# A STUDY ON THE VARIOUS DIMENSIONS OF CONFLICT AND ITS IMPACT ON WORK RELATIONSHIP AND FINANCIAL PERFORMANCE WITH SPECIAL REFERENCE TO INDIAN PUMP INDUSTRY

Doctoral Thesis Submitted In partial fulfillment of the requirements for the award of the degree of

# **DOCTOR OF PHILOSOPHY**

In

# MANAGEMENT

# BY

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# **DECLARATION OF AUTHORSHIP**

I declare that this thesis entitled "A Study on the Various Dimensions of Conflict and Its Impact on Work Relationship and Financial Performance with Special Reference to Indian Pump Industry.", submitted by me in partial fulfillment of the requirements for the award of the degree of Doctor of Philosophy of the ICFAI University Jharkhand, Ranchi is my own work. It contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text. I further state that I complied with the plagiarism guidelines of the University, while preparing the thesis.

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## ACKNOWLEDGEMENTS

I am highly delighted and extremely grateful to the ICFAI University Jharkhand (IUJ) for giving me an excellent platform and conducive atmosphere for learning research throughout the tenure. From the bottom of my heart, I express my thanks to Professor Dr. Rumna Bhattacharya, Research Supervisor for her continuous encouragement, guidance, push and support in this journey. I am thankful to Professor Dr. Biranchi Narayan Swar, Co Supervisor for his guidance which helped me a lot in publishing research articles related to my research work in top rated journals. On a special note, I thank Prof. ORS Rao, Vice-Chancellor of IUJ for his constructive suggestions to improve the quality of research work. I also thank Dr. K K. Nag, Dr. Hariharan and Dr. BM Singh for their sensible comments and support. I am also thankful to the entire research team of IUJ who put their efforts go though my thesis and provided valuable comments. I am highly indebted to some of my close friends and colleagues for their help in different stages of research. Thank would be a small work to my wife who gave me sufficient space and time with love and care which made this research journey very memorable. I also would like to thank my parents who always remembers me in their prayers. Last but not the least, I thank god the almightly who gave me the patience and strength throughout the research.

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# THESIS COMPLETION CERTIFICATE

This is to certify that this research thesis titled "A Study on the Various Dimensions of Conflict and Its Impact on Work Relationship and Financial Performance with Special Reference to Indian Pump Industry.", submitted by Ameer Hussain in partial fulfillment of the requirements for the award of the Degree of Doctor of Philosophy in Management by the ICFAI University Jharkhand, Ranchi is an original work carried out by him under our joint guidance. It is certified that the work has not been submitted anywhere else for the award of any other Degree or Diploma of this or any other University. We also certify that she complied with the Plagiarism Guidelines of the University.

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# **EXECUTIVE SUMMARY**

# **INTRODUCTION**

There is a general belief that conflict hampers the work relationship between both the parties in the channel relationship (Jehn and Bendersky, 2003; Jehn, 1995). So at times, managers try to avoid conflict at their work place. It is almost impossible to avoid conflict in any relationship completely and it's not true that all forms of conflict spoil the work relationship and performance (De Wit *et al.*, 2012). It is dependent on various factors which decide whether the conflict results in a positive or negative outcome. The investigation of different components of conflict and the role of work relationship in channel performance gives a clear idea about the role and importance of conflict and work relationship in offering better financial performance.

# **OBJECTIVE**

The objective of the thesis is to give overall dimensions of Conflict including type of conflict, the Internal environment of Conflict and Magnitude of Conflict which determines whether a particular conflict is a Functional conflict or Dysfunctional conflict by analyzing its impact on Channel Work relationship and Channel performance with respect to Indian pump Manufacturer and Distributor. The importance of the Work relationship as a mediator in the model was also found out by mediation analysis.

# DESIGN/METHODOLOGY/APPROACH

Data collection was done during March 2016 and December 2017 through the online survey, telephone interview and field schedule. A total of 276 responses were collected from seniors Managers of Industrial pump Distributors who interact with Pump Manufacturer regularly. Out of 276 responses, only 262 respondent's complete responses were qualified and considered for analyses. Based on Structural Educational Modeling (SEM) through AMOS, a thorough analysis was done to find the interrelationship between various dimensions of conflict and its effect on the channel output. SPSS and its process macros was used to perform many statistical technique to know the impact of the profile of the distributors on channel performance and the mediating effect of Work relationship

## FINDINGS AND IMPLICATIONS

The outcome of the study concludes that among all the dimensions of conflict, Cognitive Conflict i.e. Objective specific conflict has the highest positive impact on the work relationship satisfaction, followed by Magnitude of conflict which is also having a significant impact on the work relationship satisfaction. Affective conflict or conflict that involves personal attack is something that channel members have to avoid at any cost as the result shows that it negatively influences work relationship satisfaction. The result also suggests that though Process conflict does not have any significant impact on Work relationship satisfaction, the context of the conflict including the Magnitude of conflict and Internal environment of conflict will decide whether Process conflict significantly inflences Work relationship satisfaction or nor. Hence context of the conflict is equally important as the type of conflict to categorise a particular conflict as Functional conflict or Dysfunctional conflict. The result also shows that there is a strong evidence of Work relationship satisfaction having a positive influence on the channel's Finacial performance. More over, the business profile of the respondents including their age of relationship with the pump manufacturer, the region of work and presence of multiple distributors significantly differs across different groups of distributors. Finally, there is strong evidence that Work relationship acts as the full or partial mediator between various types of conflict and financial performance.

#### **RESEARCH LIMITATIONS AND FUTURE SCOPE**

The findings of the study on conflict management related to Industrial pump Manufacturers and Distributors cannot be generalized to other forms of relationship like the relationship that exists between boss and subordinates or between employer and employee. At present, the research is undertaken only among distributors of industrial pumps. In future, it can be extended to agricultural and domestic pump sector as well. It can also be carried out to an entirely new and similar industry like value industry. Only the direct influence of various dimensions of conflict on work relationship and channel performance has been studied. In future, both mediation and moderation effect of various dimensions and factors of conflicts in work relationship and channel performance can be studied as it would be entirely a new area of study.

# RECOMMENDATION

The research reiterates the work done by the previous researchers in the area of conflict management that conflict need not be seen in a negative connotation. Not all type of the types of conflicts are bad. It depends on the context including environment, magnitude and the perception of the other channel members which decides whether the conflict is functional conflict or dysfunctional. This outcome of the research study can be directly applied to the highly fragment pump industry where the pump dealers /distributors are scattered and they are not managed scientifically by the pump manufacturer.

# **CHAPTER I**

# **INTRODUCTION**

# **CHAPTER I**

# **INTRODUCTION**

This chapter provides the introduction and the background to the research, discussing the important concepts related to the study. Complete details of the Indian pump industry based on secondary data is provided. It is followed by the problem statement, objectives, research questions and deposition of the thesis.

# **1.1 OVERVIEW**

There is a general notion that Conflict has a negative impact on the channel relationship and performance. However, research on the area of conflict management reiterates the fact that not all forms of conflict result in negative output. It all depends on the internal environment of conflict, the type of conflict and Magnitude of conflict that decides whether a particular conflict can be Functional conflict or Dysfunctional conflict. The aim of conflict management is not to avoid the conflict completely but to convert any form of conflict into functional conflict or stop the conflict to go beyond a particular level where it becomes Dysfunctional.

The present research considers Work relationship and Channel performance as the dependent variables and the various dimensions of conflict as the independent variables and analyzed the interrelationship between them. Indian Pump Industry's Industrial segment has been taken into consideration where work relationship between Pump manufacturer and distributor plays a critical role in deciding the sale of the product. A survey was conducted among industrial pump distributors across the country to analyze the interrelationship between different variables and the impact of one variable on the other to draw a meaningful conclusion.

# **1.2 INDUSTRIAL DISTRIBUTORS**

According to Frederick (1976), the main job of the industrial distributor is to sell the product to the manufacturer. The distributor does the job of stocking the products based on projected sales and has at least one outside and inside salesperson. Counter sale person may or may not be a presence. Hence the presence of a counter salesperson is not mandatory. He takes care of varieties of operations including contacting the customer, maintaining the inventory, delivering the products on time and offering the products assortment.

Generally, industrial distributors can be classified into three different types.

- 1. General-line distributors
- 2. Specialist firm
- 3. Combination houses

#### **1.2.1 GENERAL LINE DISTRIBUTORS**

General-line distributors are also called as mill supply houses. As the name suggests, they supply a huge variety of products to the company. They stock all variety of products that the manufacturer might require. They ensure that the fast moving items are always present. Hence these types of distributors are generally referred to as "the supermarkets of the industry".

#### **1.2.2 SPECIALIST FIRMS**

Specialist firms sell a very thin line of closely related items including bearing, cutting tools, abrasives etc. Unlike general line distributors, they do not have much variety of products to sell in their portfolio. As the name implies, they are specialized distributors who are involved in selling closely related specialty items which are not commonly available in the market.

# **1.2.3 COMBINATION HOUSE**

Combination house is a combination of the business model of wholesaler and retailer. Their sales teams focus on selling the product to the company whereas the in-house sales teams focus on selling the product over the counter as a retailer to the general public. Nowadays there is growing trend in the combination house especially among the distributors who are located in the industrial area where on one side they act as a whole seller and on another side they act as a retailer. As a wholesaler, they focus on volume as whole selling is a volume based business whereas as a retailer they focus on margin as retailing is the margin based business. It also helps the manufacturer in terms of achieving their combined sales target by focusing on two different groups.

Nowadays the gap between general line distributor and the specialist firm is reducing more number of general line distributor is focusing on the sale of specialty products with the specialist department to compete with specialist firms. Meanwhile, specialist firms also focus on broadening their product offering by adding more variety of products. Though the gap between both the types of distributors is narrowing the main differing lies in the sales volume as the total sales of general line distributor is much higher than the specialty firm.

# **1.3 MARKETING CHANNELS**

Depending on the number of members between the producer and consumer, marketing channel can be categories as level 0, level 1, level 2 etc. When the producer sells the product directly to the consumer without any intermediaries, it is referred to as direct marketing and it belongs to level 0. When the producer sells the product to the consumer through few intermediaries, it is defined as indirect marketing. Indirect marketing can be level 1, level 2 etc depending on the number of channel member between the producer and the consumer in the value chain.

The figure 1.1 given below shows the marketing channels of the business customer. The distributor is the one who procures the product directly from the manufacturer and sells to the dealer or end user. The dealer is the one who procures the product from the distributor and sells it to the end user. Unlike consumer marketing channels, retail outlets are not present in the business marketing channels. There are various factors that decide the level of the channel. In the present study, most of the distributors who have been interviewed belong to level 2 as the distributor procures the product from the manufacturer and sells it to the end consumer. The pictorial view of all the three levels of channels is given in figure 1.1.



**Figure 1.1 Business Marketing Channels** 

Source: Adapted from Kotler et al (2016, fig 21.3)

# **1.4 CHANNEL WORK RELATIONSHIP**

Industrial Performance Group (2002), a Northfield, Illinois, firm that specializes in distribution management has identified that working relationships and financial performance including sales performance and profitability of the firms are decided by the eight key attributes. The firm has conducted many surveys and field interviews from 1997 to 2001 with 750 manufacturers and 500 distributors to come up with some meaningful attributes that both the parties should commonly possess to have a healthy work relationship and financial performance.

The eight attribute that decides the success of the Work relationship is listed below:

1) The manufacturer of the product and its distributor should share a precise and common knowledge of the environment that exists in their industry;

2) They have to develop the goals and plans to accomplish their targets that they set.

3) They should be very sensitive to the dynamic needs of their customers;
4) They have to precisely define the roles and responsibilities of each partner;
5) They should take action to assure that whoever is involved has the sufficient knowledge and skills to effectively perform their assigned jobs.
6) Both the partners should engage in high-quality dual communication;
7) Both of them should be highly committed to their work relationship; and
8) There should a high level of cooperation between both the partners
An analysis of the above attributes reveals that the root cause of the financial performance of the manufacturers and distributors is mainly due to the lack of direction provided by the leadership.

In Pump sales via Channel route, marketing channel relationship between the channel members gets affected for various reasons. At times during marketing channel relationships, one of the channel partners might involve in any activity that the other channel partner perceives that it is potentially destructive for the relationship (Hibbard et al., 2001). Whereas during some other time the same channel partner considers another channel partner action as potentially constructive for the relationship. Based on the study of previous literature and current study it has been identified that this behavior is due to the type of conflict, the Magnitude of conflict and Internal environment of conflict.

# **1.5 CHANNEL CONFLICT**

Channel conflict is the perception where one partner hinders the other partner from reaching the end objective (Stern & El-Ansary, 1977). According Goldman (1966) channel conflict is a social relationship between the channel members where one channel partner perceive that the other channel partner is involved in some activities which might harm or destroy the resources of the perceiver. As per this literature, one can conclude that it all depends on the perception of the one channel member about the other channel member. If the channel member perceives that the other channel member is impeding from achieving the goal then the conflict increases. On the other hand, if the channel member perceives that the other channel member facilitates in achieving the goal, then the conflict decreases.

According to Thomas (1992), the perception of one channel partner about another channel partner is based on normative, rational and emotional reasoning.

# **1.5.1 NORMATIVE REASONING**

Normative reasoning discusses the suitability (Thomas, 1992). If the perception of one channel partner by the other channel partner is fair then it results in positive perception. If the perception of one channel partner by the other channel partner is unfair then it results in negative perception. Here the variable fairness plays an important role in concluding whether the conflict is based on normative reasoning or not.

## **1.5.2 RATIONAL REASONING**

The rational or instrumental reasoning is about the desirable outcome. If one channel partner thinks the action of the other channel will result in the desired outcome then it results in positive perception. If one channel partner thinks the action of the other channel will result in undesirable outcome then it results in a negative perception. (Thomas, 1992).Here the variable benefit plays an important role in concluding whether the conflict is based on rational reasoning or not.

# **1.5.3 EMOTIONAL REASONING**

Emotional reasoning can also be the reason behind conflict perception. It arises because of the emotion that was generated during the conflict or by other events (Thomas, 1992). If the channel members are emotionally disturbed during the conflict episode then it results in the negative perception. If the channel members are not emotionally disturbed during the conflict episode then it results it does not result in negative perception.

The current research work is carried out to study the channel conflict and its effect on the Work relationship and performance with respect to Indian pump industry. Indian pump Industry's Industrial Segment is specifically considered as it is mainly driven by channel sales where work relationship between manufacturer and Distributor plays a critical role in deciding the success or failure of a firm. The detailed overview of the Indian pump industry with reference to the global pump market and different sectors that are being served is given in the subsequent topics.

## **1.6 INDIAN PUMP INDUSTRY**

Indian Pump Market is fairly in its mature stage, contributing 2% (Rs 8,500 Crore) of the Global Pump Market (USD 47 billion) in 2014. As shown in figure 1.2, according to Ficci, TSMG, ICICI direct research (2015), The global pump market is expected to grow from USD 47 billion in 2014 to USD 57 billion in 2017 with CAGR of over 6%. Meanwhile, as shown in another figure 1.3, according to Ficci, TSMG, ICICI direct research (2015), Indian pump market is expected to grow from 8,500 crores in 2014 to 11, 300 crores in 2017 with CAGR of over 10%. According to Ken Research (2015), Indian Pump Market can even exceed 190.2 Billion in 2019.

Figure 1.2 Estimated growth of Global pump market



Source: Ficci, TSMG, ICICIdirect.com Research



Figure 1.3 Estimated growth of Indian pump market

Source: Ficci, TSMG, ICICIdirect.com Research

Centrifugal pumps continue to dominate the Market, occupying around 95% of the Market share. Positive displacement pumps like Rotary, Reciprocating, and Peristaltic hose pump occupy rest of the 5%. (Atish Mukhopadhyaya and Anirudh Reddy, 2012). The details of the type of centrifugal pump and positive displacement pump are shown in table 1.1 and table 1.2 respectively. The key players with their focus sector are shown in figure 1.4

| Table 1.1 | Types of | f centrifuga | l pumps |
|-----------|----------|--------------|---------|
|-----------|----------|--------------|---------|

| MARKET SHARE BY DOMESTIC<br>Revenues (Fy10) |     |  |
|---|-----|--|
| Single-stage radial                         | 39% |  |
| Submersible                                 | 31% |  |
| Multi-stage radial                          | 18% |  |
| Axial & mixed                               | 12% |  |

Key sectors - Irrigation, domestic, power generation, water & wastewater

Source: From Mukhopadyaya et al (2012, p.41)

| MARKET SHARE BY DOMESTIC<br>Revenues (Fy10) |     |  |
|---|-----|--|
| Rotary                                      | 73% |  |
| Reciprocating                               | 24% |  |
| Peristaltic                                 | 3%  |  |

# Table 1.2 Types of positive displacement pumps

Key sectors - Oil & gas, power generation, food & beverages

Source: From Mukhopadyaya et al (2012, p.41)

# Centrifugal pumps Kirloskar Water and wastewater, power generation, oil & gas CRI Pumps Irrigation and domestic KSB Pumps Power generation, building services SME players predominantly focus on agriculture sector Positive displacement Conflax India Oil & gas, power generation food & beverages

# Figure 1.4 Key Players with focus sector

Source: From Mukhopadyaya et al (2012, p.41)

pump

There are more than 800 Pump Manufacturers who export to near about 70 Countries pegging 1,280 Crores in 20140. At least 16% of the Pump Manufacturers is involved in exports. The remaining 84% is into Domestic Indian Supply. Whether it is Indigenous Pump or Imported Pump, Majority of the Domestic Sales happens mainly via channel network as it is one of the most fragmented Industries in India and it lacks scientific planning and controlling its distribution network.

Indian pump Industry is broadly classified into 3 Major segments:

- 1. Industrial Segment
- 2. Domestic Segment
- 3. Agricultural Segment

# **1.6.1 AGRICULTURE SEGMENT**

Agriculture sector contributes roughly 35% market share for the pumps. Government is pushing energy efficient pumps at low cost to boost this sector by introducing various policies and subsidies. Since the rural part of the country is not well connected by electricity, leading players like shakthi pump offer solar-powered agriculture pumps which do not require electricity. Though this sector occupies a significant portion of the pump sector demand in India, it is highly fragmented with many unorganised dealers and retailers. Monitoring, training and controlling our mission among the dealers by the manufacturer. Due to which there is a lack of professionalism and customer orientation in this sector.

#### **1.6.2 INDUSTRIAL SECTOR**

The industrial share of pump sales contributes approximately 35%. This sector includes end-user segments like power, oil & gas, chemical, paper, pharma etc. Power sector contributes the maximum due to the recent surge in demand for power in the country. The power sector is expected to be the major contributor to pump sale in India.

# **1.6.3 DOMESTIC SECTOR**

The domestic sector contributes only 30% of pump sales, as compared to industrial and agricultural pumps. This type of pumps is used for public water supply, building services etc. Since there is a trend in the migration of population from rural to urban parts of the countries including metropolitan and cosmopolitan cities, this sector is also growing. The main sale of this sector happens only through retail outlets. Most dealers and retailers who are selling domestic pumps are very much fragmented.

Since domestic and Agriculture sector is highly unorganized and lacks proper guidance and support from the manufacturer, the current research is carried only to the Industrial Segment where Majority of Sales happens through distributor and dealer network.


Figure 1.5 Market share of pumps by sectors in 2009

Source: Market research of agricultural pump sets industry of India.

(2014).

# Table 1.3 End-user Segment

# details

| -    |   |   |   | Govt Initiative & Budget   |
|------|---|---|---|--|
| S.No | Sector  | Usage                                       | Demand drivers  | Outlay   |
| 1    | Agriculture   | Irrigation                                  |   |  |
|      | Market Size: ₹ 2300 cr<br>major players: KSB Pumps,<br>Kirloskar Brothers, Shakti   | TAX STATES                                  | Irrigation penetration in India stands at ~45%<br>as of 2011. Room for increase in penetration<br>propels the demand for pumps. Requirement of  | Pradan Mantri Krishi<br>Sinchayee Yojana;<br>government earmarks ₹ |
|      | Pumps, CRI Pumps,<br>Grundfos, Flowmore, WPIL,<br>Crompton Greaves  | The Astronomy Car                           | more energy efficient pumps to save on power<br>& fuel costs - will propel move from<br>unorganised to organised segment  | 1000 crore in 2014<br>Budget; mega project<br>to link rivere       |
| 2    | Building Services   | Pumping Water to height                     | unorganised to organised segment  | to link rivers   |
|      | Market Size: ₹ 1600 or<br>major players: KSB Pumps,<br>Kirloskar Brothers, Shakti<br>Pumps, CRI Pumps,<br>Grundfos, Crompton<br>Greaves |   | With increasing urbanisation and demand for<br>housing in cities there exists a good visibility of<br>incremental usage of pumps in pumping water<br>to heights. Depleting ground water in urban<br>areas will further augment usage  | "House for all", special<br>emphasis on low cost<br>housing        |
| 3    | Water & Wastewater  | Water treatment; Sewage treatment           |   |  |
|      | Market Size: ₹ 1450 or<br>major players: KSB Pumps,<br>Kirloskar<br>Brothers,Flowmore, WPIL   | A CLI                                       | Better sanitation, safe disposal of<br>waste/sewage, clean water for all - propels<br>demand for pumps. Development of 100 smart<br>cities in India will further drive investment in<br>this sector   | Smart Cities   |
| 4    | Power Generation  | Water Pumping, Heat Transfer, Cooling       |   |  |
|      | Market Size: ₹ 1000 or<br>major players: KSB Pumps,<br>Kirloskar Brothers, M&P,<br>Flowmore, Flowserve,<br>WPIL, Sulzer, Jyoti          |   | Thrust on augmenting power generation<br>domestically. Increase in usage of washed coal<br>to drive next leg of growth for all pump<br>manufacturers. Augmentation of nuclear power<br>and renewable (solar water pumps) also bodes<br>well   | Power for all; rural electrification                               |
| 5    | Oil & Gas   | Heat Transfer, ardent fuel emission control |   |  |
|      | Market Size: ₹ 700 or major<br>players: Kirloskar Brothers,<br>KSB (outsouroed from<br>parent, KSB AG),<br>Flowserve, Sulzer            |   | Need for shift to more environmental friendly<br>fuel (euro standards) will propel demand for<br>pumps. New exploration & refinery capacity<br>capex, however, remains limited given subdued<br>outlook for crude prices  | "Make in India"<br>initiative                                      |
| 6    | Metals & Mining   | Heat Transfer, Process Engineering          |   |  |
| _    | Market Size: ₹ 350 or major<br>players: WPIL  |   | In the ferrous space, two major mega steel<br>projects expected to go on-stream, which<br>includes Posco Steel project & JSW Steel<br>expansion in its Bellary plant. In the non-ferrous<br>space, majority of the capex has already been<br>done and only some upgradation work is being<br>undertaken | "Make in India"<br>initiative                                      |
| 7    | Chemicals & others  |   |   |  |
|      | Market Size: ₹1100 cr<br>major players: KSB Pumps,<br>Grundfos, M&P, Flowmore,<br>Flowserve, Sulzer, Jyoti                              |   | Shift of textiles and chemical manufacturing<br>base from China to India will propel the growth<br>of manufacturing of chemicals and textiles,<br>which will consequently create demand for<br>pumps  | "Make in India"<br>initiative                                      |

Source: ICICIdirect.com Research

#### **1.7 PROBLEM STATEMENT**

The pump Industry lacks scientific planning and controlling its distribution. This scenario is present not only in the agricultural and domestic sectors but also in the industrial sector. The industry is highly fragmented with the presence of many unorganized players.

The conflict between the pump manufacturer and distributor is a regular affair where most of the time it is an object-oriented conflict where both the parties fight for the numbers. At the same time, they cross the line and flight on personal in competencies which hampers the working relationship between them. Not all conflict results in the negative output. The conflict which has a positive influence on work relationship is called as Functional conflict and the one which has a negative influence on work relationship is called as Dysfunctional conflict.

Work relationship plays a critical role in channel sales. Previous research finding confirms that supplier and distributor have to focus on relation specific work culture rather than transaction specific work culture. This will create conducive environments which in turn affect the channel performance. In a healthy work relationship both the channel members have positive results in their sales and profits. Although the previous studies have confirmed the strong relationship between work relationship and channel's financial performance, the current State of Work relationship and the factors influencing the same between Manufacturer and Distributor in Indian Pump Industry has not been addressed so far. Strategies to Manage Conflict in Work relationship between Manufacturer and Distributor to improve sales is a new area of research. This provides a need to study the present state of work relationship and the influence of channel conflict on the same with special reference to Indian pump manufacturer.

#### **1.8 OBJECTIVES**

The study was conducted to measure various factors influencing the work relationship satisfaction between manufacturer and distributor. Special reference was given to the type of conflict to categories whether the conflict is a functional conflict or dysfunctional conflict. The hypothesized model was tested using Structural equation modeling with various cause and effect relationship using AMOS 20. The following research objective was framed as the part of the project to conduct the research.

- To study the various aspects of Channel conflict including Functional conflict and Dysfunctional conflict.
- To identify and measure different factors responsible for Functional conflict including Type of Conflict, Magnitude of Conflict and Internal Environment conflict from Indian pump Distributors with respect to their Pump Manufacturer.
- To analyse the interrelationship and the impact of these factors on Channel work relationship satisfaction and Channel financial performance.
- To demonstrate the importance of the Work relationship as a mediator between various types of conflict and work relationship satisfaction.

• To propose suitable recommendations to convert any type of conflict to Functional conflict to the pump manufacturers and distributors based on the analysis.

#### **1.9 RESEARCH QUESTIONS:**

Research question raises a concern about the specific area or issue of the study. It is the first active step towards research. The hypothesis that is been framed is based on the research question. Unlike hypothesis, it is not a declarative statement but it is a specific issue that the researcher is asking for the conducting the project. The entire research project work is done to provide solutions to the research questions given below.

- What are the factors that determine a particular conflict to be a functional conflict or dysfunctional conflict?
- What is the level of impact of various factors that affect Work relationship?
- What is the influence of Work relationship on channel performance?
- What is the role of Work relationship as a mediating variable between the type of variable and Work relationship satisfaction?
- Whether the sample data fits into the hypothesised model or not?

To address the above research questions, the hypothesis was framed and it was statistically tested by a statistical test like SEM, chi-square and ANOVA using statistical packages like AMOS 20 and SPSS 20.

#### **1.10 DEPOSITION OF THE THESIS**

The thesis is broadly divided into five chapters with many sections and subsections under it. In the first chapter, a brief introduction to the area of research and its approach is provided. It is followed by a background of the study including topics like various dimensions of conflict, Indian pump industry and need for the study. The chapter ends with a list of objectives and research questions that have been framed to conduct the research. In the second chapter, details of literature that was reviewed related to the working relationship and the factors which affect the same have been provided.

The third chapter gives details of the research methodology including the research design that was proposed for the study, sampling design with the justification of the sample size, pilot study analysis, details of the constructs, description of the statistical tools and techniques used for analysis and the conceptual framework used for testing the hypothesis. In the fourth chapter analysis and interpretation of the data is provided. Both descriptive and inferential statistical analysis is shown. In the fifth chapter, the gist of major finds of the research and its managerial implications for the practitioners is given with concluding remarks. After the last chapter, bibliography and questionnaire used for the survey (Appendix I) is provided.

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# **CHAPTER II**

# **REVIEW OF LITERATURE**

## **CHAPTER II**

# **REVIEW OF LITERATURE**

This chapter presents the details of the literature which discuss the work relationship and the factors which affect the same. The contribution of the literature related to the thesis work is considered. The gap in the secondary data is highlighted so that the same can addressed and collected in the current study.

#### 2.1 FUNCTIONAL AND DYSFUNCTIONAL CONFLICT

Early literature portrayed that conflict result in the counterproductive outcome (Jehn and Bendersky, 2003; Jehn, 1995). Especially conflict that is experienced at work place interferes with the work performance due to tension, friction and distraction from accomplishing the task. (Jehn and Bendersky, 2003).According to De Dreu and Weingart (2003) conflict interferes with organisational performance. Wall and Nolan (1986) in his study with the sample size of 375 students found that conflict results in low satisfaction among the members. Many of the early literature suggested that conflict should be avoided to increase the productivity of the firm.

On contrary to the early literature, many other contemporary literatures takes the opposite view of conflict and promote the organization to have a conflict as there are few circumstances that conflict would result in positive outcome. (De Wit *et al.*, 2012). It helps in improving the decision making abilities and strategic planning thereby enhancing the organisational growth (Jehn, 1995). When channel members encounter conflict their creativity improves and they learn to have a different view of the problem. (Tjosvold, 2008). They won't be a problem creator but a problem solver. According to Pelled *et al.* (1999) conflict helps the channel members to know the opposite view of the problem helping them to know the full knowledge of the problem through which they can come up with the more matured and alternate decision for the problem.

It is evident that Channel conflict among the channel members or between the Manufacturer and Distributor is totally unavoidable. The aim of any Channel conflict Management is not to avoid them completely but to stop at the point where it becomes Dysfunctional which intern affects the productivity. Channel Conflict which in constructive output is referred as "Functional Conflict".

Previous literature suggests that different type of factors including Type of conflict, Magnitude of conflict and Internal environment of conflict determine whether the conflict would be Functional conflict or Dysfunctional conflict.

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#### **2.2 TYPES OF CONFLICT**

Conflict, in general, should not be viewed in a negative sense. It all depends on the type of conflict that the channel member experience that makes the conflict as positive conflict or negative conflict.

