

**CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD**



**Impact of Participative Leadership on
Innovative Work Behavior of Project
Employees with the Mediating Role
Employees Voice Behavior and the
Moderating Role of Proactive
Personality**

by

Muhammad Rehan

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

Faculty of Management & Social Sciences

Department of Management Sciences

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*I want to dedicate this achievement my parents, teachers and friends who always
encourage and support me in every crucial time*



CERTIFICATE OF APPROVAL

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Abstract

This research study aimed to examine the interactive effect of participative leadership on innovative work behavior of IT project employees. The proposed theoretical framework used LMX- Leader member Exchange theory to explain the hypotheses. To test the model, data were collected through a survey conducted among employees of IT project in Major cities of Pakistan Lahore, Karachi, Rawalpindi and Islamabad. Time lag technique was used to collect the data through adopted questionnaires. The final sample size responses after discarding incomplete questionnaires were 245. The measures were validated using confirmatory factor analysis. Hierarchical linear regression was used to investigate the moderating role of need for achievement. Results indicated a strong support for our hypotheses. Slope test revealed that the relationship between participative leadership and employees voice behavior strengthen the relationship with innovative work behavior of Project employees in the presence of Proactive personality. Moreover, managerial implications and future research directions have been discussed.

Keywords: Participative Leadership; Innovative Work Behavior; Employee Voice Behavior; LMX-Leader Member Exchange Theory.

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Abbreviations

DV and Y	Dependent Variable
EVB	Employees voice Behavior
H	Hypothesis
HTMT	Heterotrait-Monotrait Ratio
IT	Information Technology
ITPs	Information Technology Projects
IV	Independent Variable
IWB	Innovative Work Behavior
LMX	Leader Member Exchange Theory
M	Mediator
N	Numbers
PL	Participative Leadership
PP	Proactive Personality
V	Moderator

Chapter 1

Introduction

1.1 The Study's Background

The ability to innovate plays a crucial role (B. Yuan & Cao, 2022) in gaining a competitive edge in the projects industry (Stefan, Hurmelinna-Laukkanen, & Vanhaverbeke, 2021; Spanuth & Wald, 2017; Matos, Viardot, Sovacool, Geels, & Xiong, 2022). Because of this in academic research, addression of innovation has skyrocketed in recent decades (Govindan, 2022; Sabando-Vera, Yonfa-Medranda, Montalván-Burbano, Albors-Garrigos, & Parrales-Guerrero, 2022). Innovative-ness has become pervasive (H. Yang, Song, Cheung, & Guan, 2022), especially in information technology based projects (ITPs) (Tarafdar & Tanriverdi, 2018; Hernández, 2022). Thus, the adoption of innovativeness in work behaviors for project employees is essential (Nurjaman, Marta, Eliyana, Kurniasari, & Kurniasari, 2019; Bratianu, Stănescu, & Mocanu, 2022).

On the other hand, it's also very difficult for organizations to survive and grow in a highly competitive, tough business environment without innovative work behavior (IWB) (Odoardi, Battistelli, Montani, & Peiró, 2019; Chowhan, Pries, & Mann, 2017; Purwanto, Bernarto, Asbari, Wijayanti, & Hyun, 2020; Vuong, Tushar, & Hossain, 2022). Therefore, Innovative work behavior (IWB) is essential (Gkontelos, Vaiopoulou, & Stamovlasis, 2022), as it helps to generate new processes, products, and services (Saether, 2019; Bratianu et al., 2022) for information technology projects (ITPs) (L.-R. Yang, Chen, & Li, 2016; Hon & Lui,

2016; M. Kim, Shin, & Gang, 2017; Leone & Schiavone, 2019; Kutieshat & Farmanesh, 2022).

Also innovative work behavior (IWB) stimulates the development and execution of novel ideas, (Al Wali, Muthuveloo, & Teoh, 2022) which results in increased performance, competitiveness, and long-term survival (Van den Broeck, Ferris, Chang, & Rosen, 2016; Vuong et al., 2022) all contributing toward information technology's project (ITPs) innovativeness (Garg, Attree, & Kumar, 2022). Similarly, evidence can be found in the previous study where innovative work behavior (IWB) is significantly associated with innovative outcomes of information technology projects (ITPs)' (Sarwar, Imran, Zahid, et al., 2020; Schepers, de Vries, Raassens, & Langerak, 2022).

Researchers have discovered several variables, including leadership styles, which are influential in achieving innovative work behavior (Mubarak, Khan, Yasmin, & Osmadi, 2021; Kussoy, DN, & Tanuwijaya, 2022). Numerous studies are available on innovative work behavior (IWB) (Jain, 2022).

However, only few studies have shown certain attributes that may enhance innovativeness (Hogan & Coote, 2014; Akram, Lei, & Haider, 2016; Tseng, Lim, Helmi Ali, Christianti, & Juladacha, 2022). Leadership style is one of those which influences it (Arici & Uysal, 2022) and has gained popularity in recent years' research (AlNuaimi, Singh, & Harney, 2021; Barr & Nathenson, 2022).

While talking about leadership styles, participative leadership style is an important style that fostered the (ITPs) project employee's innovative work behavior (Somech, 2006; ?, ?; Wang, Zhao, & Zhang, 2022). Participative leadership finds that it directly affects the employee's innovative behavior in a positive mood, giving them a chance to share their new ideas, thoughts, and suggestions (Fatima, Majeed, & Saeed, 2017; Berraies, 2022). Participative leadership is a leadership style that involves workers in decision-making (B. H. Kim & Bang, 2021). Also open communication and collaborative decision-making are hallmarks of participative leadership (Zijl, Vermeeren, Koster, & Steijn, 2021). Therefore, participative leaders pay close attention to the employees' voice behavior, including speaking up about project work-related issues (Zhu, 2021). While talking about Employee voice behavior, it refers to employees expressing positive ideas, facts, and views

regarding a project's innovative work (Dyne, Ang, & Botero, 2003). Employee voice behavior (EVB) is essential for improving the presentation of new ideas and the exchange of useful information with leaders to help them, to make more informed decisions about projects that are innovative (Lee, Choi, & Kang, 2021). According to Lee, Lee et al. (2021), employees' voice behavior (EVB) may play a significant mediating role in the impact of a leader's participation on innovative work behavior.

Voice behavior is permissive in nature and considered as a proactive behavior (Naqvi, 2020). Proactive people are more likely to use their voices more frequently (Seibert, Kraimer, & Crant, 2001), as this activity may be a means of bringing significant changes to bring innovativeness (Wijaya, 2021). A personality having pro-active behavior is one who is likely to have the skills of displaying initiative, taking action, and recognizing opportunities (Horng, Tsai, Hu, & Liu, 2016; Chien, Yang, & Huang, 2021). As a result, proactive personality (PP) is an extremely important human capital element, because research has shown that personal resources have a significant effect on projects (i.e., ITPs Information Technology projects) (Mubarak et al., 2021).

In the context of the ITPs in Pakistan, as far as we are aware, no study has examined the mediating effect of "employee voice behavior (EVB)" and the moderating effect of "proactive personality (PP)" on the relationship between a participative leadership (PL) style and innovative behavior work (IWB) of ITPs employees. The current study suggests that if the project manager is participative and the team members are proactive with a voice behavioral attitude, this combination may increase the project team members' innovative work behavior in Pakistan's ITPs.

Proactive personality (PP) under participative leadership (PL) may encourage employees to voice their opinions. According to the literature, innovative work behavior (IWB) is associated with participative leadership (PL). However, prior studies have not addressed the crucial gap between participative leadership (PL) and innovative work behavior (IWB), despite the mediating role of employees' voice behavior and the moderating role of proactive personality (PP). This study therefore evaluated the innovative work behaviors (IWB) of project employees

in information technology (IT) projects based organizations, which is definitely possible through their voice behavior and proactive personality in the supervision of participative leadership.

1.2 Gap Analysis

Leadership styles have an important role in information technology projects (ITPs) innovativeness (Matto, 2021; S. A. Haider, Zubair, Tehseen, Iqbal, & Sohail, 2021; Pham, Pham, Quang, & Dang, 2022). To increase the likelihood of project innovation (Becker, Coussement, Büttgen, & Weber, 2022) and to mitigate the effects of the complexity found in ITPs, (Z. Zhang, Min, Cai, & Qiu, 2022) researchers must continue identifying appropriate leadership styles, (Mashele & Alagidede, 2022) and practitioners must adopt these styles (Ahmed, Rafique, & Philbin, 2021; Andrej, Breznik, & Natek, 2022).

Many studies are available on leadership styles, (Schermuly, Creon, Gerlach, Graßmann, & Koch, 2022) such as inclusive (A. Mir, Rafique, & Mubarak, 2021), Ethical (Bhatti, Kiyani, Dust, & Zakariya, 2021), Optimal (Hakkak, Nawaser, Vafaei-Zadeh, & Hanifah, 2021), Shared (Imam, 2021), Humble (Ali, Li, Haider, Khan, & Din, 2021), Transformational (Purnomo, Supriyanto, Dami, et al., 2021; Alsubaie, 2021), Transactional, However, few studies on participative leadership in information technology projects (ITPs) are available.

A participative leadership style is a positive type of leadership style in which the leader encourages, supports, and influences employees to participate in decision making and problem solving (Pillay-Naidoo & Nel, 2022). Participatory leaders instill a sense of responsibility in their employees by involving them in decision making (Hoque & Islam, 2022). Followers of a participative leader are more likely to exhibit high levels of performance, organizational citizenship, and a variety of other positive behaviors (Althnayan, Alarifi, Bajaba, & Alsabban, 2022).

Although the participative leadership relationship has been tested for employee creativity (Chen, Wadei, Bai, & Liu, 2020), employee turnover intention (Ayaz, Qahar, Wakeel, & Nayeel, 2021), employee job performance (Miao, Newman, &

Huang, 2014; Zhu, 2021), employee empowerment and employee's commitment (Somech, 2006), employee team resilience (Zhu, 2021).

Likewise, the underlying mechanism to identify the relationship between innovative work behavior of information technology project (ITPs) employees and participative leadership is through the employee's voice behavior and having a proactive personality. Therefore, through the mediation and moderation of employees' voice behavior and proactive personality, respectively, we provide the missing link between participative leadership (PL) and innovative work behavior (IWB) of IT project employees.

1.3 Problem Statement

Innovative work behaviors (IWB) are nowadays even more crucial for organizations (Musenze & Mayende, 2022) particularly those based in information technology (Bagheri, Newman, & Eva, 2022). This is because business environments are changing rapidly, and competition is increasing (Le & Nguyen, 2022). While talking about innovation rate of ITPs in Pakistan's economy Context, is ranked 99th among 132 economies worldwide according to the report of Global Innovation Index (GII) published in Dec, 2021. Pakistan receives a 24.4 overall rating score, which is very low (Shabbar & Shagufta, 2021).

According to the published report of world bank this ranking is based on 81 distinct metrics that are grouped together under seven pillars. 'Human capital' is one of them, and Pakistan ranks 117th in this category (Bank, 2021). Social scientists use the concept of "human capital" to refer to the traits that are deemed advantageous in the innovation process. It covers things like leadership conduct, employee behavior contexts and personality attributes (Deming, 2022).

While talking about leadership conduct, leader styles have been linked to boost the innovative work behavior of employees (Rafique et al., 2022). Thus, to further extend the research, we will explore the underlying leadership styles that affect innovative work behavior. Among many other leadership styles, participative leadership is yet to be evidenced in the perspective of innovative work behavior of

ITPs employees for Pakistan's economy. In employee behavioral context, Employees voice and innovative work behavior is considered more. So, we are identifying how participative leadership might influence innovative work behavior through mediation and moderation of employee voice behavior and proactive personality, respectively.

1.4 Research Questions

Keeping in view the information technology based projects (ITPs) of major cities in Pakistan (i.e. Islamabad, Lahore, Karachi), our research questions are;

Question 1:

What impact does participative leadership (PL) have on ITPs employees' innovative work behavior (IWB)?

Question 2:

What impact does participative leadership (PL) have on employees' voice behavior (EVB) in ITPs context?

