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**Abstract**

This study examines the effects of task conflicts on innovative performance in start-ups. The start-ups that were studied were in Pakistan. Moreover, the mediating effect of ethical leadership was also studied between the task conflicts and innovative performance. Task conflict is stated as perception of individuals related to task occurring in a group. This task conflict can effect innovative performance of the teams in a positive as well as negative way. Moreover, ethical leadership is considered to have a positive impact according to past literature. However, the influence of task conflict seems to be positive with ethical leadership. Hypothesis was developed according to past literature.

An empirical study was conducted which included 8 start-up companies of Pakistan preferably working in team. These 8 start-ups were selected based on how innovative they were, and they carry all the task in teams. These start-ups were filtered from the other start-ups which fulfilled the requirement of start-ups for this study. An online questionnaire was distributed out of which 205 were accepted to conduct the research. A quantitative research method was followed which involves statistical methods like Cronbach Alpha, one-way ANOVA, descriptive statistics of all the variables and then the regression analysis. The regression analysis involved four steps out of which three were accepted and fulfilled the requirement to run the fourth regression test.

The results showed that there exists a positive yet insignificant effect of task conflict on innovative performance. However, there was positive and insignificant relationship between task conflict and mediating variable, which was ethical leadership. The insignificant effect of task conflict and ethical leadership showed that the mediating variable has no effect on the theoretical model and is considered insignificant for this study. The positive relationship between ethical leadership and innovative performance was also discovered in start-up companies. Though task conflicts showed a positive relationship with innovative performance and ethical leadership, still it is important for the managers to enhance a positive environment while working in teams to help team members to be more innovative.

|           |  |
|-----------|--|
| Key words | Task conflicts, ethical leadership, innovative performance, start-up teams |
|-----------|--|







**UNIVERSITY  
OF TURKU**

Turku School of  
Economics

# **EFFECT OF TASK CONFLICTS ON INNOVATIVE PERFORMANCE IN STARTUPS IN PAKISTAN**

**The mediating role of ethical leadership**

Master's Thesis  
in International Business

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The originality of this thesis has been checked in accordance with the University of Turku quality assurance system using the Turnitin OriginalityCheck service.

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# 1 INTRODUCTION

## 1.1 Background

Nowadays, there is an increasing trend of investing small amount to establish a start-up business. These firms are based on teamwork and all the participants work in teams. Being innovative is crucial for the companies nowadays. The companies strive to become innovative to gain the competitive advantage from their competitors. The companies create a balance between formulating and the implementation of the growth strategies. The companies continuously focus on their customers and the products they need for them. The start-up companies face the harsh competition as they step into the market. They must keep an eye on the preferences of the customers that changes from time to time. This study investigated how much task conflicts can have effect on the innovative performance of the teams (Nowacki & Bachnik 2016, 1577.)

To be more innovative, organizations focus on building a team work rather than giving individuals work alone. Innovation is defined as “the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organization or wider society”. (De Dreu 2006, 32.) Innovation requires skills, the understanding of market and processing abilities as well as system of the organization. (McDermott & O’connor 2002, 19.) There are two types of innovation 1) radical innovations 2) incremental innovation. The radical innovation represents the change for the organization, and they open new markets, whereas incremental innovation is the minor changes companies do in their existing products. To gain the competitive advantage through innovations, the companies are more focused on building up a team of potential individuals who will handle the uncertainty prevailing the environment. Moreover, when the teams are made then there may be task conflicts in the team, which can eventually affect the innovativeness of the firm. (Aronson & Reily 2008, 5.)

There is high possibility of having task conflicts while formulating an idea or when trying to improve the product or services of the firm. (Nowacki & Bachnik 2016, 69.) Conflict can be defined as “perceptions that the parties involved that they hold discrepant views or have interpersonal incompatibilities”. (Jehn 1995, 40.) Another scholar defined conflicts as “process resulting from the tension between team members because of real or perceived differences”. (Puck & Pregernig 2014, 32.) So, conflicts can be arising from

interpersonal, intragroup, and intergroup relations (Medina et al. 2005, 3.) Interpersonal conflicts have been studied extensively and according to a researcher the interpersonal conflicts have five styles through which individuals tries to manage conflicts i) accommodating ii) avoiding iii) compromising iv) collaborating and competing. (DeChurch & Marks 2001, 12.) According to researchers, it is a phenomenon that can have beneficial or non-beneficial effects on organizations, teams, and individuals. Moreover, conflicts can be taken in a dysfunctional way, it causes tension, tries to distract individuals away from their goals, hence reduces the effectiveness of individuals, groups, and organization. (Medina et al. 2005, 3.) On the other hand, conflicts can be beneficial as well. Task conflicts in an argument promotes wide range of ideas and thoughts according to the work-related issues. (Lee et al. 2019, 30.) If the conflicts are suppressed then it reduces creativity, innovative performance, quality of decision making as well. Therefore, conflicts have multiple dimensions so, it is possible that one-dimension effects the performance of the team and enhances it whereas other can put some limitations on the creativity and performances of the individuals. (Medina et al. 2005, 3.)

Task conflict can be defined as “disagreements among group members about the tasks being performed”. (Puck & Pregonig 2014, 32.) Researchers are now more focused on the positive aspect of the task conflicts and the conflict management. Because of the group conflict management and how they can tackle the problem, they can directly influence the group effectiveness. Group conflict management works within the group in which they know they have direct control over the issues that arises, therefore, directing the ways of members within the team. Intragroup conflicts are defined as “conflict occurring among group members within a group. There exist two types of intragroup conflict 1) task conflict can be arising when the group members start to argue for the alternative approaches to have a better solution over the task given. (DeChurch & Marks 2001, 12.) These arguments could have been evolved from the procedures or provided guidelines, interpretations of facts in a team and the distribution of the resources 2) relationship conflict is perception of incompatibility among different individuals which evolves from personal and family norms, values or personal taste of an individual. (Medina et al. 2005, 3.) Another researcher highlighted the third type of conflict which is process conflict “conflicts regarding the process on how the tasks are to be carried out and the procedures and guidelines in doing it better. (Babalola et al. 2018, 2037.)

Research scholars emphasizing on the top management teams found out that the task related conflicts have a positive effect on the decision making of the teams, whereas

cognitive conflicts have negative impact on the performance as well decision making. Therefore, task related conflicts are functional whereas cognitive conflicts are dysfunctional. (Porter & Lilly 1996, 7.) Some of the researchers found task conflicts as beneficial while others consider it to have negative impact on the individuals, group work and the innovative performance as well, while some found to have no significant effect of task conflict on the performance of the teamwork as well as individuals. In the line of positive perception, disagreements on the required task between the team members forces them to share their own opinion and resulted in gaining better understanding of the task and ultimately resulting in high performance and more innovative and creative results of the team. Whereas, if consider about the negative perspective of the task conflicts lead to stress and frustration among the team members which eventually leads to the worse performance of members. According to the self-verification theory, the negative impact of task conflict is due to the negative cooperation and they constantly challenge their co-workers during the task. If the team members cooperates less than the performance will also be compromised due to task conflicts. (Puck & Pregernig 2014, 32.) It can lead to unhappiness, tension and agonism Therefore, the relationship between the task conflicts and performance is generally influenced by the type of task that is handed over to the team. It is determined by task to task and through a diverse group, individuals that are not sharing the same cultural norms and backgrounds as well. Routine task is generally viable and are done in the same way as always. whereas non-routine tasks include a set of problem-solving procedures and techniques and have high degree of uncertainty. So, the right information and variety of viewpoints can lead to poor decisions as well as inferior products. (Jehn 1995, 256.)

Based on the studies and empirical evidence, task conflicts have a positive, negative, and sometimes no significant effect on the group performance as well as individual performance of the team members. However, it cannot be denied that the task conflicts have positive or negative effect is based on the type of task given to the team. There exist several tasks differs dimensions i) whether the task is routine or complex ii) whether the task is maximizing the performance or the outcomes or optimizing them iii) if the creativity demands by the top management is high or low. (Porter & Lilly 1996.) Task conflict effects the group satisfaction level and the individual attitude towards the task. Past researchers have emphasized on the negative outcomes of task conflicts with attitudinal outcomes in the group. But later, some researchers found out that it has also the positive effect with the performance. (DeChurch & Marks 2001, 12.) However,

cohesiveness led to the group norms that are accepted but this does not support the group performance. A researcher identified three dimensions of cohesiveness i) commitment to task ii) group attractiveness iii) group pride. Moreover, trust is the vital element in group work where all the team members have trusted their leader. As a result, trust is one of the characteristics of teams performing high. (Porter & Lilly 1996, 7.)

Moreover, working together in team also increase the level of satisfaction in teams as well as individuals. So, teams should be flexible, quality conscious and should also be innovative and give some space for creativity and adaptability to the dynamic environment. In addition, teams are the fundamental learning unit within a firm, they bring required skills and experiences to the individuals working in a team. When different team members bring some solutions and expertise to the problem, then disagreement evolves and is inevitable. But this also brings opportunity for the team members to dig deeper and to be more creative in this way. Moreover, rather than focusing on the disagreements arising from different opinions, teams focus more on the team learning and to adapt to the changing environment, way of looking and finding solutions to the problem. By doing so, the teams will perform better. (Woerkom & Van Engen 2009, 18.)

The relationship between the task conflicts and performance of the team is still unclear. On one hand, task conflicts can have a positive effect on the performance, while on the other hand it can also have some negative effect and hence a decrease in the performance of the firm is visible. (Woerkom & Van Engen 2009, 18.) Some of the research has also been conducted on the intra-team conflicts which emphasized that task conflicts can motivate the individuals as well as in the team to be more creative. But it highlights one of the major issues that if the task conflicts of the team enhance the team performance, then does the individual task conflicts can have the same impact on the individual performance. As it seems that the individual task conflicts may have a negative effect on the performance as it hinders the knowledge sharing and information acquisitions for the individual. While studying the social self-preservation theory, the most beneficial level for the individual to have the individual creative performance should be intermediate. (Li et al 2019, 31.)

While considering team performance and task conflicts in a team, some researchers argued that it is possible that task conflict can affect the performance on sub-component while other components remain unchanged. Likewise, it will enhance the performance of the team. Moreover, assessment of the team, goal attainment, interpersonal communication in the team should be effective and to examine the satisfaction level of

an individual. The reason behind this is that task conflicts help team as well as individuals to learn from the deep discussion among, creating new ideas and making solution for the required problem. To learn something new requires a lot of effort, energy, and time but to learn from the subcomponents can give new insight for the ideas and solution which makes the team more innovative. (Lu & Wang 2017, 35.)

The task conflict that effects the innovativeness of the team has been discussed in the literature, but the task conflicts that effects individuals and influence the creativity of an individual. Individual task conflict refers as “a member perceiving more or less task-level conflict than other team members”. (Jehn et al 2010, 53.) When there are individual task conflicts at a moderate level, this can be beneficial to the individual. Task conflict and individual task conflicts have been studied at the team level. However, there are various points through which team task conflict is different from individual task conflict e.g., it can be whole team vs just an individual, when talking about the opinions and ideas in a task, the individual will refer the idea to himself rather than sharing it with the team and making it like “we all have different ideas and opinions” on a specific task that is given, which will introduce cognitive conflict in the team. However, if the task conflicts are rises due to the different opinions, then the innovativeness and effectiveness of the team working in an organization will be decrease. It will be due to the reason that they will not come to the same and better results which will eventually decrease the performance level of the team. Moreover, if individuals have some conflicts in a team this will eventually lead them to defend and become more competitive rather than being cooperative, which can eventually give rise to the intense situations like stress, anxiety, job dissatisfaction and disagreement on the opinions rather than finding a better solution for the problem. (Li et al 2019, 31.)

With the increasing importance of business ethics and social responsibility of a firm towards its society, leaders should also behave ethically. Ethical leaders have always been a focus in practical as well as academic world. In the academia, the conducts of ethical leadership have been widely discussed but less attention has been given to the performance of individuals working under a same team with an ethical leader. Ethical leadership can be defined as “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision making. With the ethical leader, the members try to be more creative, effective and strive to become more developed and to survive in this dynamic environment. While the

members will be in the process of innovating and implementing new ideas, they will face a lot of challenges and risks, that is where the role of ethical leader steps in. The ethical leader will always emphasize autonomy, social responsibility and they will always be people oriented. They will be more concerned about the environment and the organizational cultural rather than achieving the goals of the given task or organization. The goals will be kept as a second task for them. Ethical leaders facilitate the members through motivation. (Yidong & XinXin 2013, 116.)

They value trust and respect while they are interacting with their employees. It is important as respect and behaviour of the employees to willingly cooperate and to avoid any kind of conflicts that arises from the teamwork. Behaviour of the team members is always a challenge for the organization, so the conflicts that arises due to the actual or perceived differences in the ideas or opinions to the solution creates dissatisfaction among the team members, which in turn decreases the team performance as well. For this purpose, an ethical leader should highlight the values and makes it clear to all the employees, eventually this will become the values system of the whole organization and will be added as a culture of an organization. By becoming the ethical role model for their employees by guiding them morally. They strive to make a value system, where the employees respect each other ideas and opinions. There exists less literature on how ethical leaders manage to cope up with the conflicts that arises in the workplace. There exist three types of conflicts i) task conflict ii) relationship conflict iii) and process conflict. It is unclear how ethical leadership have an impact on task conflict and process conflicts, but it also shows to have a negative impact on the task conflicts and sometimes it might have a positive impact as well. The positive or negative impact of the task conflict regarding the innovative performance of the team members is merely based on the type of task they have given. (Babalola, M.T 2018, 44.)