Conflict can be classified into 3 different Types depending on the Purpose



**Figure 2.1 Types of conflict** 

### **2.2.1 COGNITIVE CONFLICT**

It is a task related conflict where the members debate and conflict regarding the task that they have to achieve. Research shows that under normal circumstance, Cognitive conflict is usually positive and results in a positive outcome. (Cosier & Schwenk, 1990). Presence of Cognitive conflict the in channel relationship shows that there is two-way communication/participation happening between the channel partners. It also results in a better quality decision as the members of the channel discuss freely without any hesitation (Amason, 1996). According to Easterbrook et al (1993), during conflict channel member's participation level plays an important role in achieving work relationship satisfaction. It is evident that objective oriented conflict and work relationship are closely related because of the high level of participation between two channel partners. This improved relationship, result in better performance. During the market study, many channel members have reported that they fight only for numbers and the person behind it. This gives a platform for a healthy relationship between both the parties as both the parties do get benefitted by this approach and professionally it helps the company to grow. It also pushes the distributor to achieve the periodical sales target and gives a good perception of the monitoring and controlling abilities of the manufacturers. It makes them feel more accountable and professional. On the manufacturer side, it helps them to control the distributor and keeps a check on their periodical target. If the distributor continuously does not achieve the sales target, there may be a need to revise the target and provide additional training to achieve the same. So in many contexts cognitive conflicts result in a positive outcome. For the present study, a cognitive conflict that arises between the Indian pump manufacturer and distributor is captured in the general context.

The presence of Cognitive Conflict among the distributor towards their manufacturer was captured by asking task-oriented conflict question - "We only fight regarding the Target and plans to achieve the same." This type of question captures only the objective specific conflict and does not attack any channel members personally. This question was framed with an assumption that object oriented conflict positively affects work relationship satisfaction between manufacturer and distributor. By this question, it has been found that Cognitive conflict is high interrelated with Work relationship satisfaction and channel Financial Performance. Hence the finding of previous research on the dependence of relationship satisfaction and better channel performance on Cognitive conflict has been cross verified.

#### **2.2.2 AFFECTIVE CONFLICT**

As per Amason (1996), Affective conflict is aimed at attacking the personal incompatibilities of the channel members. The channel members drift their focus from accomplishing the task to personal attack. They go to an extent to complain that due to the inefficiency of the Manufacturer or Distributor they were unable to achieve the task. It demotivates the other channel members and affects their morale. In general, affective conflict is dysfunctional. It not only affects the satisfaction level among the Channel members but it also takes out the positive effect of cognitive conflict. The previous researchers result shows that affective conflict does have an adverse effect on the work relationship and Channel performance. It is due to the fact that the distributor perceives that the manufacturer has taken things personally and has commented on the competence level of the distributor for not achieving the target.

The presence of affective conflict among industrial pump distributors with respect to their pump manufacturer was captured by asking the question "We blame each other's personal in competencies for not achieving the target". This question was framed with an assumption that affective conflict positively affects work relationship satisfaction between manufacturer and distributor. By this question, it was found that affective conflict is negatively related with work relationship and consecutively affecting the financial performance. Hence the finding of previous research that affective conflict negatively influences the work relationship satisfaction between the manufacturer and distributor has been cross verified.

#### 2.2.3 PROCESS CONFLICT

Unlike Cognitive and Affective Conflict which focus on task and relationship, Process conflict highlight the tension that arises because of the distribution of work among the members to accomplish the task. Typically in this type of conflict situation friction happens because of who has to do what task and the level of responsibility that the channel member has to undertake. According to Jehn and Mannix(2001), Process conflict indicates the different ways of completing the task. It is inversely related with Work relation satisfaction (Jehn, Northcraft and Neale, 1999). This could be because the distributors feel that their roles and responsibilities are not clearly defined due to which they are not clear about where they are and who has to do what task to achieve the target.

The Process conflict among the distributor has been identified by asking the question "We have tension concerning, who is responsible for completing the task". This question was framed with an assumption that Process conflict negatively affects Work relationship satisfaction between manufacturer and distributor. However, the result shows that process conflict does not have any significant positive or negative impact on Work relationship satisfaction. It indicates that unlike Cognitive conflict and Affective conflict, Process conflict is context specific, hence one cannot generalise the Process conflict as Functional conflict or Dysfunctional conflict. When Process conflict is involved, it all depends on the context rather than the concept which decides whether a particular conflict is a Functional conflict or Dysfunctional conflict.

#### **2.3 SOURCES OF CONFLICT**

Though the above types of conflict decide whether the conflict is a Dysfunctional conflict or Functional conflict, the reasons behind them should not be ignored as it has a profound impact on the final outcome of the conflict. The sources behind all the three different type of conflict that is been discussed above includes incompatible goals, domain dissensus and difference regarding the perception of reality (Luk 1997)

#### **Figure 2.2 Sources of conflict**



# 2.3.1 INCOMPATIBLE GOALS

In General, Channel members of the different organisation have different goals/objectives which are relevant to their respective organisation. In the context of Channel conflict that exists between manufacturer and Distributor, In spite of both manufacturer and distributor having a common goal of selling the same product that they agreed upon, conflict is unavoidable due to their differing approach for sales.

In General, Manufacturing is volume based business and the manufacturer can take any step to increase the volume by way of adding a new distributor, sell at lower Margin or opt for direct sales. Meanwhile, Distribution sales are margin based sales and they do not afford to sell at loss. Hence there exist a gap between the Manufacturer and distributor Goals although they are selling the same product.

#### **2.3.2 DOMAIN DISSENSUS**

There would be instances where it could be possible that the distributor's definition of the domain might differ from one distributor to another distributor. Customers to be served, segment to be penetrated, activities to perform and technology to be adopted are some of the important elements where members differ. Distributors fight among themselves due to lack of clarity of the domain definition and not having any common consensus among them.

#### 2.3.3 DIFFERING PERCEPTION OF REALITY

It is a threat perceived by the Channel member about the other Channel member where the reality might be different. It is basically the gap between Perception and reality. It is not necessary that every time the perception is the same as the reality. It arises due to poor communication among the channel members, due to which there won't be enough cooperation and coordination among the members.

#### **2.4 MAGNITUDE OF CONFLICT**

Another factor, which majorly decides whether the conflict is Functional or Dysfunctions is the Magnitude of conflict. The level of conflict that is realised by the channel members determines its nature. The underlying concept behind this is that about the conflict threshold level. The conflict that arises between the manufacturer and distributor, if it is above the thresh hold then the chances of experiencing the Functional conflict is more. If the conflict is below the thresh hold then the chances of experiencing the Dysfunctional are less. (Rosenbloom, 1073; Boulding, 1965; Brown and Day, 1981). On the other side if there is no conflict between the channel members that might also result in Dysfunctional conflict Eugene & Lydia (1962). Two different type of questions capturing the Magnitude of conflict that arises between the manufacturer and distributor was asked to the distributors. Questions like "How frequent that you experience Conflict between you and your Pump Supplier" and "What level of Conflict that you experience between you and your Pump Supplier when you are working together?" were asked to capture the magnitude of conflict based on the previous literature reviews. The result indicates that Magnitude of conflict negatively affects work relationship satisfaction.

#### 2.5 INTERNAL ENVIRONMENT OF CONFLICT

Trust, Communication, and Commitment are considered to be the building block for any relationship. All these three variables are named as Internal Environment of conflict in the research as these variables have a major impact on deciding whether the encountered conflict is Functional Conflict or Dysfunctional Conflict.

The definition of Trust, Communication, and Commitment, how to measure the same is given below. The analysis of the interrelationship between them and the effect of these three variables in improving the Channel Work relationship and Channel financial performance between the Manufacturer and Distributor has also been discussed in detail with reference to Indian Pump Industry.

# 2.5.1 TRUST

There is no single universal definition of trust. Many literatures have defined and discussed trust in different context. The definition varies across different disciplines because of the abstract nature of trust. There is a lack of unanimous understanding of this vague concept. According to Chen & Dhillon (2003) trust is all about reliability and dependability of the supplier who offers different products. As per Currall and Judge (1995) trust is nothing but the reliability that one party has upon the other party during the time of dependence and risk. Trust indicates the readiness of one party to serve another party with the belief that the later will not do any harm to the former without any monitoring and control (Mayer and Davidsand Schoorman, 1995). Nissenbaum (2001) of the view that trust is an extraordinary concept which covers a different type of relationships and objects. According to Rousseau et al (1998) trust is the psychological condition of one member who is ready to accept the behavior of the other person with the positive intention that the other member will not do anything against the trustor.

Trust is nothing but the level of confidence that one party has upon the other party. Many researchers including Kim (2000) see trust as Dyadic Trust which revolves around Trust and Trustworthiness of the other person. As per Dyadic Trust, the exchange partner's promise is reliable and he/she can do anything to meet the promise. Measuring the trust that one partner has on the other partner is challenging as direct questions cannot be asked because the respondent may not disclose their actual relationship. Sometimes the questions could be perceived as vague and they may give the response which would please the surveyor/Interviewer. Most of the authors have used World Values Survey (WVS) Attitudinal survey question that measures Trust Which questions that can most of the people be trusted or one has to be very careful while dealing with people to measure the trust level in the relationship. Glaeser et al. (2000) has questioned the validity of this type of attitudinal question and proposed behavioural questions to predict trustworthy-ness of the Individual. On contrary, Fehr et al. (2002) do not agree with the behavioral questions to measure trust as it captured only trustworthiness and not trust. He concluded by stating that the old WVS survey is the best indicator to measure the Trust. Paol et al (2007) found in his research that Trust and Trustworthiness are highly correlated. So measuring any one variable can predict the outcome of another variable. With this knowledge of the Trust the Trust that Distributor has upon the manufacturer was asked by the slightly modified question of WVS survey with respect to the current context as "In general, I trust my pump supplier while dealing with him". During the pilot study, it was found that distributors were able to understand the question as it was not very vague and captured the general context which had practical relevance in their day to day dealing. This was also in line with the globally recognized WVS survey so a higher level of validity was achieved by using this survey.

#### 2.5.1.1 TRUST AT WORK PLACE:

Trust at work place is an important component of creativity and innovation. It helps in channel management as it creates a conducive environment among the channel members (Prusak, 2001; Rousseau et al., 1998). It is the root cause of cooperation, commitment, and performance in the organization (Korsgaard et al., 2002; Kim et al., 2004). Trust also plays a crucial role in productive and cooperative behaviors among the employees of any organization. Many researches were done on finding out the influence of trust on conflict. (Peterson and Behfar, 2003; Simons and Peterson, 2000; Tidd et al., 2004). Simons and Peterson (2000) have proved that trust results in a positive outcome in a cognitive conflict where members fight only related to the task. Hence the benefit of object oriented conflict or cognitive conflict can be achieved only through the presence of trust. Though the research has done a significant contribution in highlighting the positive impact of trust on conflict, one cannot conclude that conflict will result in a negative outcome if the environment of trust is less. It is not necessary that the negative effects of conflict be associated with a low level of trust.

It brings out the basic question of the research study that if low level of trust is not associated with dysfunctional conflict then what are the other factors which are significantly responsible for the positive or negative outcome of the conflict? Previous literature has identified that apart from trust other variables like Communication, Commitment, Type of conflict and

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Magnitude of conflict decide whether the conflict will be Functional conflict or Dysfunctional conflict. All these variables are explained in details in the light of previous research studies in subsequent topics.

#### **2.5.2 COMMUNICATION**

Communication channel flows an important role in channel management. Transaction channel, distribution channel and communication channel together constitute marketing function (Peter et al.1997). Transaction channel enables activities like booking, ordering, and payment between buyer and seller. Distribution channel enables the physical transfer of goods/service from the buyer to the seller. Communication channel enables the smooth flow of different type of information between the manufacturer and distributor. Generally, managers favor the environment of communication and subordinates favors the environment of cooperation. The effectiveness of sales and distribution is dependent on communication and cooperation between channel members (Kahn et al., 2004). Gattorna (1978) in his research study identified communication as one of the prime factors for channel conflict between the channel members.

In the present study, communication is seen as the information sharing between Manufacturer and Distributor. It includes Information Exchange, Sharing of ideas and Knowledge (Fang Wu et al., 2007, p. 289). Information sharing from Manufacturer to Distributor includes conducting a Training program, sharing Technical and management related information. Information sharing from Distributor to Manufacturer mainly include Market information. Though information exchange is very important, sharing too many information may lead to opportunism). In spite of all these risks, sharing quality information always improves productivity and solves many operational issues. (Fang Wu et al.,2007, p. 289). Questionnaires were designed to check whether the manufacturer was willing to share critical information with a distributor or not.

#### **2.5.3 COMMITMENT**

According to Moorman et al. (1992), Commitment is the willingness to maintain long standing and valuable relationship. Many literature on Commitment talks mainly about the organisational commitment that the Employee has with the employer or vice versa. Since the atmosphere of Organizational commitment of the employee towards the employer is almost the same as the relational Commitment of the Distributor towards its manufacturer, the relevant literature of the former is taken for the later. The distributor can be considered as an employee, Manufacturer can be considered as an employer.

Meyer and Allen (1991) classified organization commitment that employee has with the organisation as affective Commitment, continuance Commitment, and Normative Commitment. Affective commitment talks about whether the employee wants to stay (Emotional bond) with the organisation or not. Continuance Commitment deals with whether the employee needs to stay with the organisation or not. Normative Commitment deals with whether the employee ought to stay with the organisation or not. Anderson and Weitz (1992) have concluded in his research work that Manufacturer's commitment to the dealer acts as the driving force for the dealers's commitment to Manufacturer. The paper has captured the commitment level of distributors and manufacturer in the distributor's perspective.

# 2.5.4 INTER-RELATIONSHIP BETWEEN TRUST, COMMUNICATION, AND COMMITMENT

Many kinds of literature have discussed only any two variables. Either They study the relationship between Trust and Communication (Stevenson & Gilly, 1991; Ruppel & Harrington, 2000;De Ridder, 2006; Harry, 2006; Rosli & Hussein, 2008) or Trust and Commitment (Tyler & Doerfel, 2006; Welch & Jackson, 2007) or sometimes between Commitment and Communication (van den Hoff and de Ridder 2004; van vuuren et al 2007; Bambacas & Patrickson, 2008). Not many literaturers study the interrelationship between Trust, Communication, and Commitment. In this research, all the three interrelated variables are studies.

#### 2.5.4.1 TRUST AND COMMUNICATION

Robert and O'Reilly (1974) in their research work identified that there is a significant positive relationship between the trust that an employee has on their superior and their communication that they have with their superior. Ridder (2006) centered his research on Communication and found that it is positively related to Trust.

#### 2.5.4.2 COMMUNICATION AND COMMITMENT

Robert and O'Reilly (1974) in their same research study found that statistically there is no significant relationship between communication and organisational commitment. Though Gopinath and Becker (2000) gave a general conclusion in their research that communication and commitment are not closely related, they also highlighted that during divestiture condition, proper communication by the management affects employee's organisational commitment. Hence we cannot conclude any relationship between Communication and commitment based on Gopinath and Becker (2000) as it is self-contradictory. However, according to Ridder (2006), communication and organizational commitment are closely related to each other.

#### 2.5.4.3 TRUST AND COMMITMENT

Robert and O'Reilly (1974) concluded in his research that the Trust that Employee is having on his superior significant influence on the commitment that they have towards the Orginasation. Rachid et al. (2011) considered all the 3 variable including Trust, Communication, and commitment and by analyzing the sample employees came with the logical conclusive result as shown in Figure 1 that that Trust precedes Organizational commitment and Communication proceeds Trust. It can be logically said that Trust act as a moderation variable to have a significant impact on Communication on Organizational Commitment.





### 2.6 WORK RELATIONSHIP

The customer gets the product in hand either directly from the manufacturer or distributor. The former is called as direct sales and the later is called as channel sales. In a highly fragmented industry like pump industry, channel sale is more common than direct sales. Distributor becomes the main point of contact who understands the pulse of the customer. Manufacturer understands the market primarily through the distributor. Hence in channel sales, the relationship between manufacturer and distributor is crucial and plays a vital role in affecting the sales of both the organizations.

Basically, the relationship between manufacturer and distributor is classified into two types as

- Strategic relationship
- Tactical relationship

#### 2.6.1 STRATEGIC RELATIONSHIP

In a strategic relationship between manufacturer and distributor, they work closely. They show them self as one in front of the customer. Customer hardly distinguishes between the manufacturer and distributor. They build long term commitment to serve the customer. They help each other for building the strong brand and launching any new product in the market. The distributor focuses mainly on the customer and he clearly understands the requirement. On the other hand, the manufacturer has a complete knowledge of the product and the right fit for the customer. The goal of both the parties is beyond just making one time sale. The relationship that they have built would allow the manufacturer to launch the new product into the market and the distributor involves in upselling and cross selling the new product that is recently launched. The distributor regularly gives periodical updates about the market to the manufacturer and the manufacturer regularly update about the product through onsite and offsite training programs and email updates.

#### 2.6.2 TACTICAL RELATIONSHIP

The tactical relationship is very narrow and the scope is very limited. It focuses mainly on sales. The main objective of the manufacturer and distributor who are maintaining this type of relationship is to involve in those activities which are related only to sales. Typically the manufacturer builds the product and a distributor takes care of the logistics to reach the product in the hands of the customer. Some of the industries like software industry refer distributors as "Box pushers" as they don't have any role in modifying the product. Most of the tactical relationship is short term oriented and both the parties wish to convert the tactical relationship to strategic relationship.

# 2.7 MANAGING MANUFACTURER AND DISTRIBUTOR RELATIONSHIP

To manage the relationship between manufacturer and distributor, first nature of the relationship i.e. whether it is strategic or tactical relationship should be found. The relationship between the manufacturer and distributor is unique in its own nature. It is not the relationship between employer and employee where the prevalence of hierarchy is more and it not as simple as customer relationship where distributor behaves only like a buyer. Both the approaches are not successful. Infact the manufacturer and distributor relationship should be like a partnership. Though it is tough to maintain the partnership, the successful partnership always pays of well.

#### 2.8 WORK RELATIONSHIP AND FINANCIAL PERFORMANCE

According to James C. Anderson (1990), Work relationship is the cooperation and understanding between both the firm in a way that the success of one firm is partly dependent on the other firm. The main purpose of any work relationship is to make the product available in the market and thereby serving the customers. To achieve this the manufacturer keeps appointing new distributors to cover the market. However, a point of diminishing returns arrives where the appointment of new distributors doest not yield any further return to the manufacturers due to market saturation. It might affect existing distributor profitability and often lead to service and a price war. This eventually makes the distributor focus on other products which yield a better return.

In General, Manufacturing is volume based business and the manufacturer can take any step to increase the volume by way of adding a new distributor, sell at lower Margin or do direct sales. Meanwhile, Distribution sales are based on Margin based sales and they do not afford to sell at loss. Hence there exist a gap between the Manufacturer and distributor Goals although they are selling the same product. Bidirectional communication is very important in bridging the Gap between the Manufacturer and Distributors priorities. The sales team of the Manufacturer play a vital role in facilitating the communication between the manufacturer and channel partners.

The research by Industrial Performance group on Manufacturer and Distributor Work relationship revealed that Most of the Manufacturer and Distributor are well aware of the fact that due to their Poor Work relationship, there are having a negative effect on their sales and profitability. However, they are not ready to rectify the situation as both the parties lack the commitment and trust in each other.

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# 2.9 PREVIOUS RESEARCH FINDINGS AND LINKAGE TO

# RESEARCH

The summary of the previous literature reviews finds and its linkage to the research is given below. It helped to build the conceptual framework for the model; design the questionnaire; decide upon the methodology that needs to apply to collect the data and find the gap in the previous study.

| Literature Reviewed   | Author/s &<br>Publishing<br>Year            | The gist of<br>Points Gained  | Linkage to my<br>research and<br>research gap  |
|---|---|---|--|
| Title: The Functions of Social<br>Conflict<br>Social conflict: Retrieved from<br>https://markmcpeak.wordpress.c<br>om/2016/01/17/the-functions-of-<br>social-conflict-by-lewis-coser/<br>on 22 <sup>nd</sup> April 2018 | Lewis A<br>closer<br>(1956)                 | Discuss the<br>functions of<br>conflict by<br>quoting<br>examples from<br>labor union<br>management,<br>conflict, and<br>international<br>conflicts | Benefits of<br>conflict<br>including<br>binding the<br>people<br>together;<br>binding the<br>group together<br>and promotion<br>of alliance<br>between the<br>group. |
| Title: Organisation<br>Source: Louvain Economic<br>Review. Volume 26, Issue 6<br>September 1960, pp. 585-586  | March,<br>J.G. and<br>Simon,<br>H.A. (1960) | 4 The major type<br>of Conflict<br>Resolution<br>Strategies   | Mostly<br>Focused on<br>process<br>approach.<br>Reach on<br>Structural<br>Approach   |

| Table 2.1  | <b>Previous</b> | research    | findings   | and lin | nkage to | research    |
|------------|-----------------|-------------|------------|---------|----------|-------------|
| 1 4010 201 | 11011040        | I Cocal cli | THE WEITER |         | mage to  | I COCAI CII |

| Title: A use of Simulation in the<br>study of Internation relations".<br>simulation in social science:<br>Source: Reading engle woods<br>cliffs., N.J Prentice-Hall 1962.<br>82-93 | H.<br>Guetzko<br>W (1962)   | 9 Different types<br>of Conflict<br>management<br>Mechanisms.<br>Usage of<br>Simulation<br>technique to<br>reduce the<br>International<br>Conflict by<br>Conflict<br>Management<br>mechanisms.   | Introduction of<br>Para simulation<br>technique in<br>Research.  |
|--|---|--|--|
| Title: Managing<br>conflict in Distribution<br>Channels: A Laboratory Study.<br>Source:<br>Journal of Marketing<br>Source: Research Vol X<br>(May 1973), 169-179                   | Louis<br>W.Stern,<br>Brain<br>Sterntha I<br>and<br>C.Samuel<br>Craig (1973) | Conflict does not<br>occur only<br>because of<br>distribution<br>channel settings<br>(emphasising<br>price and<br>quality) there are<br>other variables.   | <ol> <li>Laboratory<br/>study to test<br/>conflict<br/>Management<br/>mechanism.</li> <li>Research is<br/>focused<br/>towards Intra<br/>Channel<br/>Distribution</li> </ol>  |
| Title: The role of industrial<br>distributor in marketing strategy<br>Source: Journal of Marketing,<br>Vol. 40 (July 1976), pp. 10-16  | Frederick E.<br>Webster, Jr.<br>(1976)                                      | Manufacturers<br>who are having<br>channel sales<br>depends on<br>industrial<br>distributors for<br>various reasons.<br>Handling of<br>large accounts,<br>inventory<br>management,<br>managing<br>distributors,<br>overlapping<br>territories of<br>multiple<br>distributors,<br>distributors,<br>distributor's<br>margin and<br>dilemma whether | Definition of<br>the Industrial<br>distributor and<br>their types.<br>The inclusion<br>of the presence<br>of multiple<br>distributors as<br>a factor in<br>affecting the<br>relationship<br>between<br>manufacturer<br>and distributor.<br>The inclusion<br>of distributors'<br>margin(financi<br>al<br>performance) |

|                               |             | customer or<br>supplier-who<br>comes first?<br>were considered<br>to be the most<br>important issue<br>in distributor and<br>supplier<br>relationship. | as a factor in<br>affecting the<br>channel<br>relationship |
|-------------------------------|-------------|--|--|
| Title: A Model of the         | James       | Social Exchange  | Distributor's  |
| Distributor's Perspective     | C.Anderson; | and it is related  | the work   |
| of Distributor Manufacturer   | James A.    | to the channels  | relationship.  |
| Working Relationships         | Narus       | of distribution.   |  |
| Source: Journal of Marketing, | (1984)      |  |  |
| Vol.48, No. 4                 |             |  |  |
| (Autumn,1984), pp. 62-74      |             |  |  |
|                               |             |  |  |
| Title: Perceptions of         | Wall, V.D.  | Conflict will lead   | The framing of   |
| inequity, satisfaction,       | and         | to less satisfaction   | hypothesis<br>relating the                                 |
| and conflict in task-         | Nolan, L.L. | among the  | impact of  |
| oriented groups               | (1986)      | members.   | work   |
| Source: Human Relations,      |             |  | relationship   |
| Vol. 39 No. 11,               |             |  | satisfaction.  |
| pp. 1033-1051.                |             |  |  |
|                               |             |  |  |
|                               |             |  |  |
|                               |             |  |  |

| Title: A Model of Distributor      | James       | A model of                                 | Definition of   |
|------------------------------------|-------------|--|---|
| Firm and Manufacturing Firm        | C.Ander     | manufacturer and<br>distributor<br>working | Working<br>partnership.<br>Multiple<br>Informant<br>Research<br>Method<br>involving both<br>manufacturer              |
| Working Partnerships.              | son &       |  |   |
| Source: Journal of Marketing       | James       | partnersnip.                               |   |
| Vol. 54, No. 1                     | A.Narus     |  |   |
| (Jan. 1990), pp. 42-58             | (1990)      |  |   |
|                                    |             |  | and distributor.  |
|                                    |             |  |   |
|                                    |             |  |   |
| Title: Characteristics of          | Mohr, Jakki | Definition of                              | Trust   |
| Partnership success:               | Spekman     | partnership by                             | and   |
| Partnership attributes,            | (1994)      | striving for the mutual benefits           | commitment  |
| Communication behavior,            |             | Important                                  | as important  |
| and conflict resolution technique. |             | determinants of                            | variables that  |
| Source: Strategic management       |             | successful<br>working                      | successful/unsu   |
| Journal, vol 15, 135-152           |             | partnership,                               | ccessful partnership.   |
|                                    |             |  | Satisfaction<br>was considered<br>to be the<br>outcome<br>variable for<br>measuring the<br>successful<br>partnership. |
| Title: A multimethod               | Jehn, K.A.  | Conflict                                   | Understand the  |
| examination of the                 | (1995)      | decision making                            | of functional   |
| benefits and detriments            |             | abilities and                              | conflict to   |
| of intragroup conflict.            |             | planning.                                  | itself from   |
| Source: Administrative             |             |  | dysfunctional conflict  |
| Science Quarterly,                 |             |  | connet  |
| Vol. 40 No. 2,                     |             |  |   |
| pp. 256-282                        |             |  |   |
|                                    |             |  |   |

| Title: The conflict-<br>positive organisation:<br>it depends upon us.<br>Source: Journal of<br>Organisational Behavior,<br>Vol. 29 No. 1, pp. 19-28.                       | Tjosvold, D.<br>(2008)   | Functional<br>conflict improves<br>creativity to<br>solve the<br>problem in an<br>alternate way.  | The outcome<br>of functional<br>conflict.   |
|--|--|---|---|
| Title: Structural changes<br>in China's distribution system.<br>Source: International Journal<br>of Physical Distribution<br>& Logistics.<br>Title: Effect of huver-seller | Luk, S.<br>T (1997)<br>Renee Fontend                               | Discussed the<br>reasons for<br>conflict and gave<br>an outline about<br>functional<br>conflict and<br>dysfunctional<br>conflict.   | Channel<br>Conflict need<br>not be ignored<br>but it should be<br>imported to get<br>better. Convert<br>any conflict to<br>functional<br>conflict   |
| relationship structure on<br>a firm 's performance.<br>Source: Louisiana State<br>University. David T. Wilson.<br>The Pennsylvania State<br>University. ISBM Report 6-1997 | Richard P.<br>Vlosky Elisab<br>Wilson<br>David T.<br>Wilson. (1997 | relationship<br>marketing over<br>ettransaction<br>marketing.<br>Impact of<br>relationship<br>marketing on a<br>firm's<br>performance.<br>Identification of<br>key attributes<br>which affects the<br>work<br>relationship. | influence of<br>relationship<br>marketing on<br>work<br>relationship.<br>Trust,<br>communication<br>, commitment,<br>power,<br>comparison<br>level of<br>alternatives,<br>satisfaction<br>were identified<br>as key<br>attributes that<br>affect the<br>performance of<br>the work<br>relationship. |

| Title: Introduction to<br>special topic forum<br>not so different after<br>all: a cross-discipline<br>view of trust.  | Rousseau, D.,<br>Sitkin, S.B.,<br>Burt, R.S.<br>and Camerer,<br>C. (1998) | Trust is the belief<br>that one person<br>has upon the<br>other person that<br>the later will not<br>do any harm to<br>the former. | Design<br>questionnaire<br>to measure<br>trust that<br>distributor has<br>upon the<br>manufacturer.                 |
|---|---|--|---|
| Management Review,<br>Vol. 23 No. 3, pp.<br>393-404.  |   |  |   |
| Title: Exploring the<br>black box: an analysis<br>of work group diversity,<br>conflict and performance.<br>Source: Administrative<br>Science Quarterly, Vol.<br>44 No. 1, pp. 1-28.                 | Pelled, L.H.,<br>Eisenhardt,<br>K.M. and<br>Xin, K.R.<br>(1999)           | Conflict helps to<br>understand the<br>opposite view of<br>the problem<br>there by<br>improves the<br>knowledge of the<br>issue.   | Benefits of conflict.   |
| Title: Task conflict<br>and relationship conflict<br>in top management<br>teams: the pivotal role<br>of intragroup trus.<br>Source: Journal of Applied<br>Psychology, Vol. 85<br>No. 1, pp. 102-11. | Simons,<br>T.L. and<br>Peterson,<br>R.S.(2000)                            | Trust positively<br>impact object<br>oriented conflict<br>or cognitive<br>conflict.  | Frame<br>hypothesis<br>relating the<br>internal<br>environment of<br>conflict (trust)<br>and cognitive<br>conflict. |