Question 3:

What impact does employees' voice behavior (EVB) have on an innovative work behavior (IWB) of ITPs employees?

Question 4:

Does Employees' Voice Behavior (EVB) mediate the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs employees?

Question 5 a:

Does proactive personality (PP) moderate the relationship between participative leadership (PL) and employee voice behavior (EVB) such that employees with a proactive personality will show higher voice behavior under a participative leader?

Question 5 b:

Does proactive personality (PP) moderate the relationship between participative leadership (PL) and innovative work behavior (IWB) through mediation employee

voice behavior (EVB) such that ITPs, employees with a proactive personality will show higher voice behavior under a participative leader?

1.5 Objectives of Study

The study aims to determine the effects of participative leadership (PL) on project employees' innovative work behavior (IWB) working on information technology projects (ITPs) in Pakistan's major cities, particularly Islamabad, Lahore, and Karachi. Additionally, to examine the mediating role of employees' voice behavior (EVB) between participative leadership (PL) and employees' innovative work behavior (IWB). It also examines the moderating role of proactive personality (PP) in the relationship between participative leadership (PL) and employee voice behavior (EVB).

Objective 1:

To investigate the impact of participative leadership (PL) on ITPs employees' innovative work behaviors (IWB).

Objective 2:

To investigate the impact of participative leadership (PL) on the voice behavior (EVB) of ITPs employees.

Objective 3:

To investigate the impact of employees' voice behavior (EVB) on ITPs employees' innovative work behavior (IWB).

Objective 4:

To investigate the role of employee voice behavior (EVB) in mediating the relationship between participative leadership (PL) and ITPs employees innovative work behavior (IWB).

Objective 5 a:

To investigate the moderating role of proactive personality (PP) in the relationship between participative leadership (PL) and employee voice behavior (EVB), such

that ITPs, employees with a proactive personality will show higher voice behavior under a participative leader (PL).

Objective 5 b:

To investigate the moderated mediation role of proactive personality (PP) in the relationship between participative leadership (PL) and employees innovative work behavior in ITPs.

1.6 Significance of Study

In order to maintain a competitive edge in the project industry, innovation is essential (B. Yuan & Cao, 2022; Stefan et al., 2021; Matos et al., 2022). Due to this, academic research has recently given much more attention to innovation (Govindan, 2022; Sabando-Vera et al., 2022). Innovation is now commonplace (H. Yang et al., 2022), particularly in projects based on information technology (ITPs) (Tarafdar & Tanriverdi, 2018; Hernández, 2022). Therefore, it is significant for project employees to adopt innovative work behaviors (Nurjaman et al., 2019; Bratianu et al., 2022).

However, without innovative work behavior (IWB), it is extremely difficult for organizations to thrive in a fiercely competitive business environment (Chowhan et al., 2017; Purwanto et al., 2020; Javed, Naqvi, Khan, Arjoon, & Tayyeb, 2019; Woods, Mustafa, Anderson, & Sayer, 2017). Additionally, innovative work behavior (IWB) encourages the creation and implementation of novel ideas, which improves performance, competitiveness, and long-term survival (Van den Broeck et al., 2016; Vuong et al., 2022), all of which contribute to the innovativeness of information technology projects (ITPs) (Garg et al., 2022). Similar evidence can be found in the earlier study, which may tell correlation between innovative work behavior (IWB) and innovative outcomes of information technology projects (ITPs) (Sarwar et al., 2020; Schepers et al., 2022).

Researchers have identified a number of factors, including leadership philosophies, that have an impact on developing innovative work practices (Mubarak et al., 2021). The topic of innovative work behavior (IWB) has been the subject of a wide

range of studies (Jain, 2022). Only a small number of studies (Hogan & Coote, 2014; Akram et al., 2016; Tseng et al., 2022) have revealed specific characteristics that may improve inventiveness. One factor that affects it is leadership style, which has become more popular in recent years' research (AlNuaimi et al., 2021; Barr & Nathenson, 2022; Lukito-Budi, 2021).

According to (Somech, 2006; Mohamed, Marie, & Rahim, 2019; Wang et al., 2022), participative leadership style is a significant style that encouraged the (ITPs) project employee's innovative work behavior. Giving employees a chance to share their fresh ideas, thoughts, and suggestions has been shown to positively impact their innovative behavior (Fatima, Majeed, & Saeed, 2017; Berraies, 2022). This is according to participatory leadership (Z. W. Zhang et al., 2022). The characteristics of participative leadership include transparent communication and group decision-making as well (Zijl et al., 2021). Also open communication and collaborative decision-making are hallmarks of participative leadership (Zijl et al., 2021). As a result, participatory leaders pay close attention to how their team members express themselves, including when they speak up about issues relating to project work (Zhu, 2021). Employees expressing supportive thoughts, information, and opinions about an innovative project are referred to as engaging in employee voice behavior (Dyne et al., 2003). Employee voice behavior (EVB) is crucial for enhancing how new ideas are presented and how useful information is shared with leaders to assist them in making more informed decisions about innovative project proposals (Lee et al., 2021). Employee voice behavior (EVB) may significantly mediate the effect of a leader's participation on innovative work behavior, according to (Lee et al., 2021).

According to Frese and Fay (2001) and Naqvi (2020), voice behavior is permissive by nature and is regarded as proactive behavior. As this activity may be a way of bringing about significant changes to foster innovativeness (Wijaya, 2021), proactive people are more likely to use their voices more frequently (Seibert et al., 2001). A pro-active personality is one that is more likely to be capable of showing initiative, acting on opportunities, and recognizing them (Horng et al., 2016; Chien et al., 2021). In light of the fact that personal resources significantly influence projects (i.e., ITPs Information Technology projects), proactive personality (PP)

is a crucial component of human capital (Mubarak et al., 2021). To our knowledge, no study has looked at the relationship between a participative leadership (PL) style and innovative behavior work (IWB) of ITPs employees in the context of the ITPs in Pakistan. Additionally, no study has looked at the mediating effect of "employee voice behavior (EVB)" and the moderating effect of "proactive personality (PP)". The significance of the current study is that, as a participative project manager with proactive team members, having a voice-behavior attitude may increase the project team members' innovative work behavior in Pakistan's ITPs.

1.7 Supporting Theory

With the strong focus on leadership-employee dyadic interactions (Rice & Cotton-Nessler, 2022), leader-member exchange (LMX) theory, proposes that leaders and employees form distinctive bonds based on their social exchanges (A. A. Mir, Farooq, & Khan, 2022). The effectiveness of these interactions within an organization (based on information technology projects) can affect employee behaviors (for example, innovative work behavior of project employees) and outcomes (Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997).

As in this study, participative leadership might influence the behavior of individual employees and motivate them to raise their voice and inculcate innovative work behavior. Because high-quality exchanges are typified by increased effort and personal loyalty to the leadership and allow their employees more control and influence (Dionne, Sayama, Hao, & Bush, 2010). According to B. H. Kim and Bang (2021), participative leadership is more influential for the exchange of ideas, suggestions, and thoughts among their employees. This exchange is also supportive of enhancing employees' voice behavior. The combination of these factors suggests a receptiveness and support for innovative work behavior.

Among these exchanges, the personality of an individual plays an important role (Yoon & Bono, 2016). e.g., in this case, we are testing employees' proactive personalities between participative leadership and employee voice behavior. The exchange of a participative leader and the proactive personality of an employee

might both contribute toward employee voice behavior and, ultimately, innovative work behavior of project employees.

1.8 Research Model

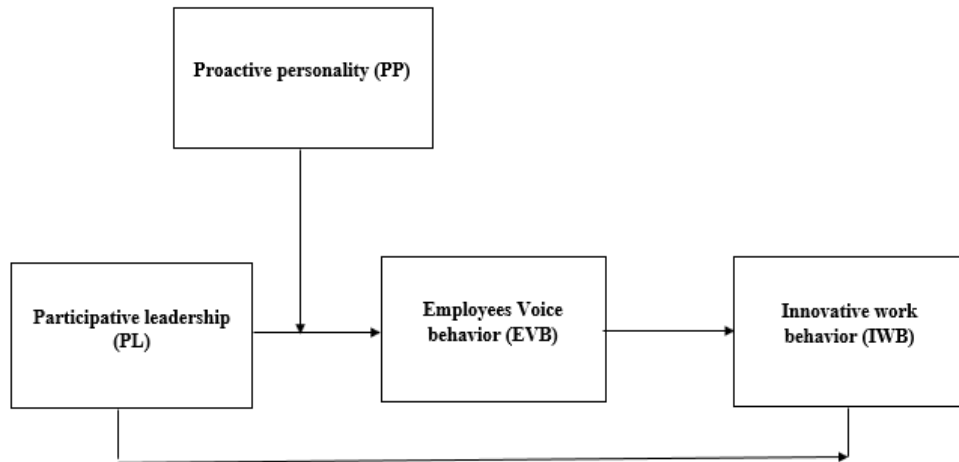


FIGURE 1.1: Research Model Presenting the Effects of Variables

Chapter 2

Literature Review

Management at the top and leadership are crucial. A goal could be the destination of the innovative journey. Good leadership gives employees a chance to participate. A proactive personality may influence the voice. Raising voices is important to producing innovative outcomes. Innovative work behavior is important for innovations. (Hollander, 2012).

In line with the Leader Member Exchange (LMX) theory, our research model describes how participative leadership affects IT project employees' innovative work behavior (IWB), with the mediating role of employee voice behavior (EVB) and the moderating role of proactive personality (PP). This study will explain the direct, mediating, and moderating effects of the aforementioned variables. This chapter is supposed to include literature on the interactions between variables.

2.1 Participative Leadership (PL)

To comprehend the term "participation," one must first comprehend where it came from. When an employee plays a reasonable part in the project for which they are hired, the situation is referred to as "participation" (Tran, Phan, Tan, & Rahimi, 2022). Different forms of participation are considered, along with the motivations and objectives that underpin each of those forms, leading to the development of innovativeness (Davey, O'Brien, Ouschan, & Parkinson, 2022).

A participatory leader listens to their team members and incorporates them in the decision-making process in addition to participating (Wilson, 2020). It necessitates the ability to delegate authority, excellent communication skills, and an inclusive mentality (Abbu, Mugge, Gudergan, Hoeborn, & Kwiatkowski, 2022). It is one of the three leadership climates that social psychologist Kurt Lewin identified in the 1930s and is sometimes referred to as "democratic leadership." Participative leaders typically assign tasks and give constructive criticism to encourage professional development (Lewin, 1987). They ensure transparency so every member of the team can see how their role fits into the bigger picture and help achieve better results. Participatory leadership, which emphasizes individual accountability and working together to discover answers rather than blaming others when problems arise, promotes collaboration.

When determining whether an employee is engaging in innovative work behavior, Rezvani and Khosravi claim that the project leader's abilities and leadership style are frequently taken into consideration (Joshua, 2020). The project leader must ensure that all team members have the opportunity to participate because they each have unique knowledge and abilities that can be used to innovate. According to published research Atwater and Waldman (2007), a participative leader may have an impact on the innovative work behaviors of project team members. As the leader inspires and motivates each member, it is important to consider how everyone on the team is participating. This increases the likelihood that ideas and judgments are made, which are crucial for goal achievement (Driskell, Salas, & Driskell, 2018).

Likewise, earlier studies on PL and project innovation concentrated on participative management practices, which are one of the most crucial ways to involve employees in enhancing innovative work behavior (Monge, Cozzens, & Contractor, 1992). In participative management, formal and informal methods are both used to improve project innovative performance, such as the development of formal systems for assembling competent innovations suggested by employees. (Monge, 1990).

Furthermore, Kanter contended that businesses could successfully scout out novel approaches in their surroundings in order to guarantee innovation (Kanter, 1988).

The research is based on innovative work behavior for learning democratic negotiations as a discussion to exchange ideas based on knowledge creation in order to contribute to our knowledge, to challenge our own basic suppositions, and despite numerous involvements (Kristiansen, Bloch-Poulsen, et al., 2005). An upright Participative Leadership (PL) is around decision making by Project Management Office (PMO) for the satisfaction of stakeholders. In PL, issues are brought up to help employee make informed decisions. PL has to do with raising issues to make wise choices. According to Klakegg, Williams, and Magnussen (2009) senior management has a responsibility to oversee projects in an appropriate manner by exercising authority and making moral decisions. Proper PL is necessary for the project to be generally competent (Klakegg et al., 2009).