Moreover, ethical leadership in teams help enhance the team efficacy to set higher goals while the leaders tend to sustain the motivation in the team. The level of higher social integration helps the team to stick together and desire to achieve the same goal through hard work and dedication. They try to maintain a zone of comfort in the team by becoming a role model in teams, developing a healthy communication among the team and identifying number of behaviours that has a great influence to maintain the team attitude and performance. (Martin et al 2021, 1.) The main goal of an ethical leader is to make a social value system that exists in an organization. This value system should be based on the ethical dilemmas that highlights ethical behaviour of the employees and

organization towards its environment and humanity. An ethical leader should make the principles and rules that will be used in the decision making to have an effective result in the end. When the task is identified and is visible for all the employees then it is known as descriptive ethical task, whereas if the principles are just identified and justified based on the ethical behaviour then it is known as normative ethical task. Organization is working in a mere complex environment and ethical leaders works in a complex reality. They try to make it more complex and to reduce the complexity to make the decisions in a more complex circumstance. For example, if the managers become ethical leaders, they become sensitive to the voice of those who are affected by the wrong decisions of the organization. They are more inclined towards finding the solutions which will affect the employees and organization in long run as well. By doing so, ethical leaders provide a safer zone in terms of security and clarity for the employees, capital owners, suppliers, consumers etc. (Enderle 1987, 6.)

The gap of this study is the further research opportunities taken from the past research. It states that the creative environment for the employees and the knowledge sharing between the team members effects the innovative behaviour and performance of the teams. (Munir & Beh 2019, 32.) The conflicts in the teams does not go evenly in all the teams, it may be originated by some team members and then effect the whole team. The task conflict greatly effects the innovative performance of the teams. (Hu et al 2017, 43.) Moreover, there are a lot of research that should be done in the field of conflict studies. The consequences of the conflicts whether it is short-term or long-term consequences lead influence the performance of the firms. (Vandenbroucke et al 2019, 3.) A recent research highlighted the future studies of the transition of conflicts in the team by using an experimental method as well as the objective performance will make the research more convincing. (Li et al 2020, 31.) As past research focused on the shared leadership and the intra-group conflict, much emphasis must be made group specific issues, like the task distribution, the size of the teams and the issues related to culture of the team as well as organization while following the goals and visions of the company. (Ayranci, E. 2019, 9.)

## **1.2 Research questions**

There are many studies that focuses on the any one of the sides of task conflict and its influence on the innovative performance of the team members. There exists a positive as well as negative relationship of task conflict on the innovative performance of the

individuals working in a team. This study aims to focus on positive as well as negative relationship of task conflict and its effect on the innovative performance of the individuals. By doing so, this study will provide a new insight for the future researchers to gather the components that may or may not affect the innovative performance of the team members. Moreover, the ethical leaders that operate in the complex environment will not be misguided by the task conflict and consider it in a negative way, rather they will have a literature that would be more focused on startup companies of Pakistan.

The main research question of this study is “What is the effect of task conflicts on innovative performance in teams?”

The sub-questions for this study are:

- i. What is the role ethical leadership plays in mitigating task conflict?
- ii. What is the relationship between ethical leadership and innovative performance?

Conflict that arises from the disagreement between the teammates while working on the same problem and extracting out the best possible result by enhancing the performance of the team. There might be several factors that has been discussed in the past literature as well but for the specific sector in which task conflicts arises will be considered through quantitative analysis. In startup firms, the leader is there to help resolve the conflicts in teams. Sometime task conflicts become so severe that the need for an ethical leader is considered. However, teams have some disagreements about the opinions and ideas, which can be tackled when there exists shared leadership where all the team members support each other. In an extreme situation in task conflict, an ethical leader should be facilitated, who will provide guidance based on the rules and principles.

Based on the past research there are a lot of study done on the innovative performance and ethical leadership. But for this study the focus would be on the startup companies in Pakistan. There are a lot of past research on startups based in different countries. No such study was done in Pakistan, as Pakistan is a developing country and to set up a business and making note of all the internal factors in teams to make it effective will help the leaders to achieve more. As for the startups, the employees work in a team to help build up a business. To initiate new ideas in the team, there are a lot of conflicts related to task in the team which effects the innovative performance of the team. So, the use of task conflicts and its effects on innovative performance in teams are used in the study. The mediating role of ethical leadership is something that should always be considered while forming a team. When the leader is ethical and goes by ethics and rules, there is a chance that the innovative performance will be enhanced. As innovative performance is enhanced

in team, task conflicts automatically decrease which gives team an opportunity to be innovative.

The practical contribution of this study would be that this will provide a guidance that in a complex environment, managers would have a clear insight about the possible things that can make the task conflicts incline to the positive or negative path. This would be surely dependent on the type of task that would be given to the team members. They will be having a clear insight that how employees gather the information and to provide the desired result that would increase the effectiveness of an organization. The desire to be innovative is the main goal of every organization, they tend to change themselves with the changing and complex environment. Through ethical leadership, the team members will be confident and enhance the idea generation, support from the leader and team members, challenging the situations and getting involved in them. It will also help the young leaders to furnish their ideas and improving innovative performance through management.



## 2 LITERATURE REVIEW

### 2.1 Teams in startups

Start-ups is considered as a top priority for the growth of economy in a country. According to United Nations Labor, 2016 more than 50% of the start-up fail to perform effectively in the first few years of the business. The main reason is that the firms seek opportunities rather than seeking knowledge about the business relations and the knowledge to expand the business. As a result, start-ups work under pressure from the environment, which involves competitors and employees. Due to the continuous stress, most start-ups fail. Conflicts in team is one of the crucial factors for the failure of start-ups. (Kozusznik & Aaldering 2020, 31.)

Teams is defined as “a distinguishable set of two or more people who interact dynamically, interdependently, and adaptively towards a common and valued goal/objective/mission” (Tannenbaum et al. 1992. 82.) For the teams to be effective, they must focus on two main components of teams. Firstly, taskwork which is the activities that are associated with the specific task that are given to the team to reach a common goal. Secondly, teamwork comprises of the behaviours, attitudes, and the cognitive abilities for teams the team to work effectively. (Dinh & Salas 2017.) According to Mark et al. (2001), there are nine core processes of the teams, which are cooperation, conflicts, coordination, communication, coaching, cognition, composition, context, and culture.

As teams are formed, the first and the important step is cooperation. It serves among the team members as a motivational driver for developing a team. (Dinh & Salas 2017.) As teams are composed of individuals that might be unproductive, lack of skills or cognitive abilities and lack of motivation. It is essential for the team to cooperate and identify themselves and fall on the same platform when it comes to achieving the same goal. (Weng & Carlsson 2015, 126.) Conflicts are referred to as a pervasive problem in organization, which is by the difference in the beliefs, interests, and views of the team members. (Dinh & Salas 2017.) For the teams who cooperates with each other sometimes face task conflicts which may lead to decreased productivity and lack of motivation. So, the strategies for avoiding the conflicts can be avoidance of the conflict, accommodating with something more meaningful, compromising with other ideas and forcing of the idea to be implemented. While facing conflicts during the task, forgiveness is a viable means

to resolve the conflicts and help motivates employees or team members to work after the conflict. (Ayoko 2016, 27.)

Coordination is the behavioural mechanism that is crucial for the teams to transform their task into goals. (Dinh & Salas 2017.) It involves team level strategies, timing of each task, it can occur explicit or implicit. In explicit coordination, the team members utilize their communication skills and planning of the task for interdependencies to manage effectively. The implicit coordination evolves when team members change or adjust the behaviour according to the task given. The fourth important process of team is communication. It is a most important components of the teams which involves sending and receiving information regarding a task given. Moreover, team communication can have an influence on the other aspects of teamwork like coordination and conflicts among the team members. For the teams to act more responsibly and effectively, it is essential for them to be explicit communicator (overt transmission) or implicit communicator (information that is passively conveyed). (Salas et al 2015, 54.)

The need for a leader occurs when the team are unable to recognize the breakdown within the team and help of an expert is needed. A coach for the team can be external or internal, but the main purpose of coaching for the team is to provide necessary support team members to enhance team effectiveness. So, coaching is used in a team, which helps formulate goals and team to go on a right direction to accomplish the goal. The next step is team cognition refers to the shared understanding among the team members, which helps them to go as a team as also highlights the roles and responsibilities of each team members. (Salas et al 2015, 54.) Composition of the team is relevant to the performance of the team and the individual composition of the team. It includes the knowledge, skills as well as attitude of the team member. Context of the team is the situational events from which the team is highly influenced. The situational events include the manner and the degree of factors that influence the outcomes of teams. Culture includes the norms, values, beliefs of the individuals who come together in a team and create an environment which are shared among the group of people. (Dinh & Salas 2017.)

As teams are formed, the first and the important step is cooperation. But then the opposite spectrum to the cooperation among teams is conflicts. Conflicts can be ranged from a simple discussion or a heated argument based on the differences related to the taskwork. The conflicts become serious when it leads to the errors and low efficiency of the team performance. (Jehn 1995, 40.) Moreover, when there exist a lot of task conflicts

in the team it can eventually affect the innovativeness of the firm. (Aronson & Reily 2008, 5.)

## **2.2 Task conflicts in teams**

Teams are the basic building blocks of an organization; they can be frustrating and highly promotive to the psychological well-being at the same time. They are used to foster the coordinated efforts, solutions, and their implementation as they can accomplish the tasks that are the complex ones. So, now organizations are turning to develop teams in their firms to enhance the quality and to develop new products and solve complex problems. By using the theory of cooperation and competition, some of the major approaches on how to manage the conflict have been identified. The theory argues that whether the conflict will be handled cooperatively or in a competitive way, still it will affect the outcomes of conflict. When emphasizing task conflicts as a competition, then it will be a win or lose situation the goal would not be too innovative rather they will strive to be more competitive. By avoiding the outcomes of conflicts, avoiding is to smooth over conflicts and open to direct discussion. It can reinforce the competitive approach, whereas through open discussion and sharing they try to discuss the cooperative approach. Those teams who relied more on the cooperative approach rather than competitive approach or avoiding those approaches to manage their conflicts. Teams that were more cooperative and managed their tasks have been more effective in terms of being innovative as well. Managing a conflict that appears to have a way to improve the effectiveness and when the employees will have confidence over the procedures and work in an internal function. (Tjosvold & Yu 2003, 18.)

Task conflicts are related to the actions associated with the task. Task conflicts facilitate new viewpoints, which eventually leads to an optimal decision in a team. The past research focuses on a stressor, which is conflict in the task and conflict behaviour as a technique to cope up with the task conflicts. As the conflicts in teams are mostly associated with the negative impact on the performance. As employees must work together in small teams in start-ups, the conflicts provide a fertile environment for creativity and productivity. But there are some positive impacts on the performance of the teams. The researcher used Dutch and German start-up companies. The result showed that there exists a positive association between the task conflicts and conflict behaviour as a problem-solving technique. The study used conflict behaviour as a moderator for task conflicts in the start-up teams. (Kozusznik & Aaldering 2020, 31.)

In the past few years, task conflicts have been received as an increasing amount of attention. In a study conducted on task conflicts, information processing and decision making of an individual as well as of teams while damaging the effects of relationship conflicts that arises between the team members during the work. When all the team members work together to achieve a common goal, then relationship conflict and task conflict can arise easily in a team. This task conflict can co-occur with the relationship when, the disagreement is pulled over to a more personal level and then the personal conflict between the team members rises. Sometimes there is a misinterpretation that whether the conflict that has risen is task conflict or the relationship conflict. The study examined that how information processing is affected during the decision making of the team as well as individuals when they perceive the relationship conflicts over the task conflicts. The results showed that the presence of conflicts especially relationship conflicts decrease the motivation as well as team members ability to share their own viewpoints that may cause some bias in the information system, hence decreasing the decision-making ability of team members. There is a crucial role of decision making and task conflict, as task conflict plays a vital role in the performance as well as effectiveness of employees. Moreover, when task conflicts arise at the same time as relationship conflict gradually make the information processing bias and eventually it effects the decision making. (De Wit et al. 2013, 122.)

According to Martínez-Moreno et al (2009), focused on task conflicts that influences the performance of the team. They argued that it can have some positive impact on the team performance, or it may have a negative impact on the performance or else no significant effect. Researchers focus on how and why task conflicts have positive impact on the performance. The type of tasks that are given to the team may vary and have a direct impact on the performance of the employees. They also argued that the performance on the team may vary from the type of conflicts that prevails in the team. (Van Woerkom & Van Engen 2009, 18.) For a team to perform well and to be innovative, cooperation of the team members should not be overlooked. Cooperation is defined as when the teammates work together in such a way that they together act to promote the objectives and aim for the common goal of the team. The results showed that task conflicts have negative effect on the performance of the team, but it was highly dependent on the type of task that was given to them. Moreover, task conflict decreases cooperation which eventually effects the performance and decreases it a well. The mediating relationship of cooperation has been seen stronger when the team works together on

decision-choice task. It has also been seen to be weaker when the team works on creative generating tasks. In conclusion, cooperation can be used as an indicator for the team performance as well. (Jimmieson et al. 2017, 32.)