| Where did knowledge<br>management come from?<br>Source: IBM Systems<br>Journal, Vol. 40 No. 4,<br>pp. 1002-6.   | Prusak,<br>L. (2001)  | Trust creates a<br>conducive<br>atmosphere<br>among the<br>channel members   | The positive<br>impact of trust<br>on work<br>relationship<br>satisfaction<br>between pump<br>manufacturer<br>and distributor.                                    |
|---|---|--|---|
| Title: Trust in the<br>face of conflict:<br>the role of managerial<br>trustworthy behavior<br>and organisational context<br>Source: Journal of Applied<br>Psychology, Vol. 87<br>No. 2, pp. 312-9.  | Korsgaard,<br>A.M.,<br>Brodt, S.E.<br>and<br>Whitener,<br>E.M. (2002) | Trust results in<br>cooperation,<br>commitment and<br>performance  | The positive<br>relationship of<br>trust with<br>commitment<br>and the<br>positive effect<br>of trust on<br>work<br>relationship<br>and financial<br>performance. |
| Title: Intragroup conflict<br>in organisations: a<br>contingency perspective<br>on the conflict-outcome<br>relationship<br>Source: Research in<br>Organisational Behavior,<br>Vol. 25, pp. 187-242. | Jehn, K.A.<br>and<br>Bendersky,<br>C. (2003)                          | At times conflict<br>at work place<br>results in tension,<br>clash and drifting<br>of focus from<br>achieving the<br>target. | Harmful<br>effects of<br>conflict<br>(dysfunctional<br>conflict)<br>which hampers<br>work<br>relationship<br>and channel<br>performance.                          |

| Title: The dynamic<br>relationship between<br>performance feedback,<br>trust, and conflict in<br>groups: a longitudinal study.<br>Source: Organisational<br>Behavior and Human Decision  | Peterson,<br>R.S. and<br>Behfar,<br>K.J.(2003)                                 | The positive<br>influence of trust<br>on cognitive<br>conflict.  | Frame<br>hypothesis<br>relating the<br>internal<br>environment of<br>conflict (trust)<br>and cognitive<br>conflict.   |
|--|--|--|---|
| Processes, Vol. 92<br>Nos 1/2, pp. 102-12.   |  |  |   |
| Title: Removing the<br>shadow of suspicion:<br>the effects of apology<br>versus denial for repairing<br>competence- versus integrity<br>-based trust violations.<br>Source: Journal of Applied<br>Psychology, Vol. 89<br>No. 1, pp. 104-18 | Kim, P.H.,<br>Ferrin,<br>D.L.,<br>Cooper,<br>C.D. and<br>Dirks, K.T.<br>(2004) | Cooperation,<br>commitment and<br>performance in<br>the organisation<br>is affected by the<br>trust that<br>employees share<br>at the work place | In the work<br>relationship<br>between<br>manufacture<br>and distributor<br>trust plays an<br>important role<br>in bringing<br>cooperation<br>and<br>commitment<br>between the<br>channel<br>members. |
| Title: The importance of<br>role ambiguity<br>and trust in conflict<br>perception: unpacking<br>the task conflict to relationship<br>Conflict linkage.<br>Source: The International Journal<br>of Conflict Management,<br>Vol. 15 No. 4, pp. 364-80. | Tidd, S.T.,<br>McIntyre,<br>H.H. and<br>Friedman,<br>R.A.<br>(2004)  | Constructive<br>influence of trust<br>on conflict   | Helped to<br>frame<br>hypothesis on<br>the impact of<br>the internal<br>environment of<br>conflict work<br>relationship<br>satisfaction<br>between the<br>pump<br>manufacturer<br>and distributor.                       |
|--|--|---|--|
| Title: Relationship<br>marketing strategies:<br>when buyer and supplier<br>follow different strategies<br>to achieve performance.<br>Source: Retrieved from<br>http://www.scielo.br/pdf/rac/v9n<br>spe2/v9nesp2a03.pdf on 18th<br>Apr 2018           | Danny<br>Pimentel<br>Claro; Priscila<br>Borin de<br>Oliveira<br>Claro and<br>Decio<br>Zylbersztajn<br>(2005) | Successful<br>distributors<br>undertake<br>transaction<br>marketing<br>whereas<br>successful<br>manufacturer's<br>take soft<br>relationship<br>marketing. | Importance of<br>relationship<br>marketing in<br>the supplier<br>and distributor<br>relationship.<br>A strategy that<br>a supplier<br>needs to adopt<br>when the<br>distributor is<br>having a<br>different<br>strategy. |
| Title: Conflict Resolution<br>Strategies and Marketing<br>Channel Relationships:<br>Framework and Research<br>Propositions.<br>Source link :<br><u>http://www.jgbm.org/page/</u><br>21%20C.%20M.%20Sashi.pdf   | C. M.<br>Sashi (2008)  | Measure the<br>relationship<br>norms like trust<br>and commitment<br>after the Para<br>Simulation<br>technique among<br>the channel<br>members.           | Relates the<br>various factors<br>of conflict,<br>strategies to<br>resolve conflict<br>and quality of<br>relationship.   |

| Title: The impact of the<br>internet as a direct sales<br>channel on established<br>Distribution channels<br>and the management of<br>channel conflict: an<br>exploratory study in the<br>Taiwanese IT Industry<br>Source: Doctoral Thesis,<br>University of Edinburgh | Chang<br>Jen-<br>Yun<br>(2009) | The qualitative<br>research<br>approach to<br>finding out the<br>motives behind<br>having internet<br>as a separate<br>channel,<br>Multichannel<br>design, and<br>reduction of<br>Conflict   | The qualitative<br>research<br>approach to<br>reducing the<br>distributor's<br>conflict from<br>the top 25 IT<br>companies in<br>Taiwan   |
|--|--------------------------------|--|---|
| Title: A study of the<br>effectiveness of distribution<br>function in the white goods<br>industry.<br>Sources: retrieved from<br>http://hdl.handle.net/10603/7856<br>on 18th Apr 2018  | Ajay<br>Bhambha<br>(2011)      | Different<br>functions of the<br>distributor. Role<br>of distributors in<br>facilitating the<br>product reaches<br>the end<br>consumer.<br>Overview of<br>different types of<br>distributors and<br>conflicts that<br>arise between the<br>various channel<br>members which<br>hamper their<br>effective<br>functioning. | Different<br>functions of a<br>channel<br>member in the<br>effective<br>functioning of<br>the business.<br>Review of<br>various<br>literature on<br>channel<br>conflict and its<br>bases for<br>development<br>including<br>normative,<br>rational and<br>emotional<br>reasoning. |

| Title: The paradox of<br>intragroup conflict:<br>a meta-analysis.<br>Source: Journal of<br>Applied Psychology,<br>Vol. 97 No. 2, pp.<br>360-390.  | De Wit,<br>F.R.,<br>Greer,<br>L.L. and<br>Jehn, K.A.<br>(2012) | Encourages<br>organisation to<br>have a conflict as<br>there are few<br>instances where<br>conflict is<br>positive.                      | Difference<br>between<br>functional and<br>dysfunctional<br>conflict.<br>Promotion of<br>functional<br>conflict in the<br>channel<br>management.                |
|---|--|--|---|
| Global Marketing-A study with<br>reference to motor pumps in<br>Coimbatore city, India.<br>Source:<br>Global Journal of Management<br>and Business Studies.<br>ISSN 2248-9878 Volume 3,<br>Number 6 (2013), pp. 565-572 | R.<br>Rajashekara<br>n and M.<br>Esther<br>Krupa<br>(2013)     | Global marketing<br>strategies<br>implemented by<br>Indian pump<br>companies and<br>the problems<br>faced by them in<br>exporting pumps. | History of<br>pump<br>companies<br>operating in<br>Coimbatore.<br>Role of small<br>scales pumps<br>companies in<br>the economic<br>wellbeing of<br>the country. |
| Title: An Examination of<br>Multi-Dimensional Channel<br>Conflict: A Proposed experimental<br>Approach Source: Journal of<br>Behavioral Studies in Business.<br>Volume 6, Oct 2013                                      | J Barry<br>Dickinson<br>(2013)                                 | A theoretical<br>model describing<br>relations among<br>various variable<br>Stages, Types of<br>Conflict                                 | Types of<br>Conflict-<br>Cognitive,<br>Progressive<br>and<br>affirmative.   |
| Title: Distribution Channels<br>Conflict and Management   | Dr<br>Vasanth<br>Kiran,<br>Dr Mousumi<br>Majumd ar             | 1. 12 different<br>strategies to<br>Manage the<br>channels   | Marketing<br>research is<br>focusing<br>mainly on<br>Channel<br>Conflict with<br>respect to the   |

| Source: Journal of Business<br>Management & Social Sciences<br>Research (JBM&SSR) Volume 1,<br>No.1, October 2012<br>ISSN No: 2319- 5614  | & Dr<br>Krishna<br>(2012)                                  |  | Internet as a<br>separate<br>channel.<br>However, the<br>conflict among<br>the Channel<br>members in the<br>intra channel<br>Environment<br>still Prevails<br>especially in<br>selling<br>industrial<br>Products.     |
|---|--|--|---|
| Global Marketing-A study with<br>reference to motor pumps in<br>Coimbatore city, India.<br>Source:<br>Global Journal of Management<br>and Business Studies.<br>ISSN 2248-9878 Volume 3,<br>Number 6 (2013), pp. 565-572                       | R.<br>Rajashekara<br>n and M.<br>Esther<br>Krupa<br>(2013) | Global marketing<br>strategies<br>implemented by<br>Indian pump<br>companies and<br>the problems<br>faced by them in<br>exporting pumps.   | History in<br>pump<br>companies<br>operating in<br>Coimbatore.<br>Role of small<br>scales pumps<br>companies in<br>the economic<br>wellbeing of<br>the country.   |
| Title: Market research of<br>agricultural pump sets industry<br>of India<br>Source: Retrieved from<br>http://shaktifoundation.in/wp-<br>content/uploads/2014/02/Agricul<br>ture-Pump-Study_Report-<br>Final_12th-June.pdf on 18th Apr<br>2018 | Netscribes<br>India<br>Pvt.Limited<br>(2014)               | Market potential<br>and growth of<br>pump industry<br>with special<br>reference to the<br>agricultural<br>sector in India.<br>Parameters<br>influencing the<br>demand of<br>supply of<br>agricultural<br>pump.<br>Need for solar<br>based<br>agricultural<br>pumps to bridge | Overall pump<br>market in<br>India-its turnover,<br>CAGR and<br>presence of<br>different size<br>players.<br>Details of<br>pump<br>manufacturers<br>in India and<br>their domestic<br>and<br>international<br>supply. |

|  |  | the gap of<br>electrical<br>shortage in rural<br>India.   | •   |
|--|--|---|---|
| Title: Indian pump and value<br>industry: Time to go global.<br>Source: Chemical engineering<br>world, January 2015, pp. 40-42                     | Shripad<br>Ranade and<br>Yogesh<br>Shivani<br>(2015) | Growth and<br>market potential<br>of pump and<br>value industry in<br>India and global<br>level.  | Market<br>potential of<br>pumps and<br>values in India<br>is estimated to<br>be Rs 17,500.  |
|  |  | Quality and low-<br>cost production<br>remain to be the<br>key factors for<br>the success.<br>Inward and<br>outward focus<br>areas for Indian<br>manufacturers to<br>boost the sales. | The pump<br>market in India<br>was estimated<br>at Rs 8,500 FY<br>14 and it is<br>expected to<br>grow at an<br>annual rate of 7<br>to 10 percent in<br>the upcoming<br>years. |
|  |  |   | Global pump<br>market shall<br>reach from<br>estimated USD<br>47 billon<br>during 2014 to<br>USD 56 billon<br>in 2017   |
| Pumps market in India 2015 –<br>2019   | Technavio's<br>report<br>(2015)                      | The<br>situationcurrent<br>ofIndianpumpindustryand  | According to<br>technavio's<br>analyst Pump<br>industry in  |
| Source Link:<br>Retrieved May 31, 2018, from<br><u>https://www.technavio.com/repo</u><br><u>rt/global-subsea-pumps-market-</u><br><u>2015-2019</u> |  | growth<br>prospectus for<br>the year 2015-<br>2019. Discuss<br>the challenges to<br>market growth.<br>SWOT analysis<br>of the key   | Indiaisexpectedtogrow at CAGR12.76from2014 to 2019.Marketsizeandmarketshareof   |

|   |   | vendors.<br>In-depth experts<br>and key vendors<br>interview  | prominent<br>vendors in<br>India.  |
|---|---|---|--|
| Title: KSB Pumps<br>(KSBPUM).Quarterly blip,<br>long-term growth story intact.<br>Source: Retrieve from<br>http://www.icicidirect.com/maili<br>mages/IDirect_KSBPumps_Q4C<br>Y14.pdf on 18th Apr 2018 | Chirag J<br>Shah<br>Shashank<br>Kanodia<br>(2015) | Report on KSB<br>pump<br>performance<br>during 2014-15<br>focusing mainly<br>on its two<br>divisions-pumps<br>and valves. | Growth and<br>market<br>potential of<br>industrial<br>pumps that are<br>being sold to<br>Agriculture,<br>Building<br>services,<br>wastewater,<br>power<br>generation, oil<br>& gas, metals<br>& mining, and<br>chemicals.<br>Comparative<br>analysis of<br>KSB with<br>respect to its<br>close<br>competitors. |

# **CHAPTER III**

# **RESEARCH METHODOLOGY**

#### **CHAPTER III**

### **RESEARCH METHODOLOGY**

This chapter provides the details of research design that was proposed for the study, sampling design with the justification of the sample size, pilot study analysis, details of the constructs, description of the statistical tools and techniques used for analysis and the conceptual frame work used for testing the hypothesis.

#### **3.1 SUMMARY OF THE RESEARCH DESIGN**

Research design provides the blueprint of the research that the researcher is having in his mind. It gives the direction of the study and it discusses the operational part of collecting the data. Hence research design is the next crucial step after framing the hypothesis. It provides the complete plan of action to test the hypothesis through the data that is been collected. The complete summary of the research design that was proposed as a part of the research work is given in table 3.1.

| Particulars             | Details  |
|-------------------------|--|
| Target Respondents      | Industrial Pump Distributors/dealers             |
| Sample Frame Source     | India Mart, www.pumpsindia.com & Personal        |
|                         | Contact  |
| Sampling Technique      | Quota Sampling                                   |
| Sample Size of pilot    | 27 respondents                                   |
| study                   |  |
| Sample Size of the      | 276 respondents                                  |
| main study              |  |
| Sample size of the main | 262 respondents                                  |
| study considered for    |  |
| analysis                |  |
| Methods of data         | Email/online survey, Telephonic & Field schedule |
| collection              |  |
| Statistical techniques  | CFA, SEM, Cross tab, chi square, Independent     |
|                         | sample t test, One way ANOVA and Multiple linear |
|                         | regression                                       |
| Statistical tools       | Excel, SPSS 20 & AMOS 20                         |

# Table 3.1 Summary of the research design

#### **3.2 SAMPLE AND DATA COLLECTION**

The target respondents of the study are Industrial Pump Distributors all over the country. At first, sample frame was created using India Mart and Pumps India (www.pumpsindia.com) by listing down the contact details of Mangers of Industrial pump Distributors. After this, the distributors were grouped into four Different quotas as per their region namely East & Centre, West, North and South. Samples were taken from each and every quota proportionately based on quota sampling. Data collection was done during March 2016 and December 2017 through an online survey, telephone interview, and field schedule. A total of 276 responses were collected from seniors Mangers of Industrial pump Distributors who interact with Pump Manufacturer regularly. Out of 276 responses, only 262 respondents responses were considered for analysis as few of the respondents did not answer many critical questions and gave completely irrelevant response resulted in major outliers. The details of the data collected are shown in table 3.2. Personal information like Distributor's Company name and associated Manufacturer's name were not made mandatory so that they can give a genuine response without any hesitation.

| Particulars           | Collected | Data Considered |
|-----------------------|-----------|-----------------|
|                       | data      | for analysis    |
| Email/Online survey   | 151       | 139             |
| Telephonic Interview  | 45        | 45              |
| Field data collection | 80        | 78              |
| Total                 | 276       | 262             |

#### **Table 3.2 Sources of Data collection**

#### **3.3 DATA CODING**

The responses collected through the online survey, telephone interview and field schedule, were coded to make it suitable for statistical analysis. Numeric codes were used so that we can do all types of analysis related to continuous scale. For details name, email address etc string variables were used.

#### **3.4 DATA PREPARATION AND HANDLING**

Out of 276 responses, some of the responses were not complete in all aspects. Respondents who missed to give the responses for statements and questions related to likert scale average values were taken to show that the research is not biased towards any particular type of response. Respondents who missed to give the responses of dichotomous scales, alternate choices were given. For example, if two respondents have missed specifying whether there are any multiple distributors in the same territory or not then for the first respondent "yes" was selected and for the other respondent "no" was selected. By these methods, missing data were handled and the data was prepared for statistical analysis. Inspite of this correction there were few responses that could not be used for analysis as it did not contain many critical responses and had major outliers which were totally irrelevant. Hence out of 276 responses only 262 responses were used for main study analysis.

#### **3.5 ESTIMATING THE SAMPLE SIZE**

There are around 8500 industrial pump distributors listed in India mart. The field survey revealed that there are nearly 70% of the industrial pump distributors are listed in India mart. Hence it was estimated that approximately there are 6000 industrial pump distributors as the target population for the study.

Target Population: 6000 nos

Sample Size calculation:

Minimum number of sample size required is calculated using the formula

Sample size  $n = \frac{N x}{((N-1)E^2 + x)}$ 

Where

$$x = Z(c/100)^2 r(100-r)$$

- N = Population size (6000nos)
- E = Margin of error (6%)

Z(c/100) = Critical Value for the confidence interval-95% (1.96)

r =Sample of distribution which are of interest (50%)

Substituting the above values in the formula of sample size **n** 

It is estimated that the minimum number of sample size  $\mathbf{n}$  required = 256 nos

On a safe side, a sample of 276 was considered for data collection. Later a sample of only 262 numbers was used for analysis to over the issue of missing data and outliers.

#### **3.6 PILOT STUDY**

After framing the draft questionnaire, based on the previous literature reviews and discussion with selected pump distributors, a pilot study was conducted with the sample of 27 respondents between Nov 2015 and Feb 2016. Questionnaires were circulated and after few follow ups response were collected through online.

Reliability of the questions/statements was checked by conducting Cronbach's alpha test through SPSS. Cronbach's alpha captures the internal consistency of the attitudinal statements which is related to the latent variable or construct. Cronbach alpha value ranges from 0 to 1. Higher the value indicates, better is the internal consistency or reliability of the questionnaire. Though the cut of value for acceptable Cronbach's value is dependent on the number of items and the type of scale ie whether it is dichotomous or 5 point liker scale. A minimum of 0.7 should be acceptable (Nunnally 1978).

| Cronbach's Alpha coefficient range | Strength of association |
|------------------------------------|-------------------------|
| <0.6                               | Poor                    |
| 0.6 to <0.7                        | Moderate                |
| 0.7 to <0.8                        | Good                    |
| 0.8 to <0.9                        | Very good               |
| >0.9                               | Excellent               |

#### Table 3.3 Cutt off value for Cronbach's alpha

Source: Saltzer, M. (2012, p.10)

Based on the above critical values for checking the internal consistency, the statements which were having less than 0.7 Cronbach's alpha were eliminated and the statement which was having at least 0.07 or more were considered for the main research. The detailed SPSS output of the pilot study after eliminating the statements which were having less than 0, 7 Cronbach's alpha is given below.

# 3.6.1 INTERNAL CONSISTENCY AMONG INDICATORS OF COGNITIVE CONFLICT

### **Table 3.4 Reliability Statistics**

| Cronbach's<br>Alpha | N of Items |
|---------------------|------------|
| .826                | 3          |

Source: Based on pilot survey 2015-16

#### **Table 3.5 Item Statistic**

|      | Mean | Std.<br>Deviation | Ν  |
|------|------|-------------------|----|
| Cog1 | 3.72 | 1.018             | 27 |
| Cog2 | 3.39 | 1.614             | 27 |
| Cog3 | 3.94 | .938              | 27 |

Source: Based on pilot survey 2015-16

# **Table 3.6 Scale statistics**

| Mean  | Variance | Std.<br>Deviation | N of<br>Item s |
|-------|----------|-------------------|----------------|
| 11.06 | 10.056   | 3.171             | 3              |

#### 3.6.2 INTERNAL CONSISTENCY AMONG INDICATORS OF

#### **PROCESS CONFLICT**

# **Table 3.7 Reliability Statistics**

| Cronbach's<br>Alpha | N of Items |
|---------------------|------------|
| .806                | 3          |

Source: Based on pilot survey 2015-16

# **Table 3.8 Item Statistics**

|       | Mean | Std.<br>Deviation | Ν  |
|-------|------|-------------------|----|
| Pros1 | 2.44 | 1.097             | 27 |
| Pros2 | 2.50 | 1.150             | 27 |
| Pros3 | 2.83 | 1.098             | 27 |

Source: Based on pilot survey 2015-16

**Table 3.9 Scale statistics** 

| Mean | Variance | Std.      | N of   |  |
|------|----------|-----------|--------|--|
|      |          | Deviation | Item s |  |
| 7.78 | 8.065    | 2.840     | 3      |  |

# 3.6.3 INTERNAL CONSISTENCY AMONG INDICATORS OF AFFECTIVE CONFLICT

# **Table 3.10 Reliability Statistics**

| Cronbach's | N of Items |
|------------|------------|
| Alpha      |            |
| .785       | 3          |

Source: Based on pilot survey 2015-16

# **Table 3.11 Item Statistics**

|      | Mean | Std.<br>Deviation | Ν  |
|------|------|-------------------|----|
| Aff1 | 1.78 | 1.309             | 27 |
| Aff2 | 2.56 | 1.199             | 27 |
| Aff3 | 2.00 | 1.455             | 27 |

Source: Based on pilot survey 2015-16

### **Table 3.12 Scale statistics**

| Mean | Variance | Std.<br>Deviation | N of<br>Item s |
|------|----------|-------------------|----------------|
| 6.33 | 11.059   | 3.325             | 3              |

#### 3.6.4 INTERNAL CONSISTENCY AMONG INDICATORS OF

#### MAGNITUDE OF CONFLICT

# **Table 3.13 Reliability Statistics**

| Cronbach's<br>Alpha | N of Items |
|---------------------|------------|
| .763                | 2          |

Source: Based on pilot survey 2015-16

|                          | Mean | Std.<br>Deviation | N  |
|--------------------------|------|-------------------|----|
| Frequency of<br>Conflict | 2.61 | .698              | 27 |
| Level of Conflict        | 2.39 | .778              | 27 |

Source: Based on pilot survey 2015-16

#### **Table 3.15 Scale statistics**

| Mean | Variance | Std.      | N of   |
|------|----------|-----------|--------|
|      |          | Deviation | Item s |
| 5.00 | 1.765    | 1.328     | 2      |

#### 3.6.5 INTERNAL CONSISTENCY AMONG INDICATORS OF

# **ENVIRONMENT OF CONFLICT**

# **Table 3.16 Reliability Statistics**

| Cronbach's<br>Alpha | N of Items |
|---------------------|------------|
| .716                | 3          |

Source: Based on pilot survey 2015-16

#### **Table 3.17 Item Statistics**

|               | Mean | Std. Deviation | Ν  |
|---------------|------|----------------|----|
| Trust         | 3.83 | 1.098          | 27 |
| Communication | 4.22 | 1.060          | 27 |
| Commitment    | 4.11 | .758           | 27 |

Source: Based on pilot survey 2015-16

#### Table 3.18 Scale statistics

| Mean  | Variance | Std.      | N of   |
|-------|----------|-----------|--------|
|       |          | Deviation | Item s |
| 12.17 | 5.912    | 2.431     | 3      |

# 3.6.6 INTERNAL CONSISTENCY AMONG INDICATORS OF WORK RELATIONSHIP SATISFACTION

# **Table 3.19 Reliability Statistics**

| Cronbach's | N of Items |
|------------|------------|
| Alpha      |            |
| .859       | 3          |
|            | I          |

Source: Based on pilot survey 2015-16

|       | Mean | Std.<br>Deviation | Ν  |
|-------|------|-------------------|----|
| Work1 | 7.94 | 1.731             | 27 |
| Work2 | 6.56 | 2.332             | 27 |
| Work3 | 7.78 | 1.957             | 27 |

#### **Table 3.20 Item Statistics**

Source: Based on pilot survey 2015-16

# **Table 3.21 Scale statistics**

| Mean  | Variance | Std.      | N of   |
|-------|----------|-----------|--------|
|       |          | Deviation | Item s |
| 22.28 | 28.683   | 5.356     | 3      |

# 3.6.7 INTERNAL CONSISTENCY AMONG INDICATORS OF FINANCIAL PERFORMANCE

# **Table 3.22 Reliability Statistics**

| Cronbach's<br>Alpha | N of Items |
|---------------------|------------|
| .778                | 2          |

Source: Based on pilot survey 2015-16

|      | Mean | Std.<br>Deviation | N  |
|------|------|-------------------|----|
| Fin1 | 7.50 | 1.383             | 27 |
| Fin2 | 7.06 | 1.110             | 27 |

#### **Table 3.23 Item Statistics**

Source: Based on pilot survey 2015-16

# Table 3.24 Scale statistics

| Mean  | Variance | Std.      | N of   |
|-------|----------|-----------|--------|
|       |          | Deviation | Item s |
| 20.72 | 9.036    | 3.006     | 2      |

#### **3.7 CONSTRUCTS OF THE INSTRUMENT**

The questionnaire used for collecting the data is shown in the Appendix I at the end of the thesis. Basically, the questionnaire captures two type of information. First, it collects the business profile of the respondentsindustrial pump distributors. The critical business data like the age of the relations between distributor and manufacturer, region of work and presence of multiple distributors in the territory were captured and used for analysis to prove the hypothesis. Personal details like name, contact number, and email address were not kept mandatory so that the respondents can give their honest response.

The second set of data that was captured through the questionnaire involved a list of statements/ questions in 5 point Likert scale capturing the attitude of the respondents related with qualitative variables like Process conflict, Cognitive conflict, Affective conflict, Magnitude of conflict, the Internal environment of conflict, Work relationship and Financial performance. All these questions/statements are referred as indicators as it indicates the type of constructs that it predicts. These statements/questions were framed based on the extensive literature review and expert interview. Few industrial pumps distributors and academicians were interviewed to check the validity of the questionnaire so that it can capture the relevant construct for that it was been framed. Opinions were taken so reframing of the questions/statements can be made so that the respondents can understand the same. For example to measure trust, direct statement like "Do you trust your manufacturer" was avoided as it would become vague, instead based on

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literature review statement which is applicable to the current scenario like "In general, I trust my pump supplier while dealing with him" which is a modified statement of the World Values Survey (WVS) that most of the researchers use for capturing the trust. The final list of constructs based on the pilot study is given in table 3.19.

| No | Construct statements  |
|----|---|
|    | Process Conflict  |
| 1  | We have tension concerning, who is responsible for what to complete |
|    | the task.   |
| 2  | We have friction related to the distribution of task among us       |
| 3  | We have controversies concerning the process that we follow to      |
|    | achieve the target  |
|    | Cognitive conflict  |
| 1  | We only fight regarding the Target and plans to achieve the same.   |
| 2  | We debate on our difference of opinion in achieving the target.     |
| 3  | Our fights are related only to numbers.                             |
|    | Affective Conflict  |
| 1  | At times We blame each other's personal in competencies for not     |
|    | achieving the target.   |
| 2  | There were instances when my pump supplier verbally scolded me on   |
|    | my personal incompetence.   |
| 3  | My pump supplies send me stinker mails on my incompetence.          |

#### Table 3.25 List of items of the constructs

|   | Work Relationship  |
|---|--|
| 1 | Please indicate the level of closeness that you have in the work         |
|   | relationship that you share with the pump supplier.                      |
| 2 | Please indicate the level of comfort that you have in the work           |
|   | relationship that you share with the pump supplier.                      |
| 3 | How much are you satisfied with the work relationship between you        |
|   | and your Pump supplier.  |
|   | Internal Environment of Conflict   |
| 1 | My Pump Supplier shows a high level of Commitment by giving              |
|   | pricing support, Support for warranty, Joint Visits etc                  |
| 2 | In general, I trust my pump supplier while dealing with him              |
| 3 | My Pump Supplier shares sales lead, Project information that is          |
|   | available with him   |
|   | Magnitude of Conflict  |
| 1 | What level of Conflict that you experience between you and your Pump     |
|   | Supplier when you are working together?                                  |
| 2 | How frequent that you experience Conflict between you and your           |
|   | Pump Supplier  |
|   | Financial Performance  |
| 1 | Please rate the sales turnover of your pump manufacturer's product in    |
|   | your company   |
| 2 | Please rate the profit that you earn by selling your pump manufacturer's |
|   | product in your company  |

#### **3.8 TOOLS USED FOR DATA ANALYSIS**

Statistical tools like Structural Equation Modelling (SEM), Confirmatory Factor Analysis (CFA) was applied for the research using AMOS 20. One way ANOVA and independent sample-t test was used using SPSS 20. The purpose of using SEM and CFA is to validate the proposed theory based on the literature review and pilot study using sample data of the study (Gefen et al., 2000). SEM is used for Structural modeling and CFA is used as the measurement model. As suggested by Anderson and Gerbing (1988), two step approach has been used where before using SEM, CFA was performed to check the reliability and validity of the measuring instrument. After which SEM is used to validate the model fit using the sample data under study. One way ANOVA and independent sample t test is used as a statistical technique to compares the means across different groups. The main difference one way ANOVA and independent sample-t test is the former is used to compare the means across two or more groups whereas the latter is used to compares the means of only two groups. Though one way ANOVA can be used for comparing two groups, in general, independent sample t test was used for comparing means of two groups as the latter is better accurate than the former when there are only two groups. Multiple linear regressions have been used to know the level of impact of distributor's age, region and presence of multiple distributors on work relationship. Given below is the complete description of the all the four statistical tools. Mediation analysis was also

done to study the mediating effect of work relation relationship between other independent variables reated to conflict and Financial performance.

#### **3.9 MEASUREMENT-CFA**

Confirmatory factor analysis is used when the researcher has the knowledge about the observed variables and the underlying constructs. Since the researcher is quite aware of the variables under study, exploratory factor analysis is not used for grouping the observed variables under any particular constructs. Directly confirmatory factor analysis has been used as the data reliability and validity tool. AMOS 20 is used to calculate the CFA. As the name suggests, CFA used to confirm the observed variables belong to the construct or not by a using different reliability and validity technique.