Fair decision-making regarding a project is possible with the team's participation and the use of the proper PL. PL specifically has to do with employee participation. Similarly, Dane and Pratt also emphasized making moral decisions (Dane & Pratt, 2007). Employees satisfaction is one of the dimensions of participatory leadership; this leadership style is typically influenced by participation strategies and project culture as well (Crawford & Helm, 2009).

2.2 Innovative Work Behavior (IWB)

Employee knowledge is crucial if management wants to innovate and achieve a competitive advantage. Therefore, it is critical to comprehend how to create an environment at work that promotes innovation among personnel (Deshpandé, Farley, & Webster Jr, 1993; Nybakk & Jenssen, 2012; Patterson, Warr, & West, 2004). S. G. Isaksen and Ekvall (2010) recognized a significant issue for leaders: the deliberate management of projects that foster innovation. More specifically, according to France, France, Mott, and Wagner (2007), they contend that businesses may overcome the difficulty of remaining competitive if they understand how their capacity for innovation is intrinsically tied to the ways in which their leaders and structures foster innovation. Innovation, often known as the internal environment of leaders' support that fosters the development of new ideas, is essential for projects that rely on innovation to gain improvement in performance (Kissi,

Dainty, & Liu, 2012). An important component of leadership for innovation is providing the right to participate in decisions so that employees can share and build upon each other's ideas and proposals. They reinforced this claim by saying that innovation is one where innovation and change are fostered (S. G. Isaksen & Ekvall, 2010).

Job descriptions and staff responsibilities often do not contain innovative work practices (Janssen, 2000). Therefore, their applicability cannot be ensured. According to this perspective, the project's formal reward and recognition systems do not recognize these innovative work behaviors (Yuniawan, 2019). Importantly, leadership proclivities toward these innovative behaviors can boost team and project innovation. Researchers have focused more on projects and individual characteristics that may encourage innovative work behavior, operating on the presumption that individuals' innovative work behavior positively impacts work outcomes (Janssen, 2000; Janssen, Van de Vliert, & West, 2004; Mumford, Scott, Gaddis, & Strange, 2002). Researchers like have found the effects of leadership that are strategically related to project innovation (Crespell & Hansen, 2009; Nybakk & Jenssen, 2012). According to some academics, innovative work practices can help projects obtain a competitive advantage and foster innovation (Janssen et al., 2004; Kanter, 1988; Oldham & Cummings, 1996; Scott & Bruce, 1994; F. Yuan & Woodman, 2010; Shih & Susanto, 2011). Their methods, however, lack a conceptual foundation and place a strong emphasis on studies looking at the connection between innovative work practices and participative leadership.

Our study adds a lot of valuable ideas to project innovation research theory and practice. First off, there aren't many research that have examined the connection between IWB and participative leadership in general. Our research will offer fresh insight into how the constructs relate to one another. While a favorable relationship between participatory leadership and innovative work behavior has great face validity, the majority of empirical research has concentrated on the impacts of employee voice behavior on project and team level innovations (J. De Jong & Den Hartog, 2010). Participatory has been demonstrated to positively impact innovation in numerous studies at the project and team levels (West & Anderson, 1996; Amabile, Conti, Coon, Lazenby, & Herron, 1996; Nijhof, Krabbendam, &

Looise, 2002). However, there hasn't been much actual research on how innovative work behavior affects employees's capacity for innovation. Also noteworthy is the fact that there is little evidence from a viewpoint in the present theoretical understanding of the effects of innovative work behavior, which is mostly based on research done in some other contexts. The biggest chances for innovation in their projects created by leaders who know how to favorably influence the environment of innovative work behavior supportive of innovation, which may improve the performance of projects.

It has been discovered that individual innovativeness is necessary for project level innovation, which is crucial for a project's success (DiLiello & Houghton, 2006). It's important to remember that employee input can lead to innovation within initiatives (Amabile et al., 1996; Nybakk & Jenssen, 2012). The speech behavior of leaders must encourage individual innovation (DiLiello & Houghton, 2006; Hunter, Bedell-Avers, & Mumford, 2007; S. G. Isaksen & Ekvall, 2010). When they sense strong leaders' support, employees with innovative potential are more inclined to put their skills into practice (DiLiello & Houghton, 2006). Additionally, projects are more likely to achieve better levels of motivation, dedication, and employee engagement, resulting in increased innovative work behavior, if they can create an environment that employees view as positive.

Highly engaged employees expended more free time, which enhanced total innovation (Macey & Schneider, 2008). Additionally, innovative work practices and initiatives that engage and motivate employees are advantageous for innovation (Brown & Leig, 1996). The likelihood of a project's success can be significantly increased by creating an environment that encourages and promotes innovative workbehavior (Harter, Schmidt, & Keyes, 2002). These research have repeatedly demonstrated that an atmosphere that encourages innovation has both direct and indirect effects on project performance through innovative work behavior, along with a number of other exploratory investigations (Crespell & Hansen, 2009; Deshpandé et al., 1993; King, De Chermont, West, Dawson, & Hebl, 2007; Nybakk & Jenssen, 2012).

West and Anderson (1996) backed up this idea and found that a mix of characteristics related to both the individual and the workplace might encourage innovative

behavior. Autonomy to act, which involves individual control over how time is allowed and how work is done, is another major issue in this context (Parzefall, Seeck, & Leppänen, 2008). The key point is that non-regular activities and tasks, as opposed to normal work, are more challenging and hence need more thought, opening up opportunities for learning and personal development, which in turn stimulate innovativeness (Huhtala & Parzefall, 2007).

Despite the fact that there is strong face validity for the relationship between a participative leader and innovative work behavior, the majority of empirical research has focused on the influence of leadership and employee voice on team and project level innovations (J. De Jong & Den Hartog, 2010). Research at the team and project levels reveals (Amabile et al., 1996; Nijhof et al., 2002; West & Anderson, 1996). However, there haven't been many empirical research on how project atmosphere affects a person's capacity for innovation. Employee innovative behavior was positively but only moderately correlated with perceptions of the innovative environment (Scott & Bruce, 1994).

Project innovation elements, such as autonomy and freedom to speak, have been shown to have a positive impact on innovative behavior (Krause, 2007). In particular, employees may feel more free-will and have more influence over their own ideas and work processes when they operate in a setting where freedom is considered to exist. This increases their capacity for innovation (Amabile et al., 1996; Si & Wei, 2012). Although there isn't much empirical support in the literature right now, there are good reasons to believe that views of projects' innovations and IWB will be positively correlated. Putting out novel ideas was seen as dangerous since it implied altering the existing order (Albrecht & Hall, 1991). New concepts inspire discussion and even disagreement from other project members as they are subject to review. Innovation is therefore promoted in projects where failure is accepted and there is no fear of offering a ridiculous idea. Similar to this, giving employees the flexibility to transgress the rules is necessary for them to come up with innovative solutions to issues (Mikdashi, 1999). If combined, the themes of taking risks, engaging in discussion, having freedom, and trust, which are all thought to have an impact on IWB. In the past, research has shifted away from efficiency ideas and toward perspectives on innovativeness to address this

problem. Information on how to integrate individual efforts to affect performance and innovation at project levels is needed more than ever (Bilton & Cummings, 2010; Edwards, Delbridge, & Munday, 2005; S. Isaksen & Tidd, 2006). Recognizing gaps in the implementation of employee voice could help to improve IWB, while employees' innovativeness indirectly influences project value through its effects on performance (Rubera & Kirca, 2012; Davila, Epstein, & Shelton, 2006). According to García-Morales, Lloréns-Montes, and Verdú-Jover (2008), projects that prioritize employee innovation are more successful at capturing a larger market share, which can lead to high revenue and profitability. However, innovation is essential for improvement. The theory of resources and capabilities states that initiatives need to possess the knowledge and abilities required to put into practice novel innovation strategies that will be challenging for competitors to imitate and that will improve their performance both internally and externally (Bommer & Jalajas, 2004; Calantone, Cavusgil, & Zhao, 2002; Lengnick-Hall, 1992).

Importantly, all employees must take part in the innovation process for it to be successful. The interactions and activities of employees working on a project lead to innovation (Hartman, Tower, & Seborá, 1994). Since employee ideas and actions are crucial for ongoing innovation, employee voice behavior is important in the innovation process (J. De Jong & Den Hartog, 2010). The efficient application of information abilities by employees is thus likely to have an impact on innovative work behavior.

2.3 Employee Voice Behavior (EVB)

Employee Voice is viewed as being very important for the project's improved performance in a volatile project environment (Aryee, Walumbwa, Mondejar, & Chu, 2015). Voice behavior is proactive by nature (Z. Jiang, 2017), it encourages better workplace efficiency (Liang, Farh, & Farh, 2012); and it tends to confront the existing status quo (Aryee et al., 2015). For a project's innovation, voice behavior is of the utmost importance (H. Zhou, Feng, & Liu, 2017). Project where employees output to keep quiet and withhold their input may be damaged by showing low employee motivation and engagement (Agnihotri, 2017).

Employee voice play a big part in better project performance (Satterstrom, Kerissey, & DiBenigno, 2021). Due to the constructive nature of employee voice behavior, project have begun to pay more attention to it (Y. Song, Peng, & Yu, 2020). Numerous scholars in a range of fields, such as organizational behavior, human resource management, and industrial relations, have become interested in employee voice behavior (H. Yang et al., 2022).

Proactive behaviors include taking the initiative (Morrison & Phelps, 1999), individual innovation (Scott & Bruce, 1994), issue prevention (Frese & Fay, 2001), strategic perusal (Parker & Collins, 2010), issue selling (Dutton & Ashford, 1993), feedback (Ashford & Black, 1996), career initiative (Seibert et al., 2001), and employee voice behavior (Van Dyne & LePine, 1998). Projects need to pay close attention to voice behavior because it encourages ongoing growth and supports internal change processes, especially in trying times (Van Dyne & LePine, 1998, 1998). The success of the project is aided by voice behavior, a type of contextual performance for staff that concentrates on the social and psychological components of the workplace (Motowidlo, Hanson, & Crafts, 1997).

Voice behavior is classified as a sort of change-oriented communication that tries to enhance and recommend improvements to the status quo when met with vehement opposition from coworkers (LePine & Van Dyne, 2001). The findings of earlier studies indicate that more investigation is required to determine the reasons and implications of voice behavior (Parker & Collins, 2010; Avery & Quiñones, 2002). Because improvement-oriented ideas cannot be exclusively anticipated from a project's top management, especially in the current competitive and unpredictable climate, voice behavior is more significant than other behaviors (Detert & Burris, 2007). The way that an employee speaks and their chance to be heard and noticed by others are also tied to how they perceive justice, particularly procedural justice (Avery & Quiñones, 2002). Because senior management can occasionally become myopic about the policies and strategies they produce, it is vital to have specific project variables that can draw attention to the problems and weaknesses in such management-created policies. Voice behavior has a variety of effects that are essential for better project performance (Parker & Collins, 2010). Employees may help their firms stay innovative and adapt to the uncertain environment

by using a tool called voice behavior (Liang et al., 2012). About decades ago, Hirschman (1970) made the first mention of the importance of employees' voice behavior in bringing about change as opposed during an unproductive status quo. Employee activity like this has been referred to as "employee voice," and it has also been asserted that it aids firms in surviving in a changing environment. Voice behavior involves making proposals for changes to current work practices even when others at the workplace do not concur (Van Dyne & LePine, 1998).

The research on voice behavior suggests that the discipline of management pays less attention to voice research. There was an increase in voice-related studies, as after 1994, Van Dyne and LePine (1998) devised a scale to quantify the voice behavior and characterized it. They described their voice as an indication of the difficulty with a desire to change how things are done at work. Additionally, they argued that employee voice influences a project's ability to work more effectively since it helps management focus on the most pressing problems and recognize better approaches to complete tasks.

