidence of this dimension in future research.

5.5. Conclusion

In the light of the facts and figures included in the various chapters of this research study; it can be safely concluded that strategic orientation exerts a positive and significant impact on new product success and in the case for mediation of new product development knowledge management capabilities; the aforesaid relationship become stronger and thus it means that in the presence of NPD-KMC, strategic orientation accounts for causing the incremental changes within the new product success.

Moreover, the researcher had also extended his contributions on the dimensional level and on the basis of discussion extended in that aspect, it can be noted that competitor orientation, technology orientation and inter functional coordination possess the proper potential for explaining the variations caused by their respective variable in the latent variable (NPD success); however, customer orientation as a dimension does not met the aforesaid criteria based on its insignificant regression coefficient, albeit, it has been proved by the weak analysis technique; correlation analysis. All of our research hypotheses have been validated and accepted suggesting that the researcher had achieved its objectives that were initially designed in this research study to study an impact of strategic orientation on the success of new product along with its every dimension about how much impact it will generate or contribute towards the success of new product in the market.

This research study will enable every manager to seek guide lines towards the implementation and acknowledgement of those factors that are most necessary in development of new product. Pharmaceutical industry is based of continuous innovation where every step is taken after careful examination of both external and internal environment and specified model has successfully contributed towards the innovation programs held in each company. Though, customer

orientation is insignificantly not able to contribute as it observes several different criteria's that should be met to have complete analysis on this domain.

This research study have successfully fulfill the criteria by justifying the gap of this research study through acceptable range of sample size by providing evidence that clearly states a strong and positive association between each constructs at both variable and dimensional level that will help managers of selected companies to carefully analyze the issues they are facing that creates barrier in the path of success for their new product offerings in the market. The percentage of variance evidenced is though not highly desirable but is sufficient to conclude the research safely that knowledge management capabilities are equally important as they serves as medium to convert such knowledge in finished goods as per the requirement they receive from their external environment about both customers and competitors. Therefore, the selected variables have provided beneficial outcomes that strategic orientation must be considered at every level of NPD along with acquisition of relevant information about both customer and competitors and the gathered information must be than properly coordinated among every department with utilization of latest technologies to produce successful product in the market.