For the purpose of analysis CFA path is drawn by relating each of two constructs by double headed arrows. The double headed arrows represent the covariance relationship between the variables. Drawing this arrow helps us to identify to what extent both the constructs are significantly different from each other.

For the model to be fit, the observed variables should be the indicator of the particular construct and all the observed variables should converge to its construct. This is technically referred to as convergent validity. One can establish whether the measured variables comply with convergent validity or not, by referring Construct reliability (CR) and Average Variance explained (AVE). If CR>7, CR>AVE and AVE>0.5 (Hair, Ringle, & Sarstedt, 2010) then the data meets the Convergent Validity. Meanwhile, each construct should be distinctly different from the other construct. This is technically referred as discriminant validity. Here the latent variables or construct won't correlate with the other latent variable or construct. In fact, the extent of uncorrelation of a particular latent variable with the other latent variable is referred as discriminant validity. One can confirm whether the measured variables comply with Discriminant validity or not by referring AVE and Maximum Shared Variance (MSV). If MSV<AVE and ASV<AVE (Hair et al., 2011) then the data meets the Discriminant Validity.

#### **3.10 STRUCTURAL EQUATION MODEL (SEM)**

Structural equation modeling is a statistical technique which is a combination of factor analysis and multiple linear regressions. The observed variables are grouped to form a construct by estimating their contribution to the latent variables and finding the interrelationship between them. Since this is the typical process in factor analysis, it can be said that CFA uses factor analysis technique to find the indicators of the latent variables. The indicators which are having low factor loading of less than 0.7 are taken out and not used for further analysis.

SEM has both independent variables and dependent variables and it is a pictorial representation of the relationship between both independent and dependent variables. The observed variables together predict the latent constructs. Hence the observed variables can also be called as indicators of latent variables. Latent variables which are influencing the other latent variables are known as exogenous variables. The latent variables which are being influenced are called as endogenous variables. The one headed arrow which starts from the exogenous variable to the endogenous variable, represent the standardized or unstandardised beta value. The double headed arrow which connects two latent variables represents a covariance relationship between both the variables.

In general, the structural equation model represents the hypothesized cause and effect relationship between different constructs having statistical dependencies (Shipley, 2000). This dependency is explained by the parameters showing the level of effect of the independent variable on the dependent variable and the correlation between any two variables.

AMOS 20 has been used to perform structural equation modeling. The rationale behind using AMOS for SEM for the present study is, AMOS provides a graphical representation of the path diagram which is easy to understand and there is no need to type any command as any model can be drawn only using few drawing tools with drag and drop features. The sample data can be easily incorporated for analysis using AMOS by just importing the same.

#### **3.11 MULTIPLE LINEAR REGRESSION**

Through multiple linear regression, one can predict the dependent variables by considering the beta coefficients of multiple independent variables. It also gives information regarding what extent the dependent variable variability is influenced by independent variables and whether the influence is significant or not. For using multiple linear regression certain assumptions has to be met as suggested by Brace, Kemp, and Snelgar (2006)

- 1. There has to be a linear relationship between the independent variable and dependent variable.
- 2. The measurement of the dependent variable should be in continuous scale ie ratio or interval.
- 3. Predictor variables can be measured in ordinal, interval or ratio.
- 4. The number of responses should be higher than the number of predictor variable under study.

By meeting the above assumptions, the influence of independent variables like distributor's relationship age with the manufacture, region of work and presence of multiple distributors on work relationship satisfaction between pump manufacturer and distributor was found.

#### **3.12 ONE WAY ANOVA**

One way ANOVA is the test of equality of means between two or more groups. The null hypothesis states that the means across different groups are equal. The research hypothesis or alternate hypothesis states that the means are not equal across different groups. Since the researcher is interested in proving that the means are not equal and it is significantly different in the mean score across different groups, the alternate hypothesis is also called as researcher's hypothesis. Though one way ANOVA can be used for finding the difference in the mean score of two or more than two independent groups, generally ANOVA is used only to test more than two independent sample groups. After the ANOVA test post hoc test is performed to find out which of the groups are significantly different. A certain assumption like levene's test for equality of the means should be performed and the p value should be more than 0.05 to meet the condition for using ANOVA test for the sample. In the current study one way, ANOVA test was used to find the difference in the mean scores of work relationship satisfaction across different groups of distributors who differ by age and region.

#### **3.13 INDEPENDENT SAMPLE T TEST**

Independent sample t test is the test of equality of means between only two independent groups. The null hypothesis states that the means across different groups are equal. The research hypothesis or alternate hypothesis states that the means are not equal across different groups. Since the researcher is interested in proving that the means are not equal and it is significantly different in the mean score across different groups, the alternate hypothesis is also called as researcher's hypothesis. Though one way ANOVA can be used for finding the difference in the mean score of two or more than two independent groups, to get accurate result independent sample t test is used to test independent variables which are having only two groups. Unlike ANOVA test there is no need of post hoc test while performing independent sample t test as there is only two independent groups and the actual difference in the mean is mentioned in the output. A certain assumption like Levene's test for equality of the means should be performed and the p value should be more than 0.05 to meet the condition for using independent sample t test for the sample. In the current study, independent sample t test was used to find the difference in the mean scores of work relationship satisfaction across different groups of distributors who differ by the presentence or absence of multiple distributors in their territory.

#### **3.14 CONCEPTUAL FRAME WORK WITH HYPOTHESIS**

Based on the previous literature review, expert interview and pilot study, the different variable of interest has been found and the conceptual frame work reflecting the different hypothesis is shown in the figure 3.1



Figure 3.1 Conceptual frame work with hypothesis



H0 (1): Null Hypothesis: There is no significant negative influence of Process conflict on the Work relationship

H2: There is a significant positive influence of Cognitive conflict on the Work relationship

H0 (2): Null Hypothesis: There is no significant positive influence of Cognitive conflict on the Work relationship

H3: There is a significant negative influence of Affective conflict on Work relationship.

H0 (3): Null Hypothesis: There is no significant negative influence of Affective conflict on the Work relationship

H4: Research Hypothesis: There is a significant negative influence of Magnitude of conflict on the Work relationship

H0 (4): Null Hypothesis: There is no significant negative influence of Magnitude of conflict on the Work relationship

H5: Research Hypothesis: There is a significant positive influence of Internal environment of conflict on the Work relationship

H0 (5): Null Hypothesis: There is no significant positive influence of Internal environment of conflict on the Work relationship

H6: Research Hypothesis: There is a significant positive influence of Work relationship on financial performance

H0 (6): Null Hypothesis: There is no significant positive influence of Work relationship on financial performance.

H7: Research Hypothesis: There is a significant relationship between Process conflict and Cognitive conflict

H0 (7): Null Hypothesis: There is no significant relationship between Process conflict and Cognitive conflict

H8: Research Hypothesis: There is a significant relationship between Cognitive conflict and Affective conflict

H0 (8): Null Hypothesis: There is no significant relationship between Cognitive conflict and Affective conflict.

H9: Research Hypothesis: There is a significant relationship between Process conflict and Affective conflict

H0 (9): Null Hypothesis: There is no significant relationship between Process conflict and Affective conflict

H10: Research Hypothesis: There is a significant difference in the work relationship satisfaction among the industrial pump distributors working across different regions of the country.

H0 (10): There is no significant difference in the work relationship satisfaction among the industrial pump distributors working across different regions of the country.

H11: Research hypothesis: There is a significant difference in the work relationship satisfaction among the industrial pump distributors having different age of relationship between their manufacturers.

H0 (11): There is no significant difference in the work relationship satisfaction among the industrial pump distributors having different age of relationship between their manufacturers.

H12: Research hypothesis: There is a significant difference in the work relationship satisfaction among different groups of industrial pump distributors where other distributors are present in the same territory.

H0 (12): There is no significant difference in the work relationship satisfaction among different groups of industrial pump distributors where other distributors are present in the same territory.

H13: There is a significant impact of distributor's regions on work relationship satisfaction.

H0 (13): There is no significant impact of distributor's regions on work relationship satisfaction.

H14: There is a significant impact of the distributor's age of relationship with their manufacturer on work relationship satisfaction.

H0 (14): There is no significant impact of the distributor's age of relationship with their manufacturer on work relationship satisfaction.

H15: There is a significant impact of the presence of multiple distributors in the distributor's territory on work relationship satisfaction.

H0 (15): There is no significant impact of the presence of multiple distributors in the distributor's territory on work relationship satisfaction.

H16: Work relationship mediates the relationship between Cognitive conflict and Work relationship satisfaction.
H0 (16): Work relationship does not mediates the relationship between Cognitive conflict and Work relationship satisfaction.

H17: Work relationship mediates the relationship between Process conflict and Work relationship satisfaction.

H0 (17): Work relationship does not mediate the relationship between Process conflict and Work relationship satisfaction.

H18: Work relationship mediates the relationship between Affective conflict and Work relationship satisfaction.

H0 (18): Work relationship does not mediate the relationship between Affective conflict and Work relationship satisfaction.

H19: Work relationship mediates the relationship between Magnitude of conflict and Work relationship satisfaction.

H0 (19): Work relationship does not mediate the relationship between Magnitude of conflict and Work relationship satisfaction.

H20: Work relationship mediate the relationship between Internal environment of conflict and Work relationship satisfaction.

H0 (20): Work relationship does not mediate the relationship between Internal environment of conflict and Work relationship satisfaction.

## **CHAPTER IV**

## **DATA ANALYSIS & INTERPRETATION**

#### **CHAPTER IV**

#### **DATA ANALYSIS & INTERPRETATION**

In this chapter, the analysis and interpretation of the data are provided. Both descriptive and inferential statistical analysis is shown. As a part of the descriptive statistical analysis, the business profile of the respondents was analysed. After which inferential statistical analysis was done by checking whether sample data fits into the hypothesised model or not by using SEM. Mediation analysis was performed to find the role and importance of Work relationship as a mediating variable At the end of the chapter, analysis of the selected business profile of the respondents is provided by using one way ANOVA and independent sample-t test. Finally, the impact of these variables on work relationship satisfaction is accessed used multiple linear regression.

#### 4.1 BUSINESS PROFILE OF THE RESPONDENTS

To the know, the business profile of the respondents including the type of pump being sold, the presence of multiple distributors, the age of relationship between the manufacturer and distributor and the region of work frequency table output was generated using SPSS. The summary of the result of the frequency table is shown in table 4.1.

| Туре            | Sample  | Details           | Frequency | Percentage |
|-----------------|---------|-------------------|-----------|------------|
|                 | size    |                   |           |            |
|                 | (N)     |                   |           |            |
|                 |         | Centrifugal pump  | 104       | 39.7       |
| Pump Sold       |         | Non centrifugal   | 79        | 30.2       |
|                 | N = 262 | pump              |           |            |
|                 |         | Both              | 79        | 30.2       |
| Multiple        |         | Yes               | 125       | 47.7       |
| Distributorship | N = 262 | No                | 137       | 52.3       |
| Manufacturer    |         | Less than 3 years | 24        | 9.2        |
| and             | N =     | 3 to 6 years      | 68        | 26         |
| Relationship    |         | 6 to 9 years      | 22        | 8.4        |
|                 | 262     | More than 9 years | 148       | 56.5       |
|                 |         | East & Central    | 42        | 16         |
|                 |         | West              | 150       | 57.3       |
| Region          | N =     | North             | 35        | 13.4       |
|                 | 262     | South             | 35        | 13.4       |

 Table 4.1 Business Profile of the Industrial pump distributors

Source: Based on primary main survey 2017-18

Out of 262 respondents of industrial pump distributors, 39.7% respondents were selling only Centrifugal Pumps and 30.2% were selling only Non Centrifugal pump and remaining 30.2% were selling both centrifugal and non-centrifugal pumps. 52.3% of the pump distributors reported that they are the sole distributor in the territory and they haven't come across any other distributor of the same product where as 47.7% of the pump distributors reported that they were working in the territory where the manufacturer has appointed multiple distributors. It was observed that 56.5% respondents were more than 9 years, 26% respondents were in the age group of 3 to 6 Years, 9.2% respondents were in the age group of less than 3 Years and 8.4% of the respondents were in the age group of 6 to 9 years. It was also found that 57.3% were from the west, 16% of the respondents were from East & Central, 13.4% were from North and 13.4% were from the South.

#### **4.2 RESEARCH TOOL**

Structural Equation Modeling (SEM) has been used to prove whether the data fit with the proposed model or not. The rationale behind using SEM is to identify the latent variables via indicators and find the relationship between them. In the current study, the sample of 262 responses has been considered for the analysis. Though there is no common consensus on the minimum number of sample size required to use SEM, literature specifies that the minimum sample size required is dependent on the number of indicators, parameters, cases, multivariate normality of the data etc. According to Jackson (2001), based on ML estimation with multivariate normal data, it is recommended to use a sample size of 200 to 400 numbers. According to Kline (2005), the recommended sample size for SEM is dependent on the number of the free parameter on the measurement model. It is recommended to have a minimum of 20 cases for every one free parameter i.e. to maintain the ratio of 20:1 on the cases to free parameter. There are totally 6 free parameters in the model, so the minimum sample size that is required to the SEM is 120 numbers. On a safer size to have higher confidence interval and lower margin of error, a sample of 262 numbers has been considered for the analysis. Some of the basic concepts of structural equation model are discussed in the subsequent topics given below.

#### **4.2.1 LATENT VARIABLES AND INDICATORS**

The main application of Structural Equation Modeling comes when there are interrelated constructs. Unlike observed variables which can be measured directly via questionnaire, constructs are only abstract concepts which cannot be measured directly with only one question. It requires a series of related observed variables which express the construct. For instance, If we consider Job satisfaction as the construct then salary drawn, Job stress, growth opportunities are different indicators or observed variables which predicts the construct-job satisfaction. This construct can also be referred as a latent variable. In general, we use the term latent variable for construct and indicators for observed variables in SEM. Hence an observed variable could be one of the indicators of a Latent variable. According to Kenny (1998), every latent variable should have at least a minimum of two indicators.

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#### 4.2.2 EXOGENOUS AND ENDOGENOUS VARIABLES

Since the structural equation model, is a graphical representation of various interdependent relationships, one can find many independent and dependent variables which are interrelated to each other. The term exogenous variable is similar to an independent variable which positively or negatively affects endogenous variable. Endogenous variables are similar to the dependent variable and they are the one being affected by exogenous variable either directly or indirectly (Kunnan, 1998).

#### **4.2.3 THE FACTOR ANALYTIC MODEL**

Factor analysis is the base for any type of Structural Equation Modelling. Through the factor analysis, the researcher can find out the latent variable or constructs based on the indicators which represent the constructs. There are basically two different type of factor analysis-Exploratory Factor Analysis (EFA) and Confirmatory factor analysis (CFA). We use EFA when the observed variables or indicators are not theoretically defined under any construct. For using EFA a series of statements or questions in attitudinal scales are framed and based on the inter correlation between the responses for different questions or statement, the indicators are classified under different respective constructs. The researcher uses the appropriate name for the construct which is been represented by various interrelated indicators. Hence EFA is used when the relationship between latent variables (constructs) and indicators (observed variables) are unknown or nor defined clearly. In contrast to EFA, CFA is used when the relationship between latent variables (constructs) and indicators (observed variables) are known and defined clearly by the previous studies. So when the researcher has the knowledge of the factors and its respective measured variables under study, he/she can use CFA. Since we already have the sound knowledge about the theory based on previous literature reviews, we have used CFA instead of EFA to confirm the reliability and validity of the measurement model. As per Awang (2014), the indicators which were having factor load of 0.6 or more than 0.6 were only considered further analysis.

#### **4.2.4 APPLICATION OF SEM FOR THE DATA**

In the current research, there are 19 observed variables for which questionnaire has been framed and the response was collected from Industrial Pump Distributors. All these 19 observed variables are conceptually related to 7 Latent variables. Hence all these 19 observed variables are referred to as Indicators of 7 Latent Variables. The indicators represent the different components of the Latent variables. The 5 conceptually related Latent Variables- Internal Environment of Conflict, Magnitude of Conflict, process Conflict and Cognitive Conflict affects the latent variable-Work relationship and the work relationship, in turn, affects the latent variable-financial performance. The diagrammatic representation of the relationship between the variables is given in the Path Diagram of Figure 4.5 with reference to the Research Hypothesis.

#### 4.2.5 ASSUMPTIONS FOR SEM ANALYSIS

Multivariate Normality and Multivariate Outlier check are the two important assumptions to conduct SEM. Multivariate Normality assumption was met by checking skewness and Kurtosis. Skewness is the measure of symmetry. The data set is skewed to the right side if the value is greater than 0. The data set is skewed to the left side if the value is less than 0. The data set is normal if it is approximately equal to zero. Kurtosis measure the whether the given data is peaked or normal with reference to the normal distribution. Both Skewness and Kurtosis values were between -1 and 1, indicating that there is no item which is non normal (Joanes and Gill 1998). Multivariate Outlier assumption was met by comparing the squared Mahalanobis Distance  $(D^2)$  of each case. It measures the distance of standard deviation between the individual case score and mean score of all the cases. There were no cases whose  $D^2$  is distinctly apart from other  $D^2$  Values. In this case, the critical value of p is less than 0.001 indicating that there is no outliers (Tabachnich and Fidell, 1996).

#### 4.2.6 COMPOSITION OF SEM

Basically, there are two models of SEM. One is the Measurement Model and another one is the Structural Model.

The measurement model precedes the structural model. It shows to what extent the unobserved variables contribute to the latent variable which intern helps us to confirm the pattern of the hypothesized factor structure. The main benefit of the measurement model is it helps us to determine the reliability and validity of the measuring instrument. It won't show the relationship between constructs. In the current research, CFA was performed using AMOS and the validity of the measurement model was found out using various reliability and validity checks. The details of the test and the output is discussed in the subsequent topics. The graphical output of CFA is given the figure 4.1.

Once CFA is performed to check the reliability and validity of the measurement model, the structural model is performed to determine the independent and dependent relationship between the constructors. As this model represents the theoretical foundation of the research, we can test the hypothesis by fitting the sample data in the model. This test is extremely important as it determines the level of fitness of the data in the theoretical model based on various indicators of fitness.

#### 4.3 RELIABILITY AND VALIDITY ANALYSIS

Before analyzing the data to test the Hypothesis both reliability and validity check was done to check the reliability and Validity of the Instrument used. With the help of AMOS and Microsoft excel based Stats tool package (Gaskin, 2012), Reliability and validity check was done.

#### **4.3.1 RELIABILITY CHECK**

Reliability is the consistency of the test result. According to Kerlinger (2000), the instrument is said to be reliable if it gives a consistent result at all

point of time .For the data to be reliable is that their Fornell's Composite reliability(CR) value should be greater than 0.7 (Nunnally, 1978).

The formula for finding the composite reliability is given below

Composite Reliability (
$$\rho$$
) =  $\frac{(\sum \lambda_i)^2}{[(\sum \lambda_i)^2 + \sum (\delta_i)]}$ 

Here  $\lambda$  is the standardised factor loading and  $\delta$  is the indicator measurement error. Based on this formula the composite reliability scores of all the constructs were found and the results are shown in table 3.2. The constructs were reliable as their CR value is above 0.7.

#### **4.3.2 VALIDITY CHECK**

According to Linn (2000), Validity refers to the accuracy of the measuring instrument to show the correct result.Confirmatory Factory analysis (CFA) was performed to establish the validity of constructs. Validity measures are classified into three types- Content Validity, Convergent Validity, and Discriminant Validity.

#### **4.3.2.1 CONTENT VALIDITY**

Content Validity is defined as the degree to which the measuring instrument (questionnaire) is able to measure the theoretical definition. (Rungtusanatham, Forza, Filippini & Anderson, 1998). Content validity check of the questionnaire was done by discussing with the Pump Distributor and Academicians. Accordingly, questionnaires were changed to meet its end objective by getting the feedback from the respondents.

#### 4.3.2.2 CONVERGENT VALIDITY

Convergent validity refers to the degree of understanding between multiple methods of measuring a variable which provides the same result. One can establish whether the measured variables comply with convergent validity or not, by referring Construct reliability (CR) and Average Variance explained (AVE). If CR>0.7, CR>AVE and AVE>0.5 (Hair, Ringle, & Sarstedt, 2010) then the data meets the Convergent Validity. In the present study, CR and AVE of the individual construct have been determined and the output is shown in table 4.2. By referring to the table 4.2, it is clear that all the constructs satisfy the above criteria to fulfill convergent validity.

|                     | CR    | AV<br>E   | MSV   | Max<br>R(H) | Intlof<br>Confl<br>ict | Coconfl<br>ict | Work<br>Rel | Proces<br>s<br>Confli<br>ct | Aff<br>Confli<br>ct | Fin<br>Per | Ma<br>gof<br>Co<br>nfli<br>ct |
|---------------------|-------|-----------|-------|-------------|------------------------|----------------|-------------|-----------------------------|---------------------|------------|-------------------------------|
| Intlof<br>Conflict  | 0.844 | 0.64<br>8 | 0.237 | 0.897       | 0.805                  |                |             |                             |                     |            |                               |
| Cog<br>conflict     | 0.981 | 0.94<br>5 | 0.516 | 0.985       | 0.289                  | 0.972          |             |                             |                     |            |                               |
| Work<br>Rel         | 0.983 | 0.94<br>9 | 0.516 | 0.992       | 0.430                  | 0.718          | 0.974       |                             |                     |            |                               |
| Process<br>Conflict | 0.778 | 0.54<br>0 | 0.049 | 0.992       | -<br>0.171             | -0.052         | -0.013      | 0.735                       |                     |            |                               |
| Aff<br>Conflict     | 0.964 | 0.89<br>9 | 0.250 | 0.994       | -<br>0.058             | -0.500         | -0.418      | 0.221                       | 0.948               |            |                               |
| Fin<br>Perf         | 0.957 | 0.91<br>7 | 0.424 | 0.995       | 0.487                  | 0.456          | 0.651       | 0.061                       | -0.191              | 0.958      |                               |
| MagofC<br>onflict   | 0.720 | 0.56<br>4 | 0.310 | 0.995       | -<br>0.477             | -0.429         | -0.557      | 0.008                       | 0.104               | -0.334     | 0.7<br>51                     |

Table 4.2Factor Matrix

#### **4.3.2.3 DISCRIMINANT VALIDITY**

Discriminant validity refers to the extent of the uniqueness of the latent variables. This validity is established if the latent variable does not correlate with other variables (O' Leary-Kelly & Vokurka, 1998). One can confirm whether the measured variables comply with Discriminant validity or not by referring AVE and Maximum Shared Variance (MSV). If MSV<AVE and ASV<AVE (Hair et al., 2011) then the data meets the Discriminant Validity. In the present study, MSV and ASV of the individual construct have been determined and the output is shown in table 3.4. By referring to the table 4.2, it is clear that the all the constructs satisfy the above criteria to fulfill convergent validity.

#### 4.4 CONFIRMING THE MEASUREMENT MODEL BY CFA

Reliability and validity check for the data was conducted using CFA and the final result is shown in a graphical manner. The measurement model has seven constructs including process Conflict, Cognitive Conflict, Affective Conflict, Work Relationship, the Internal Environment of Conflict, the Magnitude of Conflict and Financial Performance. Each construct is measured by 2 or 3 observed variables. The observed variables which have less than 0.7 factor loading were removed it can't be counted as the true representation of the constructs. Only these observed variables with their respective constructs were considered for further analysis. All the seven constructs are shown to be intercorrelated as shown in figure 4.1. The summary of model fit indices of CFA is also shown in table 4.3 which complies with the recommended value. The detailed AMOS output is given in Annexure II.

| Indices | Recommended Value | Model Fit Indices |
|---------|-------------------|-------------------|
|         |                   |                   |
| CMIN/df | < 3               | 2.379             |
|         |                   |                   |
| p-value | $\geq 0.05$       | .000              |
| OFI     | > 0.00            | 001               |
| GFI     | ≥ 0.90            | .901              |
| AGFI    | ≥ 0.80            | .852              |
|         |                   |                   |
| NFI     | ≥ 0.90            | .943              |
|         |                   |                   |
| CFI     | $\geq 0.90$       | .966              |
|         |                   |                   |
| RMSEA   | $\leq 0.08$       | .073              |
|         |                   |                   |
| P Close | $\geq 0.05$       | .000              |
|         |                   |                   |

 Table 4.3 Model Fit Indices for CFA

# 4.4.1 EVALUATION OF MEASUREMENT MODEL: GOODNESS OF FIT

One of the main reasons for using structural equation modelling is to determine upto what extent the sample data fits into the hypothesised model. The model fit compares the theory with reality by checking the estimated covariance matrix with the observed covariance matrix (Hair et al., 2011). Closer these two values better is the fit. In case if the theory and sample data are correct observed and recommended value would be the same. There are various indicators for the good ness of fit to find out whether the sample data fits into the theoretical model or not.

#### 4.4.2 CHI SQUARE GOODNESS OF FIT

Through chi square test, one can find out fitness between the observed sample data and the estimated covariance matrices. Chi square should be as less as possible, meaning the difference between the theoretical concept and the data collected on the field should be less. Here the null hypothesis is the equality of observed sample and estimated covariance matrix and the alternate hypothesis is if the difference is more than the threshold.

Chi square  $(\chi^2)$  is mathematically represented as

 $\chi^2 = (N - 1)$  (Observed sample covariance matrix - SEM Estimated covariance matrix)

Here N is the overall sample size

If the chi square value is 0, it means the data perfectly fit into the model. Higher the chi square value worse is the fitness. Hence chi square fit is actually the estimator of bad ness of fit. The recommended CMIN value for the goodness of fit is less than 3 (Byrne, 2010). The obtained CMIN value was 2.379. Hence we can conclude that the model is fit. The statistical probability that the null hypothesis is accepted or rejected was done by comparing the obtained p value with a recommended p value. The recommended p-value should be greater than or equal to 0.05. It was observed that the obtained p-

value is 0.05. Hence the fitness of the data in the model is statistically significant.

#### **4.4.3 GOODNESS OF FIT INDEX**

Good of fit index (GFI) was the first standardised fit index which was conceptualized during 1981 itself. It is almost similar to R<sup>2</sup>. It ranges from 0 to 1 with 1 indicates perfect fit and 0 indicates complete imperfect fit. At the time the value might fall outside the range as well. Especially when the sample size is very small or when the fit is not perfect.

Adjusted Good ness of fit (AGFI) has the similar characteristics Good of fit index (GFI). The main difference between AGFI and GFI is the former adjust the number of degrees of freedom. Both AGFI and GFI are absolute indices. We have obtained the GFI and AGFI value for CFA by running AMOS as 0.901 and 0.852 which is in the acceptable level for the goodness of fit (Shevlin and Miles,1998).

#### **4.4.4 NORMED FIT INDEX**

Normed Fit Index is the ratio of the difference between chi square value and null model to the chi square value. It analysis the discrepancy between the hypothesised model and the null model of chi square value. NFI value falls between 0 and 1. Any NFI value which is equal to or above 0.90 indicates that it is a good fit (Bentler & Bonett, 1980). The NFI value 1 indicates that it is a perfect fit. Though NFI is a very good measure to determine the sample data fits into the theoretical model or not, it is not free from bias. In fact, NFI is negatively biased. This can be overcome by considering Non-Normed fit index (NNFI) value as it resolves the negative bias by NFI. However, the value of NNFI might fall beyond 0 and 1. We have obtained the NFI value for CFA as 0.943 which is higher than 0.90 indicating that it is in the acceptable range.

#### 4.4.5 COMPARATIVE FIT INDEX

The issue of using small sample size while considering chi square test and Normed fit index (NFI) can be overcome by considering comparative fit index. It analyses the discrepancy between the theoretical model and the sample data obtained from the market. It is a normed value which falls within the range of 0 to 1. The value 1 indicates perfect fit. Any value that is above 0.90 is acceptable good fit measure (Hu and Bentler, 1999). However few researchers emphasis that 0.95 should be kept as the cut of value to determine the goodness of fit. The AMOS output result shows the CFI value for CFA as 0.966 which indicate that it is in the acceptable range.

# 4.4.6 ROOT MEAN SQUARE ERROR OF APPROXIMATION (RMSEA)

Like other estimates RMSEA does not try to fit the sample data with the model, instead, it tries to fit the population with the model. It tries to generalise the hypothesised model with respect to the population, not just the sample data. Hence it overcomes the issue of sample size while using chi square good ness of fit. The RMSEA value falls between 0 and 1. Unlike other indices, lower the value better is the fit. The value 0 indicates that it perfectly fits the model which 1 indicate that it completely does not fits with the model. Any value which is less than 0.08 indicates that it is in the acceptable range (MacCallum et al, 1996). We have obtained the RMSEA value as 0.073 which is less than 0.08 indicating that we can generalise our hypothesised model to the population.

#### 4.4.7 OVERALL MEASUREMENT MODEL FIT ESTIMATION

The fitness for the overall measurement model is been found by performing CFA and comparing the obtained critical values of CMIN/df, pvalue, Goodness of Fit (GFI), Adjusted Goodness of Fit (AGFI), NFI, Comparative Fit Index (CFI), Root Mean square of approximation (RMSEA) and P Close with the recommended value. The summary of the result is shown in table 3.6.The actual chi square value has not been considered as the chances of model rejection will be high when the sample size increases. Hence we have divided the chi square value with the degrees of freedom so that we can overcome the sample size issue. The result of chi square value divided by the degrees of freedom is shown in table 4.3 as 2.379 which is below than the acceptable limit 3. The obtained p-value is 0.05 which is equal to the recommended value. The obtained GFI value is 0.901 which is slightly above the recommended value of 0.9. The obtained AGFI value is 0.852 which is above the recommended value. The obtained NFI value is 0.943 which is greater than the recommended value of 0.90. The obtained CFI value is 0.966 which is greater than the recommended value of 0.90. The obtained RMSEA value is 0.073 which is lesser than the recommended value of 0.08. The obtained P-close value is 0.05 which is equal to the recommended value of 0.05. Hence we can find the overall model fit indices are within the acceptable

recommended values as proposed by the researchers, so we can conclude that the hypothesised model fits with the sample data.