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Employees can effectively convey their care for their work by using voice behavior to express positive ideas and comments addressing work-related issues (Liang et al., 2012). Voice behavior aims to enhance project innovation, assists in preventing work issues that could impair project effectiveness, and aids in maximizing opportunities (Madrid, 2020). Two aspects of voice behavior—promotional and prohibitive—and their differentiation is explained by Liang et al. (2012). The promotional voice discusses ideas for enhancing the innovation in projects. In contrast, the restrictive voice outlines the concerns related to workplace habits as well as potential problematic processes and practices (Liang et al., 2012).

Prohibitive voice is particularly important since it directs surveillance efforts toward problems that haven't yet been identified. The primary driver for employee participation in this kind of voice is to rescue the workplace from tense situations. While examining both the primitive and prohibitive aspects of voice, the majority of the current literature focuses on the former, with the prohibitive side of voice receiving less attention from scholars. Promoting the voice is linked to improved performance of current work practices, behaviors, and rules, which may aid the workplace in adjusting to the ambiguous environment (Dyne et al., 2003; Van Dyne & LePine, 1998) While the prohibitive voice refers to current work habits to enhance innovation that might be detrimental to the project (Liang et al., 2012).

Research currently available on voice behavior demonstrates that an employee may use voice behavior to elevate their prestige within the project (Weiss & Morrison, 2019). Employee voice behavior could lead to a favorable review (Burris, 2012), improved performance for innovation and more unit-level learning (Mackenzie, Podsakoff, & Podsakoff, 2011; Farh & Chen, 2014). As for the causes of voice behavior, research suggests that the voice and the employee's personality, as well as proactive personality traits, may motivate him to engage in voice behavior (Morrison, 2011; LePine & Van Dyne, 2001). Employees with high aspirations have more voice behavior (Maynes & Podsakoff, 2014). Perceived support from colleagues and corporate identity are claimed to play a part in employees' motivation for voice behavior (Tangirala & Ramanujam, 2008). The use of voice behavior by employees is reportedly inhibited by psychological detachment, fear, and abusive monitoring (Weiss & Morrison, 2019; Farh & Chen, 2014).

Proactive personality may play a part in the prediction of voice behavior, according to a meta-analysis by Morrison (2014). While voice behavior is more likely to be related to positive emotions and innovative work behavior (Chamberlin, Newton, & Lepine, 2017). This study's goal is to create a framework based on earlier findings that takes into account predictors that haven't been directly examined. According to research, employees who see themselves as contributing to the IT projects are more passionate, polite, and exhibit traits of agreement, self-initiative, and good effect (e.g. (Liang et al., 2012; Chamberlin et al., 2017). Voice behavior

is more influenced by positive impacts. In this study, core self-evaluations are taken into account as a dispositional antecedent of proactive behavior, i.e., voice behavior. This is specifically based upon dispositional and situational antecedents of proactive behavior according to proactive behavior theory (Parker & Collins, 2010). This study aims to determine whether there is any correlation between an employee's voice behavior and innovative work behavior. According to prior research, a positive innovativeness is a critical predictor (Baumeister, Campbell, Krueger, & Vohs, 2003). Voice behavior is made up of higher-order attributes including emotional stability, idea sharing and innovativeness (Aryee et al., 2015). According to (Srivastava, Locke, Judge, & Adams, 2010), these are particular traits that a person truly holds about voice behavior.

Because it helps improve project innovation and optimization, employee voice behavior has gained significance (Janssen & Gao, 2015). Voice behavior can improve innovative work behavior and idea sharing among employees (Wilkinson, Dundon, Marchington, & Ackers, 2004). While voice behavior, in the opinion of Gollan and Wilkinson (2007), influences employee voice behavior and aids in the detection of issues. Existing research on voice behavior points to a connection between voice behavior and better decision-making, learning, performance, flexibility, and a number of other project outcomes (Morrison & Milliken, 2000; Bashshur & Oc, 2015). Employee voice behavior is important because it affects innovative performance, and both a positive and a negative relationship between voice behavior and innovative performance have been observed (Hung, Yeh, & Shih, 2012; Bashshur & Oc, 2015; Timming & Johnstone, 2015; Ng & Feldman, 2012; Hung et al., 2012). The type of voice, such as prohibitive voice and promotional voice, is one factor contributing to voice behavior's inconsistent results (Liang et al., 2012; Kakkar, Tangirala, Srivastava, & Kamdar, 2016; Morrison, 2011). Liang et al. (2012) defined voice more generally as restrictive conduct and promotional voice. Numerous studies have mostly used this approach (Y. Song et al., 2020; Kakkar et al., 2016; Kong, Huang, Liu, & Zhao, 2017).

Significant differences exist between the two types of voice promotional and prohibitive voice (Song, Price, Guvenen, Bloom, & Von Wachter, 2019). The expression of proposals or ideas by employees with the goal of improving the innovative

performance of a project or work unit is referred to as "promotional voice" (Liang et al., 2012). According to Kong et al. (2017), the promotional voice's goal is excellent and obvious. Engaging in a promotional voice leads to a lot of innovative problem-solving and fresh ideas. Promotional voice behavior results in employees receiving greater backing from their superiors. To accomplish their objective, they have more access to resources, such as their leaders' time and attention (Song et al., 2019). Promoting voice behavior is more purposefully suggestion-oriented. Innovative strategies for boosting project performance are expressed through proactive voice behavior (Song et al., 2019). Promoting voice behavior emphasizes ideal project conditions and is more innovation-focused (Svendsen, Jønsson, & Unterhainer, 2016). Promoting voice behavior seeks to boost projects' strategies for project performance by identifying fresh opportunities for innovation (Kakkar et al., 2016; Liang et al., 2012).

Prohibitive voice behavior is discouraged as a sign of employee worry about workplace policies, events, or behavior that is harmful to the project (Liang et al., 2012). Considering that prohibitive voice behavior has the capacity to detect negative elements, (Liang et al., 2012) go on to describe it as past and problem centered. Prohibitive voice is a demonstration of concern for elements that serve as a check on the progress of project, and it sometimes highlights issues rather than potential solutions (Song et al., 2019). Prohibitive voice is said to be past-focused in nature, pointing out the difficulties and issues with current projects' procedures (Svendsen et al., 2016). Whereas the prohibitive voice does not provide precise answers to the difficulties identified, in contrast to a primitive voice (Liang et al., 2012). Prohibitive voice behavior reveals elements that might undermine teams' innovative performance (Song et al., 2019). The goal of prohibitive voice behavior is to prevent project decline that may occur as a result of project practices (Liang et al., 2012; Kakkar et al., 2016). According to Liang et al. (2012), both of these voices are distinct in terms of their nature, the activities they want to take part in, and general functioning. Promotional and prohibitive voice behavior, however, can benefit projects (Kong et al., 2017).

Whereas employee voice behavior, on the other hand, refers to how much a project workgroup values its members' willingness to speak up and question the status quo

(Van Dyne & LePine, 1998). "Voice behavior environment" refers to the shared convictions among project participants regarding voice behavior (Morrison, 2011). In one of their studies, Morrison (2014) also stated that voice behavior influences project members' decisions about speaking up; when voice behavior is poor, employees believe it is preferable to be quiet since their voice might not be appreciated. Members of such a project would be reluctant to speak up when there was a weak voice. When personal and environmental cues are better aligned, according to Liu and colleagues argument, employees are more likely to persist with their response choices. Employee participation in voice behavior would therefore increase when voice behavior is better aligned. Similar claims are made by contingency theories of leadership, which contend that project structure and workplace culture have a significant impact on how effective leaders are at getting certain reactions from their workforce (Fiedler, 1964).

In their proactive behavior theory, Parker and Collins (2010) emphasized that some contextual factors have the power to affect the link between a person's motivational states, such as "can do," "reason to do," and "excited to do," and outcomes, such as proactive voice behavior. Therefore, voice behavior as a potential contextual factor directly tied to the project may enhance the relationship between employees' ability to regulate their proactive skills and their use of encouraging and discouraging voice behavior. As in this instance, a project that is pervasive in the workplace and encourages workers' voice behavior is known as a "voice environment."

2.4 Proactive Personality (PP)

In recent years, the idea of having a proactive personality has been more and more popular. According to this idea, having a proactive personality is a pretty important propensity that gives employees the assurance to develop agility to influence their environment (Z. Jiang, 2017). The most assertive employees are those who take the initiative, ensuring that new suggestions and original thinking are embraced, and who also decide things on their own. Proactive personalities encourage individuals to take on additional responsibilities and enable them to go above and

beyond their given obligations (Xiong & King, 2018). Proactive personality is recognized as an important topic for discussion in the project management literature and projects that focus on innovation. In this situation, it is unclear if initiative has an impact on project performance. What factors need to be considered in this relationship and used by the project.

According to Y. Zhang, Xi, and Xu (2022), an employee with a proactive mentality is more likely to do well on tasks that are connected to their jobs. A proactive personality, by comparison. To improve their innovative performance, they change the situation and the environment (Fuller Jr & Marler, 2009). In IT projects, are completed by employees in order to achieve the required innovation. The theory goes that when every team member gives everything they have, the team's capacity for innovation increases. Additionally, according to Baiden and Price (2011), employees' innovation may affect the of a project. Anantatmula (2010) highlighted that a number of factors have an impact on project innovative performance. For instance, building trust in communication is crucial because once employee is able to express successfully what they want to communicate, project innovation will improve. In terms of innovation, Crant (1995) discovered that being proactive has great results.

There is no doubt that being proactive at work is associated with favorable innovative results, whether they are at the individual or project level (T.-Y. Kim, Hon, & Crant, 2009). Because of the employees' initiative, the other person learns, shares knowledge, and completes the assignment as needed for innovation (Den Hartog & Belschak, 2012). While taking into account the lessons gained or through systematic knowledge transfer, project leaders can benefit from prior or comparable projects that have been completed in the past (Dai & Wells, 2004). Employees who are proactive are seen as powerful because they draw attention from the surrounding environment and are more likely to advance innovation at work and appear to have quality relationships with others (Fuller Jr & Marler, 2009). According to Subhankhan and Dyaram (2018), there is an ambiguity surrounding competition; everyone is competing to win, which encourages an inventive work ethic. Employees look for and take advantage of chances, modify their surroundings in a positive way, and ultimately become more innovative (Suharso, Widyanto, & Sari, 2018).

Proactive personalities are said to be enabled by a proactive mentality. A proactive outlook welcomes change, produces resources consciously to choose better possibilities in the future, and so on (Yildiz, Uzun, & Coşkun, 2017). Everyone can contribute to an organization's improvement with the help of this quality. As a result, we can draw the conclusion that being proactive affects a person's personal and professional life because proactive employees have a clear sense of what they want to accomplish, know how to get there, and are constantly looking for new methods to do so.

Projects have a freshness factor that calls for imagination to deal with unpredictability. Projects have a high risk component, and the success or failure of the project can be determined by its outcome. To produce the desired results, it is impossible to carry out all project operations successfully and efficiently (Wang et al., 2022). According to T.-Y. Kim, Hon, and Lee (2010), a proactive mentality fosters employee innovation at work. A project's innovation can be distinguished from its justification, accomplishment, content, or outcome (Valverde, Thornhill-Miller, Patillon, & Lubart, 2020). Farooq et al. (2020), stated that self-efficacy and control are driven by proactivity, which is the cornerstone of motivation. Individual or team motivation is possible (Parker & Collins, 2010). Every part of motivation, whether using it as an individual's desire or in the project domain as a beginning point for project life, acts as a pillar for achieving that innovation (Valverde et al., 2020). L.-R. Yang et al. (2016) discovered that proactive personality had a good impact on worker performance. It helps in generating desirable innovation (L.-R. Yang et al., 2016).

Additionally, H. Yang et al. (2022) demonstrated a beneficial connection between proactive behavior and worker performance. Positive occurrences are actively reacted to negatively by proactive personalities, and positive events are positively reacted to by proactive employees that always look for chances to innovate. The innovative working environment for IT-based projects has been upgraded, making problem-solving abilities, devotion, vigilance, risk assessment, and seeking more desirable. The existence of knowledge alone cannot define a project's success; employee comprehension, analytical skills, and decision-making are equally crucial (Akgün, 2020). Project stakeholders must be aware of how their choices affect

project outcomes and be able to make the optimal choices for desired project outcomes (Hwang, Ngo, & Her, 2020).