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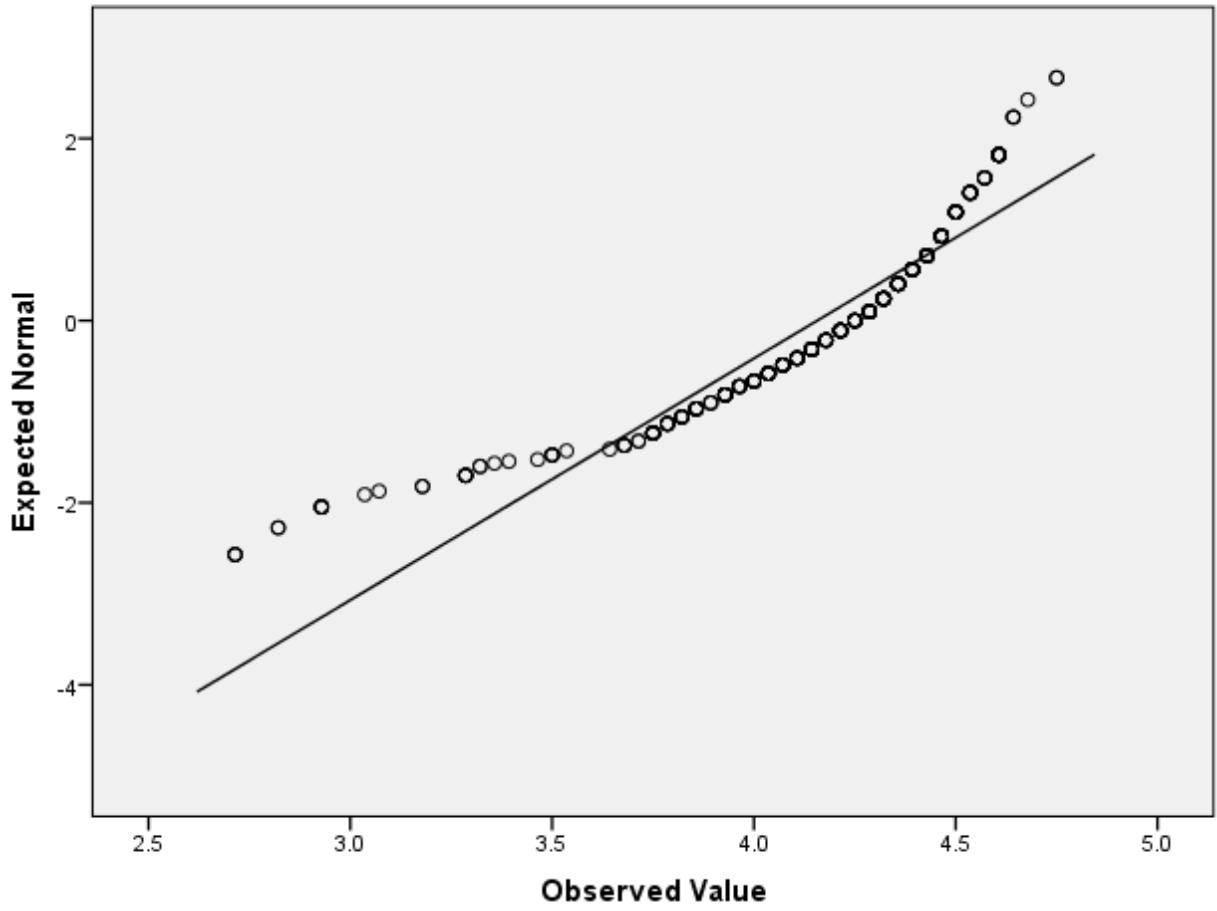
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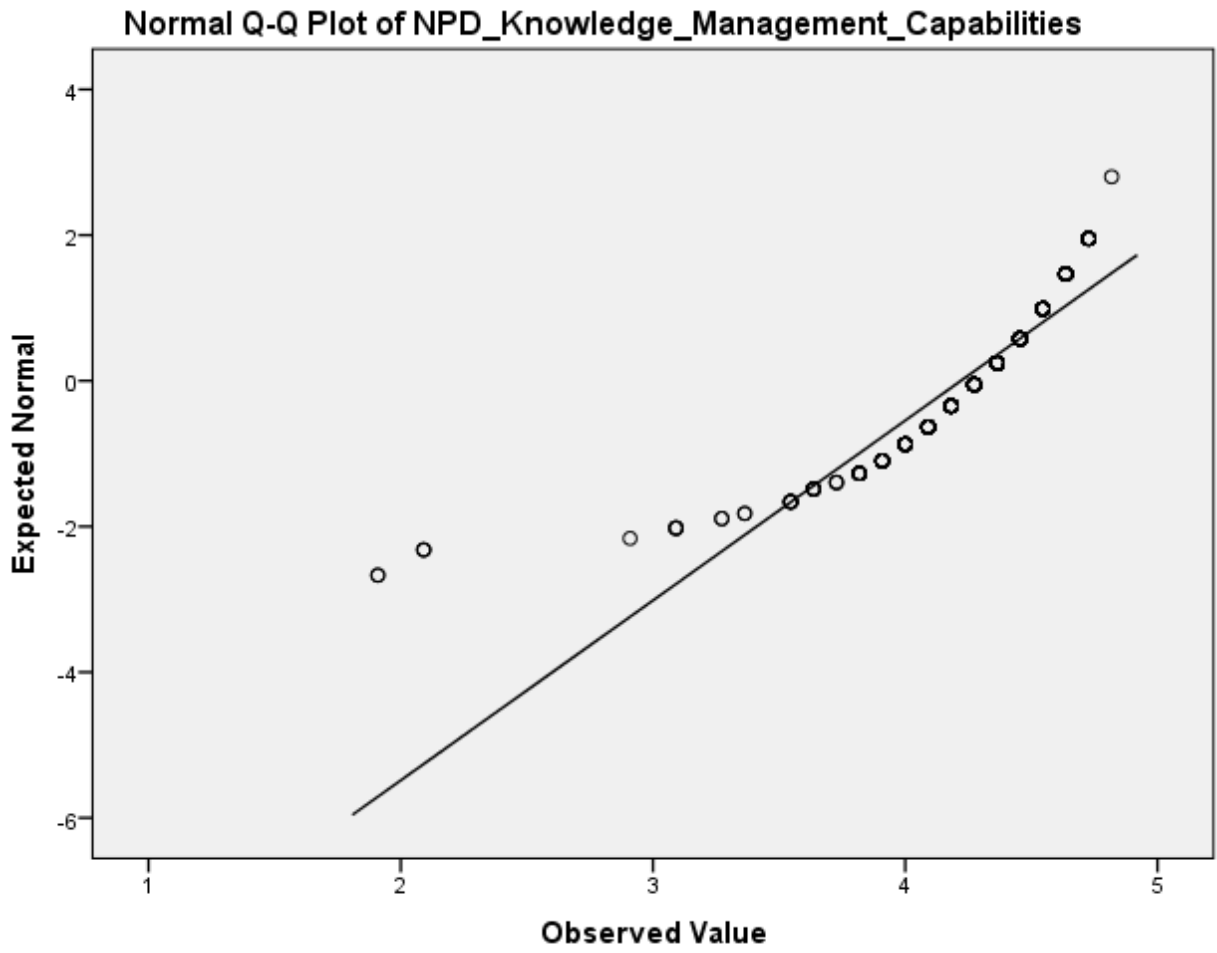
APPENDIX

List of companies included for data collection legally registered at drug regulatory authority act 2012.