#### 4.4.8 THE MEASUREMENT MODEL-CFA

AMOS output of the measurement model or CFA is shown in the graphical form as given in figure 4.1 and figure 4.2. The double headed arrow between two latent variables indicates their covariance relationship. The values can range from -1 to 1 and the value closer to 1 indicate that there is a higher level of covariance/correlation between the constructs. The single headed arrow from the latent variable to the indicator represents the factor loading i.e. the contribution of indicator to the latent variable. The value closer to 1 indicate that the constructs is not explicitly a single form.

#### Figure 4.1 AMOS output of the measurement model or CFA -

### Unstandardised



#### Figure 4.2 AMOS output of the measurement model or CFA -

### Standardised



| No | Construct statements                                 | Standardised |
|----|--|--------------|
|    |  | factor       |
|    |  | loadings     |
|    | Process Conflict                                     |              |
| 1  | We have tension concerning, who is responsible for   | 0.678        |
|    | what to complete the task.                           |              |
| 2  | We have friction related to the distribution of task | 0.790        |
|    | among us   |              |
| 3  | We have controversies concerning the process that    | 0.733        |
|    | we follow to achieve the target                      |              |
|    | Cognitive conflict                                   |              |
| 1  | We only fight regarding the Target and plans to      | 0.980        |
|    | achieve the same.                                    |              |
| 2  | We debate on our difference of opinion in achieving  | 0.965        |
|    | the target.  |              |
| 3  | Our fights are related only to numbers.              | 0.972        |
|    | Affective Conflict                                   |              |
| 1  | At times We blame each other's personal in           | 0.966        |
|    | competencies for not achieving the target.           |              |

## Table 4.4 AMOS output: Standardised Factor loading

| 2 | There were instances when my pump supplier verbally scolded me on my personal incompetence.                                  | 0.915 |
|---|--|-------|
| 3 | My pump supplies send me stinker mails on my incompetence.   | 0.962 |
|   | Work Relationship  |       |
| 1 | Please indicate the level of closeness that you have in<br>the work relationship that you share with the pump<br>supplier.   | 0.971 |
| 2 | Please indicate the level of comfortness that you have<br>in the work relationship that you share with the pump<br>supplier. | 0.970 |
| 3 | How much are you satisfied with the work relationship between you and your Pump supplier.                                    | 0.982 |
|   | Internal Environment of Conflict   |       |
| 1 | My Pump Supplier shows a high level of<br>Commitment by giving pricing support, Support for<br>warranty, Joint Visits etc    | 0.93  |
| 2 | In general, I trust my pump supplier while dealing with him  | 0.67  |
| 3 | My Pump Supplier shares sales lead, Project information that is available with him   | 0.65  |

|   | Magnitude of Conflict   |       |
|---|---|-------|
| 1 | What level of Conflict that you experience between<br>you and your Pump Supplier when you are working | 0.814 |
|   | together?   |       |
| 2 | How frequent that you experience Conflict between<br>you and your Pump Supplier                       | 0.682 |
|   |   |       |
|   | Financial Performance   |       |
| 1 | Please rate the sales turnover of your pump<br>manufacturer's product in your company                 | 0.972 |
| 2 | Please rate the profit that you earn by selling your<br>pump manufacturer's product in your company   | 0.943 |

The measurement model-CFA output of AMOS is shown in the tabulated form as given below:

| Table 4.5 AMOS | CEA out | tnut• Unsta | ndardised k  | Regression  | Weights  |
|----------------|---------|-------------|--------------|-------------|----------|
| Table 4.5 AMOS | CI'A UU | ւրու. Օղեւ  | muai uiscu r | vegi ession | weights. |

|       |                      | Estimate | S.E. | C.R.   | Р |
|-------|----------------------|----------|------|--------|---|
| Cog3  | < Cognitive conflict | .921     | .021 | 43.589 | 0 |
| Cog2  | < Cognitive conflict | 1.000    |      |        |   |
| Cog1  | < Cognitive conflict | .960     | .021 | 46.426 | 0 |
| Work1 | < Work Relationship  | 1.000    |      |        |   |
| Work2 | < Work Relationship  | .936     | .021 | 45.449 | 0 |
| Work3 | < Work Relationship  | 1.007    | .020 | 50.322 | 0 |

|                 |   |                                     | Estimate | S.E. | C.R.   | Р |
|-----------------|---|-------------------------------------|----------|------|--------|---|
| Pros3           | < | Process Conflict                    | .954     | .102 | 9.398  | 0 |
| Pros2           | < | Process Conflict                    | 1.000    |      |        |   |
| Pros1           | < | Process Conflict                    | .871     | .096 | 9.115  | 0 |
| Aff3            | < | Affective Conflict                  | .976     | .026 | 38.133 | 0 |
| Aff2            | < | Affective Conflict                  | .950     | .031 | 30.255 | 0 |
| Aff1            | < | Affective Conflict                  | 1.000    |      |        |   |
| Fin2            | < | Financial Performance               | .844     | .032 | 26.285 | 0 |
| Fin1            | < | Financial Performance               | 1.000    |      |        |   |
| Commuc3         | < | Internal environment<br>of Conflict | .769     | .068 | 11.318 | 0 |
| Commun2         | < | Internal environment<br>of Conflict | .905     | .060 | 14.980 | 0 |
| Commit1         | < | Internal environment<br>of Conflict | 1.000    |      |        |   |
| FreqofConflict  | < | Magnitude of Conflict               | .849     | .107 | 7.931  | 0 |
| LevelofConflict | < | Magnitude of Conflict               | 1.000    |      |        |   |

## Table 4.6. AMOS CFA output: Standardised Regression Weights.

|       |                      | Estimate |
|-------|----------------------|----------|
| Cog3  | < Cognitive conflict | .972     |
| Cog2  | < Cognitive conflict | .965     |
| Cog1  | < Cognitive conflict | .980     |
| Work1 | < Work Relationship  | .971     |
| Work2 | < Work Relationship  | .970     |
| Work3 | < Work Relationship  | .982     |

|                 |   |                                  | Estimate |
|-----------------|---|----------------------------------|----------|
| Pros3           | < | Process Conflict                 | .733     |
| Pros2           | < | Process Conflict                 | .790     |
| Pros1           | < | Process Conflict                 | .678     |
| Aff3            | < | Affective Conflict               | .962     |
| Aff2            | < | Affective Conflict               | .915     |
| Aff1            | < | Affective Conflict               | .966     |
| Fin2            | < | Financial Performance            | .943     |
| Fin1            | < | Financial Performance            | .972     |
| Commuc3         | < | Internal environment of Conflict | .647     |
| Commun2         | < | Internal environment of Conflict | .818     |
| Commit1         | < | Internal environment of Conflict | .925     |
| FreqofConflict  | < | Magnitude of Conflict            | .682     |
| LevelofConflict | < | Magnitude of Conflict            | .814     |

## Table 4.7 AMOS CFA output: Covariances.

|                    |    |                                  | Estimate | S.E. | C.R.   | Р    |
|--------------------|----|----------------------------------|----------|------|--------|------|
| Cognitive conflict | <> | Work Relationship                | 1.975    | .216 | 9.162  | 0    |
| Cognitive conflict | <> | Process Conflict                 | 072      | .098 | 734    | .463 |
| Cognitive conflict | <> | Affective Conflict               | 979      | .139 | -7.016 | 0    |
| Cognitive conflict | <> | Financial Performance            | 1.099    | .169 | 6.499  | 0    |
| Cognitive conflict | <> | Internal environment of Conflict | .352     | .084 | 4.210  | 0    |
| Cognitive          | <> | Magnitude of Conflict            | 455      | .084 | -5.405 | 0    |

|  |    |                                  | Estimate | S.E. | C.R.   | Р    |
|--|----|----------------------------------|----------|------|--------|------|
| conflict                               |    |                                  |          |      |        |      |
| Work<br>Relationship                   | <> | Process Conflict                 | 026      | .140 | 185    | .853 |
| Work<br>Relationship                   | <> | Affective Conflict               | -1.174   | .193 | -6.071 | 0    |
| Work<br>Relationship                   | <> | Financial Performance            | 2.246    | .263 | 8.538  | 0    |
| Work<br>Relationship                   | <> | Internal environment of Conflict | .750     | .125 | 5.994  | 0    |
| Work<br>Relationship                   | <> | Magnitude of Conflict            | 849      | .127 | -6.674 | 0    |
| Process<br>Conflict                    | <> | Affective Conflict               | .313     | .104 | 3.024  | .002 |
| Process<br>Conflict                    | <> | Financial Performance            | .107     | .124 | .858   | .391 |
| Process<br>Conflict                    | <> | Internal environment of Conflict | 150      | .066 | -2.272 | .023 |
| Process<br>Conflict                    | <> | Magnitude of Conflict            | .006     | .062 | .101   | .919 |
| Affective<br>Conflict                  | <> | Financial Performance            | 469      | .160 | -2.924 | .003 |
| Affective<br>Conflict                  | <> | Internal environment of Conflict | 071      | .082 | 866    | .387 |
| Affective<br>Conflict                  | <> | Magnitude of Conflict            | .113     | .080 | 1.416  | .157 |
| Financial<br>Performance               | <> | Internal environment of Conflict | .743     | .113 | 6.582  | 0    |
| Financial<br>Performance               | <> | Magnitude of Conflict            | 445      | .103 | -4.311 | 0    |
| Internal<br>environment<br>of Conflict | <> | Magnitude of Conflict            | 321      | .057 | -5.676 | 0    |

|                       |    |                                  | Estimate |
|-----------------------|----|----------------------------------|----------|
| Cognitive conflict    | <> | Work Relationship                | .718     |
| Cognitive conflict    | <> | Process Conflict                 | 052      |
| Cognitive conflict    | <> | Affective Conflict               | 500      |
| Cognitive conflict    | <> | Financial Performance            | .456     |
| Cognitive conflict    | <> | Internal environment of conflict | .289     |
| Cognitive conflict    | <> | Magnitude of Conflict            | 429      |
| Work Relationship     | <> | Process Conflict                 | 013      |
| Work Relationship     | <> | Affective Conflict               | 418      |
| Work Relationship     | <> | Financial Performance            | .651     |
| Work Relationship     | <> | Internal environment of conflict | .430     |
| Work Relationship     | <> | Magnitude of Conflict            | 557      |
| Process Conflict      | <> | Affective Conflict               | .221     |
| Process Conflict      | <> | Financial Performance            | .061     |
| Process Conflict      | <> | Internal environment of conflict | 171      |
| Process Conflict      | <> | Magnitude of Conflict            | .008     |
| Affective Conflict    | <> | Financial Performance            | 191      |
| Affective Conflict    | <> | Internal environment of conflict | 058      |
| Affective Conflict    | <> | Magnitude of Conflict            | .104     |
| Financial Performance | <> | Internal environment of conflict | .487     |
| Financial Performance | <> | Magnitude of Conflict            | 334      |

|                                  |    |                       | Estimate |
|----------------------------------|----|-----------------------|----------|
| Internal environment of conflict | <> | Magnitude of Conflict | 477      |

## Table 4.9 AMOS CFA output: Variances.

|                                  | Estimate | S.E. | C.R.   | Р |
|----------------------------------|----------|------|--------|---|
| Cognitive conflict               | 1.917    | .180 | 10.649 | 0 |
| Work Relationship                | 3.943    | .366 | 10.774 | 0 |
| Process Conflict                 | 1.003    | .157 | 6.395  | 0 |
| Affective Conflict               | 1.996    | .188 | 10.613 | 0 |
| Financial Performance            | 3.022    | .292 | 10.353 | 0 |
| Internal environment of conflict | .771     | .086 | 8.974  | 0 |
| Magnitude of Conflict            | .588     | .097 | 6.061  | 0 |

## Table 4.10 AMOS CFA output: Squared Multiple Correlations.

|                    | Estimate |
|--------------------|----------|
| Q3_LevelofConflict | .663     |
| Q2_FreqofConflict  | .465     |
| Commit1            | .856     |
| Commun2            | .670     |
| Commuc3            | .419     |
| Fin1               | .945     |
| Fin2               | .890     |
| Aff1               | .934     |

|       | Estimate |
|-------|----------|
| Aff2  | .838     |
| Aff3  | .925     |
| Pros1 | .459     |
| Pros2 | .624     |
| Pros3 | .538     |
| Work3 | .964     |
| Work2 | .942     |
| Work1 | .943     |
| Cog1  | .960     |
| Cog2  | .932     |
| Cog3  | .944     |

#### 4.5 SEM PATH

After complying with Reliability and Validity checks using Confirmatory Factor Analysis (CFA), estimation of overall Model fit was done using structural equation modelling. First, we need to construct the SEM path diagram based on the theoretical frame work. The structural model path diagram is shown in **figure 4.3** is a graphical representation of the mathematical equation (Byrne, 2010). It shows how the independent and dependent constructs are interrelated with each other in a structured mathematical manner. The one way arrow which starts from the exogenous variable and ends to the endogenous denotes the regression weight. We can understand the level of impact of the exogenous variable on an endogenous variable by it's unstandardised and standardised regression coefficients. The two way arrow denotes the covariance or correlation.

Totally there are 19 observed variables which are referred as predictors as it predicts the constructs or latent variables and there is totally 7 unobserved variables which can also be referred as latent variables or constructs as it is conceptually related with the observed variables. The exogenous variables-Internal Environment of Conflict, Magnitude of Conflict, Process conflict and Cognitive conflict affects the endogenous variable -Work relationship and this Work relationship, in turn, affect the endogenous variable-Financial performance. Each and every observed variable have an error term and it is denoted with e1 to e19. Few latent variables like Process conflict, Cognitive conflict, and Affective conflict are inter correlated by drawing the covariance curves in the model.

Once the structural equation model is drawn using AMOS, the sample data is imported from SPSS and we need to run the model. If the data meets all the assumptions of SEM as discussed in the previous topics then we shall get the output without any error in both graphical and tabulated form.

The out result of AMOS is given in the tabulated and graphical form as given blow.

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|                          |   |                          | Estimate | S.E. | C.R.   | Р    |
|--------------------------|---|--------------------------|----------|------|--------|------|
| Work Relationship        | < | Cognitive conflict       | .699     | .081 | 8.629  | 0    |
| Work Relationship        | < | Process Conflict         | .164     | .093 | 1.766  | .077 |
| Work Relationship        | < | Affective Conflict       | 232      | .071 | -3.252 | .001 |
| Work Relationship        | < | Mag of Conflict          | 775      | .195 | -3.978 | 0    |
| Work Relationship        | < | Intl of Conflict         | .393     | .121 | 3.256  | .001 |
| Financial<br>Performance | < | Work Relationship        | .570     | .044 | 12.879 | 0    |
| Cog3                     | < | Cognitive conflict       | .921     | .021 | 42.968 | 0    |
| Cog2                     | < | Cognitive conflict       | 1.000    |      |        |      |
| Cog1                     | < | Cognitive conflict       | .960     | .021 | 45.802 | 0    |
| Work1                    | < | Work Relationship        | .994     | .020 | 49.726 | 0    |
| Work2                    | < | Work Relationship        | .929     | .019 | 49.081 | 0    |
| Work3                    | < | Work Relationship        | 1.000    |      |        |      |
| Pros3                    | < | Process Conflict         | .943     | .102 | 9.251  | 0    |
| Pros2                    | < | Process Conflict         | 1.000    |      |        |      |
| Pros1                    | < | Process Conflict         | .860     | .096 | 8.997  | 0    |
| Aff3                     | < | Affective Conflict       | .976     | .026 | 38.132 | 0    |
| Aff2                     | < | Affective Conflict       | .950     | .031 | 30.274 | 0    |
| Aff1                     | < | Affective Conflict       | 1.000    |      |        |      |
| Fin2                     | < | Financial<br>Performance | .831     | .035 | 23.988 | 0    |
| Fin1                     | < | Financial<br>Performance | 1.000    |      |        |      |
| Commuc3                  | < | Intl of Conflict         | .781     | .069 | 11.248 | 0    |
| Commun2                  | < | Intl of Conflict         | .916     | .063 | 14.457 | 0    |
| Commit1                  | < | Intl of Conflict         | 1.000    |      |        |      |
| Freq of Conflict         | < | Mag of Conflict          | 1.000    |      |        |      |
| Level of Conflict        | < | Mag of Conflict          | 1.130    | .145 | 7.815  | 0    |

## Table 4.11 AMOS SEM output: Unstandardised Regression Weights.

|                       |   |                       | Estimate |
|-----------------------|---|-----------------------|----------|
| Work Relationship     | < | Cognitive conflict    | .484     |
| Work Relationship     | < | Process Conflict      | .084     |
| Work Relationship     | < | Affective Conflict    | 166      |
| Work Relationship     | < | Mag of Conflict       | 261      |
| Work Relationship     | < | Intl of Conflict      | .174     |
| Financial Performance | < | Work Relationship     | .645     |
| Cog3                  | < | Cognitive conflict    | .971     |
| Cog2                  | < | Cognitive conflict    | .964     |
| Cog1                  | < | Cognitive conflict    | .979     |
| Work1                 | < | Work Relationship     | .971     |
| Work2                 | < | Work Relationship     | .970     |
| Work3                 | < | Work Relationship     | .981     |
| Pros3                 | < | Process Conflict      | .730     |
| Pros2                 | < | Process Conflict      | .796     |
| Pros1                 | < | Process Conflict      | .674     |
| Aff3                  | < | Affective Conflict    | .961     |
| Aff2                  | < | Affective Conflict    | .915     |
| Aff1                  | < | Affective Conflict    | .967     |
| Fin2                  | < | Financial Performance | .935     |
| Fin1                  | < | Financial Performance | .979     |
| Commuc3               | < | Intl of Conflict      | .653     |
| Commun2               | < | Intl of Conflict      | .823     |
| Commit1               | < | Intl of Conflict      | .919     |
| Freq of Conflict      | < | Mag of Conflict       | .696     |
| Level of Conflict     | < | Mag of Conflict       | .798     |

## Table 4.12 AMOS output: Standardised Regression Weights.

|  |    |                                     | Estimate | S.E. | C.R.   | Р    |
|--|----|-------------------------------------|----------|------|--------|------|
| Cognitive<br>conflict                  | <> | Process Conflict                    | 035      | .091 | 387    | .699 |
| Cognitive conflict                     | <> | Affective Conflict                  | 919      | .129 | -7.108 | 0    |
| Process<br>Conflict                    | <> | Affective Conflict                  | .315     | .104 | 3.018  | .003 |
| Cognitive conflict                     | <> | Magnitude of<br>Conflict            | 348      | .069 | -5.036 | 0    |
| Cognitive conflict                     | <> | Internal environment<br>of Conflict | .328     | .073 | 4.495  | 0    |
| Internal<br>environment<br>of Conflict | <> | Magnitude of<br>Conflict            | 279      | .053 | -5.217 | 0    |

## Table 4.13 AMOS output: Covariances. Unstandardised

## Table 4.14 AMOS output: Correlations.

|                                     |    |                                  | Estimate |
|-------------------------------------|----|----------------------------------|----------|
| Cognitive conflict                  | <> | Process Conflict                 | 025      |
| Cognitive conflict                  | <> | Affective Conflict               | 476      |
| Process Conflict                    | <> | Affective Conflict               | .220     |
| Cognitive conflict                  | <> | Magnitude of Conflict            | 383      |
| Cognitive conflict                  | <> | Internal environment of Conflict | .276     |
| Internal environment<br>of Conflict | <> | Magnitude of Conflict            | 481      |

## Table 4.15 AMOS output: Variances.

|                                  | Estimate | S.E. | C.R.   | Р |
|----------------------------------|----------|------|--------|---|
| Cognitive conflict               | 1.868    | .171 | 10.903 | 0 |
| Process Conflict                 | 1.019    | .159 | 6.391  | 0 |
| Affective Conflict               | 1.998    | .188 | 10.619 | 0 |
| Internal environment of Conflict | .760     | .087 | 8.757  | 0 |
| Magnitude of Conflict            | .442     | .084 | 5.239  | 0 |

## Table 4.16 AMOS output: Squared Multiple Correlations.

|                       | Estimate |
|-----------------------|----------|
| Work Relationship     | .622     |
| Financial Performance | .416     |
| Q3_LevelofConflict    | .637     |
| Q2_FreqofConflict     | .484     |
| Commit1               | .844     |
| Commun2               | .677     |
| Commuc3               | .427     |
| Fin1                  | .959     |
| Fin2                  | .875     |
| Aff1                  | .934     |
| Aff2                  | .838     |
| Aff3                  | .924     |
| Pros1                 | .455     |
| Pros2                 | .633     |
| Pros3                 | .533     |

|       | Estimate |
|-------|----------|
| Work3 | .962     |
| Work2 | .940     |
| Work1 | .943     |
| Cog1  | .959     |
| Cog2  | .930     |
| Cog3  | .943     |






Figure 4.4 Overall Structural Model- Unstandardised





### 4.5.1 OVERALL STRUCTURAL MODEL FIT ESTIMATION

Figure 4.4 indicates the unstandardised path regression coefficients and the relationship between unobserved and observed variables with respect to the path diagram. Figure 4.5 indicates the standardised path regression coefficients and the relationship between unobserved and observed variables with respect to the path diagram.

| Indices | Recommended Value | Model Fit Indices |
|---------|-------------------|-------------------|
|         |                   |                   |
| CMIN/df | < 3               | 2.488             |
| p-value | $\geq 0.05$       | .000              |
| GFI     | ≥ 0.90            | .90               |
| AGFI    | $\geq 0.80$       | .846              |
| NFI     | ≥ 0.90            | .937              |
| CFI     | ≥ 0.90            | .961              |
| RMSEA   | $\leq 0.08$       | .075              |
| P Close | $\geq 0.05$       | .00               |

### Table 4.17 Structural model Fit Indices:

The structural model fit is checked based on CMIN/df, p-value, Goodness of Fit (GFI), Adjusted Goodness of Fit (AGFI), NFI, Comparative Fit Index (CFI), Root Mean square of approximation (RMSEA) and P Close. The Model fit indices for the constructs have been found and the summary of the result is shown in the table 4.17 where the obtained Model fit indices are compared with the recommended value. The detailed AMOS output is given in Annexure 3. We have not considered the actual chi square value as the chances of model rejection will be high when the sample size increases. Hence we have divided the chi square value with the degrees of freedom so that we can overcome the sample size issue. The result of chi square value divided by the degrees of freedom is shown in the table as 2.488 which is below than the acceptable limit 3. The obtained p-value is 0.05 which is equal to the recommended value. The obtained GFI value is 0.9 which is equal to the recommended value of 0.9. The obtained AGFI value is 0.846 which is above the recommended value of 0.8. The obtained NFI value is 0.937 which is greater than the recommended value of 0.90. The obtained CFI value is 0.961 which is greater than the recommended value of 0.90. The obtained RMSEA value is 0.075 which is lesser than the recommended value of 0.08. The obtained P-close value is 0.08 which is greater to the recommended value of 0.05. Hence we can find the overall model fit indices are within the acceptable recommended values as proposed by the researchers, so we can conclude that the hypothesised model fits with the sample data. All the eight 8 parameters have met all the other recommended value to verify fitness of the Model. Hence we can conclude that the Model is perfectly fit.

### 4.5.2 TESTING STRUCTURAL RELATIONSHIPS

To know whether the hypothesised paths are significant or not, the standardised regression weights of the output of the hypothesis path are compared against the p-value. The table 4.18 shows the relationship between Independent and dependent variables with respect to Hypothesis. By referring to the P value, each and every hypothesis has been specified whether it is significant or not significant. The result shows that the hypothesised model fits with the obtained sample data.

The summary and interpretation of the result are given below:

- 1. On contrary to the research hypothesis, there is no significant influence of process conflict on the work relationship satisfaction as the standardised regression weight is only 0.084 with p value 0.288 which is above 0.05. It is not in line with the previous research work which concludes that process conflict negatively influences the work relationship. Hence, one cannot conclude that process conflict influence work relationship. It depends on other extraneous factors like context, the internal environment of conflict, the magnitude of conflict etc which decides whether process conflict significantly influence work relationship or not.
- 2. Cognitive conflict positively influences work relationship as the standardised regression weight is 0.484 with p value as 0 which is less than 0.05. It is in line with the previous research finding. It shows that when channel members fight only for numbers without making any

personal attack, it helps them to have a healthy work relationship with the common target that they mutually agreed upon.

- 3. Affective conflict negatively influences work relationship as the standardised regression weight is -0.166 with p value as 0.01 which is less than 0.05. It is in line with the previous research finding. It confirms that when channel members fight by making a personal attack, it hampers the healthy work relationship that both the parties share.
- 4. The magnitude of conflict negatively influences work relationship as the standardised regression weight is -0.261 with p value as 0 which is less than 0.05. It is in line with the previous research finding that after a particular point, functional conflict becomes a dysfunctional conflict. It confirms that when the level and frequency of conflict is more it affects the work relationship satisfaction.
- 5. The internal environment of conflict positively influences work relationship as the standardised regression weight is 0.174 with p value as 0 which is less than 0.05. It is in line with the previous research finding which relates various components of the internal environment of conflict including trust, communication, and commitment to work relationship satisfaction. It shows that when the internal environment of conflict including trust, communication, and commitment is

conducive to the channel members, it improves the work relationship that they share at work place.

- 6. There is a significant positive influence of work relationship on financial performance as the standardised regression weight is 0.645 with p value as 0 which is less than 0.05. It proves that when the channel members share a healthy work relationship at work place it positively affects their sales and profit of the organisation as they can easily achieve the target that they mutually agreed upon.
- 7. On contrary to the research hypothesis, there is no significant relationship between process conflict and cognitive conflict as the standardised regression weight is -0.025 with p value as 0.699 which is greater than 0.05. This could be because process conflict on its own is neither functional nor dysfunctional conflict where as cognitive conflict, most of the time it is functional conflict. Hence logically, there can't be any significant positive or negative relationship between the two.
- 8. There is a significant relationship between Cognitive conflict and Affective conflict as the standardised regression weight is -0.476 with p value as 0 which is less than 0.05. Most of the time, cognitive conflict result in a positive outcome whereas affective conflict results in a negative outcome, hence there is a significant negative relationship between the two.

9. There is a significant relationship between Process conflict and Affective conflict as the standardised regression weight is 0.220 with p value as 0.003 which is less than 0.05. Though there is not the logical reason behind this relationship, one cannot ignore the outcome of the study which can be considered for future research with more number of extraneous variables to explain the relationship between process conflict and affective conflict





| No | Hypothesis                        | Standardised | Р     | Significant |
|----|-----------------------------------|--------------|-------|-------------|
|    |                                   | regression   |       | /Not        |
|    |                                   | weights      |       | Significant |
| H1 | There is a significant negative   | 0.084        | 0.77  | Not         |
|    | influence of Process conflict on  |              |       | Significant |
|    | the Work relationship             |              |       |             |
| H2 | There is a significant positive   | 0.484        | 0     | Significant |
|    | influence of Cognitive conflict   |              |       |             |
|    | on the Work relationship          |              |       |             |
| H3 | There is a significant negative   | -0.166       | 0.01  | Significant |
|    | influence of Affective conflict   |              |       |             |
|    | on the Work relationship          |              |       |             |
| H4 | There is a significant negative   | 261          | 0     | Significant |
|    | influence of Magnitude of         |              |       |             |
|    | conflict on the Work relationship |              |       |             |
| H5 | There is a significant positive   | 0.174        | 0.001 | Significant |
|    | influence of Internal             |              |       |             |
|    | environment of conflict on the    |              |       |             |
|    | Work relationship                 |              |       |             |
| H6 | There is a significant positive   | 0.645        | 0     | Significant |
|    | influence of Work relationship    |              |       |             |

# Table 4.18 Estimated Standardised regression of the hypothesis

|    | on Financial performance            |        |       |             |
|----|-------------------------------------|--------|-------|-------------|
| H7 | There is a significant relationship | -0.025 | 0.699 | Not         |
|    | between Process conflict and        |        |       | Significant |
|    | Cognitive conflict                  |        |       |             |
|    |                                     |        |       |             |
| H8 | There is a significant relationship | -0.476 | 0     | Significant |
|    | between Cognitive conflict and      |        |       |             |
|    | Affective conflict                  |        |       |             |
| H9 | There is a significant relationship | 0.220  | 0.003 | Significant |
|    | between Process conflict and        |        |       |             |
|    | Affective conflict.                 |        |       |             |
|    |                                     |        |       |             |

### 4.6 ASSUMPTIONS FOR PARAMETRIC TEST

To test the difference between the groups, one way ANOVA and independent sample t-test has been used. Both these tests are a parametric test and it makes a certain assumption about the population parameter and the distribution of the data. It assumes that the sample data is normally distributed and its variance is homogeneous. The test for normality is done by done by using shapiro wilk and kolmogorov smimov test by comparing its significance value with the recommended value (Toothacker,1993). It is also confirmed by the visual inspection of the normal Q-Q plot and box plot.

|                   | Cases               |         |   |         |     |         |
|-------------------|---------------------|---------|---|---------|-----|---------|
|                   | Valid Missing Total |         |   |         |     | otal    |
|                   | N                   | Percent | N | Percent | Ν   | Percent |
| Work Relationship | 262                 | 100.0%  | 0 | 0.0%    | 262 | 100.0%  |

 Table 4.19 Test Case Summary

|              |                     |             | Statistic | Std. Error |
|--------------|---------------------|-------------|-----------|------------|
|              | Mean                |             | 7.3282    | .12158     |
|              | 95% Confidence      | Lower Bound | 7.0888    |            |
|              | Interval for Mean   | Upper Bound | 7.5677    |            |
|              | 5% Trimmed Mean     |             | 7.4215    |            |
|              | Median              | 7.6667      |           |            |
| Work         | Variance            | 3.873       |           |            |
| Relationship | Std. Deviation      | 1.968       |           |            |
|              | Minimum             | 2.67        |           |            |
|              | Maximum             | 10.00       |           |            |
|              | Range               | 7.33        |           |            |
|              | Interquartile Range |             | 1.67      |            |
|              | Skewness            |             | 234       | .150       |
|              | Kurtosis            |             | 153       | .300       |

|                      | Kolmogorov-Smirnov <sup>a</sup> |     |      | Shapiro-Wilk |     |      |
|----------------------|---------------------------------|-----|------|--------------|-----|------|
|                      | Statistic                       | ₫£  | Sig. | Statistic    | ₫£  | Sig. |
| Work<br>Relationship | .212                            | 262 | .000 | .898         | 262 | .000 |

## Table 4.21 Tests of Normality

a. Lilliefors Significance Correction

## Figure 4.7 Normal Q-Q plot of the work relationship



The Shapiro wilk test and the Kolmogorov smimov test shows the p value as 0.212 and 0.898 which is greater than 0.05. Hence the null hypothesis that the normally of the data is accepted. It is also confirmed by the measures of skewness and kurtosis. Both the values should be as close as possible to zero, in spss. Slight skewness and kurtosis are allowed with the value nearly above than zero. As a rule of them to conclude whether the data is normally distributor or not with respected to the skewness and kurtosis. Both the values are divided by its standard error and if the resultant Z value is between -1.96 to 1.96 then we can justify that the sample data is normally distributed.