A study was conducted on the new ventures and shows the effect of task conflict on the new venture performance. It shows that openness about the new ideas and agreeableness among the members increases the task conflicts, which in turn increases the performance of the new venture. (De Jong et al 2013, 39.) The intra-team conflicts emerge and shape the understanding of how creativity evolves in the workplace when there are conflicts at the same time. The intra-team conflicts suggests that through the task conflicts they can help the individuals to be motivated and to share the information and exchange them to elaborate the task that is given to them. So, there exists a debate that whether the task conflicts have the same effect on the individual's creativity than the task conflicts that have a significant positive or negative effect on the team performance and team member innovativeness. However, the task conflicts at the mediate level have a beneficial effect on the creativity of an individual. At the very high level or low level, the creativity and innovativeness fade away because of the challenging situations they face during the task. Moreover, the term team reflexivity refers to when the team share the interactive session that helps the team mates to share and discuss their opinions as well. The results showed that the employees' information has elaborated a link between the individual task conflicts with the individual creativity. Furthermore, in the view of team reflexivity, the positive relationship gets stronger, and the negative relationship gets weaker in lower team reflexivity. (Li et al. 2019, 31.) Another study focused on the positive relationship of task conflicts and the business planning performance. The link of the two variables is by the team's narcissism, where it leads to the entrepreneurial capabilities of the team members. The moderator of narcissism leads to the positive outcomes of the task conflicts and contributes to the entrepreneurial capabilities of starting and planning the business. (Kollmann et al 2019, 57.)

### **2.3 Task conflicts and innovative performance in teams**

To maintain a competitive advantage, organizations need to be innovative to attract the customers and meet the demand of the complex environment and facing the challenges. Some research scholars have understood the process that to be innovative, the teams in the organization must be innovative. They must add up new ideas, process, and procedures to deliver something innovative to the customers. The author focused on a

critical process within a team which is conflict. To highlight the key question of when and why conflict can affect the innovation of the teams as well as of the individuals. When a conflict rises, the team members open a debate, through the debate they forced themselves to be more creative and innovative. Sometimes conflicts can hurt during a debate, the team members try to focus on each other's opinion instead of their own task and make the conflict related stress. It is unclear whether task conflicts have a linear relationship with team creativity and effectiveness or vice versa. Moreover, innovation is a creative process, and some level of conflict have creative but independent thought. Task conflicts can promote some aspects of the team performance whereas they may hurt the team performance in other aspects as well. In conclusion, innovation is a function of task conflicts, where a curvilinear relationship with the task conflicts and team innovation. It may be the collaborative problem solving in task conflicts. While the controlling variable is task interdependency, there exists a curvilinear relationship between task conflicts and collaborative problem solving that the team members. (De Dreu 2006, 32.)

Teams are thought to be capable to increase the effectiveness of an organization through innovation. Task conflicts have a positive effect on the cognitive achievement. When a task conflicts starts, an individual tries to be innovative and more creative when it comes to solving the problem that they have been given. There may be diverse in the attitudes when the creative task or the learning situations that are characterized by information load, which can be important for learning. The relationship between task conflict and learning from those conflicts were not significant, as it was difficult to separate task conflict from the relationship conflict. There also exists a strong correlation between these two types of conflicts i-e task conflict and relationship conflict. Moreover, there was a negative relationship between task conflicts and innovative performance of the employees as well who work in a team. The shared mental models of an individual were shared to only till that extend where there they need to solve a problem specifically. (Woerkom & Engen 2009, 18.)

Innovative performance is the result of creative process in the team. The effects of task conflicts often arise independent and creative thinking in teams. In teams where the participants experience the higher decision making are more innovative when they have a higher level of task related conflicts. (De Dreu 2006, 32.) In the cross-culture teams, a group of individuals who work together with a diverse cultural background to gain a common goal. It helps the organizational to get different information from different backgrounds to make a foundation of innovation development in teams. Trust is also one

of the important components of teams and when teams work together to reach a common goal. Team trust helps the members of team to rely on and trust each other, to take risk for the team and engaging in more team processes openly. It helps the team members to brainstorm about a certain task given. Due to high level of trust in team, which eventually decreases task conflicts and outshines the innovative performance in teams due to the effective synergy with a pool of knowledge coming from different backgrounds. This will increase the team innovations among the companies. (Ratasuk & Charoensukmongkol 2019, 22.)

In start-ups, to develop new products, services, or strategies according to the business model is often considered complex and vague. So, teams work together to reach a common goal, innovation also facilitates team interaction and discipline. The innovation process in start-up requires conception, planning, execution, and phase of new venture creation. So, for the teams to have a close interaction it is likely that there will be task conflicts arises due to different opinions of the team members. Based on the study of 88 incubators in Austria, it showed that trust in teams is the cornerstone for the innovative performance among the team. Those team who have more trust among themselves will eventually decrease the task conflicts among them. (Khan et al. 2015, 24.) As start-ups tries to be innovative, it is very difficult for them to sustain an effective business due to limited budget and time. No wonder it is a stressful situation for them, in these situations conflicts arises among the team members and subsequently impacts the performance of the teams. The past literature focuses on the four main components of team performance which are communication among team members, collaboration coordination and cohesion which results in effective performance. The results showed that task conflicts have a positive influence on the factors of team performance in start-ups. (Park & Lee 2016, 11.)

Another literature focused on the conflicts among the organizational teams based on task and relationship. The study focused on the inter-organizational teams which consists of employees from other organization to come up with a common goal or initiative. The common goal can be product development or services development among the two organizations. The results showed that there is a U-shaped relationship between task conflicts and team creativity among the team members. As the U-shape relationship defines that at first the relationship between the task conflict and team creativity decreases and then increases. Furthermore, the role of shared leadership has also impacted on the team creativity when task conflict arises. (Hu et al 2017, 28.)

## **2.4 Task conflicts and ethical leadership**

Organizational leaders are the foremost source of core values as well as ideology. The core values are followed by the employees of the organization through the desired behavioural aspects. By training and role modelling of the leaders, the leader's step into the conflicts and critical events that arises in difficult situation. (Morris 2014.) As the world is becoming a global village, the better products and communication is improved among the teams and team members despite the geographical boundaries between them. It is essential for the organizational leaders to act more sensitive and morally to the society. The larger society includes consumers, employees, suppliers of the product, the government and the local community to be operationalized in the country. For this reason, companies formulated a code of ethics for the leaders, which comes with the guidance and ethical training for the leaders. The code of ethics provides a moral and ethical principles which the leaders must follow, to lift the moral and spirits of the employees. (Mendonca 2001, 18.)

As there is a debate going on whether entrepreneurship is part of the leadership phenomenon or not. Some leadership functions are related to the entrepreneurship as the leader shape the organization by introducing core values and setting an organizational culture. The values incurred in the organizational culture of the new venture are often based on the trust and vision of the founders. For the leaders of start-up companies, they must pay attention to the ethics and innovative performance. They are required to operate with high morality along with the ethical discipline. The flow of ethical standards from top management and the leaders helps the team to develop new ideas and opportunities to generate profit and be innovative. (Morris 2014.) By following the ethics in the organization, the leaders can fulfil the mission given to them. So, a common question arises, does ethical leadership plays an important role in organization to be more successful? Undoubtedly, there are examples in the past of unethical behaviour of the leaders, which facilitated the recession of large organizations. Mutual altruism is a social dimension of human beings, which is concerned with the other as well self-interest. Whereas moral altruism refers to concern of other and putting self-interest aside or sacrificing the self-interest. (Mendonca 2001, 18.)

Some of the research scholars have emphasized on the shared leadership among the team members. To be innovative, the used of teams in the organizational structures are highly encouraged. The main objective of the shared leadership is to lead one another and

strive to achieve the common goal. It may be internal or the formal team leadership. The use of the shared leadership can also be enhanced when the ethical principles made by the ethical leader or ethical manager is followed and then the team members help each other to achieve the common goal. When team members use the shared leadership, it leads them to be more effective and organizational performance is enhanced as well. They deal with the changes of competitive environment of the organization. Moreover, innovation is the key element of the organization and important as well. It influences the capabilities of individuals, teams, and organization to deal with the changing needs and demands of the surrounding environment. (Hoch 2013, 28.)

For the firms to be effective and communicate well, an ethical leader is an important component in the workplace. An ethical leader can perform task based on the skills developed over time while engaging in the activities of the firm. Moreover, they deal with the conflicts that arises in the workplace known as workplace conflicts. A workplace conflict is arising when there are different ideas or values. The difference in the ideas and values leads to employee dissatisfaction and unwillingness to continue work together as a team. It is essential for the ethical leaders to set a tone and behaviour of the ethical system and try to induce the same ethical values in the organization. An ethical leader creates an environment where employees respect other's ideas and values. (Babalola 2018, 44.)

Past study focused on the role of psychological climate of the team while operating in the organization, especially in teams. The psychological climate improves the team performance when conflicts rise in the team related to tasks. The psychological safety refers to shared beliefs and values in a team, which is not affected by the risk associated with task. Moreover, it is a sense of confidence that the team members will not embarrass or reject the idea as it contributes to the constructive problem-solving methods in the team. The results showed that task conflicts and the team performance are positively related to high psychological safety. (Bradley et al 2012, 97.)

Another study focused on ethical leadership and its role in situations arising from conflicts. Ethical leadership is a source of self-efficacy which leads to increased ability of the employees to deal a conflict situation. The conflicts can be resolved by the increased level of communication among the team members which subsequently help teams to manage conflicts. By using social learning theory, the relationship between conflicts and ethical leadership has been identified. With the three types of conflicts i.e., relationship conflict, process conflict and task conflict, the social learning theory argues

that the team members learn to behave in the way their role models or the ethical leader of the team behaves in an appropriate way. They observe and implement their positive behaviour over the interpersonal communication among the team members and learn to manage the workplace conflicts by themselves. Moreover, these ethical leaders discourage the subordinates to involve in the harmful workplace conflicts as well as building their common interest towards each other. They boost up their cognitive resources to influence the behavioural outcomes of subordinates. The employee's self-efficacy is enhanced by dealing with the challenges and finding new ways for the attainment of the goals. (Babalola 2018, 44.) Ethical leadership and employee's creativity are also connected when the ethical leaders tend to encourage the employees to speak out in public about the actions of organization that seem inappropriate. They convey moral standards while emphasizing on raising their voice against the work process and the work context in an organization, not only the ethical matters. For example, in research and development department of an organization, the employees face a lot of problems and risk related to the work process and ethical perspective. By raising their voice, they try to encourage themselves to enhance their ideas in a circle of ethical dilemmas. Then they try to be more innovative as well. (Chen & Hou 2016, 27.)

## **2.5 Task conflicts, innovative performance and ethical leadership**

A type of behaviour that is in a complex reality and face challenges, but they can stick with the same value ethical value system is the ethical leader. They value the trust and respect in the workplace is the central role to value the willingness of the employees to work in a cooperative environment. They tend to provide the guidance morally by being a role model for their employees. Although ethical leaders have gained much attention during the past decade, but they did not discuss about how these ethical leaders behave in the workplace. The literature highlights that by even when ethical leaders have a control over the workplace but still, they have done not encourage relationship conflicts as well. However, some light must be shed on how ethical leaders disarm the conflicts and they manage the employees to work effectively and with cooperation with others in workplace. Researcher examines the effect of ethical leadership on the workplace conflicts. An ethical leader acts as a role model for the employees as they want their sub-ordinates to behave accordingly. They try to set an example and introduce a social value system in the organization. Through the social value system, the employees have a guidance in the domain of ethics to behave accordingly in a challenging situation. They respect the

opinions of others and want others to respect their opinion as they motivate individuals to discuss and share their opinions. Another variable discussed by the researcher is self-efficacy, as it provides the necessary cognitive resources while dealing in a complex environment and getting the desired outcomes of the task. Moreover, when an ethical leader tries to set the guidance for the employees as they will communicate with their co-workers in such a way that they will help each other in resolving the conflicts. ethical leaderships have a positive and significant effect on resolution efficacy. As the employees have developed resolution efficacy then it will encourage employees to resolve the problems and issues that arise from the conflicts in workplace. (Babalola et al. 2018, 44.)

Those leaders who behave ethically and set some moral standards in the organization by giving guidance and setting some value systems are the ethical leaders. By establishing an ethical culture in an organization, they develop a trust, fairness and to empower them in strategic decision making. By doing so, they will have a full responsibility over them to reach to the specific target with some better results. In a team, every individual will be accountable for the decisions they have taken, so in this way they will be innovative and tries to minimize the risk. If the followers will have trust on their ethical leader, they will be more confident in their decisions. The confidence will be gained if they will follow the guidelines that prevails in an ethical system, if the leader is unethical then there will be stress, anxiety, miscommunication, misinterpretations between the team members that will affect the effectiveness and innovativeness of an organization in one way or the other. When the supervisor evaluates the members related ideas then it will be of high risk that how supervisors will react to them. Then role modelling will be critical for the innovation and employee's creative behaviour. (Chen & Hou 2016, 27.)

Whereas voice behaviour also promotes the creativity because employees who raise their voice and share their perspective will be highly creative if their provided opinions are beneficial for the organization. The researcher studied the effect of ethical leadership on the creativity of employees with the mediating role of voice behaviour of the employees. As an ethical leader has a habit of expressing the ideas and views on his own, then sub-ordinates imitate the guiding good behaviour of the ethical leaders. As the values are established in the organization, then those employees or the subordinates become highly comfortable in speaking up their own view, opinions and ideas regarding the task given or the challenging situation they tend to face. Moreover, ethical leader should have a more feedback session with the employees which will be considered as a demonstration for the problem-solving learning. ethical leadership have a positive and significant effect

on creativity of the employees. It was clear that when ethical leadership is present in an organization and ethical behaviour is enhanced in the system with the rules and guidelines, then employees tend to be more innovative and creative. But there exists an indirect relationship between ethical leadership and on creativity when the climate for innovation becomes stronger. (Chen & Hou 2016, 27.)

Past research of ethical leadership as a forecaster of innovative performance of the employees implies for the software houses of Pakistan. The results of the study showed that there is a positive association between the ethical leadership and the innovative performance of the employees. (Ullah et al 2020,14.) Another study focused on the direct and indirect influence of ethical leadership on the innovative behaviour of the employees. As an ethical leader represents in a team as a role model the team members follow them by gaining a positive attitude from the ethical leader. They encourage their team members or the followers to work independently and use their own decision-making criteria. Moreover, an ethical leader helps the team members to adapt the changes from the external environment and act according in an innovative manner. In this way ethical leaders have a great influence on the innovative behaviour of the employees in a direct and indirect way. (Ahmed Iqbal et al 2020, 6.)