According to a recent study, Y. Zhang et al. (2022) revealed that proactive employees foster an environment that is tough in order to pursue the necessary innovation. A proactive individual has the innate ability to handle ambiguity, works toward goal completion, and has a propensity for acting innovative at work, which may promote innovation (X. Li, Xue, Liang, & Yan, 2020). Wang et al. (2022) showed that proactive personalities are superior to others and take a different approach to getting things done (Jaffery & Abid, 2020). Employees who are proactive have an impact on the environment, which is why researchers are interested in innovation (Crant, 1995). There is evidence in the literature that a proactive personality results in higher levels of innovation (Crant, 2000).

Employee initiative may help initiatives acquire an edge over rivals for organizational innovation, survival, and long-term success (Amabile et al., 1996; George & Zhou, 2001; Runco, 2004; Scott & Bruce, 1994; Shalley, 1995). Employee proactive personality is the ability of individuals interacting in a complicated social system to create value, novel services, ideas, procedures, or processes (Woodman, Sawyer, & Griffin, 1993). The majority of study on creativity has concentrated on identifying the conditions that favor innovation when applied to projects. Researchers have found that personality traits like a proactive personality have an impact on employee innovation, particularly in the context of projects like work environments (Amabile et al., 1996), job innovation requirements (Shalley, Gilson, & Blum, 2000), and participative leadership (Oldham & Cummings, 1996; J. Zhou, 2003; Shin & Zhou, 2003).

Less research has been done on how an employee's proactive personality influences their employee voice behavior. According to theory, those with proactive personalities are more likely to take the initiative to change project working practices and the environment, which leads to their propensity for innovation (Seibert et al., 2001). It's noteworthy that, despite its potential worth, little research has examined how proactive personality promotes employee innovation (Heinzen, 1999). One study looked at the connection between an employee's voice behavior and their proactive personality (Seibert et al., 2001). According to Seibert et al.

(2001), proactive personality was positively correlated with an individual's innovative behaviors, such as coming up with fresh ideas and using innovation in one's line of work.

Although Seibert et al. (2001) discovered a general association between proactive personality and employee innovation, many important issues remain unanswered. First, not enough thought has been put into how contextual factors influence the relationship between proactive personality and employee voice behavior in the innovative literature (J. Zhou, 2003). According to the trait and factor concept, situational cues such as job, social, and project characteristics influence the development of trait-related behaviors (Tett & Guterman, 2000). In this study, we hypothesized that proactive personality interacts with job-related innovative requirements and supervisor support for creativity to foster individual creativity for a variety of reasons. First, earlier research has shown that supervisor encouragement of innovation (Amabile et al., 1996; Madjar, Oldham, & Pratt, 2002); and work creativity requirements (Gilson & Shalley, 2004; Shalley et al., 2000) have a considerable impact on employee voice behavior.

In terms of the resources that proactive employees can use effectively to produce innovative work but passive employees cannot, the need for innovation in the project and the leader's support for it may be mutually exclusive. For instance, proactive personalities were unable to be inventive when there was a high need for uniqueness in the task but low supervisor support because they were unsure of whether their boss would support their new ideas. Conversely, proactive employees would not employ their traits to produce inventive performance if the leader supported innovation strongly but the job's creativity need was low since they had several goals in the workplace. The investigation of the three-way interaction between proactive personality, participatory leadership, and employee voice behavior was thus one of the goals of this work. The term "proactive personality" refers to a person's propensity for taking on active roles, such as driving change and influencing their surroundings (Bateman & Crant, 1993). The tendency for someone to take on active activities, such as bringing about change and influencing their surroundings, is referred to as having a "proactive personality" (Bateman & Crant, 1993). In contrast to passive employees who just conform to their unfavorable

circumstances, proactive employees make changes, take action, and persist until significant change happens (Crant, 2000).

For instance, (Bateman & Crant, 1993) cited the fact that proactive individuals actively seek to affect their surroundings and explore for new information and skills in order to improve their performance. Similar to this, proactive employees work to improve their job chances rather than just reacting passively to their workplace situations, according to Seibert et al. (2001). In order to further their goals and increase output, they were also more innovative than passive ones and more likely to present novel solutions to issues. Furthermore, proactive individuals are more likely to recognize opportunities and take them by going above and beyond what is required of them in the workplace (Seibert et al., 2001; Van Dyne & LePine, 1998). In order to improve their skills and expertise as well as come up with new working methods, proactive employees are actively involved. Additionally, they were more innovative than passive ones and more likely to propose novel solutions to issues in order to progress their goals and increase output. Proactive employees are also more likely to recognize opportunities and take them by going above and beyond what is required of them in their positions of authority (Seibert et al., 2001; Van Dyne & LePine, 1998). In order to improve their skills and expertise as well as come up with new working methods, proactive employees are actively involved. A positive association between proactive personality and inventive work behavior was also found by (T.-Y. Kim et al., 2009).

Employees that are proactive are typically less constrained by their surroundings, which enables them to positively influence environmental changes and maintain the status quo (Bateman & Crant, 1993). Employees who are less proactive, in some ways, passively accept environmental changes, which prevents them from taking proactive actions that could aid in their adjustment. Postgraduate innovative behavior is the process of identifying problems, developing persuading ideas for academic research, and soliciting help to put those ideas into practice.

According to goal-setting theory, individuals with proactive personalities actively set goals and work to achieve them, which inspires innovative behavior (Scott & Bruce, 1994). A proactive attitude in instructors is positively connected with job satisfaction and predicts innovative work behavior (M. Li, Wang, Gao, & You,

2017). As a result, folks with proactive personalities possess traits that strongly encourage them to actively set goals, come up with original ideas, and implement those ideas. Additionally, these individuals are more likely to consistently come up with fresh suggestions for ways to improve their standing and productivity at work (Crant, 2000; Ng & Feldman, 2012), which will help transform original concepts into beneficial breakthroughs in projects (T.-Y. Kim et al., 2010; Scott & Bruce, 1994).

2.5 Hypothesis Development

2.5.1 Participative Leadership (PL) and Innovative Work Behavior (IWB)

The constantly changing global market and growing rivalry in the information technology (IT) industry have made innovative work behavior (IWB) more important to cope with the challenges (Shanker, Bhanugopan, Van der Heijden, & Farrell, 2017; Purwanto et al., 2020). Research has shown that individuals working on information technology (IT) projects exhibit innovative work behavior (IWB), which may be influenced by leadership (A. Mir et al., 2021; Nguyen, Hooi, & Avvari, 2021). As a result, leadership has frequently been mentioned as a key component for enhancing the project employees' innovative work behavior (IWB) (Alheet, Adwan, Areiqat, Zamil, & Saleh, 2021). It is true that a leader can create an atmosphere that motivates their team members to think innovative and come up with fresh, original ideas (Wu, Siswanto, & Mahfud, 2018).

Leaders should attempt to alter their interaction with employees in order to promote innovative work behavior (IWB) (Sethibe & Steyn, 2018). IT project-based organizations are now putting more of an emphasis on contemporary leadership styles since they are necessary for the improvement of innovative work behavior (IWB) (Asmawi, Rahim, & Zainuddin, 2015). Participative leadership is one such approach, and it is well-known and admired for encouraging employees to engage in innovative work practices (Fatima, Safdar, & Jahanzeb, 2017). A participative leader is generally referred to as someone who regards employees' opinions

(Lam, Nguyen, Le, & Tran, 2021). Participative leadership encourages employees' motivation, which in turn increases innovative work behavior (Akter, Giovanni, Maiorova, & Zoccoli, 2022). Participative leadership boosts the employee's idea generation capability to enhance innovative work behavior in IT projects (Fonias & Rocklind, 2021; S. F. Haider, 2021). Under participative leadership, power and authority are shared between a leader and their employees (Lo & Stark, 2020). This power sharing and authority to take decisions motivate the employee's innovative behavior (Lumbantoruan, Purba, & Daryanto, 2019). Through this process Participative leaders contribute to innovation (Odoardi et al., 2019).

IT projects are usually uncertain and need strong collaboration between employees and leaders, which is possible through participative leadership. Project environments range from one project to another, as well as from one project to another, but the majority of participatory leadership abilities will be useful in nearly every project setting. This is so because participative leadership has a favorable influence on employees' ability to think innovatively (Su & Zhang, 2020). The participatory style should be adopted by the leader in order to allow the members to participate in the project's choices and make innovative decisions. Participative leaders make choices based on the outcomes of employee involvement and debates in order to ensure that decisions are made equitably and collaboratively, which comes up with innovativeness (Dalluay & Jalagat, 2016).

Innovativeness is defined as a process that includes idea novelty and concept development through strong collaboration between employees and leaders. Innovation in (IT) projects is described as employee behavior that is meant to create and execute new goods, services, ideas, processes, or procedures inside their department. Innovation in the workplace may take many forms (Fatima, Majeed, & Saeed, 2017). We assessed the existence of participatory leadership by explicitly asking employees whether their leaders had to generate interest, aid them in making autonomous decisions, allow for learning via failures, and give a realistic set of plans to drive action (Banai & Reisel, 2007).

First and foremost, employees with innovative behavior may take part in the development of objectives. Second, they may be engaged in the decision-making process when choosing between various activities. The third point is that employees may

engage in problem solving among alternatives as well as develop alternative activities, which is the third point. Finally, involvement makes it possible to introduce innovations into the (IT) project (Imamoglu, Ince, & Karakose, 2016). When it comes to completing their tasks, the Participative leader delegates a great deal of power to their subordinates . A positive and open work atmosphere is created, which brings opportunities for innovation (Iqbal, Anwar, Haider, et al., 2015).

Under this leadership, employees' knowledge is shared with the project, and this shared knowledge results in the generation of new and common ideas. In a nutshell, project learning through participative leadership facilitates the creation, acquisition, transformation, and application of new knowledge, all of which contributes to project innovation (Jiménez-Jiménez & Sanz-Valle, 2011). It reflects the common views and orientations in a certain sphere of work, and it promotes employees to develop their creativity, originality, and innovation (Hood & Koberg, 1991). On the other hand, when followers perceive the presence of their supervisor's supporting actions, positive psychological states and signals are elicited, which in turn motivates them to acquire new information and abilities in order to attain the desired innovative performance level , which is useful for idea generation, including innovative work behavior (IWB). Meanwhile, it indicates that participatory leadership has a little stronger direct positive impact on the development of technical engineers' professional abilities within the context of this partnership. Flexibility and willingness to adjust are required for innovativeness. Consequently, Participative leaders are under increased pressure to be visionaries while still being flexible, empowering, and helpful. One of the hallmarks of innovative projects need to make decisions quickly in order to stay up with complex and dynamic environments (Jiménez-Jiménez & Sanz-Valle, 2011).

According to earlier research, there is a positive correlation between participative leadership and employees' innovative work behavior (IWB). This result is in line with the opinions of a number of experts, including those who have discovered a strong link between participative leadership and innovative work practices (Hadi, Tola, et al., 2019). The current study suggests that under a participative leader, IT project personnel might demonstrate innovative work behavior, taking into account all of the prior studies.

H1: Participative Leadership (PL) is positively linked with Innovative work behavior (IWB) of ITPs employees.

2.5.2 Participative Leadership (PL) and Employee Voice Behavior (EVB) Definitions of Employee Voice Behavior (EVB)

Definitions of Employee Voice Behavior (EVB)

By [Van Dyne and LePine \(1998\)](#), encourages behavior that emphasizes constructive challenge intended to improve rather than simply criticize making innovative suggestions for change and recommending modifications to standard procedures even when others disagree. It is this non-required behavior that emphasizes the expression of constructive challenge with the intent to improve rather than merely criticize ([Dyne et al., 2003](#)).

Intentionally expressing rather than withholding relevant ideas, information, and opinions about possible work-related improvements. (p. 1360). Openly stating one's views or opinions about workplace matters, including the actions or ideas of others, suggested or needed changes, and alternative approaches or different lines of reasoning for addressing job-related issues. (p. 1538).