Skewness = -.234

SE = 0.150

Z = Skewness/SE

= -0.234/0.150

= -1.56

Kurtosis = -.153

SE = 0.300

Z = Kurtosis/SE

= -0.153/0.300

= -0.51

Since the Z value for skewness and kurtosis is -1.56 and -.51 and respectively which is in between -1.96 to 1.96, it can be said that the sample data is approximately normal.

It is also confirmed by the visual inspection of normal Q-Q plots which is shown in figure 4.7 where the line of normality plotted between obverted value and expected normal value passes through the dots.

The output result of the box plot shows that it is approximately symmetrical without any major outliers. Since outlier are one of the major reasons for non-non-normality, the symmetrical box plot without any outliers indicates that the same data is normally distributed

# 4.7 DIFFERENCE AMONG DEMOGRAPHIC GROUPS INFLUENCING WORK RELATIONSHIP

To know the difference in the mean scores of work relationship satisfaction among a different group of distributors by region, age, and multiple distributor ships different parametric test like one way ANOVA and independent sample t-test is used. One way ANOVA is used to find out whether the difference in the mean score is significant or not by two or more different groups where as Independent sample t test is used to find out whether the difference in the mean score is significant or not by two different groups. Here mean score is considered for the dependent variable and different groups which has its influence on the mean score is considered to the independent variables. To estimate the different in the mean score of work relationship satisfaction across groups of region and age, one way ANOVA is used. To estimate the difference in the mean score of work relationship satisfaction across groups of multiple distributor ship independent sample t test is used.

### 4.7.1 ONE WAY ANOVA-REGIONS

To check out whether there is any significant difference in the work relationship satisfaction among the industrial pump distributors across different regions of the country, one way ANOVA test was performed. Basic assumptions like check for normality, outliers, and homogeneity of variance were performed. The SPSS output result of levene's test for homogeneity of variance is shown in table 4.23.

|                | Ν   | Mean   | Std. Deviation | Std. Error | 95% Confidenc | e Interval for |
|----------------|-----|--------|----------------|------------|---------------|----------------|
|                |     |        |                |            | Mean          |                |
|                |     |        |                |            | Lower Bound   | Upper Bound    |
| East & Central | 42  | 7.3889 | 1.07425        | .16576     | 7.0541        | 7.7236         |
| West           | 150 | 7.6200 | 2.07755        | .16963     | 7.2848        | 7.9552         |
| North          | 35  | 7.2000 | 2.25962        | .38195     | 6.4238        | 7.9762         |
| South          | 35  | 6.1333 | 1.56598        | .26470     | 5.5954        | 6.6713         |
| Total          | 262 | 7.3282 | 1.96802        | .12158     | 7.0888        | 7.5677         |

**Table 4.22 Descriptive statistics** 

# Table 4.23 Test of Homogeneity of Variances

| Work relationship Satisfaction |     |   |     |      |  |  |
|--------------------------------|-----|---|-----|------|--|--|
| Levene Statistic               | df1 |   | df2 | Sig. |  |  |
| 5.611                          |     | 3 | 258 | .001 |  |  |

### Table 4.24 ANOVA

| Work relationship Satisfaction |                |     |             |       |      |  |  |
|--------------------------------|----------------|-----|-------------|-------|------|--|--|
|                                | Sum of Squares | df  | Mean Square | F     | Sig. |  |  |
| Between Groups                 | 63.472         | 3   | 21.157      | 5.762 | .001 |  |  |
| Within Groups                  | 947.410        | 258 | 3.672       |       |      |  |  |
| Total                          | 1010.882       | 261 |             |       |      |  |  |

| Dependent Variable: Work relationship satisfaction |           |            |        |       |         |            |
|--|-----------|------------|--------|-------|---------|------------|
| Bonferroni   |           |            |        |       |         |            |
| (I)  | (J)       | Mean       | Std.   | Sig.  | 95% Co  | nfidence   |
| Q11_Regio  | Q11_Regio | Difference | Error  |       | Inte    | rval       |
| n  | n         | (I-J)      |        |       | Lower   | Upper      |
|  |           |            |        |       | Bound   | Bound      |
| East &   | West      | 23111      | .33453 | 1.000 | -1.1206 | .6583      |
| Central  | North     | .18889     | .43858 | 1.000 | 9772    | 1.3550     |
|  | South     | 1.25556*   | .43858 | .027  | .0895   | 2.4216*    |
|  | East &    | .23111     | .33453 | 1.000 | (50)    | 1 1 2 0 4  |
| West   | Central   |            |        |       | 6583    | 1.1206     |
|  | North     | .42000     | .35972 | 1.000 | 5364    | 1.3764     |
|  | South     | 1.48667*   | .35972 | .000  | .5303   | 2.4431*    |
|  | East &    | 18889      | .43858 | 1.000 | 1.0.550 |            |
| North  | Central   |            |        |       | -1.3550 | .9772      |
|  | West      | 42000      | .35972 | 1.000 | -1.3764 | .5364      |
|  | South     | 1.06667    | .45808 | .124  | 1513    | 2.2846     |
|  | East &    | -1.25556*  | .43858 | .027  |         | <b>.</b> * |
| South  | Central   |            |        |       | -2.4216 | 0895       |
|  | West      | -1.48667*  | .35972 | .000  | -2.4431 | 5303*      |
|  | North     | -1.06667   | .45808 | .124  | -2.2846 | .1513      |

# Table 4.25 Post Hoc Tests. Multiple comparisons

\*. The mean difference is significant at the 0.05 level.

The test shows that the homogeneity of variance is not significant at 0.05. Hence we can say that the population variance for each group is almost the same. Having met the critical assumption of homogeneity of variance, the ANOVA test was performed. The output of the ANOVA result is shown in the below table. The test result shows the F value as 5.762with 3 and 258 degrees of freedom having significant value of 0.001. Since the significant value is only 0.001 which is less than 0.05, one can conclude that there is a significant difference in the work relationship satisfaction among the industrial pump distributors across different regions of the country. Though it was found that there is a significant difference in the mean scores among the different group, the output result from ANOVA won't specify between which particular groups there is a difference. For that, Bonferroni's post hoc test was performed and the output test result is shown in the table 4.25. The test result shows that there is a significant difference between south, west; and east along with central.

### 4.7.2 ONE WAY ANOVA-AGE

To check out whether there is any significant difference in the work relationship satisfaction among the industrial pump distributors having different age groups, one way ANOVA test was performed. Basic assumptions like check for normality, outliers, and homogeneity of variance were performed. The SPSS output result of levene's test for homogeneity of variance is shown in table 4.27.

## Table 4.26 Descriptive statistics

| Work relationship satisfaction |     |     |      |  |  |
|--------------------------------|-----|-----|------|--|--|
| Levene Statistic               | df1 | df2 | Sig. |  |  |
| 19.719                         | 3   | 258 | .000 |  |  |

# Table 4.27 Test of Homogeneity of Variances

| Work relationship satisfaction |     |     |      |  |  |  |
|--------------------------------|-----|-----|------|--|--|--|
| Levene Statistic               | df1 | df2 | Sig. |  |  |  |
| 19.719                         | 3   | 258 | .000 |  |  |  |

### Table 4.28 ANOVA

| Work Relationship satisfaction |          |     |             |       |      |  |  |
|--------------------------------|----------|-----|-------------|-------|------|--|--|
|                                | Sum of   | df  | Mean Square | F     | Sig. |  |  |
|                                | Squares  |     |             |       |      |  |  |
| Between Groups                 | 69.725   | 3   | 23.242      | 6.371 | .000 |  |  |
| Within Groups                  | 941.157  | 258 | 3.648       |       |      |  |  |
| Total                          | 1010.882 | 261 |             |       |      |  |  |

## Table 4.29 Multiple Comparisons

| Dependent Variable:                                      | Work relationship sat | isfaction  |        |       |          |          |  |
|--|-----------------------|------------|--------|-------|----------|----------|--|
| Bonferroni   |                       |            |        |       |          |          |  |
| (I) Distribution   | (J) Distribution      | Mean       | Std.   | Sig.  | 95% Co   | nfidence |  |
| Duration   | Duration              | Difference | Error  |       | Inte     | rval     |  |
|  |                       | (I-J)      |        |       | Lower    | Upper    |  |
|  |                       |            |        |       | Bound    | Bound    |  |
|  | 3 to 6 Years          | .26634     | .45348 | 1.000 | 9393     | 1.4720   |  |
| Less than 3 years  | 6 to 9 Years          | 1.60101*   | .56375 | .029  | .1021*   | 3.0999   |  |
|  | More than 9 Years     | 25300      | .42029 | 1.000 | -1.3705  | .8644    |  |
|  | Less than 3 years     | 26634      | .45348 | 1.000 | -1.4720  | .9393    |  |
| 3 to 6 Years   | 6 to 9 Years          | 1.33467*   | .46846 | .028  | .0891*   | 2.5802   |  |
|  | More than 9 Years     | 51934      | .27981 | .388  | -1.2633  | .2246    |  |
|  | Less than 3 years     | -1.60101*  | .56375 | .029  | -3.0999* | 1021     |  |
| 6 to 9 Years   | 3 to 6 Years          | -1.33467*  | .46846 | .028  | -2.5802* | 0891     |  |
|  | More than 9 Years     | -1.85401*  | .43642 | .000  | -3.0143* | 6937     |  |
|  | Less than 3 years     | .25300     | .42029 | 1.000 | 8644     | 1.3705   |  |
| More than 9 Years  | 3 to 6 Years          | .51934     | .27981 | .388  | 2246     | 1.2633   |  |
|  | 6 to 9 Years          | 1.85401*   | .43642 | .000  | .6937*   | 3.0143   |  |
| *. The mean difference is significant at the 0.05 level. |                       |            |        |       |          |          |  |

The test shows that the homogeneity of variance is not significant at 0.05. Hence we can say that the population variance for each group is almost the same. Having met the critical assumption of homogeneity of variance, the ANOVA test was performed. The output of the ANOVA result is shown in the below table 3.25. The test result shows the F value as 6.371 with 3 and 258 degrees of freedom having significant value of 0.001. Since the significant value is only 0.001 which is less than 0.05, one can conclude that there is a significant difference in the work relationship satisfaction among the industrial pump distributors having different age groups. Though it was found that there is a significant difference in the mean scores among the different group, the output result from ANOVA won't specify between which particular groups there is a difference. To identify the groups which are significantly different from each other, Bonferroni's post hoc test was performed and the output test result is shown in the table 4.29. As per the table 4.29, the distributors who have relationship with the manufacturers for less than 3 years and from 6 to 9 years are having the mean difference as 1.601 and the value is statistically significant at 0.05 levels. The distributors who are having relationship with the manufacturer from 3 to 6 years and from 6 to 9 years are having the mean difference as 1.334 and the value is statistically significant at 0.05 level. The distributors who are having relationship with the manufacturer from 6 to 9 years and more than 9 years are having the mean difference as -1.85401 and the value is statistically significant at 0.05 level.

### 4.7.3 INDEPENDENT SAMPLE T TEST-MULTIPLE DISTRIBUTOR

To check out whether there is any significant difference in the work relationship satisfaction between the industrial pump distributors working in the territory having a single distributor or multiple distributors, independent sample t test was performed. Basic assumptions like check for normality, outliers, and homogeneity of variance were conducted. The SPSS output result of levene's test for homogeneity of variance is shown in table 4.31.

|              | Q8_MultiDistr | Ν   | Mean   | Std. Deviation | Std. Error Mean |
|--------------|---------------|-----|--------|----------------|-----------------|
|              |               |     |        |                |                 |
|              |               |     |        |                |                 |
| Work         | Yes           | 125 | 7.1413 | 2.12185        | .18978          |
| Relationship | No            | 137 | 7 4988 | 1 80736        | 15441           |
|              |               | 157 | 7.500  | 1.80750        | .15441          |

**Table 4.30 Group Statistics** 

|      |                                   | Leven<br>for E<br>of Va | e's Test<br>quality<br>riances |        |       | t-test fo          | or Equality o      | f Means                  |                            |                               |
|------|-----------------------------------|-------------------------|--------------------------------|--------|-------|--------------------|--------------------|--------------------------|----------------------------|-------------------------------|
|      |                                   | F                       | Sig.                           | t      | df    | Sig.<br>(2-tailed) | Mean<br>Difference | Std. Error<br>Difference | 95% Co<br>Interva<br>Diffe | nfidence<br>l of the<br>rence |
|      |                                   |                         |                                |        |       |                    |                    |                          | Lower                      | Upper                         |
| Work | Equal<br>variances<br>assumed     | 18.94                   | .000                           | -1.472 | 260   | .142               | 35745              | .24288                   | 83572                      | .12082                        |
| Rel  | Equal<br>variances not<br>assumed |                         |                                | -1.461 | 244.7 | .145               | 35745              | .24467                   | 83937                      | .12447                        |

 Table 4.31 Independent Samples Test

The test shows that the homogeneity of variance is not significant at 0.05. Hence we can say that the population variance for each group is almost the same. Having met the critical assumption of homogeneity of variance, the independent sample t test was performed. The output of the independent sample t test is shown in the table 4.31. The test result shows the F value as 18.938 with 260 and 244.729 degrees of freedom having significant value as 0. Since the significant value is only 0 which is less than 0.05, one can conclude that there is a significant difference in the work relationship satisfaction between the industrial pump distributors working in the territory having a single distributor and multiple distributors.

# 4.8 INDIVIDUAL IMPACT OF SELECTED DEMOGRAPHIC PROFILE ON WORK RELATIONSHIP

To find out the individual impact of the selected demographic profile including distributor's region, distributor's age and presence of multiple distributors on Work relationship cross tab with chi square test were performed. Since chi square is a non parametric test there is no need to check whether the sample data is normal or not. To use cross tab and chi square, the 10 point work relationship satisfaction scale was converted into 5 point scale.

### **4.8.1 CROSSTABS-REGION**

To find the impact of different regions of work on work relationship satisfaction, cross tab with chi square was performed. The out put the result of SPSS is given in the table 4.33.

|                               | Cases |         |         |         |       |         |
|-------------------------------|-------|---------|---------|---------|-------|---------|
|                               | Valid |         | Missing |         | Total |         |
|                               | Ν     | Percent | Ν       | Percent | N     | Percent |
| Region * Work<br>relationship | 262   | 100.0%  | 0       | 0.0%    | 262   | 100.0%  |

 Table 4.32 Test Case Summary

|        |                |                | WorkRel_Gr   | oup               |           |
|--------|----------------|----------------|--------------|-------------------|-----------|
|        |                |                | Dissatisfied | Neither satisfied | Satisfied |
|        |                |                |              | nor Dissatisfied  |           |
|        | East & Central | Count          | 14           | 21                | 7         |
|        |                | Expected Count | 3.4          | 11.4              | 15.2      |
|        | West           | Count          | 7            | 22                | 74        |
| Region |                | Expected Count | 12.0         | 40.6              | 54.4      |
|        | North          | Count          | 0            | 7                 | 7         |
|        |                | Expected Count | 2.8          | 9.5               | 12.7      |
|        | South          | Count          | 0            | 21                | 7         |
|        |                | Expected Count | 2.8          | 9.5               | 12.7      |
| Total  | I              | Count          | 21           | 71                | 95        |
|        |                | Expected Count | 21.0         | 71.0              | 95.0      |

# Table 4.33 Region \* Work relationship group Cross tabulation

## Table 4.33 Region \* Work relationship group Cross tabulation (Cont.)

|        |         |                | Highly satisfied | Total |
|--------|---------|----------------|------------------|-------|
|        | East &  | Count          | 0                | 42    |
| Cen    | Central | Expected Count | 12.0             | 42.0  |
|        | Wast    | Count          | 47               | 150   |
| Region | West    | Expected Count | 42.9             | 150.0 |
|        | North   | Count          | 21               | 35    |
|        | ivorui  | Expected Count | 10.0             | 35.0  |
|        | South   | Count          | 7                | 35    |

|       |  | Expected Count | 10.0 | 35.0  |
|-------|--|----------------|------|-------|
| Total |  | Count          | 75   | 262   |
| Total |  | Expected Count | 75.0 | 262.0 |

# Table 4.34 Chi-Square Tests

|                                 | Value    | df | Asymp. Sig. (2- |
|---------------------------------|----------|----|-----------------|
|                                 |          |    | sided)          |
| Pearson Chi-Square              | 114.586ª | 9  | .000            |
| Likelihood Ratio                | 112.760  | 9  | .000            |
| Linear-by-Linear<br>Association | 11.221   | 1  | .001            |
| N of Valid Cases                | 262      |    |                 |

## Table 4.35 Phi and Cramer's V measure

|                  |            | Value | Approx. |
|------------------|------------|-------|---------|
|                  |            |       | Sig.    |
| Nominal by       | Phi        | .661  | .000    |
| Nominal          | Cramer's V | .382  | .000    |
| N of Valid Cases |            | 262   |         |





The result given above shows that the difference between expected count and the observed count is more for distributors who are from an eastern and central part of the country. The expected count for dissatisfied customers were 3.4 where as the result shows that 14 of the distributors were dissatisfied. However, the expected count for satisfied customers was only 15.5 but 7 customers were satisfied. So observed satisfaction level of distributors from eastern and central part of the country is more than the expected satisfaction level. For other distributors from other parts of the country, there is a slight difference in the expected satisfaction level and actual satisfaction level. The details of the difference are provided in the tab. Higher the difference, higher is the impact. To find whether the level of impact is significant or not, chi square test is performed and the output result is shown in the table 4.34. The obtained Pearson significance value was 0 which is above 0.05, indicating that there is no significant impact of the distributor's regions on work relationship satisfaction. To know the strength of relationship between both the variable Phi and Cramer's V test was performed. The SPSS output of Phi and Cramer's V values are 0.661 and 0.382 respectively and significant at 0.05 level. This proves that the strength of association between both the variables are strong as it is above 0.35 (Sheskin, 2011)

### 4.8.2 CROSSTAB-AGE

To find the impact of age of distributor and manufacturer relationship on work relationship satisfaction, cross tab with chi square was performed. The output result of SPSS is given in the table 4.37.

| Tab | ole | 4.36 | Test | Case | Summary |
|-----|-----|------|------|------|---------|
|-----|-----|------|------|------|---------|

|                                  | Cases |         |         |         |       |         |
|----------------------------------|-------|---------|---------|---------|-------|---------|
|                                  | Valid |         | Missing |         | Total |         |
|                                  | Ν     | Percent | Ν       | Percent | Ν     | Percent |
| Age * Work<br>relationship Group | 262   | 100.0%  | 0       | 0.0%    | 262   | 100.0%  |

|             |                |                |          | Work Relation Group |         |  |  |
|-------------|----------------|----------------|----------|---------------------|---------|--|--|
|             |                |                | Dissatis | Neither             | Satisfi |  |  |
|             |                |                | fied     | satisfied           | ed      |  |  |
|             |                |                |          | or                  |         |  |  |
|             |                |                |          | Dissatisfie         |         |  |  |
|             |                |                |          | d                   |         |  |  |
|             | Less than 3    | Count          | 0        | 15                  | 9       |  |  |
| years       | Expected Count | 1.9            | 6.5      | 8.7                 |         |  |  |
|             | 3 to 6 Years   | Count          | 0        | 30                  | 19      |  |  |
| Distributor |                | Expected Count | 5.5      | 18.4                | 24.7    |  |  |
| Duration    | 6 to 9 Years   | Count          | 0        | 0                   | 2       |  |  |
|             |                | Expected Count | 1.8      | 6.0                 | 8.0     |  |  |
|             | More than 9    | Count          | 21       | 26                  | 65      |  |  |
| Years       |                | Expected Count | 11.9     | 40.1                | 53.7    |  |  |
| Total       |                | Count          | 21       | 71                  | 95      |  |  |
|             |                | Expected Count | 21.0     | 71.0                | 95.0    |  |  |

## Table 4.37 Age \* Work relationship Group Cross tabulation

# Table 4.37 Age \* Work relationship Group Cross tabulation (Cont.)

|                          |                   |                |                     | Total |
|--------------------------|-------------------|----------------|---------------------|-------|
|                          |                   |                | Highly<br>Satisfied |       |
| Distribution<br>Duration | Less than 3 years | Count          | 0                   | 24    |
|                          |                   | Expected Count | 6.9                 | 24.0  |
|                          | 3 to 6 Years      | Count          | 19                  | 68    |
|                          |                   | Expected Count | 19.5                | 68.0  |
|                          | 6 to 9 Years      | Count          | 20                  | 22    |
|                          |                   | Expected Count | 6.3                 | 22.0  |

|       | More than 9 | Count          | 36   | 148   |
|-------|-------------|----------------|------|-------|
| Years |             | Expected Count | 42.4 | 148.0 |
| Total |             | Count          | 75   | 262   |
| Total |             | Expected Count | 75.0 | 262.0 |

## Table 4.38 Chi-Square Tests

|                                 | Value   | df | Asymp. Sig.<br>(2-sided) |
|---------------------------------|---------|----|--------------------------|
| Pearson Chi-Square              | 91.298ª | 9  | .000                     |
| Likelihood Ratio                | 99.419  | 9  | .000                     |
| Linear-by-Linear<br>Association | .702    | 1  | .402                     |
| N of Valid Cases                | 262     |    |                          |

## Table 4.39 Phi and Cramers'V measures

| Symmetric Measures |            |         |      |  |  |
|--------------------|------------|---------|------|--|--|
|                    | Value      | Approx. |      |  |  |
|                    |            |         | Sig. |  |  |
| Nominal by         | Phi        | .590    | .000 |  |  |
| Nominal            | Cramer's V | .341    | .000 |  |  |
| N of Valid Cases   |            | 262     |      |  |  |

### **4.9** Bar chart-Difference in work relationship across different age groups



The result given above shows that there is a difference between expected count and observed count across distributors who are having different age of relationship with the manufacturer. The details of the difference are provided in the tab. Higher the difference, higher is the impact. To find whether the level of impact is significant or not, chi square test was performed and the out put result is shown in the table 3.36. The obtained Pearson significance value was 0 which is above 0.05, indicating that there is a significant impact of the distributor's age of relationship with their manufacturer on work relationship satisfaction.

### 4.8.3 CROSSTABS-MULTIPLE DISTRIBUTORSHIP

To find the impact of the presence of multiple distributors on work relationship satisfaction, cross tab with chi square was performed. The output result of SPSS is given in the table 4.41.

|  | Cases |         |         |         |       |         |
|--|-------|---------|---------|---------|-------|---------|
|  | Valid |         | Missing |         | Total |         |
|  | Ν     | Percent | Ν       | Percent | Ν     | Percent |
| Multiple Distributors *<br>Work relationship | 262   | 100.0%  | 0       | 0.0%    | 262   | 100.0%  |

 Table 4.40 Test Case Summary

| Table 4.41 Multiple | e Distributorship | * Work relationship | <b>Group Cross tab</b> |
|---------------------|-------------------|---------------------|------------------------|
|---------------------|-------------------|---------------------|------------------------|

| Multiple Di  | stribu | tor * Work Relat | ionship Gro             | oup Cross tabu | lation    |           |  |
|--------------|--------|------------------|-------------------------|----------------|-----------|-----------|--|
|              |        |                  | Work Relationship Group |                |           |           |  |
|              |        |                  | Dissatisfie             | Neither        | Satisfied | Highly    |  |
|              |        |                  | d                       | satisfied nor  |           | satisfied |  |
|              |        |                  |                         | dissatisfied   |           |           |  |
|              | Yes    | Count            | 10                      | 35             | 53        | 27        |  |
| Multiple     |        | Expected Count   | 10.0                    | 33.9           | 45.3      | 35.8      |  |
| Distributors | No     | Count            | 11                      | 36             | 42        | 48        |  |
|              |        | Expected Count   | 11.0                    | 37.1           | 49.7      | 39.2      |  |

| Total | Count          | 21   | 71   | 95   | 75   |
|-------|----------------|------|------|------|------|
| Total | Expected Count | 21.0 | 71.0 | 95.0 | 75.0 |
|       |                |      |      |      |      |

# Table 4.41 Multiple Distrib \* Work relationship Cross tab (Cont.)

|              |     |                | Total |
|--------------|-----|----------------|-------|
|              |     |                |       |
|              | Yes | Count          | 125   |
| Multiple     |     | Expected Count | 125   |
| Distributors | No  | Count          | 137   |
|              |     | Expected Count | 137   |
| Total        |     | Count          | 262   |
|              |     | Expected Count | 262   |

## Table 4.42 Chi-Square Tests

|                                 | Value  | df | Asymp. Sig. |
|---------------------------------|--------|----|-------------|
|                                 |        |    | (2-sided)   |
| Pearson Chi-Square              | 6.680ª | 3  | .083        |
| Likelihood Ratio                | 6.748  | 3  | .080        |
| Linear-by-Linear<br>Association | 1.733  | 1  | .188        |
| N of Valid Cases                | 262    |    |             |
## Table 4.43 Phi and Cramer's V measures

|                  |            | Value | Approx. Sig. |
|------------------|------------|-------|--------------|
| Nominal by       | Phi        | .160  | .083         |
| Nominal          | Cramer's V | . 160 | .083         |
| N of Valid Cases |            | 262   |              |

## 4.10 Bar chart-Difference in work relationship across different territories

## with multiple distributors



The result given above shows that there is a difference between expected count and observed count across distributors who are having multiple distributors. The details of the difference are provided in the tab. Higher the difference, higher is the impact. To find whether the level of impact is significant or not, chi square test was performed and the output result is shown in the table 4.42. The obtained Pearson significance value was 0 which is above 0.05, indicating that there is no significant impact of the presence of multiple distributors in the distributor's territory on work relationship satisfaction.

# 4.9 OVERALL IMPACT OF SELECTED DEMOGRAPHIC DATA ON WORK RELATIONSHIP

Multiple regression has been used to find out the impact of selected demographic variables of distributors like their age of the relationship with the pump supplier, region and the presence of multiple distributors in the assigned territory.

| Table | 4.44 | Model | Sum | imary |
|-------|------|-------|-----|-------|
|-------|------|-------|-----|-------|

| Model | R     | R Square | Adjusted R | Std. Error of |  |
|-------|-------|----------|------------|---------------|--|
|       |       |          | Square     | the Estimate  |  |
| 1     | .245ª | .060     | .049       | 1.91931       |  |

a. Predictors: (Constant), Q8\_MultiDistr, Q11\_Region,

**Distribution Duration** 

## Table 4.45 ANOVA

| Model |            | Sum of   | df  | Mean   | F     | Sig.              |
|-------|------------|----------|-----|--------|-------|-------------------|
|       |            | Squares  |     | Square |       |                   |
|       | Regression | 60.474   | 3   | 20.158 | 5.472 | .001 <sup>b</sup> |
| 1     | Residual   | 950.408  | 258 | 3.684  |       |                   |
|       | Total      | 1010.882 | 261 |        |       |                   |

### **Table 4.46 Coefficients**

| Model |                       | Unstand      | lardised Standardised |              | Т      | Sig. |
|-------|-----------------------|--------------|-----------------------|--------------|--------|------|
|       |                       | Coefficients |                       | Coefficients |        |      |
|       |                       | В            | Std. Error            | Beta         |        |      |
|       | (Constant)            | 6.695        | .781                  |              | 8.567  | .000 |
|       | Distribution Duration | .227         | .121                  | .125         | 1.870  | .048 |
|       | Q11_Region            | 388          | .138                  | 174          | -2.812 | .005 |
|       | Q8_MultiDistr         | .522         | .260                  | .133         | 2.006  | .046 |

The linear equation finds out the coefficients or  $\beta$  value for all the independent variables which predict the dependent variable. Higher the  $\beta$  value, better the contribution of the variable in predicting the output of the dependent variable, which in this case is work relationship satisfaction.

In general, the linear equation is denoted by

 $y = \alpha + \beta 1 (x1) + \beta 2 (x2) + \beta 3 (x3)$ 

Where y denotes the work relationship satisfaction

X1 denotes the age of relationship between distributor and pump supplier X2 denotes the region of the distributor

X3 denotes the presence of the multiple distributors in the same territory

 $\boldsymbol{\alpha}$  denotes the constant

 $\beta$ 1,  $\beta$ 2, and  $\beta$ 3 denote standardised beta coefficient.

Multiple regression gives the output of both unstandardised and standardised beta coefficient values of all the independent variable. The SPSS output of multiple regression is shown in table 4.46.