Ethical leadership is considered as a source of gaining creativity among the start-up companies. They develop an innovative environment for the employees to engage in the creative thinking. They tend to convert the concepts of the team members into a need and goal of the company (Shafique et al. 2019.) A study explored that the leadership communication is important for innovation, the participation of the team members, supportiveness, and competitiveness of the start-ups. The study was done on the 25 entrepreneurs in China. The leadership communication is used as an internal and external purpose for the start-ups. It enhances the leadership skills in the start-ups. (Men et al 2018, 30.)

Past research has focused on the effects of the leadership that are considered authentic on the creativity of the employees. The mediating role work management and employee task proactivity has been considered. The study was conducted on the Indian start-ups. Prior studies focused on the relationship between the authentic leadership and the creativity of the employees, which implies that it has a positive relationship with each other. The authentic leader is the one who promotes the ethical climate and positivity in the psychological capabilities of the employees. Some of the basic components in the ethical leadership and authentic leadership is the self-awareness, the moral perspective in

the internal matters of the firms and the balanced information that are floating in the organization with the followers of the authentic leader. As start-ups are considered as a hub for generating new ideas, the employee creativity plays a crucial role in running these start-ups. To achieve the sustainability of the organization and gaining the competitive edge in the market. The mediating role of employee task proactivity enables the employees to participate in the work and develops a cognitive process which makes them excited for the tasks, which eventually turns into the intrinsic motivation of the employees. So, the results of the past research suggested that authentic leadership have a positive relationship with the creativity of the employees in start-ups as well as with the employee task proactivity as a mediating role. (Sengupta et al 2021, 9.)

Another study examined the relationship of ethical leadership on the innovative work behaviour of the employees. The study was carried out in different public sectors of Pakistan. The mediating role of self-efficacy was also used to enhance the relationship of ethical leadership and innovative work behaviour. The results showed that there exists a positive relationship between the two variables i-e ethical leadership and innovative work behaviour. Moreover, the employee self-efficacy also enhanced the work behaviour of the employees in an innovative way. (Zahra et al 2017, 27.)

## **2.6 Hypothesis development**

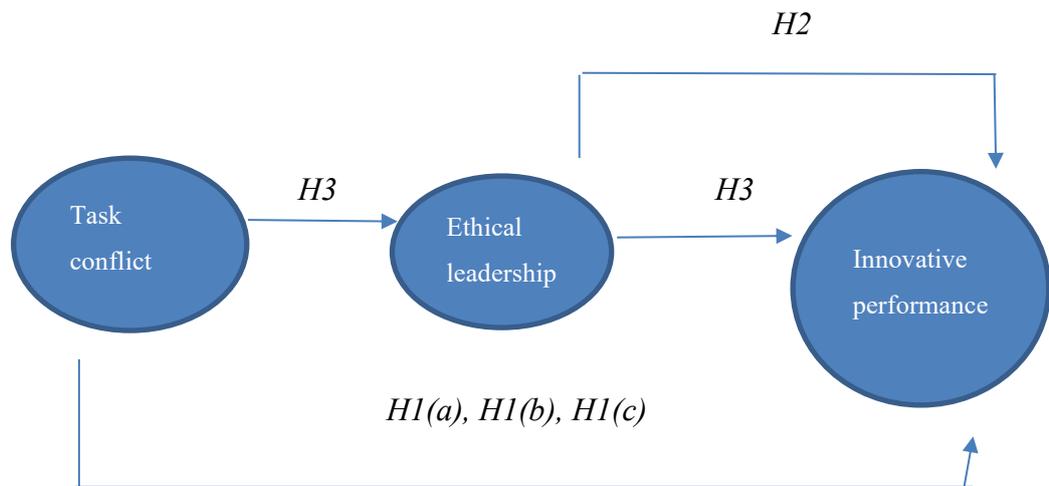
To develop a research model which can add theoretical as well as practical contribution. The effect of task conflicts on the innovative performance of the employees in a teamwork has been studied in several different ways and can add more contribution in the literature of task conflicts. When a conflict rises the presence of an ethical leader has also been highly appreciated. The past literature has clearly given a new insight that how task conflicts and the innovative performance effects each other, but when ethical leadership comes in between as a mediator and plays its role, then the innovative performance of the employees will be more enhanced. Moreover, these three variables have been studied before but with some different variable combinations and the role of ethical leadership has not been addressed in the team work properly. So, the effect of task conflicts can have a positive as well as negative impact on the innovative performance of the employees. While working in a team, there are various reasons through which the conflicts rise and due to the task conflicts, the role of ethical leader in a team is highly recommended because if the task conflict will be exceeded to its maximum limit that can give rise to the relationship conflict where individual becomes the target of the whole team. Task

conflicts can create stress, anxiety, reduced job satisfaction and would not be able to be more effective in creating something innovative, highlighting new ideas, raising the voice as an independent individual.

The past research focused on the roles of task conflicts and job autonomy with the proactive and innovative employee behaviour. The result showed the increase in the task conflicts leads to the increase in the innovative behaviour of the employee. (Giebels et al 2016, 52.) Moreover, task conflict has a positive effect on team performance in start-ups. It effects the components of team like collaboration, coordination, communication cohesion. (Park & Lee 2016, 11.) Another study shows that conflicts in the work is a cause or hinderance in the team innovativeness. The results for the study showed that innovativeness is more enhanced in the teams when the task conflicts have a moderate effect. In other words, neither high nor low effect of task conflicts. Furthermore, another study showed that task conflict is related to innovation in a curvilinear manner, which explains that it has a negative relationship with each other. (De Dreu 2006, 32.) It has also been argued that creativity of team is highest when task conflicts have a moderate level. (Farh et al 2010, 95.) Furthermore, in entrepreneurial teams, innovative team performance has a negative effect due to task conflicts. (Khan et al 2015, 24.)

The influence of task conflict and ethical leadership on teams has been discussed in the past. Task conflicts often influence the ethical leadership which increases the self-efficacy among the team members, it leads to better performance and manage the conflicts well. (Babalola et al 2018, 44.) The relationship of ethical leadership and innovative performance has been studied in the past. It shows that there is a positive relationship between the ethical leadership and innovative performance of the employee. The positive relationship was from the individual as well as group ethical leadership perception. (Yidong & Xinxin 2013, 116.) Another research studied ethical leadership and a forecaster of the innovative performance on the software houses of Pakistan. It showed that there is a positive relationship between the innovative performance and ethical leadership. (Ullah et al 2020, 14.)

Figure 1 outlined the theoretical framework of the study, shows all the variables in the study along with the hypothesis formulation.



**Figure 1. Theoretical model of the study**

Based on the above literature, following hypothesis is formulated:

*H1(a): Task conflict have a positive and significant effect on innovative performance in teams.*

*H1(b): Task conflicts have a negative and significant effect on innovative performance of in teams.*

*H1(c): Task conflicts have no significant effect on innovative performance in teams.*

*H2: Task conflicts has a positive effect on ethical leadership in teams.*

*H3: Ethical leadership has a positive effect on the innovative performance in teams.*

*H4: Task conflict has a positive relationship on the innovative performance of teams with the mediating effect of ethical leadership.*

The above diagram shows the theoretical framework of the study, all the variables included in the study has been highlighted along with the hypothesis. The task conflict is independent variable and innovative performance is the dependent variable. Ethical leadership acts as a mediator between task conflicts and ethical leadership.

### 3 RESEARCH DESIGN

#### 3.1 Stages of research design

A research design acts as a bridge between the two main components of the research which are research questions and the path to execute the research. It is the arrangement for collection of data as well as the analysis of the data collected. Moreover, it aims that the data to be analysed come in the relevance with the research purpose of the study. A research design guides the researcher to observe the environment to be studied, it is so planned that the nature and the design of the observations are different from the other forms of observations. The researcher seeks the conclusions that are derived from the observations that serve the purpose of the study. It is often said that designing a research is like making a building, it come with a lot of research, observations and the conclusion which eventually give suitable results. (Durrheim, 2006.)

A research design comprises of three stages.

1. Planning stages

In the planning stage, research questions are identified and research designs to conduct the research in a right way.

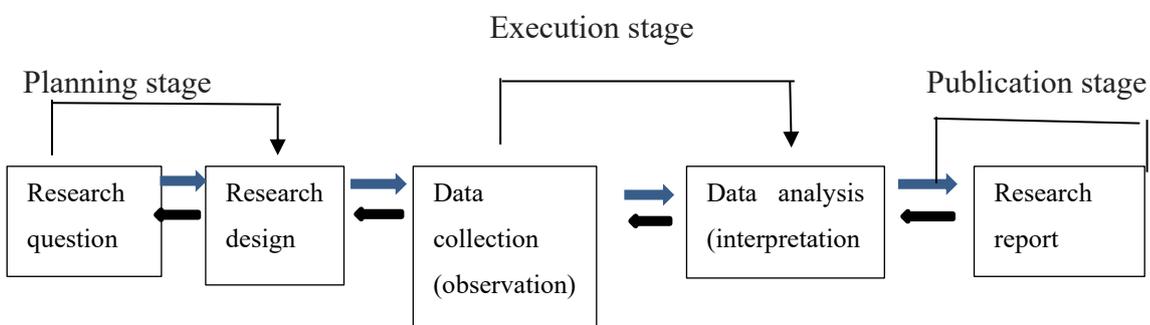
2. Execution stage

In this stage, the researcher collects the data and interpret the data.

3. Publication

The publication stage involves writing all the materials collected and using that data to discuss the research questions. (Durrheim, 2006.)

Figure 2 outlines the stages of research design by Durrheim (2006)



**Figure 2. The research processes.**

Once the research questions are identified by the research, the research design must be selected which can be quantitative research or the qualitative research. For this study, quantitative research techniques are used to align the research questions with the results of the data. The interpretation of the results leads to the interpretation whether the data serves the purpose of the research questions or not.

For this research, the three research questions were created to fill in the gap which was highlighted by the past studies. The research design was set which could give the best results possible and to cover enough start-up companies. In the execution stage, the data collection was through questionnaires and it was distributed among all the team members in the start-ups. Once data collection process is done, SPSS software was used to get the results. The final stage of research process includes the research report which shows the past studies, the results and its interpretation.

### **3.2 Quantitative research**

There are two approaches for research in management sciences: qualitative and quantitative research. The qualitative approach is usually used to examine the research questions on “why” approach. It is usually used to study the in-depth behaviour by using the interrogative strategies. (Barnham, 2015). Qualitative data is like an umbrella and under it lies different types of methods to get the desired research. It includes methods like, interviews, case studies of different companies. (Sukamolson 2007, 1.)

Quantitative research is the representation of numeric and its manipulation of observation used to describe a phenomenon. It is used in social as well as natural science. moreover, quantitative research is that it is a social research which explains with the statement with what “is” the case with the comparison of the real world. The third factor of the quantitative research is that there are some empirical evaluations which helps the researcher to compare the results with the standardized values and see whether the results fulfil the requirement of the standard values or not. (Sukamolson 2007, 1.) The latter research approach applies to the research questions serving the “what” context. It is based on the facts and figures. The task in the quantitative research is what respondents do and what they think. It is often used to target the behavioural and mental facts associated with the research. (Barnham, 2015.)

The observations that are collected during the data collection process are generally in a numeric form. Quantitative research addresses the social issues and reality in the environment. There are two philosophies that are linked with the research. The

epistemologies which are sometimes known as the assumptions states in the quantitative view is that it is realist or positivist approach. It explains that the researchers gather those observations that are already present in the society and they just uncover the reality. The research gathers the observation and use statistical methods to uncover the reality along with the facts and figures. The followers of the positivist approach highlights that that through quantitative research it is not possible to gather the observation of all over the world and accepted that natural and social sciences do not provide the results for all the social issues in one research, but still researcher can reflect the results along with the facts to the best. So, the quantitative technique tries to uncover the reality and represent it through facts and figures along with the confidence in the study. (Sukamolson 2007, 1.) The approach that is used in this research is epistemologies, in which the researcher uncovers the reality, which was already present in the society, but for the positivist it is not possible to use the same data for all over the work regarding the social issues rather use their own tools to derive new solutions and results.

The latter research approach applies to the research questions serving the “what” context. It is based on the facts and figures. The task in the quantitative research is what respondents do and what they think. It is often used to target the behavioural and mental facts associated with the research. (Barnham, 2015.) In quantitative research, the process is viewed as a five step.

- i. Determining the questions that serves the study.
- ii. To determine the participants of the study which involves population and sample.
- iii. Selecting the method to address the research question: selecting the variables, measures of the variables that is selected.
- iv. To select the tools for analysis
- v. Interpretating the results. (Holton & Burnett 2005.)

In this study, quantitative technique was used conduct the research. This technique was used to capture the whole population containing all the start-up companies of Pakistan. The above steps for quantitative technique were followed to determine the relationship between task conflicts and innovative performance. By determining the problem statement and highlighting the research questions, the sample of few start-up companies were used, because it is not possible to capture all the population of start-ups. The determination of population and then sampling few start-ups which serve the need for this study were selected. Those start-ups who were innovative and worked in teams

were selected. Moreover, the variables that were highlighted in the research question were selected to fill in the purpose of the research. In this study, one independent variable, one dependent and one mediating variable was used to fill the gap based on the future opportunities of past studies. The measures of each variable from the different theoretical backgrounds were selected. Moreover, the selection of the tools to analyse the data which were used to collected data, the tools were regression analysis, correlation analysis, descriptive statistics, one-way ANOVA and Cron-Bach Alpha. The data was analysed and explained along with facts and figures to support the findings of each result with the past studies.