A number of factors play an important role in accelerating employee voice behavior (EVB). Leadership is one of the defining factors for improving employee voice behavior (EVB) ([X. Li et al., 2020](#)). Studies have evidenced that leadership is significant in influencing employee voice behavior ([Gyensare, Arthur, Twumasi, & Agyapong, 2019](#)). Good leadership has the ability to positively influence their employees' voices ([Alsubaie, 2021](#)). Talking specifically about the leadership styles, the one who empowers and lets the employees participate is fruitful toward EVB. Participative leadership is one of them because it values the voice of their employees in decision making and empowers them ([Makwetta et al., 2021](#)). When employees perceive an appropriate participative climate, they feel free to speak up about work-related problems in projects (i.e. IT-based) ([Gyensare et al., 2019](#)). Participative leaders focus on the employee voice ([Wilkinson, Barry, & Morrison,](#)

2020), and enhance their motivation to speak, share ideas and suggestions. Participative leadership style is a possible antecedent of employee voice because this sort of leadership style facilitates discourse, encourages employees to express their thoughts, and lets the workers feel that their opinions matter (Newman, Rose, & Teo, 2016). Employee voice emerges under participative leadership because of encouragement, facilitation, and the feeling that their suggestions are valuable. Likewise, participative leadership inculcates internal motivation (Newman et al., 2016).

According to research scholars, it is an extra-role activity (Van Dyne & LePine, 1998). This form of leadership encourages, supports, and influences their employees to participate in collaborative activities and project decision-making, instead of directing the team. Participatory leaders seek agreement and encourage open communication (Newman et al., 2016), which encourages employee voice behavior. Previous literature states that employee voice is described as the "discretionary communication of ideas, suggestions, concerns, or about work-related issues with the intent to improve organizational or unit functioning" (Morrison, 2011) p. 11. It is the leader who has a major impact on their employees' voices (Van Dam, Oreg, & Schyns, 2008). It increases project performance by enhancing individuals' inventive capacity and coordination on the one hand, and on the other hand, it requires more formal decision-making on both sides of the voice with challenging status (Detert, Burris, Harrison, & Martin, 2013).

Voice behavior needs motivation, and this motivation comes from participatory leadership. Participative leadership motivates employees, and this motivation serves as a catalyst for employees to express their ideas, concerns, and disappointment (Somech, 2006). Employee voice and task performance both contribute to the project in terms of suggestions for change and improvement, with employee voice providing a greater amount of This is shown by a recent voice meta-analysis (Chamberlin et al., 2017). Voice has been shown to have good benefits for project performance, although research on this topic is scarce, and only a few studies have attempted to explain why this is the case. Employee voice, according to researchers, improves project performance (Hsiung, 2012). According to the Harvard Business School, a participative leader instils confidence and respect in his

or her followers, communicates the project's vision clearly, develops the followers' minds, and shows them individual consideration. This encourages the followers to change their attention from seeking personal gain to speaking up. This leadership approach emphasises getting followers more involved in achieving the goals of the project (Bass & Avolio, 1994). Voice behaviors are those that take place outside of the organization and are made voluntarily by staff members who want to improve uniform operations. Voice actions consist of (LePine & Van Dyne, 1998).

Participatory leaders cognitively enable employees to approach old issues from fresh perspectives, providing them with more buffers in interaction and questioning the present status (Avolio, Bass, & Jung, 1999). Employee voice and other positive actions among team members may help to enhance the overall effectiveness of the project (Hsiung, 2012). When considering how to increase team-level performance, leaders take into account not just how to improve individual performance but also the requirement for team members to cooperate among themselves in order to improve team performance. To accomplish these objectives, leaders must first demonstrate participatory leadership (West & Anderson, 1996). It has been argued that if the team leader discusses their ideas and information with the employees throughout the decision-making process, the employees are more likely to recognize their own or their team's responsibilities, hence increasing employee voice behavior (Dionne, Yammarino, Atwater, & Spangler, 2004).

Participatory leadership has been said to improve individual performance as well as the teaming process, which may improve employee voice behavior. It's crucial to foster a positive social atmosphere when working together, and it might be the most important mediator between employee voice behavior and effective leadership (West & Anderson, 1996). The qualities of participatory leadership include a combination of transformational leadership, transactional leadership, and servant leadership to some extent. employee may be better able to perform tasks under various styles of leadership. Members of the team that participate in this activity are more likely to be dedicated to the group and inspired to handle their work in a flexible manner (Carmeli, Reiter-Palmon, & Ziv, 2010). Employee voice, in particular, is a form of extra-role behavior that may positively relate Participative leadership with voice behaviors (Yin, Liao, Ouyang, Akhtar, & Zhou, 2021).

H2: Participative leadership (PL) is positively linked with employee voice behavior (EVB) in ITPs context.

2.5.3 Employees' Voice Behavior (EVB) and Innovative Work Behavior (IWB)

Employee voice behavior: the term "voice" refers to the voluntary exchange of thoughts, ideas, suggestions, and recommendations that have the potential to enhance the innovative work behavior of an IT project's employees (Prince & Rao, 2021). Employee voice behavior and its determinants have become a research focus nowadays (Guo et al., 2021; Basheer, Saleem, Hameed, & Hassan, 2021), due to its positive results in the form of innovativeness in work behavior. Because it allows for the presentation of new ideas for innovation (Lee et al., 2021).

Employee voice reflects how employees ask questions, express their concerns, solve problems, and innovate. The term "employees' voice behavior" also refers to innovative suggestions that bring innovativeness in work behavior. The recommendations and solutions are more likely to be put into practice since they frequently center on the ideal situation that can be attained in the future. Because it is primarily concerned with increasing innovative work behavior (IWB), it gets widespread support from the project through employee voice behavior (Liang et al., 2012). Employees, however, who raise concerns about matters that limit innovation in the workplace in order to safeguard the project from dangers or potential disasters.

To increase employees' willingness to express themselves in a constructive way. Employees will be subjected to a demanding work environment that will test their boundaries thanks to a talent flow system and other control-oriented practices of innovation work behavior. To get high marks on performance reviews or to hold important roles inside IT projects, employees will need to stand up and promote themselves. To get the attention of leadership, to produce innovative performance and outcomes, or to hold crucial roles within IT projects, employees will need to speak up in a persuasive manner (Miao et al., 2014). The potential of the project to encourage innovative work behavior may be positively impacted by

voice behavior. The most efficient way to help an IT project innovate and adapt to a dynamic competitive environment is through the use of voice. Additionally, it plays a crucial role in the development of employees' voice behavior (Liang et al., 2012).

A long-term investment in the job is also seen to be made by employees' voice behavior (EVB). According to the Leader Member Exchange Theory (LMX), workers are more likely to feel in favor of innovation in IT projects because of the commitment-oriented practices that are employed. Enhancing employees' feelings of loyalty and confidence in the IT project-based project, makes them more likely to put in a promotional effort for the project's long-term growth as a reward for the project's efforts. In order to help employees and the employee create clearer goals and expectations as a result of the formation of the team, for instance, it will give them opportunities to participate in leadership, significantly increase their level of autonomy in making decisions at work, and support them in doing so. This will fully arouse the positive feelings of individual efforts for mutual expectations (Dabos & Rousseau, 2004).

As a result, it motivates employee to offer helpful suggestions that are advantageous to the project. The growth of the employee voice behavior system is highly valued by the voice behavior system, and it also promotes timely knowledge, skill, and information sharing. It also develops an environment in the workplace that encourages open conversation and the clash of views (Wang et al., 2022).

The project working standards that can be raised and the working practices that can be improved over time are where it places its main attention. In order to gain the project interest and confidence, employees can come up with original ideas from a range of perspectives and provide helpful and reasonable suggestions to the project. As a consequence, employees are encouraged by the project to come up with fresh suggestions, and they are more likely to look for backing for their own ideas in order to put the plans into effect (Kanter, 1988). By adopting employee voice involvement, permission, and information sharing methods, high-innovative-performance work systems promote widespread employee collaboration. These procedures also promote employees' use of a variety of viewpoints,

increase the information sources accessible for IT project development, and foster an environment that is receptive to innovation.

Employees who uphold the idea of mutual benefit will develop a strong sense of organizational loyalty, trust, and identity and will be more inclined to stand out for the project's best interests. Ideas to increase the project's benefits or appropriate suggestions to enhance its operations are considered and authorized by the organization within that time limit. This helps to increase employees' motivation and self-assurance to act on their ideas, which promotes the growth of innovative workplace practices. Employees' ability to create original ideas, proposals, and information sharing regarding difficulties at work is what enables businesses to innovate (Morrison, 2011; H. Zhou et al., 2017). It is crucial to stress that an employee's voice behavior is an attempt to affect positive change and implement improvements at work. Employers who encourage employees to approach organizational issues and challenges critically will surely observe an increase in employee involvement in organizational learning, which will lead to improved innovative work behavior (IWB) (Detert & Burris, 2007). Innovative products and services are produced as a result of several procedural, administrative, organizational, and structural advancements brought about by increased learning. It safeguards workers' IWB (innovative work behaviors) (Lee et al., 2021). A person's voice, actions, or ideas are turned into innovative work behavior (IWB) in line with expectations (Leitner, 2011).

H3: There is a positive association between employee voice behavior (EVB) and innovative work behavior (IWB) of ITPs employees.

2.5.4 Mediating Role of Employee Voice Behavior (EVB) between Participative Leadership (PL) and Innovative Work Behavior (IWB)

Recent studies have focused on employee voice behavior and its benefits to both (IT project) employees and their leadership (Ilyas, Abid, Ashfaq, Ali, & Ali, 2021). While talking about leadership, Participative leadership is essential to achieve project (IT-based) goals (i.e., innovativeness) (Akter et al., 2022). The advantage

of participatory leadership is that these executives don't force their choices on their workforce. Instead, they consider opinions and advice from the staff and base judgments on agreement (Somech, 2006; Fatima, Safdar, & Jahanzeb, 2017). In other words, these leaders make sure that their staff is involved in both little and major project decisions. Employees are driven and feel appreciated by their leader's regard for their opinions and for treating them equally as members of the project (B. H. Kim & Bang, 2021; Chang, Chang, Chen, Seih, & Chang, 2021). They pay attention to their boss and strive to emulate him or her by acting positively at work. This is what boosts their speaking capability (J. P. De Jong & Den Hartog, 2007; Nabi & Liu, 2021). An atmosphere that encourages the interchange of ideas and proposals that improve innovations is created by participative leadership and employee voice behavior. Employee voice behavior is what first manifests innovative work behavior in this setting. In essence, by watching their boss, employees pick up on environmental cues, and this learning shapes their behavior (Bandura, 1977). Adoption of this voice behavior occurs as a result of frequent observation of favorable behavior in IT projects. Therefore, due to the leader member exchange, positive behavior results in favorable consequences (Bandura, 1977). This suggests that through employees' voice behavior, participatory leadership positively correlates with innovative work behavior.

H4: Participative leadership (PL) is positively linked to innovative work behavior (IWB) and employee voice behavior (EVB) mediates this relationship in ITPs context.

2.5.5 Moderating Role of Proactive Personality (PP) between Participative Leadership (PL) and Employee Voice Behavior (EVB)

Employee voice behavior is essential for innovation, according to a detailed examination of the literature; it necessitates not just a certain leadership style but also a number of other elements. A proactive personality is one of these variables. It alludes to workers who exhibit the proactive mentality needed for employee voice behavior. Employees' inventive work behavior is encouraged by a participatory

leader. Proactive personalities are more likely to exhibit voice-over behavior in workers. Because participative leaders listen to their followers and address their business-related problems, they empower their followers to speak up and adopt positive behavioral attitudes (Van Dam et al., 2008). Based on this, the current study hypothesizes that under a participatory leader, employees with proactive personalities are more likely to demonstrate innovative behavior. Additionally, under a participatory leader, proactive individuals exhibit more inventive job behavior compared to passive ones.