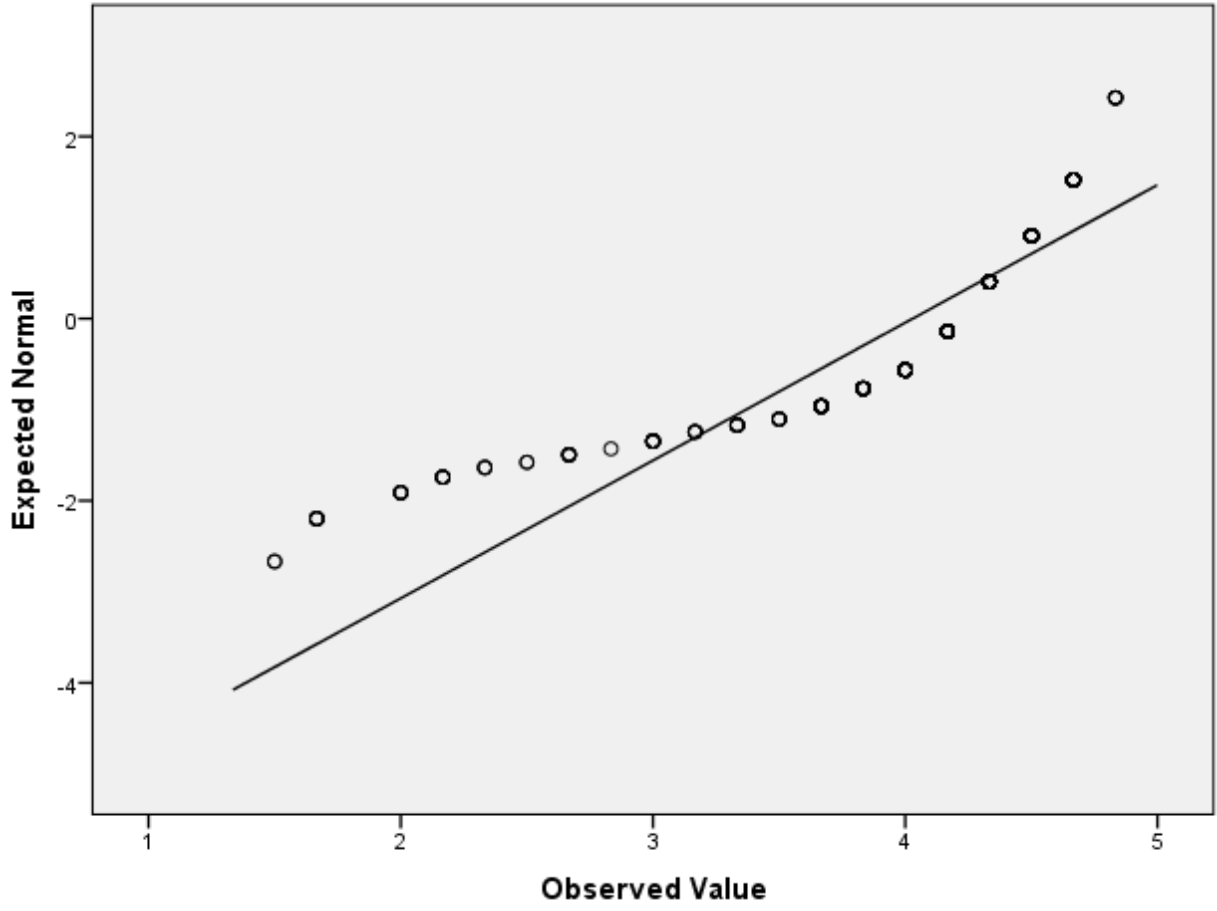
Category A: <ol style="list-style-type: none">1. Global2. Hilton3. Getz4. Sami5. Novartis6. GSK (consumer group)7. Abbott Nutrition8. Pfizer Pharm	Category C: <ol style="list-style-type: none">1. Platinum (general and dentistry)2. Keizen pharm dentistry3. Hilux Pharm4. Charmatec5. AGP pharm (Ali gohar)
Category B: <ol style="list-style-type: none">1. Zafa2. Caraway3. Sanofi Aventus4. Merc5. Wilson pharm6. Spottman pharm7. Tebruc Pharm8. Rimingcon9. Pharmeco	Category D: <ol style="list-style-type: none">1. Nabi Qasim Pharm2. Cenix Pharm