For unstandardised estimates, the age of the distributor(X1) contributes 0.227 for predicting the score of dependent variable-work relationship satisfaction. Similarly, the region of the distributor contributes -0.388 and the presence of multiple distributors contributes 0.522. It can be mathematically represented in the form of linear equation as

y = 6.694 +0.227 x1 -0.388 x2 + 0.522 x3

For standardised estimates, the age of the distributor(X1) contributes 0.125 for predicting the score of dependent variable-work relationship satisfaction. Similarly, the region of the distributor contributes -0.174 and the presence of multiple distributors contributes 0.133. It can be mathematically represented in the form of linear equation as

y = 6.694 +0.125 x1 -0.174 x2 + 0.133 x3

The overall impact of all the three demographic variables on the work relationship is only 4.9% i.e. all the independent variables explain only 4.9%

variance on the dependent variable-work relationship. Though the explanation is negligible, it is having a significant impact on the significance value is 0.001 as indicated by the F value of 5.472.

### **4.10 MEDIATION MODEL:**

To prove the hypothesis, the mediation model has been used. Mediation analysis provides an explanation for how and why there is an association between independent variable and dependent variable (Preacher & Kelley, 2011). In the analysis which is shown in figure mediating variable, M is hypothesised to intervene the association between the independent variable, X and the dependent variable, Y.

The path **a** indicates the influence of Independent variable, X on mediating variable, M. The path **b** indicates the influence of the mediating variable, M on the dependent variable, Y. The path **c** indicates the total effect of Independent variable, X on dependent, variable Y without a mediator. The path **c'** indicates the direct effect of Independent variable, X on dependent variable, X on dependent variable, X on dependent variable, Y with a mediator, M. The indirect effect is the product of path coefficients **a** and **b**. The indirect effect is equal to the difference between the total effect and direct effect. It is mathematically denoted as  $\mathbf{a} \times \mathbf{b} = \mathbf{c} \cdot \mathbf{c'}$ 

#### **4.10.1 CONDITION FOR MEDIATION:**

According to Baron and Kenny (1986), the first and foremost condition for mediation is the path  $\mathbf{c}$  representing the total effect of Independent variable, X on dependent, variable Y without mediator should be significant. Hence the necessary and critical condition of mediation is the value of coefficient  $\mathbf{c}$  has to be significant. If the  $\mathbf{c}$  value, representing the total effect does not exist then the indirect effect, representing the product of  $\mathbf{a}$  and  $\mathbf{b}$  also does not exist because there is no overall effect to mediate. Secondly, the path  $\mathbf{a}$ , representing the effect of Independent variable, X on mediating variable, M should be significant. Finally, the path  $\mathbf{b}$  representing the effect of the mediating variable, M on the dependent variable, Y should be significant.

#### 4.10.2 FULL/PARTIAL MEDIATION:

After fulfilling the above conditions of both significant total and indirect effect, the mediator, M is introduced in the model as shown in the figure 4.8. If path **c'**, representing the direct effect of Independent variable, X on dependent, variable Y with the controlled presence of a mediator, M is insignificant then the type of mediation is full or complete mediation. On contrary, If path **c'**, representing the direct effect of Independent variable, X on dependent, variable Y with the controlled presence of a mediator, M is significant then the type of mediation is partial of a mediator, M is significant then the type of mediation is partial mediation. In simple mediation model only one mediator is present. Full mediation completely explains the reason for the relationship been X and Y by introducing the mediator, M and there is no need to have any other indirect effect to explain the same. Where as in case of partial mediation, the explanation for the relationship of X on Y is not given completely and other indirect effects could be examined to know the same. Both partial and complete mediation shows the importance of the mediator in the total effect (Preacher & Kelley, 2011).



**Figure 4.11 Simple Mediation model** 

To test whether any variable, M mediates the relationship between Independent variable, X and dependent variable, Y, Preacher and Hayes (2004) bootstrapping method is used. It is a non-parametric test and it does not violate the assumptions of normality. Hence this test is also recommended for small sizes. Bootstrapping is a resampling technique where the sample is repeatedly drawn from the data set to compute the desired statistical result. The SPSS process macros offered by hayes has been used to compute indirect, total and direct effects by using bootstrapping technique. The output data is given in the tabulated form and it is graphically represented for analysis in the subsequent topics.

#### **4.10.3 COGNITIVE CONFLICT:**

To test the hypothesis whether Work relationship mediates the relationship between Cognitive conflict and Financial performance, Preacher and Hayes (2004) bootstrapping test is used using SPSS macros of Andrew Hayes. The detailed output of SPSS test result is given in Annexure IV and the summary of the critical results are highlighted graphically in figure 4.9

Figure 4.12 Work relationship as a mediator between Cognitive Conflict and Financial performance



The total effect which influences the independent variable X

As per Baron and Kenny (1986), the first condition of mediation is fulfilled as the coefficient of Independent variable (cognitive conflict) influencing the Dependent variable (financial performance) without mediator is 0.5164 and it is statistically significant. Moreover, the coefficient of the indirect variable (cognitive conflict) affecting the Mediating variable (Work relationship) is 1.0228 and the co-efficient of Mediating variable (Work relationship) affecting the dependent variable (Financial performance) is 0.4326 and both the values are statistically significant. After introducing the mediator-Work relationship between Cognitive conflict and Financial performance the coefficient of the direct effect comes down from 0.5164 to 0.0739 and it becomes statistically insignificant. The work relationship completely explains the reason for the relationship between Cognitive conflict and work relationship. Hence work relationship act as the full mediator in the model.

### 4.10.4 PROCESS CONFLICT

To test the hypothesis whether Work relationship mediates the relationship between process conflict and financial performance, Preacher and Hayes (2004) bootstrapping test is used using SPSS macros of Andrew Hayes. The output of the SPSS test result is given in Annexure IV and the summary of the critical results are highlighted graphically in figure 4.10

Figure 4.13 Work relationship as a mediator between Process Conflict and Financial performance



The first condition of mediation is not fulfilled as Process conflict does not significantly influence Financial performance. Hence Work relationship does not mediate the relationship between Process conflict and Financial performance as it fails to meet the basic condition for mediation.

### **4.10.5 AFFECTIVE CONFLICT**

To test the hypothesis whether Work relationship mediates the relationship between Affective conflict and Financial performance, Preacher and Hayes (2004) bootstrapping test is used by using SPSS macros of Andrew Hayes. The output of the SPSS test result is given in Annexure IV and the summary of the critical results are highlighted graphically in figure 4.11

# Figure 4.14 Work relationship as a mediator between Affective Conflict and Financial performance



As per Baron and Kenny (1986), the first condition of mediation is fulfilled as the coefficient of Independent variable (Affective conflict) influencing the Dependent variable (financial performance) without mediator is -0.1554 and it is statistically significant. Moreover, the coefficient of indirect variable (Affective conflict) affecting the Mediating variable (Work relationship) is -0.5803 and the co-efficient of Mediating variable (Work relationship) affecting the dependent variable (Financial performance) is 0.5095 and both the values are statistically significant. After introducing the mediator-Work relationship between Affective conflict and Financial performance the coefficient of the direct effect comes down from -0.1554 to 0.1403 but it remains statistically significant. In this case, the work relationship does not completely explain the reason for the relationship between Cognitive conflict and work relationship. Hence work relationship act as the partial mediator in the model.

### 4.10.6 INTERNAL ENVIRONMENT OF CONFLICT

To test the hypothesis whether Work relationship mediates the relationship between the Internal environment of conflict and Financial performance, Preacher and Hayes (2004) bootstrapping test is used by using SPSS process macros of Andrew Hayes. The output of the SPSS test result is given in Annexure IV and the summary of the critical results are highlighted graphically in figure 4.12

Figure 4.15 Work relationship as a mediator between Internal environment of Conflict and Financial performance



As per Baron and Kenny (1986), the first condition of mediation is fulfilled as the coefficient of Independent variable (Internal environment of conflict) influencing the Dependent variable (Financial performance) without mediator is 0.6567 and it is statistically significant. Moreover, the coefficient of the indirect variable (Internal environment of conflict) affecting the Mediating variable (Work relationship) is 0.8187 and the co-efficient of Mediating variable (Work relationship) affecting the dependent variable (Financial performance) is 0.4186 and both the values are statistically significant. After introducing the mediator-Work relationship beteen Internal environment of conflict and Financial performance the coefficient of the direct effect comes down from 0.6567 to 0.3139 but it remains statistically significant. In this case, the work relationship does not completely explain the reason for the relationship between the Internal environment of conflict and work relationship. Hence work relationship act as the partial mediator in the model.

#### 4.10.7 MAGNITUDE OF CONFLICT

To test the hypothesis whether Work relationship mediates the relationship between Magnitude of conflict and Financial performance, Preacher and Hayes (2004) bootstrapping test is used by using SPSS process macros of Andrew Hayes. The output of the SPSS test result is given in Annexure IV and the summary of the critical results are highlighted graphically in figure 4.13

# Figure 4.16 Work relationship as a mediator between Magnitude of

**Conflict and Financial performance** 



As per Baron and Kenny (1986), the first condition of mediation is fulfilled as the coefficient of Independent variable (Magnitude of conflict) influencing the Dependent variable (financial performance) without mediator is -0.5782 and it is statistically significant. Moreover, the coefficient of the indirect variable (Magnitude of conflict) affecting the Mediating variable (Work relationship) is -1.1128 and the co-efficient of Mediating variable (Magnitude of conflict) affecting the dependent variable (Financial performance) is 0.4530 and both the values are statistically significant. After introducing the mediator-Work relationship between Magnitude of conflict and Financial performance the coefficient of the direct effect comes down -0.5782 to -0.0741 and it becomes statistically insignificant. The work relationship completely explains the reason for the relationship between Cognitive conflict and work relationship. Hence work relationship act as the full mediator in the model.

#### 4.11 HYPOTHESIS TESTING RESULTS

The hypothesised model involving different variables predicting the work relationship and financial performance is validated and established as out of 9 hypothesis from H1 to H9, 7 hypothesis was proved and there is a significant impact or relationship between the variables under study. Only H1 is not significant which can be theoretically justified as the process conflict is a type pf conflict which is in between cognitive conflict and affective conflict. It neither has any positive impact on work relationship nor it has any negative impact on the same. Whether process conflict creates any significant positive impact or negative impact is all dependent on the situation or scenario.

Other tests like one way ANOVA and independent sample t test were also performed to test the hypothesis, which also gave a positive result and all the three hypotheses from H10 to H12 was proved and it was found that there is a significant relationship.

The strength of the impact of selected demographic variables on work relationship satisfaction was also performed. Though all the three independent variables were having a significant impact, comparatively multiple distributorships are having the higher impact than age and region of the distributor. Hence it can be concluded that the multiple distributorships play the most important role in deciding the work relationship satisfaction between the pump manufacturer and distributor. After multiple distributorships, region contributes the maximum share of work relationship satisfaction followed by age of the distributor.

# **CHAPTER V**

# SUMMARY OF FINDINGS AND IMPLICATIONS

### **CHAPTER V**

## SUMMARY OF FINDINGS AND IMPLICATIONS

In this chapter, the gist of major finds of the research and its managerial implications for the practitioners is given. It also highlights the benefits that academicians and researchers can derive from this research work. Finally limitations and future directions of the study with a conclusion note is provided which may be beneficial to practitioners, academicians, and researchers.

### **5.1 GIST OF MAJOR FINDINGS**

The research is the first of its kind which has studied the current state of work relationship between manufacturer and distributor in the Indian context by using SEM. With the usage of SEM, we have generalised the finding as the sample data fits into the hypothesised model. The reliability and validity of the data were tested already before performing any statistical test so there is no issue with the applicability of the quality of the data for analysis. Some of the major finds of the study are given below.

Process conflict on its own does not have any positive or negative influence on the work relationship satisfaction between manufacturer and distributor. It is the context which decides that whether the process conflict will have a positive influence or negative influence. The two context that has been considered for the studies is the magnitude of conflict and internal environment of conflict.

In general, Cognitive conflict positively affects work relationship satisfaction between manufacturer and distributor. In this type of conflict, context does not play a major role which will decide whether a conflict will be functional dysfunctional.

In most of the case affective conflict on its own, negatively affects work relationship satisfaction between manufacturer and distributor. In this type of conflict also context does not play a major role which will decide whether a conflict will be functional dysfunctional.

The magnitude of conflict i.e. the level and frequency of conflict negatively impact work relationship satisfaction between manufacturer and distributor. If the level of conflict and the frequency of conflict is high, it will result in lower work relationship satisfaction experienced by both the channel members.

The internal environment of conflict including trust, communication, and commitment positively influence work relationship satisfaction between manufacturer and distributor. The output result shows that higher level commitment shown by the channel member is the result of a higher level of trust and communication shared by the manufacturer and distributor.

Work relationship positively influences financial performance. Majority of the variance in financial performance is explained by work relationship. Hence work relationship act as the mediator between channel conflict and financial performance by the manufacturer and distributor. To summarise the findings it can be said that various dimensions of conflict including the types of conflict, the magnitude of conflict and internal environment of conflict significant affect work relationship satisfaction between manufacturer and distributor. This work relationship satisfaction, in turn, affects the financial performance of the manufacturer and distributor. This is the major finding for which hypothesis was framed and tested using various statistical techniques using AMOS and SPSS.

Apart from the above major finds which are based on SEM, there are other findings that support the objective of the study is given below.

- There is a significant positive influence of Work relationship on Financial performance
- There is a significant relationship between Process conflict and Cognitive conflict
- There is a significant relationship between Cognitive conflict and Affective conflict
- There is a significant relationship between Process conflict and Affective conflict
- There is a significant difference in the work relationship satisfaction among the industrial pump distributors working across different regions of the country.
- There is a significant difference in the work relationship satisfaction among the industrial pump distributors having different age of relationship between their manufacturers.

- There is a significant difference in the work relationship satisfaction among different groups of industrial pump distributors where other distributors are present in the same territory.
- There is a significant impact of distributor's regions on work relationship satisfaction.
- There is a significant impact of distributor's age of relationship with their manufacturer on work relationship satisfaction.
- There is a significant impact of the presence of multiple distributors in the distributor's territory on work relationship satisfaction.

## **5.2 PRACTICAL IMPLICATIONS OF THE STUDY**

The findings of the study have given certain critical conclusive results and its managerial implications.

The outcome of the study concludes that among all the dimensions of conflict, Cognitive Conflict i.e. Objective specific conflict is having the highest impact on the work relationship satisfaction, followed by Magnitude of conflict which is also having a significant negative impact on the work relationship satisfaction. Hence we recommend to the senior managers of both the manufacturer and distributor to have a cognitive conflict with less magnitude so that it can be functional conflict resulting in healthier channel relationship and better channel performance.

The study also reveals that affective conflict is one type of conflict that both manufacturer and distributor has to avoid as it significantly negatively influences work relationship satisfaction. More over, affective conflict is positively related with the magnitude of conflict and negatively related with the internal environment of conflict. So naturally, channel members who experience affective conflict will have a higher level of clashes and low atmosphere of trust, communication and commitment between them which eventually hampers their work relationship satisfaction.

Though there is no significant influence of process conflict on work relationship, it does not mean that process conflict should be out of the study as it signifies that the context of the conflict is equally important like the type of conflict which will decide whether the conflict results in a positive or negative outcome. Since the internal environment of conflict positively influences work relationship and magnitude of conflict negatively influence work relationship, it signifies that process conflict with a low level of magnitude of conflict and high level of the internal environment of conflict positively affects work relationship satisfaction between the channel members. Hence, the channel members have to focus on the context including the magnitude of conflict and internal environment of conflict along with the type of conflict.

In the study of conflict management and the impact of conflict management on channel's financial performance, work relationship between the manufacturer and distributor cannot be ignored as it mediates the relationship between channel conflict and channel's financial performance. Hence work relationship plays a crucial role in the channel conflict management. Therefore both manufacturer and distributor who want to gain positive outcome in terms of sales and profit from channel conflict, need to focus on improving the work relationship between them.

#### 5.3 LIMITATIONS AND FUTURE SCOPE OF THE STUDY

Like in any research study, the present research is having few limitations. Firstly, the measurement of various dimensions of conflict is been done only related to manufacturer and distributor in distributors Perspective. Ideally, these crucial variables should have been measured from manufacturer and distributor separately and then compare it for analysis. Due to limited access to the manufacturers of Indian Pump Industry, target segment has been restricted only to Indian pump distributor.

Secondly, the study can be generalised only to channel work relationship and not to another form of work relationship like the one exists between employer and employee as the context and perceived definition of critical variables differ.

At present, the research is undertaken only among distributors of industrial pumps. In fact compared to the industrial sector, agriculture and domestic sectors are highly fragmented with lack of scientific planning and research. So the need to conduct this type of research is more in the other sectors. Hence this study can be extended to agriculture and domestic sectors of the pump industry in future.

Three major factors including the type of conflict, the magnitude of conflict and internal environment of conflict have been identified as the factors influencing work relationship. In reality, there may be other important factors like past experience, next best alternative etc also has equal impact on work relationship but only three major factors were considered so that the research is focused only on the impact of conflict and its related variables on work relationship. However, it is strongly recommended to carry out research on other important variables influence on work relationship to get a holistic view of the factors influencing work relationship and channel performance.

Only the direct influence of various dimensions of conflict on work relationship and channel performance has been studied using SEM by AMOS 20. In future, both mediation and moderation effect of conflicts on work relationship and channel performance can be studied as it would be entirely a new area of study. Some of the variables like process conflict which does not have any significant individual impact on work relationship can be analysed in terms of moderation effect along with the magnitude of conflict and internal environment of conflict.

The research work and its approach can be incorporated in other similar industry like valve industry as there is a close similarity between both the industries in terms of technical features and mutual dependence of channel members to achieve the sales target. The sample data can be checked whether it fits into the hypothesised model or not.

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### **5.4 CONCLUSION**

Manufacturers and distributors work together as one entity to serve the customer. Though they both have a common goal to meet the growing demands of the customers, conflict arises between them for so many reasons when they work together. The research reiterates the work done by previous researchers in the area of conflict management that conflict need not be seen in a negative connotation. Not all type of the types of conflicts is neither good nor bad. It depends on the context, environment, magnitude and the perception of the other channel members which decides whether the conflict is functional conflict or dysfunctional. Functional conflict results in a positive outcome which has its positive impact on the working relationship and channel performance. Dysfunctional conflict results in a negative outcome which has its negative impact on the work relationship and channel performance.

Managing the channel conflict to improve work relationship and financial performance in the context of the Indian pump industry is relatively a new area of research. It will definitely help both the manufacturers and distributors as a conflict between them is an everyday affair and it is a part and parcel of their business. Being a target driven industry having a market potential of more than 10,000 crores, channel members are interested in bringing a conducive environment in their organisation which can improve their work relationship and boosts sales. Moreover, with the emergence of many multinational pump manufacturers with growing export sales of pumps, focusing on better work relationship between indigenous manufacturer and

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distributor is the need of the hours for the highly fragmented Indian pump industry.

It also helps the academicians as it opens the doors of new variables for work relationship. The research also provides the close link between various dimensions of conflict and work relationship. The proposed hypothesised model is proven by checking the fitness of the sample data by using SEM technique. It will definitely help the academicians and researchers who want to work in the area of conflict management and work relationship.

## BIBLIOGRAPHY

Anderson, James C. and James A. Narus (1984), "A Model of the Distributor's Perspective of Distributor-Manufacturer Working Relationships," *Journal of Marketing*, 48 (Fall), pp 62-74.

Anderson, J.C. and Gerbing D.W. (1988): Structural Equation Modeling in Practice: A Review and Recommended Two - Step Approach. *Psychological Bulletin*, 103, 411-423.

Anderson, James and James Narus (1990), "A Model of the Distributor's Perspective of Distributor-Manufacturer Working Relationships," *Journal of Marketing*, 54 (January): 42-58

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, 39(1), 123-148.

Anderson, Erin and Barton A. Weitz (1992), "The Use of Pledges to 'Build and Sustain Commitment in Distribution Channels." *Journal of Marketing Research*, 29 (February), 18-34.

A. B. (2011). A study of effectiveness of distribution function in white goods industry. Retrieved April 18, 2018, from http://hdl.handle.net/10603/7856

Atish Mukhopadhyaya and Anirudh Reddy (2012).Pumping up demand. *Manufacturing Today*, 2012 Pg 40-43.

Bambacas, M., and Patrickson, M. (2008). Interpersonal communication skills that enhance organizational commitment. *Journal of Communication Management*, 12 (1), 51-72.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51, 1173–1182.

Bentler, P. M., & Bonett (1980). Signi®cance tests and the analysis of goodness of ®t in the analysis of covariance structures. Psychological Bulletin, 88, 588-606.

Brace, N, Kemp, R & Snelgar, R (2006). *SPSS for psychologists* (3rd edition). Lawrence Erlbaum: London.

Byrne, B. M. (2010). *Structural equation modeling with Amos: Basic concepts, applications, and programming* (2nd ed.).New York, NY: Taylor & Francis Group.

Claro, D. P., De Oliveira Claro, P. B., & Zylbersztajn, D. (2005). Relationship marketing strategies: When buyer and supplier follow different strategies to achieve performance. Retrieved January 25, 2018, from http://www.scielo.br/pdf/rac/v9nspe2/v9nesp2a03.pdf

Coser, L. A. (2005). The Functions of Social Conflict. Retrieved April 22, 2018, from https://markmcpeak.wordpress.com/2016/01/17/the-functions-of-social-conflict-by-lewis-coser/

D. N. Joanes and C. A. Gill, "Comparing Measures of Sample Skewness and Kurtosis," Journal of the Royal Statistical Society (Series D): The Statistician, Vol. 47, No. 1, 1998, pp. 183-189. doi:10.1111/1467-9884.00122

De Ridder, Jan A. (2006). Organizational communication and supportive employees. *Human Resource Management Journal*, 14 (3), 20–30.

De Wit, F.R., Greer, L.L. and Jehn, K.A. (2012), "The paradox of intragroup conflict: a meta-analysis", *Journal of Applied Psychology*, Vol. 97 No. 2, pp. 360-390.

Dickinson, J. B. (2013). An examination of multi-dimensional channel conflict: A proposed experimental approach. *Journal of Behavioral Studies in Business*, 6(October), 1-26.

E. Fehr, U. Fischbacher, B.v. Rosenbladt, J. Schupp, and G. Wagner, A nation-wide laboratory Examining trust and trustworthiness by integrating

experiments in representative surveys, *Schmollers Jahrbuch* 122 (2002) pp. 519-542.

Easterbrook S.M., Beck E.E., Goodlet J.S., Plowman L., Sharples M., Wood C.C. (1993) A Survey of Empirical Studies of Conflict. In: Easterbrook S. (eds) CSCW: Cooperation or Conflict?. *Computer Supported Cooperative Work*. Springer, London

Fang, W., Sinkovics, R. R., Cavusgil, S., & Roath, A. S. (2007). Overcoming Export Manufacturers' Dilemma in International Expansion. *Journal of International Busines Studies*, 38(2), 283-302.

Fontenot, R., Vlosky, R. P., Wilson, E., & Wilson, D. (1997). Effect of buyerseller relationship structure on firm's performance. Retrieved on April 18, 2018, from

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.199.2700&rep=rep 1&type=pdf

F. E., & W. J. (1976). The role of industrial distributor in marketing strategy. *Journal of Marketing*, 40(July), 10-16

Gaskin, J. (2012). Stats Wiki and Stats Tools Package. Retrieved on July 19,2018 from http://statwiki.kolobkreations.com/

Guetzkow, H. (Ed.). (1962). Simulation in social science. Englewood Cliffs, NJ: Prentice Hall.

Gattorna, J. (1978). Channels of Distribution Conceptualisations: A State-of-theArt Review. *European Journal of Marketing*, 12(7), 471-512.

Glaeser, Edward, David Laibson, Josè A. Scheinkman and Christine L. Soutter (2000), "Measuring Trust," *Quarterly Journal of Economics* 115(3): 811-846.

Gefen, D., Straub, D. W., and Boudreau, M.-C. 2000. "Structural Equation Modeling and Regression: Guidelines for Research Practice,"

Communications of the Association for Information Systems (4:7), pp. 1-70.

Gopinath, C., & Becker, T. E. (2000). Communication, procedural justice, and employee attitudes: relationships under conditions of divestiture. *Journal of Management*, 26, 63–83.

Ha, J., Karande, K., & Singhapakdi, A. (2004). Importers' relationships with exporters: does culture matter? *International Marketing Review*, 21(4/5), 447-461.

Harry S., & Dennis, III. (2006). Communication climate: How's the 'weather' in your. BizTimes.com. *Milwaukee and Southeastern Business Week*, October 12, 2006.

Hair, J. F., Ringle, C. M., Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *The journal of Marketing Theory and practice*, 19(2), 139-152.

Hu, L.T. and Bentler, P.M. (1999), "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives," Structural Equation Modeling, 6 (1), 1-55.

IPG Report Card Update (2002) retrieved from http://www.indusperfgrp.com/ReportCard.pdf

MacCallum, R.C., Browne, M.W., and Sugawara, H., M. (1996), "Power Analysis and Determination of Sample Size for Covariance Structure Modeling," Psychological Methods, 1 (2), 130-49.

Market research of agricultural pump sets industry of India. (2014). Retrieved April 1, 2018, *from http://shaktifoundation.in/wp-content/uploads/2014/02/* 

Mohr, J., & Spekman, R. (1994). Characteristics of Partnership Success: Partnership Attributes, Communication Behavior, and Conflict Resolution Techniques. *Strategic Management Journal*, *15*(2), 135-152. Retrieved from http://www.jstor.org/stable/2486868

Jackson, D. L. (2001). Sample size and number of parameter estimates in maximum likelihood confirmatory factor analysis: A Monte Carlo investigation. *Structural Equation Modeling*, 8, 205–223.

Jehn, K.A., Northcraft, G.B., & Neale, M.A. (1999). Why differences make a difference: A field study of diversity, conflict, and performance in workgroups. *Administrative Science Quarterly*, 44, 741–763.

Jehn, K.A. (1995), "A multimethod examination of the benefits and detriments of intragroup conflict", *Administrative Science Quarterly*, Vol. 40 No. 2, pp. 256-282

Jehn, K.A. and Mannix, E.A. (2001), "The dynamic nature of conflict: a longitudinal study of intragroup conflict and group performance", *Academy of Management Journal*, Vol. 44 No. 2, pp. 238-51

Jehn, K.A. and Bendersky, C. (2003), "Intragroup conflict in organizations: a contingency perspective on the conflict-outcome relationship", *Research in Organizational Behavior*, Vol. 25, pp. 187-242.

Kahn, K.B., Richard, C. R., Joseph, O., (2004), Sales– distribution interfunctional climate and relationship effectiveness. *Journal of Business Research*, 57: 1085-1091.

Kenny, D. A., Kashy, D., & Bolger, N. (1998). Data analysis in social psychology. In D. Gilbert, S.Fiske, and G. Lindzey (Eds.), Handbook of social psychology (4th ed., pp. 233-265). New York: McGraw-Hill.

Kerlinger, F.N., and H.B. Lee, 2000. Foundations of behavioral research (4th ed.). *Holt, NY: Harcourt College Publishers*.

Kim, K. (2000). On interfirm power, channel climate, and solidarity in industrial distributor supplier dyads. *Journal of the Academy of Marketing Science*, 28:3, 388--405.

Kim, P.H., Ferrin, D.L., Cooper, C.D. and Dirks, K.T. (2004), "Removing the shadow of suspicion: the effects of apology versus denial for repairing competence- versus integrity-based trust violations", *Journal of Applied Psychology*, Vol. 89 No. 1, pp. 104-18

Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling* (2nd ed.). *New York:* Guilford. Korsgaard, A.M., Brodt, S.E. and Whitener, E.M. (2002), "Trust in the face of conflict: the role of managerial trustworthy behavior and organizational context", *Journal of Applied Psychology*, Vol. 87 No. 2, pp. 312-9.

Kotler, P., & Keller, K. L. (2016.). *Marketing Management* (15th ed.). Noida: *Person Education Limited.* 

Kunnan, A. J. 1998. An introduction to structural equation modelling for language assessment research. *Language Testing*, 15: 295–332.

Linn, R.L., N.E. Grondlund. (2000). *Measurement and Assessment In Teaching*. Eighth edition. *New Jersey: Merril an imprint of Prentice Hall*.

Luk, S. T. (1997). Structural changes in China's distribution system. International Journal of Physical Distribution & Logistics Management, 28(1), 44-67.

Meyer, J. P., and Allen, N. J. (1991) 'A Three-Component Conceptualization of Organizational Commitment', *Human Resource Management Review*, 1, 61-89.

March, J.G. and Simon, H.A. (1958) Organizations. Wiley, New York.

Moorman, C., G. Zaltman, and R. Deshpandé. (1992), "Relationships between providers and users of market research: The dynamics of trust within and between organizations". *Journal of Marketing Research*, 29(3), pp 314–29.

Mukhopadhyaya, A., & Reddy, A. (2012). Pumping up demand. *Manufacturing Today, May*, 40-43.

Nunnally, J. C (1978). *Psychometric theory* (2<sup>nd</sup> ed.) New Yorl: McGraw-Hill

O' Leary-Kelly, S. W., & J Vokurka, R (1998). The empirical assessment of construct validity. *Journal of Operation management* 

Paol et al. (2007).Understanding Trust retrieved from http://www.nber.org/papers/w13387.pdf

Pumps market in India 2015 - 2019(Aug ed., Rep.). (2016). US: Technavio.

Pelled, L.H., Eisenhardt, K.M. and Xin, K.R. (1999), "Exploring the black box: an analysis of work group diversity, conflict and performance", *Administrative Science Quarterly*, Vol. 44 No. 1, pp. 1-28.

Peterson, R.S. and Behfar, K.J. (2003), "The dynamic relationship between performance feedback, trust, and conflict in groups: a longitudinal study", *Organizational Behavior and Human Decision Processes*, Vol. 92 Nos 1/2, pp. 102-12.

Prusak, L. (2001), "Where did knowledge management come from?", *IBM Systems Journal*, Vol. 40 No. 4, pp. 1002-6.