### **3.3 Sampling**

In quantitative research, sample is a representation of the whole population that is selected for the study. The sampling process includes the selection of sample from the desired population that is applicable for the research. The researcher used strategies to gather the data from the sample, which represents the whole population. For this study, a non-probability sampling technique is used which includes the elements of the sample at a non-random method. (Landreneau & Creek 2009.)

The non-probability sampling techniques consists of three methods.

#### 1. Convenience method

In the convenience sampling method, the data collection of whole population is highly recommended. But it is not possible to reach out to the whole population. The convenience technique also known as accidental sampling, refers to the sample who meets the certain criteria like geographical proximity, accessibility of the respondent, time and willingness of the respondents. This sampling technique is affordable, homogenous, easy and the respondents are available. (Etikan et al 2016, 5.)

#### 2. Quota

The quota sampling includes those respondents who are easily distinguished from one group to another. The groups can be divided into sex, race and the population of interest by the researcher. The quota sampling is by the convenience of the researcher. (Etikan & Bala 2017, 5.)

#### 3. Purposive

Those respondents who will give the desired results to the researcher are selected. It is typically based on the judgement of the researcher where the researcher selects the

respondents who will help to give the information to succeed the objective of the research. (Etikan & Bala 2017, 5.)

For this study, convenience method was used which is recommended when there is a large population and its is not easy to capture the population. Moreover, the accessibility of the respondents was kept in mind. This technique was affordable and easy.

### **3.4 Sampling selection**

By using the convenience sampling technique of non-probability sampling which was used by Shannxi (2017). This technique has already been used by research for the start-up companies. I selected Pakistan for this study is because it is my home country and little research has been done on task conflicts in teams in Pakistan. The population in this study were those start-ups who are working in teams, who have come up with a new idea and through teamwork make it possible to run an effective business. The start-ups are no or less organizational hierarchy in the start-ups. The team members were mostly those who have their specific skills to enhance the products and services. As the population were not finite it was difficult to gather the information of whole population. The selection criteria include those start-ups, which were easily accessible by the internet regardless of the geographical location of start-ups. Moreover, those start-ups who are led by young individuals with a new idea. All the start-up companies were based in Pakistan and this study will put light on the effects of task conflicts on innovative performance of start-ups of Pakistan.

The number of start-ups for this research was 8 which are situated in different parts of Pakistan shown in Appendix 1. These 8 start-ups were carefully separated from the population based on those ones who are running a successful business with an innovative idea. There are a lot of start-up companies in Pakistan, but some focuses on innovative ideas and put effort in creating something new in the markets of Pakistan. These start-ups were selected based on the number of team members in one team regardless of number of teams working at a time. Moreover, the start-ups were easily accessible, and the leader or CEO of the company was involved in the teamwork like other employees. As these start-up firms were running multiple projects, the team members in each team ranges from 10 to 15 members including team leader. The team members included personnel from different department of start-up, which are finance, marketing, product department and procedure managers.

### 3.5 Internet survey administration

The survey for this research was internet based survey but using a cloud survey application named Webropol. The purpose of the internet-based survey was to gather all the data through online portal, which encodes the questionnaire and upload it on the internet. The questionnaires included all the three variables (task conflict, innovative performance and ethical leadership) and the questions serves the purpose of the study. The items were taken from the theoretical background of each variable. These items were used earlier by researchers to address their research. Most of the items were reflected on the team performance and the conflicts of the team. Only ethical leadership was about the behaviour and skills of the leader from the eyes of the team members. The questionnaires were prepared online and distributed among all the selected start-up firms. In appendix 2, the items of the questionnaire are presented.

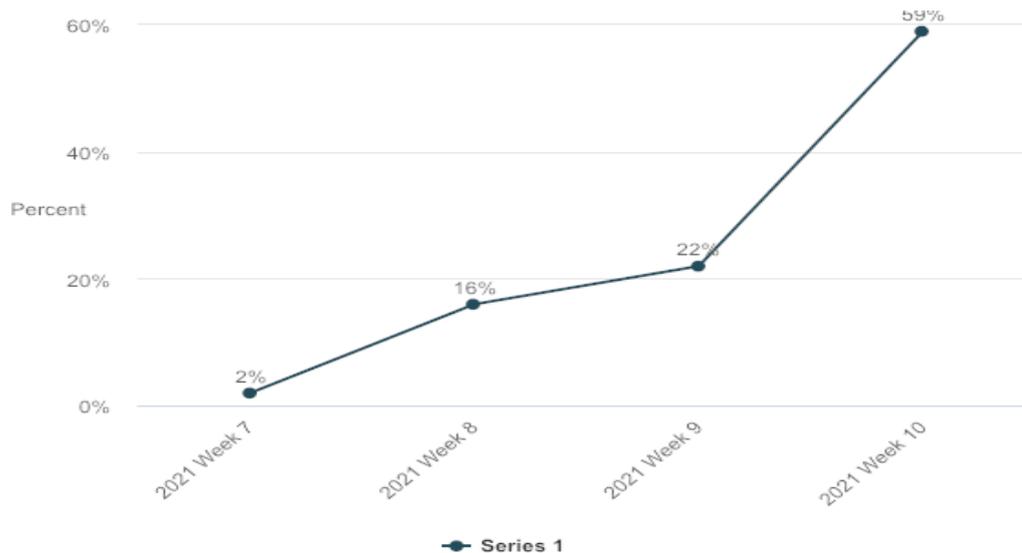
Items of the task conflicts were taken from Kankanhalli (2006), there were 5 items for this variable. The items reflected the task conflicts experienced by each team member and task related. The dependent variable (innovative performance) was based on two types of items. One was from the team innovative performance and the other from individual team performance. The innovative performance of the team had 4 items taken from Guinan et al (1998). Whereas, the individual innovative performance had 13 items, taken from an academic article by George and Jing Zhou (2002). The ethical leadership serves as a mediating role in this study. The number of items for ethical leadership was 15, these items reflect the questions related to the activities and leadership skills of the leader from the eyes of team members. The items were taken from Yukl et al (2013).

As the questionnaire was made, a cloud survey application authorized by the University of Turku was used. The questionnaire was uploaded and a link to the questionnaire was sent to each selected start-up firms of Pakistan. The total time to gather all the data was approximately one month from 18th February 2021 to 18th March 2021. After three weeks of data collection, reminders were sent to the respondents to fill the online questionnaires. The respondents were very supportive and accepted my request. In one week, all the 205 questionnaires were filled. The following table 1 shows the number of respondents each week in one month.

**Table 1. Batch information**

| Time                   | %   | No. of respondents |
|------------------------|-----|--------------------|
| Batch 1 (2021 Week 7)  | 2%  | 10                 |
| Batch 2 (2021 Week 8)  | 16% | 47                 |
| Batch 3 (2021 Week 9)  | 22% | 64                 |
| Batch 4 (2021 Week 10) | 59% | 174                |

Based on the above information of batch, the first three batches of data were collected after one reminder and 121 questionnaires were filled after the second reminder. The graphical representation of batch information is below.

**Figure 3. Graphical representation of batch information**

While collecting the data, research ethics were abided, the confidentiality of the respondents was ensured by the researcher. There is personal information like the name or address of the respondents were confidential and was optional for everyone. This information was not used by the researcher while gathering the information from the questionnaire and using it to run the tests. The respondents filled the questionnaire voluntarily but reminders for the firms were set to ensure the high response rate from the firms. (TENK guidelines, 2019.)

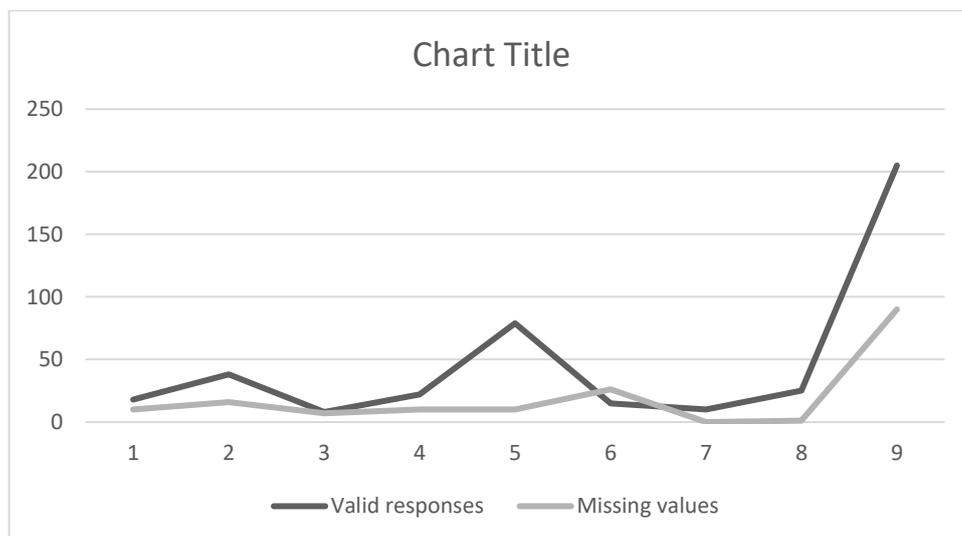
### 3.6 Survey responses

There were number of complications during the survey. The respondents faced technical issues because there was internet problem in Pakistan. The were some respondents who opened the questionnaire but never filled it. This can be explained due to the internet issues in Pakistan. Furthermore, there were number of questionnaires with the missing values and cannot be used in the research. Some of the questionnaires were filled but due to some issues addressed by Webropol, it was not used.

**Table 2. Responses by start-ups**

| companies | responses | Valid responses | Missing values | Response % |
|-----------|-----------|-----------------|----------------|------------|
| 1         | 28        | 18              | 10             | 64.2%      |
| 2         | 54        | 38              | 16             | 70.37%     |
| 3         | 15        | 08              | 7              | 53.33 %    |
| 4         | 32        | 22              | 10             | 68.75%     |
| 5         | 89        | 79              | 10             | 88.76%     |
| 6         | 41        | 15              | 26             | 36.58%     |
| 7         | 10        | 10              | 0              | 100%       |
| 8         | 26        | 25              | 01             | 96.15%     |
| total     | 295       | 205             | 90             | 69.49%     |

The graphical representation of all the valid responses and missing values are below:



**Figure 4. Graphical representation of responses**

The number of responses for this study was 295, which included all the 8 start-up companies that were selected for the study. The questionnaires were distributed among all the team members via email or Facebook, as it was the only way to communicate them. The online link for the questionnaire were sent to start-up companies and a maximum of 30-40 questionnaires were required for them to fill. Start-ups gave information of the team members along with their names who were working for the current projects together. By emailing and contacting their group on Facebook and reminding them to fill the questionnaires require a lot of work and effort. But still it is uncertain that all the team members in one team have responded accordingly or not. As the name of the respondents were kept optional to keep the confidentiality of the respondent, the questionnaires cannot tell that who respondent and who has not. As team members filled 295 questionnaires but there were 90 questionnaires which consist of missing values, so it was excluded from the data. The questionnaires that were valid for the study which includes all the questions answered with the consent of the respondent were added in the study. Table 2 shows the number of responses, valid responses, and the response percentage of all the companies. The response rate by the respondents were 69.49%, this shows that more than one quarter of the responses were either rejected by the researcher or respondents were unable to fill the questionnaire due to some reason.

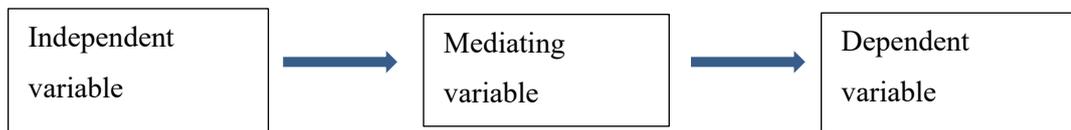
### **3.7 Statistical methods**

The items that were used for the questionnaires were based on 5 step Likert scale. The Likert scale was from strongly disagree, disagree, neutral, agree and strongly agree. The items that were asked by the respondents were from the academic sources and serves the purpose of the research (Appendix 2). Once the data collection process is completed, the one-way Anova is used to test the validity of the items and whether they should be deleted from the study or not. Moreover, other tests like correlation analysis and regression analysis were also used in the study.

The correlation analysis is the broad form to determine the relationship of two variables. The correlated data usually highlights when a variable is changed it will change or effect the other variable. The magnitude of variable can be positive or negative. The positive magnitude shows a positive effect between the two variables and vice versa. The value of correlation is between -1 to +1. If the value is closer to the ends, then it can be stated as they have a strong effect on each other. The value of zero indicated that there is no linear relationship between the two variables. (Schober & Schwarte 2018, 126.) One

the other hand, the regression analysis is used to determine whether there is a relationship between two variables and its significance. It is usually used to determine the casual effect of one variable on the other (Sykes, 1993). For the regression analysis, there must be one dependant variable and one independent variable. In this study, task conflicts are used as an independent variable whereas innovative performance is used as dependent variable.

In this study, a mediator is also used which is ethical leadership. According to Baron and Kenny (1986), a mediation is a casual chain where independent variable is transmitted to dependent variable through a third variable which is mediator. The mediator is used to understand the cause-and-effect relationship between the two variables as shown in Figure 5. The mediator can either enhance the effect or supress it between the dependant and independent variables. (Zhao et al. 2010, 37.)



**Figure 5. Regression analysis**

According to the regression analysis based on Baron and Kenny (1986), a four-step approach is used to determine the significance and coefficients of each variable on the other. Regression analysis between the independent and dependant variable shown in step 1 of figure 5.