It is imperative that projects find employees who have a proactive personality so that they can adapt to these rapidly changing environments and maintain their competitive edge (Fuller Jr & Marler, 2009). Proactive personality refers to “the relatively stable tendency to affect environmental change” (Bateman & Crant, 1993), p. 103. Individuals who have high levels of proactive personality traits are more likely to take personal initiative to intentionally change their circumstances than those who do not have these characteristics. Proactive employees have a proactive perspective, which involves looking for information, examining their environment, and striving to foresee potential possibilities in the future, as opposed to passively responding to aspects in their job (Bateman & Crant, 1993; Crant, 2000).

Meanwhile, those with low proactive personality tend to be passive and conform to their environment (Bateman & Crant, 1993). In other words, they are accommodating and happy to continue with their endeavor as it is. According to earlier studies, the utilization of voice behavior is essential in project leadership (Xiao, Zhou, Yang, & Wang, 2021). It encourages team members to joyfully and constructively express their thoughts and provide comments in relation to a critical matter that affects the project. It could be quite significant in motivation-boosting attempts. As a result, it directly affects how efforts develop and continue (M. Li et al., 2017). Two types of voice behavior exist: The first sort of trail suggests new ideas or points of view that will help to improve the project’s overall efficacy. Concerns about aspects of work practices that are ineffective fall under the second category (e.g., harmful behavior, negligent procedures, rules, or policies). As a result, Liang et al. assert that both types of employees’ views are valuable and

useful to the project. Common sense-based workers support their projects' goals, improve them, and provide ideas for overcoming difficulties that arise as they strive to achieve those goals (LePine & Van Dyne, 2001).

Making active, constructive ideas is also a critical phase in the innovation and group learning processes (Van Dyne & LePine, 1998; Morrison & Milliken, 2000; Detert & Burris, 2007). Participatory leaders eliminate the barriers that frequently impede employees from sharing their thoughts (Walumbwa & Schaubroeck, 2009). Participatory leaders create opportunities for voice behavior by giving formal and informal voice methods, as well as changing the cognitive variables that influence the decision to speak out in the first place (Ashford, Sutcliffe, & Christianson, 2009). When leaders embrace them and express their appreciation for them, employees feel more at ease speaking out and expressing themselves. Participatory leadership prioritizes giving social and emotional support more than traditional leadership does (Nembhard & Edmondson, 2006). It shows in behaviors like paying attention, empathy, and compassion. Project employees that misbehave are not reprimanded; rather, they are praised (Avey, Wernsing, & Palanski, 2012).

After doing research according to our Model, it shown that a proactive personality (PP) may perform two roles in our study. Number one is acting as a moderator (W) and Number two is moderated mediation and positively improving relationship between Independent variable (IV) participative leadership (PL) mediator (M) employee voice behavior (EVB) and dependent variable (DV) innovative work behavior of ITPs employees (IWB) respectively. We thus predict that employees with proactive personalities will be more inclined to participate in voice behavior when they get encouragement from their participative boss. We may suggest the following two ideas:

Number 1:

H5 a: Proactive personality (PP) moderates the relationship between participative leadership (PL) and employee voice behavior (EVB) such that ITPs employees with proactive personality will show higher voice over behavior under a participative leader (PL).

Number 2:

H5 b: *Proactive personality (PP) moderates the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs employees through EVB such that employees with proactive personality will raise their voices to boost innovativeness under a participative leader (PL).*

2.6 Hypotheses of Study

H1: Participative Leadership (PL) is positively linked with Innovative work behavior (IWB) of ITPs employees.

H2: Participative leadership (PL) is positively linked with employee voice behavior (EVB) in ITPs context.

H3: There is a positive association between employee voice behavior (EVB) and innovative work behavior (IWB) of ITPs employees.

H4: Participative leadership (PL) is positively linked to innovative work behavior (IWB) and employee voice behavior (EVB) mediates this relationship in ITPs context.

H5 a: Proactive personality (PP) moderates the relationship between participative leadership (PL) and employee voice behavior (EVB) such that ITPs employees with proactive personality will show higher voice over behavior under a participative leader (PL).

H5 b: Proactive personality (PP) moderates the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs employees through EVB such that employees with proactive personality will raise their voices to boost innovativeness under a participative leader (PL).

Chapter 3

Research Methodology

3.1 Introduction

The methodological framework used in this study is adapted, to investigate the relationship between participative leadership and innovative work behavior of ITPs information technology project team members, with employee voice behavior serving as a mediator and proactive personality as a moderator.

In this methodology section, we have discussed the research design, population, sample, measurements of variables, tools for data analysis, and all the data collection methods.

3.1.1 Research Philosophy

There are various types of philosophical approaches to the social sciences that direct and aid in scientific investigation. An approach to research known as the "hypothetical deductive method" has helped modern studies become stronger. According to researchers, the "hypothetical deductive process or mannequin" represents an approximation of the structure of the scientific method.

In addition, the current study employs the "hypothetical deductive method" to empirically test and validate the relationships that have been suggested by or based on prior literature. Neuman (2006) asserts that academics in the social sciences are particularly enthusiastic about observing positivist research paradigms.

The quantitative research technique, which is used in this study, is regarded in a positive research philosophy as the most suitable methodology.

3.1.2 Research Design

According to Rubin (1987, p. 85), the primary method for testing the theory is the ‘research design’. The data for the current study is collected from information technology projects (ITPs) based organizations in the major cities of Pakistan, i.e. Islamabad, Rawalpindi, Lahore and Karachi, and analyzed using the quantitative method to answer the study’s objective and research questions.

3.1.3 Type of Study

This research study is exploratory. It measures the impact of ‘participative leadership (PL)’ on the ‘innovative work behavior’ (IWB) of information technology projects (ITPs) employees with the mediation of ‘Employees voice behavior’ (EVB) and the moderating role of (PP) ‘proactive personality’.

3.1.4 Study Setting

The participants of this study are the employees working in the information technology projects (ITPs) in Islamabad, Rawalpindi, Lahore and Karachi. They filled out the questionnaires in their work settings. They received assurances that the information they provided would be kept private.

3.1.5 Unit of Analysis

The “unit of analysis” is the most significant aspect of the research. The population segment from which we selected study participants is referred to as the “unit of analysis.” The “unit of analysis” is determined by the objectives and scope of the research. For this study, the “unit of analysis” were the employees and supervisors employed at ITPs in major cities in Pakistan. So, the data was collected from each employee and their supervisor.

TABLE 3.1: Unit of Analysis

Participative Leadership (PL)	Employee Rated (Employees can rate their leader better than others. So, we may explore how they feel under his/her supervision.)
Employee Voice Behavior (EVB)	employee evaluation (self-evaluation) (Employees themselves can tell how their voice behavior gets affected positively or negatively.)
Innovative Work Behavior (IWB)	Supervisor rated (The supervisor can rate how much of his or her employee's behavior has been improved.)
Proactive Personality (PP)	Employee rated (Self rated) (Employees themselves can rate their own personality)

3.1.6 Time Horizon

Time lag was the method we used to collect the data for this study. The data was collected in approximately three months and divided into three lags.

3.2 Population and Sample

Since it would be laborious to gather data from the entire population, we choose a sample that is representative of the entire population. In other words, according to (E. Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006), the sample is a subset of the population. Employees of ITPs in all major cities across Pakistan make up the study's population, and a questionnaire was given to each of them. In this study, the survey method was the technique we used to collect the data. Unlike other methods, it is a simple technique because it collects data from a lot of people at once. This technique is frequently used in research studies to extrapolate the findings to the entire population. Due to our limited time and resources, we decided to use this method for our research.

3.2.1 Sampling Technique

A purposive sampling technique was used for data collection because our need was to collect data from employees working on the current ITPs and they must have had experience of at least three months. Therefore, as the population of ITPs employees is unknown, ‘G power’ was used to determine the sample size. The minimum sample size determined from ‘G power’ was 119, where statistical significance was set at 5%, level of power at 95%, and effect size at 0.15. The ‘G Power 3.1.9.4’ version was used. A total of 400 questionnaires were distributed and 244 were returned, which achieved a sufficient sample size.

The data collected from the population is a true representative of ITPs employees in Pakistan. For data collection, survey questionnaires were distributed among employees and supervisors of different ITPs in Pakistan. All the items for the variables: ‘(PL) Participative Leadership’, ‘(EVB) Employee Voice Behavior’, ‘(PP) Proactive Personality’, and ‘(IWB) Innovative Work Behavior of employees’ were filled in by the employees and supervisors working in the ITPs only, as mentioned above in the ‘Unit of Analysis Table’. A 5-point Likert scale, with 1 (strongly disagree) to 5 (strongly agree), was used to rate all of the survey items.

3.3 Measurements

Respondents must rate each item on a 5-point Likert scale (1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree).

3.3.1 Participative leadership (PL)

Five points Likert scale adopted questionnaires will be used ([J. De Jong, Den Hartog, et al., 2008](#)) having six items to measure participative leadership, which will be filled by IT sector project based organization’s employees. The items for ‘Participative leadership (PL)’ (employee rated) include, “My executive. . .” “asks for my opinion.” “asks me to suggest how to carry out assignments.” “consult me regarding important changes.” “lets me influence decisions about long term plans and

directions.” “allows me to set my own goals.” “gives me considerable opportunities for independence and freedom”

3.3.2 Employee Voice Behavior (EVB)

Six items based on the [Van Dyne and LePine \(1998\)](#) scale were used to evaluate the voice behavior of employees. 71% of the studies used “self-report” measures of voice, which is a significant portion of earlier studies ([Ng & Feldman, 2012](#)). In these studies, participants were asked to rate the degree to which they had offered helpful advice and recommendations to their managers or employers that were meant to enhance innovation in ITPs procedures for innovative productivity. The voice-related items include “I develop and make recommendations to my supervisor concerning issues that affect my work.” “I speak up and encourage others in my work unit to get involved in issues that affect our work.” “I communicate my opinions about work issues to others in my work unit, even if their opinions are different and they disagree with me.” “I keep well informed about issues at work where my opinion can be useful.” “I get involved in issues that affect the quality of life in my work unit.” “I speak up to my supervisor with ideas for new projects or changes in procedures at work”.

3.3.3 Innovative Work Behavior (IWB)

The scale developed by [J. De Jong et al. \(2008\)](#) was adapted to assess innovative work behavior.

The items related to (IWB) innovative work behavior (supervisor rated) consists of: ‘How often does this employee?’ “pay attention to issues that are no part of his daily work?” “wonder how things can be improved?” “search out new working methods, techniques or instruments?” “generate original solutions for problems?” “find new approaches to execute tasks?” “make important organizational members enthusiastic for innovative ideas?” “attempt to convince people to support an innovative idea?” “systematically introduce innovative ideas into work practices?” “contribute to the implementation of new ideas?” “put effort in the development of new things?”

3.3.4 Proactive Personality (PP)

Proactive personality (PP) was assessed using a ten-item scale developed by (Seibert et al., 2001). Items for a proactive personality (PP) include the following examples... “I am constantly on the lookout for new ways to improve my life,” and “Wherever I have been; I have been a powerful force for constructive change.”

Chapter 4

Results

4.1 Techniques for Data Analysis

The data from 244 respondents has been gathered and evaluated with the use of the SPSS statistical software package and smart PLS. The following are the processes that were taken in order to perform the analysis:

1. Only replies that were completely finished were taken into consideration; the rest of the answers were unconsidered.
2. Each variable was coded individually for the purposes of the study.
3. In order to establish tables for the stated demographics, the frequency of samples was determined.
4. Means for all variables have been calculated.
5. Smart PLS is used to test the fitness of 'Model'.
6. Each variable's Cronbach alpha was obtained using reliability analysis, to check the reliability of the data.
7. Correlation analysis has been used to determine the relative importance of the variables.
8. Regression analysis was done using the model created by Preacher and Hayes.

9. In order to determine if a hypothesis is accepted or rejected, we have employed the Preacher and Hayes systems.
10. Macros developed by Preacher and Hayes used for additional mediation and moderation analysis.
11. The procedures that are followed in this situation was, First and foremost, it was necessary to incorporate the variable IWB into the outcome variable. The following step is to insert PL into the X column. The Model number 4 and 7 is selected in order to do mediation and moderation analysis through Preacher and Hayes.

4.2 Data Screening

The data were considered for screening, missing values, outliers, distribution, and linearity.