Normal Q-Q Plot of Strategic_Orientation





Normal Q-Q Plot of New_Product_Success



QUESTIONNAIRE:

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

Customer Orientation (Langrek et al, 2004)

1. Our firm gathers information about customers' needs?	1	2	3	4	5
2. Our firms have insight into the buying process of customers?	1	2	3	4	5
3. Our firm handles customers' complaints well?	1	2	3	4	5
4. Our firm consults customers to improve the quality of service?	1	2	3	4	5
5. Our firm involves customers in decisions that affect the relationship?	1	2	3	4	5
6. Our firm looks for ways to offer customers more value?	1	2	3	4	5
7. Our firm treats customers as partners?	1	2	3	4	5

Competitor Orientation (Langrek et al, 2004)

1. Our firm knows whether competitors are open to complaints by customers.	1	2	3	4	5
2. Our firm knows why customers continue buying from competitors.	1	2	3	4	5
3. Our firm knows whether customers buying from competitors are satisfied.	1	2	3	4	5

4. Our firm knows how competitors maintain relationships with customers.	1	2	3	4	5
5. Our firm monitors customers buying from competitors.	1	2	3	4	5
6. Our firm knows why customers switch to competitors.	1	2	3	4	5
7. Our firm knows which products competitors offer customers	1	2	3	4	5
8. Our firm knows in what way competitors attract customers.	1	2	3	4	5

Inter Functional Coordination (Langrek et al, 2004)

1. Our firm's departments coordinate their contacts with customers.	1	2	3	4	5
2. Our firm's departments jointly satisfy customers' needs.	1	2	3	4	5
3. Our firm's departments are collectively responsible for the relationship with customers.	1	2	3	4	5
4. Our firm's departments jointly visit customers' plants	1	2	3	4	5
5. Our firm's departments take decisions that affect the relationship with customers collectively.	1	2	3	4	5
6. Our firm's departments are collectively aware of the importance of the relationship with customers.	1	2	3	4	5

Technological Orientation. Subin et al, (2016)

With regard to the strategic orientation of our firm...

1. Our business unit uses sophisticated technologies in its new product development.	1	2	3	4	5
2. Our new products are always the state of the art of the technology.	1	2	3	4	5
3. Our business unit uses the latest technologies in new product development.	1	2	3	4	5
4. Our products are on the leading edge of the industry standard.	1	2	3	4	5
5. Our business unit uses systematic scanning for new technologies inside and outside the industry.	1	2	3	4	5
6. Our business unit reinvests significant portions of profit in R&D.	1	2	3	4	5
7. We make appropriate relationship specific investments for relationship development.	1	2	3	4	5

NPD knowledge management capabilities Subin et al, (2016)

During the new product development process for the product you selected for this survey, our new product team...

1. Have capabilities for acquiring knowledge about our customers.	1	2	3	4	5
2. Have capabilities for generating new knowledge from existing knowledge.	1	2	3	4	5
3. Have capabilities for acquiring	1	2	3	4	5

knowledge about our suppliers.					
4. Have capabilities for acquiring knowledge about new product/service in our industry	1	2	3	4	5
5. Have capabilities for acquiring knowledge about competitors in our industry.	1	2	3	4	5

During the new product development process for the product you selected for this survey, our new product team...

1. Have capabilities for using knowledge in development of new product/services	1	2	3	4	5
2. Have capabilities for using knowledge to solve problems.	1	2	3	4	5
3. Matches sources of knowledge to problems and challenges.	1	2	3	4	5
4. Uses knowledge to improve efficiency.	1	2	3	4	5
5. Quickly applies knowledge to critical competitive needs.	1	2	3	4	5
6. Quickly links sources of knowledge in solving problems.	1	2	3	4	5

New Product Success Siohong & Reilly, (2016)

The adapted items test whether a new product project

1. Met or exceeded sales expectations overall.	1	2	3	4	5
2. Met or exceeded profit expectations.	1	2	3	4	5

3. Met or exceeded return on investment expectations	1	2	3	4	5
4. Met or exceeded overall senior management expectations.	1	2	3	4	5
5. Was launched (fielded) within or under the original budget.	1	2	3	4	5
6. Came in at, or below, the cost estimate for development.	1	2	3	4	5