Step 1:

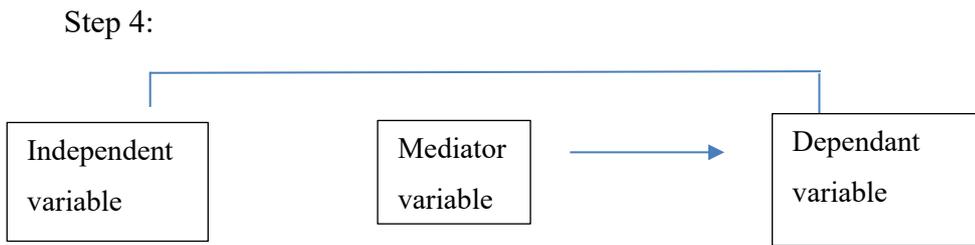


Step 2:



Step 3:





**Figure 6. Steps of regression analysis**

The first step of regression analysis between independent and dependent variable. Regression analysis of step 2 comprises of analysis between independent variable and mediator. The third step includes the regression analysis of independent variable and mediator variable. In this final step (step 4), regression analysis between mediator and dependant variable is to be conducted. It includes all the variable to be tested for regression. The effect of independent variable on dependant variable when a mediator is present to enhance the effect of the two main variables.

For the regression analysis, the first three steps are run to establish a zero-order relationship. If the relationship between any of the variables are insignificant then it concludes that the mediation in the regression analysis is not possible. So, to run the regression analysis in which all the variables are included, it is important to test the regression analysis between two variables separately as illustrated in step 1 to 3.

## 4 RESULTS

### 4.1 Construct validity

For the construct validity, Cronbach Alpha was used to clarify if the items are suitable for the research or not. All the items were taken from the academic sources but for the study it was important to check the validity of all the variables. The value of Cronbach Alpha should be more than 0.7, if somehow the value is less than 0.7 then it is important to check the validity of the items separately and deleted those items that must be deleted to fulfil the requirement of construct validity for the research.

Task conflicts:

The independent variable of this study is task conflicts. The items that were used in the questionnaire was from the source Kankanhalli (2006). The number of items for this variable was 5 which fulfils the purpose of the study. The Cronbach Alpha of task conflict was 0.731 and no items were deleted as shown in appendix 3.

Innovative performance:

The dependant variable was measured by using a 17-item scale. In this scale, two sources were used. One of the sources was used to address the individual innovative performance in a team which was developed by George and Jing Zhou (2002). Whereas the other scale was used to determine the innovative performance of the team which was sourced by Guinan et al 1998). The Cronbach Alpha for innovative performance was 0.912 and no items were deleted as shown in appendix 3.

Ethical leadership:

Ethical leadership acts as mediating variable in this study. A total of 14 item were used in this study which was developed by Yukl et al (2013). These questions were mostly based on how the ethically leaders behave and lead the teams. The Cronbach Alpha for this construct was 0.945 and no items were deleted from the data as shown in appendix 3.

### 4.2 Control variables

The analysis of variance commonly known as ANOVA is used in the statistical methods. The use of statistics F in one-way analysis of variance ANOVA us the ratio between the group variances. Mainly, ANOVA is used for the differences in means of groups and its variances (Kim 2017). One-way ANOVA is used for the demographic variables. In this

study, the six demographic variables are gender, employee position, employee education, work experience, type of employment and years working in teams. The demographic variables were divided in the values from 1, 2 and so on.

As in the quantitative research, all the observations are converted into numbers, which represents a group of individuals. For the first demographic variable i.e., gender, the value of 1 is for male and value of 2 is for females. The next demographic variable is the employee education, which consists of four group, value of 1 represents all those employees who gained education in marketing, whereas those who are skilled in management and leadership fall in the second group with the value in the software as 2. The field of information technology is essential for any company, so the IT personnel were group in number 3 and the finance and accounting staff were separated in group 4 with the value 4.

The level of education plays a great role in handling the information and run the business effectively. For this purpose, group 1 belongs to those employees who have passed the intermediate level. Moreover, the next group with the label 2 belongs to those who gained bachelor's degrees. The third group is from the employees achieving master's education and the fourth group under the value 4 comprises of individuals having doctoral degree. The fourth demographic variable is the work experience of employees and leaders of the start-up companies selected. The work experience was divided into 4 groups ranging from 6 months to more than 5 years. Those employees who worked in a company for less than 6 months falls into group 1. The second category comprises of employees who had work experience from 6 month to 2 years. The third category falls from 2 years to 5 years of work experience and the fourth group were those ones who worked for more than 5 years in any company.

As type of employment greatly affect the performance of employees in Pakistan. For those one who work for private companies must put more effort in the work, as the market and situation of Pakistan becomes unpredictable sometimes. It is likely that private firm lay off people due to social and economic reasons. Those respondents who works for private firms were grouped in 1 whereas the government employees were group in 2. For the government employees it is highly unlikely that the employees get laid off. So, sometimes they do not put much effort in the given task. As this study specifically observe the teams and its innovative performance, those employees who working for less than 6 months in team were grouped separately and label 1. Whereas those who fall in the category from 6 month to 2 years' experience in teamwork were put in the category 2.

Moreover, the third group highlights employees working from 2 years to 5 years in teams and the fourth group comprises of individuals working for more than 5 years.

To control the variation between the variables on the dependent variable, one-way ANOVA statistical method was used to see if the p-value of the control variables are significant or not.

**Table 3. One-way ANOVA**

| Sources of variation      | IP           |         | EL           |         |
|---------------------------|--------------|---------|--------------|---------|
|                           | F-statistics | P-value | F-statistics | P-value |
| Gender                    | 0.025        | 0.875   | 0.281        | 0.597   |
| Employee position         | 0.531        | 0.661   | 0.848        | 0.469   |
| Employee education        | 0.887        | 0.449   | 1.138        | 3.335   |
| Work experience           | 0.809        | 0.521   | 2.192        | 0.071   |
| Type of employment        | 1.255        | 0.291   | 1.029        | 0.381   |
| Years of working in teams | 1.379        | 0.243   | 2.103        | 0.82    |

In the above table 3 IP stands for innovative performance and EL is for ethical leadership. The significant value is 0.05. those values which are less than 0.05 is to be considered significant and vice versa.

The above table 3 Illustrates variance of analysis between independent and dependent variables with the demographic variables. For the variance of analysis one-way ANOVA test was run for the study. The effect of demographic variables was for the dependent variables which is innovative performance. Ethical leadership was also considered as a dependent variable for this test. The results shown in table 3 highlights that there exist a positive yet insignificant effect of demographic variables on dependent variables. As the results shows that there is positive yet insignificant effect it means that innovative performance and ethical leadership is not affected by the demographic variables.

Regardless of the gender, employee education, work experience, employee position in the firm, type of employment and years of working in teams by each employee. (Appendix 4.)

### 4.3 Descriptive statistics

Descriptive statistics is used to analyze the data that has been collected and after running the Cronbach Alpha and one-way ANOVA test to know the reliability of each constructs and the demographic variables that were used in the study. This test is usually used when secondary data and primary data like questionnaires are collected by the respondents. The descriptive statistics includes mean, standard deviation and correlations for each variable is presented in table below:

**Table 4. Mean, standard deviation, and correlation analysis.**

| Variables | N   | MEAN | S. D  | TC    | EL     | IP     |
|-----------|-----|------|-------|-------|--------|--------|
| TC        | 205 | 3.05 | 0.822 | 1     | 0.26   | 0.078  |
| EL        | 205 | 3.34 | 0.941 | 0.26  | 1      | 0.366* |
| IP        | 205 | 3.54 | 0.706 | 0.078 | 0.366* | 1      |

where,

N is for the number of observations.

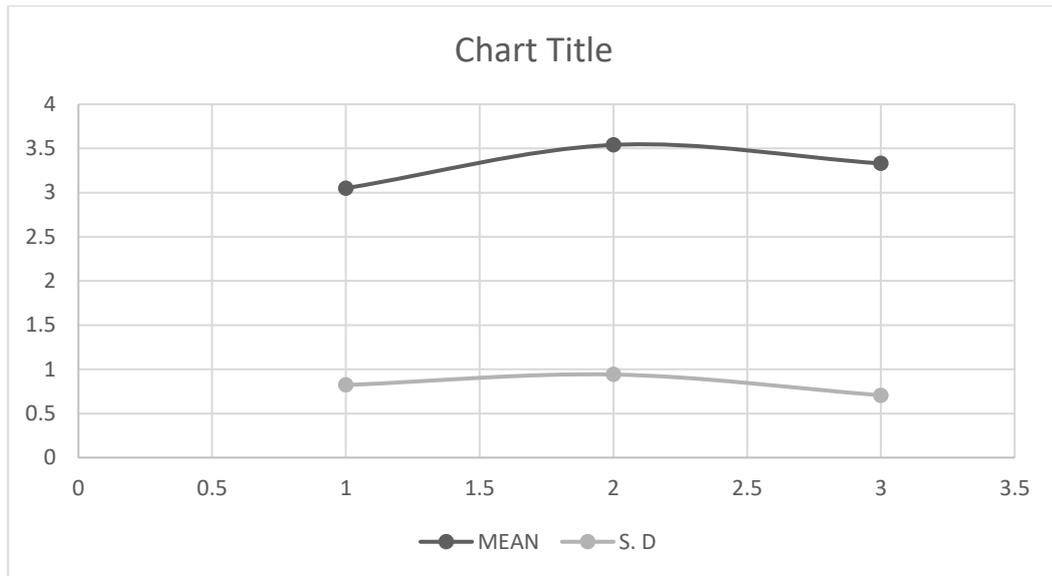
TC is for task conflicts.

EL is ethical leadership.

IP is innovative performance.

\*\* indicates the level of significance for each variable. The level of significance is 5%.

The graphical representation of mean and standard deviation shows how the values of three variables used in the study deviate from the standard value and mean value.



**Figure 7. Graphical representation of mean and standard deviation**

The above table 4 shows the results of descriptive statistics and correlation analysis. The value of mean for task conflicts is 3.05, which means that all the observations are close to 3 which is neutral in questionnaires. The other two variables i-e ethical leadership and innovative performance has 3.43 and 3.54, respectively. The value of standard deviation indicates that how much the variables deviations for the mean. The value of standard deviation for task conflicts (0.822), ethical leadership (0.941) and innovative performance is (0.706), as shown in appendix 5.

The correlation analysis between the independent variable (task conflicts) and dependent variable (innovative performance) along with the mediator variable (ethical leadership) has been analyzed. The value of correlation ranges from 0-1 which indicates those values close to the value of 1 have strong relationship and vice versa. The results show that there is a positive yet insignificant relationship between task conflicts and ethical leadership. The value of correlation is 0.26 which means that it is closer to 0 indicating that there is positive but not a strong relationship between the two variables. Whereas the relationship between task conflicts and innovative performance is positive yet insignificant. The value of correlation analysis is 0.706 which shows a strong positive relationship. The relationship between ethical leadership and innovative performance is 0.366 and significant. Ethical leadership has a positive and significant effect on the innovative performance as shown in appendix 6.

#### 4.4 Regression analysis

Regression analysis is used as a statistical tool in the field of social sciences. This test is used to investigate the possible relationship between the variables according to the data collected. It investigates the cause-and-effect relationship between the variables (Sykes, 1993). The mediation regression is used to investigate the relationship between the independent and dependent variable if the role of mediator is set in. To get the mediation regression tested, first three steps must be carried out to check if there is significant relationship between the two variables then proceed to the mediation regression. It is essential to fulfil all the three steps according to Baron and Kenny (1986). The simple regression will be carried out on each variable in first three steps of regression.

**Table 5. Simple regression**

|               | Model 1:           |         | Model 2:          |         | Model 3:          |         |
|---------------|--------------------|---------|-------------------|---------|-------------------|---------|
|               | Main effects on IP |         | Main effect on EL |         | Main effect on IP |         |
|               | Beta               | T-value | beta              | T-value | beta              | T-value |
| Main effects: |                    |         |                   |         |                   |         |
| TC            | 0.070              | 0.993   | 0.021             | 0.303   | -                 | -       |
| EL            | -                  | -       | -                 | -       | 0.367             | 5.620*  |

Where, TC is task conflicts, EL is ethical leadership and IP is innovative performance.

The level of significance is 5% indicated by \*.

The above table 5 indicates the three models of simple regression shown in appendix 7, which gives a clear insight of the relationship between the two variables separately. The first model shows a positive relationship (0.070) between task conflicts and innovative performance which rejects H1(b) and H1(c) of this study. Moreover, the second regression model between task conflict and ethical leadership (0.021) shows the effect of task conflict on ethical leadership. The results shows that there exists a positive yet insignificant effect on each other. So, H2 is accepted in this study. Moreover, the third regression model between ethical leadership and task conflicts shows a positive (0.367) and significant relationship between each other. This shows that more the ethical leadership is practiced in teams, better will be the innovative performance of teams as

well as individuals. From the results, H3 is accepted in this study, which shows positive relationship between ethical leadership and innovative performance.

As model 2 in table 5 shows that independent variable and mediating variable is not a significant predictor in this study. So, it is not possible for ethical leadership to act as a mediating variable between task conflicts and innovative performance. Hence, model 4, which is aligned with H4 in this study is not possible.