Preacher, Kristopher J.; Hayes, Andrew F. (2004). "SPSS and SAS procedures for estimating indirect effects in simple mediation models". Behavior Research Methods, Instruments, and Computers. **36** (4): 717– 731. doi:10.3758/BF03206553.

Preacher, K. J., & Kelley, K. (2011). Effect size measures for mediation models: Quantitative strategies for communicating indirect effects. Psychological Methods.

Rachid Zeffane, Syed A Tipu and James C Ryan (2011). Communication, Commitment & Trust: Exploring the Triad. *International Journal of Business and Management* Vol. 6, No. 6; June 2011 Pg-77-87

Rajasekaran, R., & Krupa, M. E. (2013). Global Marketing- A Study with Reference To Motor Pumps in Coimbatore City, India. *Global Journal of Management and Business Studies*, 3(6), 565-572.

Ranade, S., & Shivani, Y. (2015). Indian pump and value industry: Time to go global. *Chemical Engineering World*, (January), 40-42.

Roberts, K., and O'Reilly, C. (1974). Measuring organizational communication. *Journal of Appllied Psychology*, 59 (3), 321-326.

Rosli, M., and Hussein, A. (2008). Communication Climate and Organizational Performances, Paper presented to the Eighth International Conference on Knowledge, Culture & Changes in Organizations, 5-8 August 2008. Cambridge University (UK).

Rungtusanatham, M., Forza, C., Filippini, R., & Anderson, J.C. (1998). A replication study of a theory of quality management underlying the deming management method, insights from an Italian context. *Journal of operations Management*, *17*(*1*), *77-95*.

Ruppel, C., and Harrington, S. (2000). The Relationship of Communication, Ethical Work Climate, and Trust to Commitment and Innovation. *Journal of Business Ethics*, 25(4), 313-328

Simons, T.L. and Peterson, R.S. (2000), "Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust", *Journal of Applied Psychology*, Vol. 85 No. 1, pp. 102-11.

Sashi, C. M. (2008). Conflict Resolution Strategies and Marketing Channel Relationships: Framework and Research Propositions. *The Journal of Global Business Management*. Retrieved April 25, 2018, from <u>http://www.jgbm.org/page/21 C. M. Sashi.pdf</u>

Saltzer, M. 2012. Implementing a multi-site maintenance excellence programme, *Maintenance & Engineering Journal*, 12(2), p 10.

Shipley, B. (2000). Cause and Correlation in Biology: A User's Guide to Path Analysis, Structural Equations and Causal Inference. *Cambridge, UK: Cambridge University Press.* 

Shah, C. J., & Kanodia, S. (2015). KSB Pumps (KSBPUM).Quarterly blip, long term growth story intact. Retrieved January 5, 2018, from *http://www.icicidirect.com/mailimages/IDirect\_KSBPumps\_Q4CY14.pdf* 

Shevlin, M., & Miles, J. N. V. (1998). Effects of sample size, model specification and factor loadings on the GFI in confirmatory factor analysis. Personality and Individual Differences, 25(1), 85-90.

Sheskin, D. (2011). Handbook of Parametric and Nonparametric Statistical Procedures. Boca Raton, FL: Chapman & Hall/CRC.

Stern, L. W., Sternthal, B., & Craig, C. S. (1973). : A Laboratory Study. *Journal of Marketing Research*, 10, 169-179.

Stevenson, W. B., & Gilly, M. C. (1991). Information processing and problem solving: The migration of problems through formal positions and networks of ties. *Academy of Management Journal*, 34 (3), 918–928.

Tabachnick, B. G., & Fidell, L. S. (1996). Using Multivariate Statistics (3rd ed.). New York: Harper Collins.

Thomas, K.W. (1992). Conflict and negotiation processes in organizations, in Handbook of industrial and organizational psychology, *Marvin D. Dunnette*, ed. 2nd edition, Vol. 3. Palo Alto, CA: Consulting Psychologists Press, 651-717

Tidd, S.T., McIntyre, H.H. and Friedman, R.A. (2004), "The importance of role ambiguity and trust in conflict perception: unpacking the task conflict to relationship conflict linkage", *The International Journal of Conflict Management*, Vol. 15 No. 4, pp. 364-80

Toothacker, L. E. (1993). Multiple comparisons procedures. Newbury Park, CA: Sage Publications.

Tyler, H., and Doerfel, M. (2006). Competitive and cooperative conflict communication climates: The influence of ombuds processes on trust and commitment to the organization. *International Journal of Conflict Management*, 17(2), 129 – 153

Tjosvold, D. (2008), "The conflict-positive organization: it depends upon us", *Journal of Organizational Behavior*, Vol. 29 No. 1, pp. 19-28.

Van Vuuren, M., de Jong, M., and Seydel, E. (2007). Direct and indirect effects of supervisor communication on organizational commitment. Corporate Communications: *An International Journal*, 12 (2), 116-128.

Van den Hoff, B., and de Ridder, J. (2004). Knowledge sharing in context: the influence of organizational commitment, communication 8 (6), 117-130.

V. K., M. M., & K. K. (2012). Distribution Channels Conflict and Management. *Business Management & Social Sciences Research (JBM&SSR)*, 1(October).

Wall, V.D. and Nolan, L.L. (1986), "Perceptions of inequity, satisfaction, and conflict in task-oriented groups", *Human Relations*, Vol. 39 No. 11, pp. 1033-1051.

Webster, Frederick (1976), "The Role of Industrial Distributor in Marketing Strategy", *Journal of Marketing*, 40 (July), 10-6.

Welch, M., and Jackson, P. (2007). Rethinking internal communication: a stakeholder approach. *Corporate Communications: An International Journal*, 12(2), 177–198

# ANNEXURE I QUESTIONNAIRE

## SURVEY ON WORK RELATIONSHIP BETWEEN PUMP MANUFACTURER AND DISTRIBUTOR

Dear Sir/Madam

Good Day! As a part of my Ph.D. thesis, I welcome you to participate in a short survey of Industrial Pump Distributors to know the current state of work relationship between your Pump Manufacturer(Supplier) and you. The survey is meant for academic purpose only and it is not mandatory to provide any personal information to protect your identity.

1. In Channel driven Sales, Conflict between Manufacturer and Distributor in Work relationship is totally\_\_\_\_\_

- 1. Unavoidable
- 2. Avoidable

2. How frequent that you experience Conflict between you and your Pump Supplier

- 1. Never
- 2. Rarely
- 3. Sometimes
- 4. Most of the time
- 5. All of the time

3. What level of Conflict that you experience between you and your Pump Supplier when you are working together?

- 1. No Conflict at all
- 2. Minor Conflict
- 3. Medium Conflict
- 4. Major Conflict
| 4. P  | lease in  | dicate tl | he level  | of close  | eness in  | the wo    | rk relat | ionship   | that you sha | re  |
|---|---|-----------|-----------|-----------|-----------|-----------|----------|-----------|--------------|-----|
| witł  | the pu  | mp supp   | olier. (1 | -Lowest   | t 10-Hig  | ghest)    |          |           |              |     |
| 1   | 2   | 3         | 4         | 5         | 6         | 7         | 8        | 9         | 10           |     |
| 5. Please indicate the level of comfortness in the work relationship that you |   |           |           |           |           |           |          |           |              |     |
| shai  | e with t  | he pum    | p suppli  | ier. (1-L | lowest 1  | 10-High   | est)     |           |              |     |
| 1   | 2   | 3         | 4         | 5         | 6         | 7         | 8        | 9         | 10           |     |
|   |   |           |           |           |           |           |          |           |              |     |
| 6. H  | low muc   | ch are y  | ou satis  | fied wit  | h the w   | ork rela  | tionshi  | p betwe   | en you and   |     |
| you   | r Pump  | supplie   | r. (1-Lo  | west 10   | -Highes   | st)       |          |           |              |     |
| 1   | 2   | 3         | 4         | 5         | 6         | 7         | 8        | 9         | 10           |     |
| 7. P  | 7. Please rate the sales turnover of your pump manufacturer's product in your |           |           |           |           |           |          |           |              |     |
| com   | ipany (1  | -Lowes    | st; 10-H  | ighest)   |           |           |          |           |              |     |
| 1   | 2   | 3         | 4         | 5         | 6         | 7         | 8        | 9         | 10           |     |
|   |   |           |           |           |           |           |          |           |              |     |
| 8. P  | lease rat   | te the p  | rofit tha | t you ea  | arn by se | elling y  | our pun  | np manu   | ufacturer's  |     |
| proc  | luct in y   | our cor   | npany (   | 1-Lowe    | st; 10-F  | Highest)  |          |           |              |     |
| 1   | 2   | 3         | 4         | 5         | 6         | 7         | 8        | 9         | 10           |     |
| 9. H  | low muc   | ch you r  | ate the   | overall   | financia  | al perfor | mance    | of your   | Pump         |     |
| Mai   | nufactur  | er's Pro  | duct in   | your Pr   | oduct P   | ortfolio  | (1-Low   | vest; 10- | - Highest)   |     |
| 1   | 2   | 3         | 4         | 5         | 6         | 7         | 8        | 9         | 10           |     |
|   |   |           |           |           |           |           |          |           |              |     |
| 10.   | Indicate  | the lev   | el of ag  | reemen    | t/disagro | ee for th | ne belov | v staten  | nent         |     |
| 0   | Statem  | ent       |           |           |           | Strong    | lyDisag  | ree       | Agree        | Str |

| No  | Statement                        | Strongl | yDisagre | 41       | Agree | Strongly |
|-----|----------------------------------|---------|----------|----------|-------|----------|
|     |                                  | Disagre | e (2)    | Neither  | Agfðe | Agree    |
|     |                                  | (1)     |          | nor Disa | igree | (5)      |
|     |                                  |         |          | (3)      |       |          |
| 10a | The healthier Work relationship  |         |          |          |       |          |
|     | between me and my Supplier is    |         |          |          |       |          |
|     | the prime reasons for increase   |         |          |          |       |          |
|     | /decrease in sales.              |         |          |          |       |          |
| 10b | My Pump Supplier fully relies on |         |          |          |       |          |

|     | my competence to achieve the       |  |  |  |
|-----|------------------------------------|--|--|--|
|     | sales target.                      |  |  |  |
| 10c | I fully rely on my Pump Supplier   |  |  |  |
|     | cooperation and support to achieve |  |  |  |
|     | the sales target                   |  |  |  |
| 10d | In general, I trust my pump        |  |  |  |
|     | supplier while dealing with him    |  |  |  |
| 10e | My Pump Supplier shares sales      |  |  |  |
|     | lead, Project information that is  |  |  |  |
|     | available with him                 |  |  |  |
| 10f | I Share information related to     |  |  |  |
|     | Market like end user contact       |  |  |  |
|     | details, Project details that are  |  |  |  |
|     | available with me to my Pump       |  |  |  |
|     | Supplier                           |  |  |  |
| 10g | In general, my pump supplier       |  |  |  |
|     | shares quality information which   |  |  |  |
|     | is useful to the business.         |  |  |  |
| 10h | My Pump Supplier shows a high      |  |  |  |
|     | level of Commitment by giving      |  |  |  |
|     | pricing support, Support for       |  |  |  |
|     | warranty, Joint Visits etc         |  |  |  |
| 10i | I am ready to invest more money    |  |  |  |
|     | in my business if my Pump          |  |  |  |
|     | Supplier asks to do so             |  |  |  |

11. Please indicate the level of agreement/disagree for the below statements relating to the conflict that prevails between you and your pump supplier?

| No  | Statement              | Strongly | Disagree |               | Agree | Strongly |
|-----|------------------------|----------|----------|---------------|-------|----------|
|     |                        | Disagree | (2)      | Neither Agree | (4)   | Agree    |
|     |                        | (1)      |          | nor Disagree  |       | (5)      |
|     |                        |          |          | (3)           |       |          |
| 11  |                        |          |          |               |       |          |
| 11a | we only fight          |          |          |               |       |          |
|     | regarding the Target   |          |          |               |       |          |
|     | and plans to achieve   |          |          |               |       |          |
|     | the same.              |          |          |               |       |          |
| 11b | We debate on our       |          |          |               |       |          |
|     | difference in opinion  |          |          |               |       |          |
|     | in achieving the       |          |          |               |       |          |
|     | target.                |          |          |               |       |          |
| 11c | Our fights are related |          |          |               |       |          |
|     | only to numbers.       |          |          |               |       |          |
| 11d | We have tension        |          |          |               |       |          |
|     | concerning, who is     |          |          |               |       |          |
|     | responsible for what   |          |          |               |       |          |
|     | to complete the task.  |          |          |               |       |          |
| 11e | We have friction       |          |          |               |       |          |
|     | related to the         |          |          |               |       |          |
|     | distribution of task   |          |          |               |       |          |
|     | among us               |          |          |               |       |          |
| 11f | We have                |          |          |               |       |          |
|     | controversies          |          |          |               |       |          |
|     | concerning the         |          |          |               |       |          |
|     | process that we        |          |          |               |       |          |
|     | follow to achieve the  |          |          |               |       |          |
|     | target                 |          |          |               |       |          |
| 11g | At times We blame      |          |          |               |       |          |
|     | each other's personal  |          |          |               |       |          |
|     | 1 · · · ·              |          |          |               |       |          |

|     | in competencies for   |  |  |  |
|-----|-----------------------|--|--|--|
|     | not achieving the     |  |  |  |
|     | target.               |  |  |  |
| 11h | There were instances  |  |  |  |
|     | when my pump          |  |  |  |
|     | supplier verbally     |  |  |  |
|     | scolded me on my      |  |  |  |
|     | personal              |  |  |  |
|     | incompetence.         |  |  |  |
| 11i | My pump supplies      |  |  |  |
|     | send me stinker mails |  |  |  |
|     | on my incompetence.   |  |  |  |

12. Is your Pump Supplier having any other distributor to handle the Territory/Sector that is assigned to you?

- 1. Yes
- 2. No

13. Which type of pump sells the most in your product portfolio?

- 1. Centrifugal Pumps
- 2. Non Centrifugal Pumps like Gear Pump, Screw Pump, Diaphragm pump etc
- 3. Both
- 14. For how long you are associated with the Pump supplier?
  - 1. Less than 3 Years
  - 2. 3 to 6 Years
  - 3. 6 to 9 years
  - 4. More than 9 Years

15. Please indicate the region that your company is having its main office

- 1. East & Central
- 2. West
- 3. North
- 4. South

16. Personal Information (Optional)

Name:

Designation

Contact No:

Contact Email:

Organisation:

Your Pump Supplier(s):

Type of Pumps that you sell:

No of Employees:

Turn Over:

## **ANNEXURE II**

### AMOS Model Fit output for CFA

### CMIN

| Model              | NPAR | CMIN     | DF  | Р    | CMIN/DF |
|--------------------|------|----------|-----|------|---------|
| Default model      | 59   | 311.697  | 131 | .000 | 2.379   |
| Saturated model    | 190  | .000     | 0   |      |         |
| Independence model | 19   | 5503.487 | 171 | .000 | 32.184  |

# RMR, GFI

| Model              | RMR  | GFI   | AGFI | PGFI |
|--------------------|------|-------|------|------|
| Default model      | .066 | .901  | .852 | .619 |
| Saturated model    | .000 | 1.000 |      |      |
| Independence model | .944 | .260  | .178 | .234 |

# **Baseline Comparisons**

| M                  | NFI    | RFI  | IFI    | TLI  | CEL   |
|--------------------|--------|------|--------|------|-------|
| Iviodei            | Delta1 | rhol | Delta2 | rho2 | CFI   |
| Default model      | .943   | .926 | .966   | .956 | .966  |
| Saturated model    | 1.000  |      | 1.000  |      | 1.000 |
| Independence model | .000   | .000 | .000   | .000 | .000  |

### **Parsimony-Adjusted Measures**

| Model              | PRATIO | PNFI | PCFI |
|--------------------|--------|------|------|
| Default model      | .766   | .723 | .740 |
| Saturated model    | .000   | .000 | .000 |
| Independence model | 1.000  | .000 | .000 |

# NCP

| Model              | NCP      | LO 90    | HI 90    |
|--------------------|----------|----------|----------|
| Default model      | 180.697  | 132.887  | 236.214  |
| Saturated model    | .000     | .000     | .000     |
| Independence model | 5332.487 | 5093.526 | 5577.793 |

### FMIN

| Model              | FMIN   | F0     | LO 90  | HI 90  |
|--------------------|--------|--------|--------|--------|
| Default model      | 1.194  | .692   | .509   | .905   |
| Saturated model    | .000   | .000   | .000   | .000   |
| Independence model | 21.086 | 20.431 | 19.515 | 21.371 |

## RMSEA

| Model              | RMSEA | LO 90 | HI 90 | PCLOSE |
|--------------------|-------|-------|-------|--------|
| Default model      | .073  | .062  | .083  | .000   |
| Independence model | .346  | .338  | .354  | .000   |

## AIC

| Model              | AIC      | BCC      | BIC      | CAIC     |
|--------------------|----------|----------|----------|----------|
| Default model      | 429.697  | 439.490  | 640.229  | 699.229  |
| Saturated model    | 380.000  | 411.535  | 1057.985 | 1247.985 |
| Independence model | 5541.487 | 5544.641 | 5609.286 | 5628.286 |

## ECVI

| Model              | ECVI   | LO 90  | HI 90  | MECVI  |
|--------------------|--------|--------|--------|--------|
| Default model      | 1.646  | 1.463  | 1.859  | 1.684  |
| Saturated model    | 1.456  | 1.456  | 1.456  | 1.577  |
| Independence model | 21.232 | 20.316 | 22.172 | 21.244 |

## HOELTER

| M- 4-1             | HOELTER | HOELTER |
|--------------------|---------|---------|
| Iviodei            | .05     | .01     |
| Default model      | 133     | 144     |
| Independence model | 10      | 11      |

### ANNEXURE III

# AMOS Model Fit output for SEM

### CMIN

| Model              | NPAR | CMIN     | DF  | Р    | CMIN/DF |
|--------------------|------|----------|-----|------|---------|
| Default model      | 50   | 348.285  | 140 | .000 | 2.488   |
| Saturated model    | 190  | .000     | 0   |      |         |
| Independence model | 19   | 5503.487 | 171 | .000 | 32.184  |

#### RMR, GFI

| Model              | RMR  | GFI   | AGFI | PGFI |
|--------------------|------|-------|------|------|
| Default model      | .101 | .900  | .846 | .653 |
| Saturated model    | .000 | 1.000 |      |      |
| Independence model | .944 | .260  | .178 | .234 |

### **BASELINE COMPARISONS**

| Model              | NFI<br>Delta1 | RFI<br>rhol | IFI<br>Delta2 | TLI<br>rho2 | CFI   |
|--------------------|---------------|-------------|---------------|-------------|-------|
| Default model      | .937          | .923        | .961          | .952        | .961  |
| Saturated model    | 1.000         |             | 1.000         |             | 1.000 |
| Independence model | .000          | .000        | .000          | .000        | .000  |

#### PARSIMONY-ADJUSTED MEASURES

| Model              | PRATIO | PNFI | PCFI |
|--------------------|--------|------|------|
| Default model      | .819   | .767 | .787 |
| Saturated model    | .000   | .000 | .000 |
| Independence model | 1.000  | .000 | .000 |

# NCP

| Model              | NCP      | LO 90    | HI 90    |
|--------------------|----------|----------|----------|
| Default model      | 208.285  | 157.207  | 267.053  |
| Saturated model    | .000     | .000     | .000     |
| Independence model | 5332.487 | 5093.526 | 5577.793 |

### FMIN

| Model              | FMIN   | F0     | LO 90  | HI 90  |
|--------------------|--------|--------|--------|--------|
| Default model      | 1.334  | .798   | .602   | 1.023  |
| Saturated model    | .000   | .000   | .000   | .000   |
| Independence model | 21.086 | 20.431 | 19.515 | 21.371 |

### RMSEA

| Model              | RMSEA | LO 90 | HI 90 | PCLOSE |
|--------------------|-------|-------|-------|--------|
| Default model      | .075  | .066  | .085  | .000   |
| Independence model | .346  | .338  | .354  | .000   |

# AIC

| Model              | AIC      | BCC      | BIC      | CAIC     |
|--------------------|----------|----------|----------|----------|
| Default model      | 448.285  | 456.584  | 626.703  | 676.703  |
| Saturated model    | 380.000  | 411.535  | 1057.985 | 1247.985 |
| Independence model | 5541.487 | 5544.641 | 5609.286 | 5628.286 |

# ECVI

| Model              | ECVI   | LO 90  | HI 90  | MECVI  |
|--------------------|--------|--------|--------|--------|
| Default model      | 1.718  | 1.522  | 1.943  | 1.749  |
| Saturated model    | 1.456  | 1.456  | 1.456  | 1.577  |
| Independence model | 21.232 | 20.316 | 22.172 | 21.244 |

### HOELTER

| M- 4-1             | HOELTER | HOELTER |  |
|--------------------|---------|---------|--|
| Iviodei            | .05     | .01     |  |
| Default model      | 127     | 137     |  |
| Independence model | 10      | 11      |  |

#### **ANNEXURE IV-Mediation Analysis output**

Matrix 1 Model: 1 Y : Financial Performance X : Cognitive Conflict M : Work Relationship Sample Size: 262 OUTCOME VARIABLE: Work Relationship Model Summary R-sq MSE F df1 R df2 p .4889 1.9870 248.7404 1.0000 260.0000 .6992 .0000 Model p LLCI ULCI coeff t se 3.4958 .2581 13.5430 .0000 2.9876 4.0041 Constant Cognitive conflict 1.0228 .0649 15.7715 .0000 .8951 1.1505 OUTCOME VARIABLE: Financial Performance Model Summary MSE F df1 R R-sq df2 p .4175 1.1996 92.8065 2.0000 259.0000 .6461 .0000 Model p LLCI ULCI coeff se t 3.1484 .2619 12.0205 .0000 2.6326 3.6641 Constant Cognitive Conflict .0739 .0705 1.0478 .2957 -.0649 .2127 .4326 .0482 8.9781 .0000 .3377 Work Relationship .5275

OUTCOME VARIABLE: Financial Performance Model Summary R R-sq MSE F df1 df2 p .4860 .2362 1.5668 80.3915 1.0000 260.0000 .0000 Model coeff se t p LLCI ULCI Constant 4.6607 .2292 20.3333 .0000 4.2094 5.1121 Cognitive Conflict .5164 .0576 8.9661 .0000 .4030 .6298 \*\*\*\*\*\*\*\*\*TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*\*\*\*\*\*\* Total effect of X on Y Effect se t p LLCI ULCI .5164 .0576 8.9661 .0000 .4030 .6298 Direct effect of X on Y Effect se t p LLCI ULCI .0739 .0705 1.0478 .2957 -.0649 .2127 Indirect effect(s) of X on Y: Effect BootSE BootLLCI BootULCI Work Relationship .4425 .0627 .3243 .5678 Model : 4 Y : FinMean X : Process Conflict M: Work Relationship

#### Sample

Size: 262

OUTCOME VARIABLE: Work Relationship Model Summary R R-sq MSE F df1 df2 p .0119 .0001 3.8875 .0366 1.0000 260.0000 .8483 Model coeff se t p LLCI ULCI constant 7.3868 .3294 22.4244 .0000 6.7382 8.0355 Process Conflict -.0218 .1140 -.1914 .8483 -.2462 .2026 OUTCOME VARIABLE: Financial Performance Model Summary R R-sq MSE F df1 df2 p .6460 .4173 1.1999 92.7344 2.0000 259.0000 .0000 Model coeff se t p LLCI ULCI constant 2.9921 .3135 9.5447 .0000 2.3748 3.6095 Process Conflict .0637 .0633 1.0067 .3150 -.0609 .1884 Work Relationship .4683 .0345 13.5924 .0000 .4005 .5362 OUTCOME VARIABLE: Financial Performance Model Summary R R-sq MSE F df1 df2 p

.0401 .0016 2.0480 .4188 1.0000 260.0000 .5181

#### Model

coeff se t p LLCI ULCI constant 6.4517 .2391 26.9837 .0000 5.9809 6.9225 ProcessM .0535 .0827 .6471 .5181 -.1093 .2164 Total effect of X on Y Effect se t p LLCI ULCI .0535 .0827 .6471 .5181 -.1093 .2164 Direct effect of X on Y Effect se t p LLCI ULCI .0637 .0633 1.0067 .3150 -.0609 .1884 Indirect effect(s) of X on Y: Effect BootSE BootLLCI BootULCI WorkRelM -.0102 .0544 -.1194 .0934 Matrix 2 Model: 4 Y : Financial Performance X : Affective Conflict M: Work Relationship Sample

Size: 262 OUTCOME VARIABLE: Work Relationship

Model Summary

R R-sq MSE F df1 df2 p .4148 .1720 3.2191 54.0273 1.0000 260.0000 .0000 Model coeff se t p LLCI ULCI Constant 8.6121 .2069 41.6308 .0000 8.2047 9.0194 Affective Conflict -.5803 .0789 -7.3503 .0000 -.7357 -.4248 OUTCOME VARIABLE: Financial Performance Model Summary R R-sq MSE F df1 df2 p .6563 .4308 1.1721 98.0042 2.0000 259.0000 .0000 Model coeff se t p LLCI ULCI 2.5512 .3456 7.3816 .0000 1.8706 3.2318 Constant Affective Conflict .1403 .0524 2.6794 .0078 .0372 .2434 Work Relationship .5095 .0374 13.6150 .0000 .4358 .5832 OUTCOME VARIABLE: Financial Performance Model Summary R R-sq MSE F df1 df2 p .1529 .0234 2.0033 6.2248 1.0000 260.0000 .0132 Model coeff se t p LLCI ULCI 6.9392 .1632 42.5212 .0000 6.6178 7.2605 Constant

Affective Conflict -.1554 .0623 -2.4950 .0132 -.2780 -.0327 Total effect of X on Y Effect se t p LLCI ULCI -.1554 .0623 -2.4950 .0132 -.2780 -.0327 Direct effect of X on Y Effect se t p LLCI ULCI .1403 .0524 2.6794 .0078 .0372 .2434 Indirect effect(s) of X on Y: Effect BootSE BootLLCI BootULCI Work Relationship -. 2957 . 0574 -. 4144 -. 1889 Matrix 3 Model : 4 Y : FinMean X : Internal environment of conflict M : Work Relationship Sample Size: 262 OUTCOME VARIABLE: Work Relationship Model Summary R R-sq MSE F df1 df2 p

| .3586 | .1286 | 3.3881 | 38.3642 | 1.0000 | 260.0000 | .0000 |
|-------|-------|--------|---------|--------|----------|-------|

Model

coeff se t p LLCI ULCI constant 4.1942 .5186 8.0873 .0000 3.1730 5.2154 Internal .8187 .1322 6.1939 .0000 .5584 1.0789 environment of conflict OUTCOME VARIABLE: Financial Performance Model Summary R R-sq MSE F df1 df2 р .6680 .4462 1.1403 104.3529 2.0000 259.0000 .0000 Model coeff se t p LLCI ULCI 2.3259 .3366 6.9099 .0000 1.6630 2.9887 constant .3139 .0821 3.8219 .0002 .1522 .4757 Internal Work Relationship .4186 .0360 11.6350 .0000 .3478 .4895 OUTCOME VARIABLE: Financial Performance Model Summary R R-sq MSE F df1 df2 р .3960 .1568 1.7297 48.3471 1.0000 260.0000 .0000 Model coeff se t p LLCI ULCI constant 4.0816 .3706 11.0149 .0000 3.3519 4.8113 Internal .6567 .0944 6.9532 .0000 .4707 .8426 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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Total effect of X on Y se t p LLCI ULCI Effect .6567 .0944 6.9532 .0000 .4707 .8426 Direct effect of X on Y Effect se t p LLCI ULCI .3139 .0821 3.8219 .0002 .1522 .4757 Indirect effect(s) of X on Y: Effect BootSE BootLLCI BootULCI Work Relationship .3427 .0668 .2150 .4778 Matrix 4 Model : 4 Y : FinMean X : Magnitude of Conflict M: Work Relationship Sample Size: 262 OUTCOME VARIABLE: Work Relationship Model Summary R R-sq MSE F df1 df2 p .4740 .2247 3.0144 75.3535 1.0000 260.0000 .0000 Model coeff se t p LLCI ULCI 9.8789 .3128 31.5825 .0000 9.2629 10.4948 constant

-.5782 .0995 -5.8117 .0000 -.7741 -.3823 Direct effect of X on Y

Effect se t p LLCI ULCI -.0741 .0919 -.8064 .4207 -.2551 .1069

Indirect effect(s) of X on Y:

NOTE: Variables names longer than eight characters can produce incorrect output.

Shorter variable names are recommended.

----- END MATRIX -----

#### **ANNEXURE V-Publication and Paper Presentation Details**

#### **Details of Research Publications**

- Research paper on "A study on the impact of various dimensions of conflict in channel relationship and performance." is accepted for publication in IJPSPM (Indexed in SCOPUS, Listed in ABDC).
- Ameer Hussain A, Biranchi Narayan Swar and Rumna Bhattacharyya.(2016).Analysis of Inter-Relationship between Trust, Communication and Commitment and Its effect On Work Relationship and Performance: With Special Reference to Indian Pump Manufacturer and Distributor. *International Journal of Applied Business and Economic Research*.15 (2), 289-305. (SCOPUS Indexed journal)
- 3. Ameer Hussain A and Dr. Suresh chandra padhy. (2016).Consumer behaviour to purchase ecofriendly car in the city of pune and Aurangabad. *International Journal of Research in Computer Application & Management*. 7 (1), 1-6. (Ulrich's Periodicals Directory, ProQuest, EBSCO, Cabell's Directories, Google Scholar, Open J-Gage and Index Copernicus)
- Ameer Hussain A. (2016). A Study on Managing Conflict in Work Relationship between Manufacturer and Distributor. *IUJ Journal of Management*, 4 (1), 61-62 (UGC listed journal)

#### **Paper Presentations at International Conference:**

- 1. Symbiosis International Conference-SIMSARC 16
- 2. Symbiosis International conference- SIMSARC 17