## 5 DISCUSSION

Past research focused on the relationship between the task conflicts and innovative performance. Task conflicts increases the group members to engage in deep thinking and processing of information that leads to creativity and the group becomes more effective. According to Amason & Schweiger (1997), there is a positive effect on task conflicts and team effectiveness. The researcher focused on the decision making related to the conflicts and its effects on the innovative performance of the team. As effective decision leads a team to make a positive decision in the team. But the decision on the team often leads to the conflicts among the team members. According to the results, there exists a positive and significant effect of task conflicts on innovative performance. Another study focused on the cause of the task conflicts which is usually due to the rule-orientated and teams being innovative. Organizations used different types of conflicts which helps the team to be innovative and productive. The task conflicts help as well as hinders the innovative performance of the organizations. (De Dreu & Van de Vliert 1997.) As task conflict has a positive relationship between innovative performance, the effective decision among teams and rule-oriented which means that it should have a team leader or ethical leader among them will lead to an innovative performance.

Another research showed that task conflicts at a moderate level in the teams effects the innovative performance of the teams. It enhances innovative performance (De Dreu 2006, 32). A study conducted on the municipality in Netherlands, shows that there is a positive relationship between the task conflicts and innovative work behavior along with the proactive personality of the employees. The researcher suggested that when job autonomy is moderated then the task conflicts is lower and have a positive yet insignificant effect on innovative work behavior. (Giebels 2016, 52.) A research conducted on R&D teams in an organization shows that there is a positive impact of task conflicts with the team learning behavior as well as team innovative performance. (Lee et al 2013, 14.) Another interesting research was conducted on the cross-culture team which shows that where there is a team trust, there is low degree of conflicts in team which in turn will influence innovative performance in teams at a greater level. Ratasuk & Charoensukmongkol 2019, 22.) The proactive personality and learning behavior also show a deep influence on the innovative performance. This study shows a positive effect which means that as the team members have learning skills and do not hinder the performance of the team through their stubborn attitude and keep on learning new things

as the ideas evolve among the team. The proactive behavior of all the team members/employees help team to become more innovative. As task conflict arises, because of proactive behavior it helps the team member to improve the situation.

Furthermore, a meta-analysis showed the effect of conflicts in intragroup and its outcomes. There was not evidence of strong and negative relationship between conflicts and outcomes of the group, rather it has a negative relationship. (De Wit et al 2012, 97.) The above research supports the result of the study which is that there is a positive relationship between task conflicts and innovative performance. As innovation is a source to gain competitive advantage in an organization. The innovative performance is the reason of survivals as well as growth of start-up companies. In innovative teams, team creativity leads to conflicts and creative tensions among the team members.

The past literature based on the task conflicts and ethical leadership suggest that there is a positive relationship between these two with the mediating role of resolution efficacy of the employees. The team members tend to learn more from the task conflicts and behave in an ethical way. By doing so, the team members become more confident and try to resolve the conflict that arise when having a social interaction among the other team members. When there is an ethical leader among the team, it enhances the performance. The finding of the study showed that as ethical leadership develops the resolution efficacy among the team member, it subsequently effects the task conflicts in a positive way (Babalola et al. 2018, 44). Another research focuses on task as well as relationship conflicts have an impact on team's creativity. The results suggested that there is a positive association between task conflicts and team creativity. The task conflicts and its effect are only enhanced when there is a problem-solving conflict, and these conflicts are resolved or avoided by using strategies by ethical leader. (Kozusznik 2020, 31.) The past literature focused on the positive relationship between task conflicts and ethical leadership, which supports the findings of this study. As ethical leadership makes a way of effective performance, due to this the team members are confident in their decision-making skills and become more aware about the task conflict and how it effects the ethical leadership. Moreover, the strategies used by the ethical leader helps them to resolve task conflicts and has a linear relationship with each other.

Moreover, the positive relationship of ethical leadership and innovative performance has also been studied before. According to the past research, they explored that there are three forms of creativity, namely the team creativity, member creativity and dispersion of member creativity. The researcher suggested that there is a positive relationship between

ethical leadership and team creativity, member creativity but a negative relationship with dispersion of member creativity (Tu et al. 2019, 159). Another research focused on how ethical leadership influence the innovative work along with the mediating role of intrinsic motivation. The result of this study showed that there is a linear relationship between the innovative work behavior and ethical leadership in individual perspective and group perspective (Yidong & Xinxin 2013, 116). Moreover, a study conducted on start-up companies showed that there is a positive and significant relationship of authentic leadership and creativity of the employees. For the start-up's firms, it is essential for the leaders to reflect high moral, self-awareness, and transparency in their behavior. Such a behavior helps team members follow and invest their work in a soulful thinking which will eventually leads to creativity of the team. (Sengupta et al 2021, 9.)

Another study reflected on the work of system management and innovative performance in SME's which suggests that there exists a positive and significant impact of ethical management on the innovative performance on Korean firms. Moreover, the researcher suggested that when the firms focus on the enterprise resource planning in firms then the work processes are enhanced. (Lee 2021, 13.) A recent research suggested that there is positive influence of ethical leadership on the innovative performance of the employees, when the social and human capital plays a significant mediating role between the two main variables. (Ullah et al 2021.) Hence, these findings support the results of this study that more ethical leadership in the teams, more would be innovative performance. As a lot of studies focused on the innovative performance on team along with the innovative behavior of each team member. Much emphasis was given to the ethical leadership and innovative performance. As the team leader becomes an ethical leader, the code of ethics that are followed by the leader outshines the behavior of team members and innovative performance of team as a one variable.

As the main purpose of the study was to discover the relationship between task conflict and innovative performance in start-ups with the mediating role of ethical leadership. The model 2 shown in table 4 proves that task conflict has positive yet insignificant effect on ethical leadership which makes the mediating variable i.e., ethical leadership not applicable for the model. No further study was conducted after the insignificant effect of task conflict on ethical leadership was discovered.

## 6 CONCLUSION

### 6.1 Theoretical contribution

As this study focused on the effects of task conflicts on the innovative performance in the teams. The start-ups that were selected for this study were from Pakistan. As there are not much research done in start-ups. This research extends the scope of start-up companies and focused on the task conflicts that arises in the teams. The consequences of the task conflicts, the use of the right leadership qualities by the CEO or team leader. These qualities are abided in accordance with the code of ethics and laws that helps shape the culture of the organization. Moreover, a lot of research has focused on the negative aspect of task conflicts on innovative performance. Few studies showed the positive relationship between task conflicts and innovative performance. It is crucial for the team members to agree to disagree on the specific task. As there arises task conflicts, the team members develop new ideas and through brainstorming, a much better version of solution evolves. Furthermore, this study clears the misconception that through bad leadership, the company will not prosper, a lot of research has been done on the dark side of leadership. This study emphasis on the complex environment of the start-up firms who face a lot of problems during their evolution stage. The task conflicts in the start-ups helps and guide the team members to have improved innovative performance. Moreover, the ethical leadership also effect the innovative performance in teams.

Moreover, the research questions that were highlighted in the start of the study and formed the basis for this research answered the questions. The first and the main question of the study was “what is the effect of task conflicts on innovative performance in teams?” Based on the data collected by the start-up companies of Pakistan, the result showed that there exist and positive yet insignificant relationship between task conflicts and innovative performance. In the hypothesis development, by looking at the past literature and the purpose of the study, it was hypothesized in three dimensions. Task conflicts has a positive and significant effect on innovative performance. This first hypothesis H1(a) is accepted in this study, H1(b) and H1(c) are rejected. The insignificant effects of task conflict on innovative performance reflects that there can be other factors that help a team to be innovative. Some of the factors can be creative skills of each team member that makes team innovative.

Furthermore, the second question of the study was “what is the role ethical leadership plays in mitigating task conflicts?” In aligned with the past research and the results of this study, it showed that there is a positive effect of task conflict on ethical leadership. The hypothesis was formulated based on the past literature, showed that there is a positive relationship between task conflicts and ethical leadership. As this result supported and accepted H2, but the insignificant effect relates that ethical leadership cannot be a mediating variable for task conflicts. No further research was done on the mediating effect of ethical leadership between task conflicts and innovative performance. Thus, H4 of the study was automatically rejected. Furthermore, the insignificant effect between task conflict and ethical leadership proves that as in the previous hypothesis it showed a positive relationship, task conflicts already is influencing the innovative performance and enhancing it as more task conflict arises in the team. There is no need for the ethical leadership to make innovative performance better in the teams.

The third research question states that “what is the relationship between ethical leadership and innovative performance?” The results of this study showed that there exists a positive relationship between ethical leadership and innovative performance in teams, thus H3 is accepted in this study. As the ethical leadership flourishes in the team, it helps enhance the innovative performance. Past research also supported this relationship, the ethical leader follows a code of ethics and laws to form a culture and safe environment for the team members working on the project. It gives them a power to share their ideas and knowledge to a better solution. Ethical leadership also enhances the confidence and trust among the team members, which makes it easier for them to work in an organizational environment by following the course of ethics by their leaders.

The theoretical contribution for this study is to fill in the gap that was presented by the scholars in their future directions. Moreover, there is less research in start-ups and task conflicts. This study fills the gap and address the study which is not yet studied. The trend of start-ups is growing day by day, for this purpose it is important for the researchers and managers to have knowledge about the start-ups and how to handle the conflicts which effects the innovative performance of teams.

## **6.2 Managerial implications and suggestions for future research**

The managerial advice from the results suggests that ethical leadership plays a significant role in the creativity of the team and their innovative performance. Moreover, the outcome of the results enlightens that ethical leaders must devote their knowledge to enhance the

circumstances while facing the task conflicts in the team. The start-up firms must allow their teams to raise their suggestions, ideas, and opinions in the teams. According to Chen (2016), during the project life cycle, ethical leader should closely examine the point where the conflicts arises and when the creativity is released in the team. For the project ethical leaders, the positive conflict values and attitudes should be introduced and built in the teams at the start of the project or task. Moreover, the ethical leader should have a conflict management awareness and communication skills which results in improvisation of interpersonal relationship between the team members. Trust in teams is based on understanding among the team members, through trust team members built a supportive environment and psychological safety among each other. Moreover, task conflicts can give rise to other types of conflicts among the team members. An ethical leadership should identify that which type of conflicts are arising in the team, to understand the basis of conflicts and how task conflicts are affecting the interpersonal conflict. For task conflicts the manager should undergo conflict training and how to use the agreeable and active approaches to minimize task conflicts.

The future recommendation for this study is that the start-up companies are a new field in business world. The start-up companies are mostly governed by the young students or individuals. A lot of support should be given to start-up companies all over the world, especially Pakistan. The innovative work behavior for the incubation centers in Pakistan and its effect on the self-efficacy can be studied. Moreover, the job stress in start-up firms and how it effects the innovative behavior of individual and firms. Rather than task conflicts, relationship conflicts and processes conflict can also be studied and analyzed how it effects the innovative performance in teams. Some of the limitations for this study was there was no clear time frame for the questionnaires. The time series as well as the result might differ from one start-up to another. Moreover, the start-up selected for the firms can differ the results by the other start-ups.

## 7 SUMMARY

The purpose of this study was to find out the effect of task conflict on innovative performance in start-up team. The mediating role between the two variables was ethical leadership. There are a lot of definitions of conflicts, some scholars say that conflicts are the perceptions that parties hold different views of an argument. (Jehn 1995, 256.) Whereas another scholar enlightens that conflicts are the process which is occurred through tension among the team members through real and perceived differences. (Puck & Preferring 2014, 32.) Task conflict is typically related to work-related issues. The conflicts that arise due to suggesting wide range of ideas and solutions related to specific task given. (Kyung et al. 2019. 30.) For startup firms to be more innovative, the management forms teams so that there will be a lot of new ideas through brainstorming. Innovation is defined as “the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, the organization or wider society”. (De Dreu 2006, 32.) A lot of attention has been given in the past literature on the effect of task conflicts on innovative performance. The introduction of ethical leadership is because while there are task-related conflicts in team, it is common for an ethical leader to step up and lead the team. Through ethical leadership, innovative performance of team and employee creativity can also be enhanced. (Yidong & XinXin 2013, 116.)

To develop the insights, a survey was designed which involves all the three variables in the questionnaires. An internet-based survey was designed and the response rate for the data collection was 69.49% for this study. A convenience sampling technique was used, and the selection criteria was all the start-up companies who are involved in teamwork. The internet-based survey took 20 minutes for the respondents to fill the questionnaires. A 5-likert scale was used in the questionnaire and all the items questioned the conflicts in the team, innovative performance of the team and individual innovative performance. Only ethical leadership was questioned from the team members about the leader of the team. Statistical methods were used by the researcher, the correlation analysis between all the three variables as well as regression analysis. The first three steps for the regression analysis were followed.

The results of the study showed that there is a positive yet insignificant relationship between task conflicts and innovative performance. The hypothesis formation in the start

of the study supports the H1(a) and rejecting the hypothesis 1(b) and 1(c). The beta value of task conflict and innovative performance was 0.70. The next regression model shown in table 4 reflected the effect of task conflict on ethical leadership. As the regression model shown an insignificant effect on each other (beta value 0.021), the regression model of task conflict and innovative performance with the mediating role of ethical leadership was not applicable. Model 3 in table 5 shows that there is a positive and significant effect with a beta value of 0.367 between ethical leadership and innovative performance. The start-up companies have a direct effect of ethical leadership and innovative performance as ethical leader enhance the performance, it is fueled by motivation, leadership skills and power of resolving problems in a team.



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## APPENDICES

### Appendix 1. List of companies

List of companies included in the study.

| S.no | Start-up companies                |
|------|-----------------------------------|
| 1    | Darewro                           |
| 2    | Waduna                            |
| 3    | Micronox                          |
| 4    | Galactic Space                    |
| 5    | Octa FX                           |
| 6    | Ghar ka Khana                     |
| 7    | Amna's collection online boutique |
| 8    | Kitchen Kourier                   |

## Appendix 2. Questionnaire survey

### Questionnaire Survey

As part of my MS research thesis at Turku School of Economics, University of Turku. I am conducting a survey to see the effects of task conflicts on the innovative performance of individuals working in a team. I will appreciate if you complete the following table. Any information obtained in this study will be kept confidential.

Respondent's Details:

Name (optional) \_\_\_\_\_

Gender 

|      |        |
|------|--------|
| Male | Female |
|------|--------|

Employee position \_\_\_\_\_

Employee education \_\_\_\_\_

Work experience \_\_\_\_\_

Type of employment \_\_\_\_\_

Years of working in team \_\_\_\_\_

LIKERT SCALE:

(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree.

PLEASE FILL IN THE FOLLOWING TABLE:

| Serial.no | FACTORS   | (1) | (2) | (3) | (4) | (5) |
|-----------|---|-----|-----|-----|-----|-----|
| 1         | <b>Task conflicts</b><br><b>My teammates</b>                          |     |     |     |     |     |
|           | My team tended to disagree over alternatives                          |     |     |     |     |     |
|           | The disagreement experienced by my team were directly related to task |     |     |     |     |     |
|           | My team members disagreed over solutions proposed.                    |     |     |     |     |     |
|           | My team members advocated different viewpoints.                       |     |     |     |     |     |

|   |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
|   | The differences experienced by team were task related  |  |  |  |  |  |
| 2 | <b>Innovative performance</b><br><b>Me while working in a team:</b>  |  |  |  |  |  |
|   | Suggests new ways to achieve goals or objectives.  |  |  |  |  |  |
|   | Comes up with new and practical ideas to improve performance.  |  |  |  |  |  |
|   | Search out new technologies, processes, techniques and/or product ideas.   |  |  |  |  |  |
|   | Suggests new ways to increase quality.   |  |  |  |  |  |
|   | Is a good source of creative ideas?  |  |  |  |  |  |
|   | Not afraid to take risks.  |  |  |  |  |  |
|   | Promotes and champions ideas to others.  |  |  |  |  |  |
|   | Exhibits creativity on the job when given the opportunity to.  |  |  |  |  |  |
|   | Develops adequate plans and schedule for the implementation of new ideas.  |  |  |  |  |  |
|   | Often has new and innovative idea.   |  |  |  |  |  |
|   | Comes up with creative solution to problems.   |  |  |  |  |  |
|   | Often has fresh approach to problems.  |  |  |  |  |  |
|   | Suggests new ways of performing work task.   |  |  |  |  |  |
|   | <b>My Team:</b><br>in relation to other project design teams, you have been member of or observed, how does your design team rate on the number of innovations or new ideas introduced by the design team? |  |  |  |  |  |
|   | in relation to other project design teams, you have been member of or observed, how does your design team rate on your ability to coordinate with one another?   |  |  |  |  |  |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  | in relation to other project design teams, you have been member of or observed, how does your design team rate on your reputation for work excellence?           |  |  |  |  |  |
|  | in relation to other project design teams, you have been member of or observed, how does your design team rate on your ability to meet the goals of the project? |  |  |  |  |  |
|  | <b>Ethical leadership</b><br><b>My boss:</b>   |  |  |  |  |  |
|  | Shows a strong concern for ethical and moral values  |  |  |  |  |  |
|  | Sets an example of ethical behavior in his/her decisions and actions.  |  |  |  |  |  |
|  | Is honest and can be trusted to tell the truth.  |  |  |  |  |  |
|  | Keeps his/her actions consistent with his/her stated values (“walks the talk”)   |  |  |  |  |  |
|  | Is fair and unbiased when assigning tasks to members.  |  |  |  |  |  |
|  | Can be trusted to carry out promises and commitments.  |  |  |  |  |  |
|  | Insists on doing what is fair and ethical even when it is not easy.  |  |  |  |  |  |
|  | Acknowledges mistakes and takes responsibility for them.   |  |  |  |  |  |
|  | Regards honesty and integrity as important personal values.  |  |  |  |  |  |
|  | Sets an example of dedication and self-sacrifice for the organization.   |  |  |  |  |  |
|  | Opposes the use of unethical practices to increase performance.  |  |  |  |  |  |
|  | Is fair and objective when evaluating member performance and providing rewards.  |  |  |  |  |  |

|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
|  | Puts the needs of others above his/her own self-interest.            |  |  |  |  |  |
|  | Holds members accountable for using ethical practices in their work. |  |  |  |  |  |

**Thank you for your contribution in this research.**

### Appendix 3. Cronbach Alpha

**For task conflicts:**

#### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .731             | 5          |

As this table is the combined Cronbach alpha: the individual items results are under:

#### Item-Total Statistics

|     | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|-----|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| TC1 | 12.4049                    | 11.301                         | .581                             | .652                             |
| TC2 | 12.1024                    | 12.063                         | .399                             | .720                             |
| TC3 | 12.4585                    | 11.563                         | .512                             | .677                             |
| TC4 | 12.1610                    | 10.704                         | .609                             | .637                             |
| TC5 | 11.9073                    | 12.183                         | .376                             | .730                             |

**For innovative performance:**

The reliability statistics for innovative performance is under:

#### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .912             | 17         |

For each item and its reliability statistics are under:

**Item-Total Statistics**

|      | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|------|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| IP1  | 56.6884                    | 128.236                        | .616                             | .906                             |
| IP2  | 56.6181                    | 127.571                        | .692                             | .904                             |
| IP3  | 56.7638                    | 125.707                        | .729                             | .903                             |
| IP4  | 57.1759                    | 128.065                        | .476                             | .911                             |
| IP5  | 56.6382                    | 130.283                        | .588                             | .907                             |
| IP6  | 56.8392                    | 128.156                        | .624                             | .906                             |
| IP7  | 56.6834                    | 133.743                        | .294                             | .917                             |
| IP8  | 56.5779                    | 132.477                        | .501                             | .909                             |
| IP9  | 56.7990                    | 127.485                        | .663                             | .905                             |
| IP10 | 56.7387                    | 126.295                        | .673                             | .904                             |
| IP11 | 56.8291                    | 126.961                        | .673                             | .904                             |
| IP12 | 56.8241                    | 124.439                        | .719                             | .903                             |
| IP13 | 56.6683                    | 129.990                        | .592                             | .907                             |
| IP14 | 56.6231                    | 128.499                        | .623                             | .906                             |
| IP15 | 56.8141                    | 129.001                        | .511                             | .909                             |
| IP16 | 56.6734                    | 128.433                        | .560                             | .908                             |
| IP17 | 56.6281                    | 128.194                        | .571                             | .907                             |

**For ethical leadership:**

The reliability statistics for of ethical leadership is under:

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .945             | 14         |

For each item, the Cronbach alpha is under:

**Item-Total Statistics**

|      | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|------|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| EL1  | 43.3687                    | 151.087                        | .702                             | .942                             |
| EL2  | 43.2879                    | 150.967                        | .740                             | .941                             |
| EL3  | 43.5657                    | 151.638                        | .650                             | .943                             |
| EL4  | 43.3838                    | 150.674                        | .743                             | .941                             |
| EL5  | 43.5404                    | 152.696                        | .627                             | .944                             |
| EL6  | 43.7020                    | 150.241                        | .710                             | .941                             |
| EL7  | 43.3788                    | 149.749                        | .790                             | .939                             |
| EL8  | 43.5909                    | 149.167                        | .725                             | .941                             |
| EL9  | 43.3889                    | 150.594                        | .714                             | .941                             |
| EL10 | 43.4495                    | 149.477                        | .738                             | .941                             |
| EL11 | 43.3030                    | 150.750                        | .751                             | .940                             |
| EL12 | 43.6616                    | 147.210                        | .780                             | .939                             |
| EL13 | 43.5101                    | 150.028                        | .722                             | .941                             |
| EL14 | 43.3737                    | 151.129                        | .708                             | .941                             |

#### Appendix 4. One way ANOVA

##### 1. GENDER

###### ANOVA

|    |                | Sum of Squares | df  | Mean Square | F    | Sig. |
|----|----------------|----------------|-----|-------------|------|------|
| IP | Between Groups | .012           | 1   | .012        | .025 | .875 |
|    | Within Groups  | 101.515        | 203 | .500        |      |      |
|    | Total          | 101.528        | 204 |             |      |      |
| EL | Between Groups | .246           | 1   | .246        | .281 | .597 |
|    | Within Groups  | 177.907        | 203 | .876        |      |      |
|    | Total          | 178.154        | 204 |             |      |      |

##### 2. EMPLOYEE POSITION

###### ANOVA

|    |                | Sum of Squares | df  | Mean Square | F    | Sig. |
|----|----------------|----------------|-----|-------------|------|------|
| IP | Between Groups | .799           | 3   | .266        | .531 | .661 |
|    | Within Groups  | 100.729        | 201 | .501        |      |      |
|    | Total          | 101.528        | 204 |             |      |      |
| EL | Between Groups | 2.228          | 3   | .743        | .848 | .469 |
|    | Within Groups  | 175.926        | 201 | .875        |      |      |
|    | Total          | 178.154        | 204 |             |      |      |

## 3. EMPLOYEE EDUCATION

## ANOVA

|    |                   | Sum<br>Squares | of<br>df | Mean<br>Square | F     | Sig. |
|----|-------------------|----------------|----------|----------------|-------|------|
| IP | Between<br>Groups | 1.327          | 3        | .442           | .887  | .449 |
|    | Within Groups     | 100.201        | 201      | .499           |       |      |
|    | Total             | 101.528        | 204      |                |       |      |
| EL | Between<br>Groups | 2.974          | 3        | .991           | 1.138 | .335 |
|    | Within Groups     | 175.179        | 201      | .872           |       |      |
|    | Total             | 178.154        | 204      |                |       |      |

## 4. WORK EXPERIENCE

## ANOVA

|    |                   | Sum<br>Squares | of<br>df | Mean<br>Square | F     | Sig. |
|----|-------------------|----------------|----------|----------------|-------|------|
| IP | Between<br>Groups | 1.616          | 4        | .404           | .809  | .521 |
|    | Within Groups     | 99.912         | 200      | .500           |       |      |
|    | Total             | 101.528        | 204      |                |       |      |
| EL | Between<br>Groups | 7.481          | 4        | 1.870          | 2.192 | .071 |
|    | Within Groups     | 170.673        | 200      | .853           |       |      |
|    | Total             | 178.154        | 204      |                |       |      |

## 5. EMPLOYEMENT TYPE

## ANOVA

|    |                   | Sum<br>Squares | of<br>df | Mean<br>Square | F     | Sig. |
|----|-------------------|----------------|----------|----------------|-------|------|
| IP | Between<br>Groups | 1.866          | 3        | .622           | 1.255 | .291 |
|    | Within Groups     | 99.661         | 201      | .496           |       |      |
|    | Total             | 101.528        | 204      |                |       |      |
| EL | Between<br>Groups | 2.695          | 3        | .898           | 1.029 | .381 |
|    | Within Groups     | 175.459        | 201      | .873           |       |      |
|    | Total             | 178.154        | 204      |                |       |      |

## 6. NO. OF YEARS WORKING IN TEAMS

**ANOVA**

|    |                | Sum of Squares | df  | Mean Square | F     | Sig. |
|----|----------------|----------------|-----|-------------|-------|------|
| IP | Between Groups | 2.724          | 4   | .681        | 1.379 | .243 |
|    | Within Groups  | 98.803         | 200 | .494        |       |      |
|    | Total          | 101.528        | 204 |             |       |      |
| EL | Between Groups | 7.192          | 4   | 1.798       | 2.103 | .082 |
|    | Within Groups  | 170.962        | 200 | .855        |       |      |
|    | Total          | 178.154        | 204 |             |       |      |

**Appendix 5. Descriptive statistics****Statistics**

|                | TC     | IP     | EL     |
|----------------|--------|--------|--------|
| Valid          | 205    | 205    | 205    |
| Missing        | 0      | 0      | 0      |
| Mean           | 3.0517 | 3.5463 | 3.3434 |
| Median         | 3.0000 | 3.7059 | 3.5000 |
| Std. Deviation | .82287 | .70639 | .94134 |
| Minimum        | 1.00   | 1.65   | 1.00   |
| Maximum        | 5.00   | 5.00   | 5.00   |

**Appendix 6. Correlation Analysis****Correlations**

|    |                     | TC   | IP     | EL     |
|----|---------------------|------|--------|--------|
| TC | Pearson Correlation | 1    | .078   | .026   |
|    | Sig. (2-tailed)     |      | .276   | .720   |
|    | N                   | 205  | 205    | 205    |
| IP | Pearson Correlation | .078 | 1      | .366** |
|    | Sig. (2-tailed)     | .276 |        | .000   |
|    | N                   | 205  | 205    | 205    |
| EL | Pearson Correlation | .026 | .366** | 1      |
|    | Sig. (2-tailed)     | .720 | .000   |        |
|    | N                   | 205  | 205    | 205    |

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

## Appendix 7. Regression analysis

Model 1:

**Coefficients<sup>a</sup>**

| Model      | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
|            | B                           | Std. Error | Beta                      |        |      |
| (Constant) | 3.360                       | .190       |                           | 17.714 | .000 |
| TC         | .060                        | .060       | .070                      | .993   | .322 |

a. Dependent Variable: IP

Model 2:

**Coefficients<sup>a</sup>**

| Model      | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
|            | B                           | Std. Error | Beta                      |        |      |
| (Constant) | 3.291                       | .252       |                           | 13.067 | .000 |
| TC         | .024                        | .080       | .021                      | .303   | .762 |

a. Dependent Variable: EL

Model 3:

**Coefficients<sup>a</sup>**

| Model      | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
|            | B                           | Std. Error | Beta                      |        |      |
| (Constant) | 2.610                       | .172       |                           | 15.169 | .000 |
| EL         | .277                        | .049       | .367                      | 5.620  | .000 |

a. Dependent Variable: IP