4.2.1 Data Cleaning

Data after collection was considered to identify missing values, outliers, and normality as suggested by the researchers (see, (E. Hair et al., 2006)). According to these researchers, it is important to clean the data for the accuracy of the results. Hence, this study also performed data cleaning.

4.2.2 Missing Values

When a respondent willfully or unwillfully withholds the necessary information, missing values occur. This problem is frequent, especially in research that relies on surveys. Therefore, the missing value problem was also taken into account in this study. The findings in the table show that, the study's missing values were at their highest for the PL (participative leadership) item at 7 (0.82%) and their lowest for the IWB (innovative work behavior) item at 3 (0.20%). Additionally, because the percentage of missing values was well below 5%, an average imputation approach was used in SPSS to handle the missing values.

4.3 Demographics Data Results

During this study, questions about age, gender, experience, education, and job title were separated into separate parts in the questionnaire. People in the ITPs participated in this study.

The following is a list of more detailed sample characteristics:

4.3.1 Respondents by Gender

Gender is a key determinant of the separation of male and female representation in society. As a result, it is included in the survey's demographic data. Table 4.1 shows that 62.3 percent of respondents were male, and 37.7 percent were female, based on the results.

TABLE 4.1: Gender Distribution

Gender	Frequency	Percentage	Valid Percentage	Accumulative Percentage
Male	152	62.3	62.3	62.3
Female	92	37.7	37.7	100
TOTAL	244	100	100	

4.3.2 Respondent's Age

The age of the respondents was an important consideration while compiling the demographic data in the survey. The responders were between the ages of 18 and 25, is 85 which is 34.8 %. In total, there were 119 people who were between the ages of 26 and 33 that participated in the survey is 48.8 % of total. Thirty-two percent of those polled, ages 34 to 41, answered the survey. Respondents between the ages of 42 and 49 comprised just 6% of the sample. Only two people, or 8% of the total sample, were over the age of 50. **Table 4.2** displays the breakdown of responders by age group:

TABLE 4.2: Distribution of Age

Age Groups	Frequency	Percentage	Valid Percentage	Accumulative percentage
18-25	85	34.8	34.8	34.8
26-33	119	48.8	48.8	83.6
34-41	32	13.1	13.1	96.7
42-49	6	2.5	2.5	99.2
50 and Above	2	0.8	0.8	100
Total	244	100	100	

4.3.3 Respondent's Experience

Experience is an efficient demographic since it correlates to both Innovative Work Behavior (IWB) and Participative Leadership (PL). Out of 244 responders, 152 (62%) were 5 years or less then. There were 74 respondents 6 to 13 years with a rate of 30.3 percent. The experience goes from 14 to 21 and has a 5.3 percent frequency. The experience ranged from 22 to 29 and was 1.6 percent. There were 1 respondent with over 30 years of experience is 4%. **Table 4.3** shows the distribution of respondents' experience

TABLE 4.3: Distribution of Respondents' Experience

Group in years	Experience	Frequency	Percentage	Valid Percentage	Accumulative Percentage
5 and Less		152	62.3	62.3	62.3
06-13		74	30.3	30.3	92.6
14-21		13	5.3	5.3	98
22-29		4	1.6	1.6	99.6
30 and Above		1	0.4	0.4	100
Total		244	100	100	

4.3.4 Respondents' Qualification

A qualification is an attribute, quality, or talent that qualifies someone for a job or task. So it's in the demographics section. **Table 4.4** indicates the respondents' educational background, with 2.5 percent having a Matric and 31.1 percent having a Bachelor's degree. 36.9% Master level There were 63 MS/M.Phil. degree holders who responded (24.8%). However, there were 9 Ph.D. respondents, or 3.7 percent.

TABLE 4.4: Respondents Qualification

Qualification	Frequency	Percentage	Valid Percentage	Accumulative Percentage
Matric	6	2.5	2.5	2.5
Bachelor	76	31.1	31.1	33.6
Master	90	36.9	36.9	70.5
MS/M.Phil.	63	25.8	25.8	96.3
PhD	9	3.7	3.7	100
Total	244	100	100	

4.4 Reliability of a Scale

Reliability is one of the prerequisites for validity and was defined by [Walsh and Betz \(1995\)](#) as the correlation of items. Methods for evaluating reliability include internal consistency, test-retest reliability, inter-rater reliability, and split half reliability.

To examine the internal consistency of instruments, composite reliability is utilized. Composite reliability's cutoff value is 0.7. ([Gefen, Straub, & Boudreau, 2000](#)). Next, the reliability of internal consistency is evaluated using composite reliability ([Werts, Rock, Linn, & Jöreskog, 1978](#)). Larger numbers imply greater reliability, with values of 0.60 to 0.70 deemed acceptable, 0.70 to 0.90 excellent to good, and 0.95 and higher problematic due to the duplication of the items and decreased concept validity ([Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser, 2012](#)).

Reliability is also tested using Cronbach's alpha and average variance extracted (AVE) (J. F. Hair, Risher, Sarstedt, & Ringle, 2019). Similar to composite reliability, Cronbach's alpha has a threshold but produces less accurate results. AVE is higher than the minimum value required, which was 0.50.

All variables in **Table 4.5** have reliability values greater than the threshold of 0.7: PL (0.874), IWB (0.906), EVB (0.826), and PP (0.892).

TABLE 4.5: Reliability and Validity

Measures	CA	CR	AVE
PL	0.874	0.905	0.614
IWB	0.906	0.928	0.603
EVB	0.826	0.862	0.61
PP	0.892	0.903	0.57

CA= Cronbach's Alpha, CR=Composite Reliability, AVE= Average Variance Extracted.

Furthermore, "discriminant validity" is evaluated, which reveals how different one construct is from others in the structural model. The Heterotrait-monotrait ratio (HTMT) criteria were used to determine the "discriminant validity" of notions (Henseler, Ringle, & Sarstedt, 2015). Results showed that the discriminant validity of the measurement model was satisfactory. Evaluation of the measurement model was followed by assessment of the structural model. According to (Henseler et al., 2015), higher HTMT levels result in more problems with discriminant validity. They claim that 0.90 is the HTMT threshold value. There might not be any discriminant validity if the value is higher than 0.90.

TABLE 4.6: Discriminant Validity Measurement model- Heterotrait-Monotrait Ratio

	EVB	IWB	PL
EVB			
IWB	0.534		
PL	0.269	0.387	
PP	0.694	0.65	0.301

4.5 Descriptive Statistics

Descriptive statistics give us all of the pertinent information about the data that we have collected. It specifies the mean, the median, the upper and lower limit, the standard deviation (SD), and the number of questionnaires utilized in the study.

The mean or a central data value can also be referred to as "average" in this context. The mean values indicate whether or not the respondent concurs with the study's findings regarding agreements and discrepancies. A tendency for respondents to strongly agree is indicated by higher mean values, whereas a tendency for respondents to strongly disagree is indicated by lower mean values.

The standard deviation (SD) is a calculated statistic that indicates how far the data is distributed or congregated around the mean of the distribution. The standard deviation, as the name implies, refers to the number of responses that deviate from their mean values.

A descriptive description of the answers is provided in tabular format. The basic data from all variables, including Participative Leadership (PL), Employee Voice Behavior (EVB), Innovative Work Behavior (IWB), and Proactive Personality (PP), are presented in the following table 4.7.

TABLE 4.7: Descriptive Statistics

Variables	N	Min.	Max.	Mean	Std. Dev.
PL_MEAN	244	1.17	5	3.7719	0.93078
EVB_MEAN	244	1.33	5	4.084	0.66314
IWB_MEAN	244	1.11	5	4.0187	0.70071
PP_MEAN	244	2	5	4.1381	0.64469
Valid N (list wise)	244				

A five-point scale's minimum and maximum values may be found in Table 4.7, which also contains the minimum, maximum, mean and Std. Deviation for entire sample.

The above details indicate that there are 244 participants in the sample and that the average amount of Participative leadership (PL) in the table is 3.7719, the maximum value is 5.00, the minimum value is 1.17, and standard deviation is 0.93078, which indicates that the employees agree that PL has an impact on the

IWB of IT project employees. Here, the mean of IWB is 4.0187 and the standard deviation is 0.70071.

Whereas the Employee voice behavior (EVB) have a mean value 4.0840, a minimum value of 1.33, a maximum value of 5.00, and a std. Deviation of 0.66314; this indicates that employees believe EVB has an impact on the IWB, as demonstrated by the data.

On the other hand, the mean value of Proactive Personality (PP) in the table was 4.1381, minimum value is 2.00, the maximum is 5 and Std. Deviation is 0.64469 means that employees agree Proactive personality (PP) affects the project.

4.6 Control Variables

One-way ANOVA has been used in this study to test the effect of control variable on the dependent variable. What we did was, classify demographic variables in this study such as age, qualification, gender, and experience, one after another with dependent variable. ANOVA measures the relationship between variables by understanding each other's dependency, which ensures that an important demographic variable can be monitored if ANOVA represents those populations that have a large influence on the dependency. When the value range p is upper than 0.05, the demographic variables are marginal and do not need to be tracked.

TABLE 4.8: One-way ANOVA

Control Variables	F-Values	Significance
Gender	0.243	0.362
Age	0.391	0.815
Qualification	1.513	0.199
Experience	0.297	0.88

A one-way analysis of variance (ANOVA) is performed on the data in **Table 4.8**, which revealed demographic numbers throughout a range of values, including gender ($F = 0.243$, $p = 0.362$), age ($F=0.391$, $p = 0.815$), qualification ($F= 1.513$, $p = 0.199$), and experience ($F = 0.297$, $p = 0.880$). Given that all demographic

variables, including gender, age, educational level, and work experience, are above the thresholds, these numbers imply that they have minimal impact on the dependent conclusion and that there is no need to control demographic variables while studying.

4.7 Analysis of Correlation

Correlation is a statistical technique that is used to determine the connection between two different variables. The purpose of this study is to examine the relationship between the PL and the IWB, with the EVB as a mediating role and the PP as a moderator. The correlation takes into account the variation across arrangements, regardless of whether they change at the same time or not. Correlation analysis is determining the significance and severity of a relationship using Pearson correlation values. A value of -1.0 to +1.0 is assigned to the Pearson correlation coefficient, If the result is close to zero, there is likely no relationship between the variables. When the value is higher than zero, there is a strong and positive relationship between the variables, suggesting that both are moving in the same direction and that a significant increase in one variable will result in a significant increase in the other. The negative value sign implies that constructs move in the opposite direction of each other; this suggests that variables have indirect interactions with one another.

TABLE 4.9: Correlation

S. No		1	2	3	4
1	PL	1			
2	PP	.273**	1		
3	EVB	.281**	.540**	1	
4	IWB	.346**	.567**	.424**	1

N=244 **. Significant Correlation at the 0.01 level (2-tailed).

The table 4.9 have shown correlative findings of association between Participative leadership (PL) and Proactive personality (PP) as $r = 0.273^{**}$ at $p < 0.01$, and

is positive and significant. PL as $r = 0.281^{**}$ at $p < 0.01$, have positive and significant relationship with EVB. Participative leadership (PL) with innovative work behavior (IWB) have positive, significant relationship as $r = 0.346^{**}$ at $p < 0.01$.

PP has significant and positive relationship with EVB as $r = 0.540^{**}$ at $p < 0.01$, whereas PP with IWB is also significant and positive as $r = 0.567^{**}$ at $p < 0.01$.

Likely EVB as $r = 0.424^{**}$ has positive relationship with IWB as significance at $p < 0.01$.

4.8 Regression Analysis

To determine the causal relations between variables, we did a regression analysis. Through this analysis, we come to know how often the independent variable changes the dependent variable. We have two forms of regression, one is simple and the other is multi regression but in this study, we used simple regression. In this research, the effect of ‘Participative Leadership’ (PL) on ‘Innovative work behavior’ (IWB) of project employees in the ITPs of Pakistan. Project was examined by a linear or simple regression.

TABLE 4.10: Regression Model Summary

Model	R	R ²	Adjusted R ²	SE. Estimate	R ² Δ	P.Value Δ
1	.346	0.12	0.116	0.7216	0.12	0.000

a. Predictors: (Constant), PLM

As indicated in **Table 4.10** we can see R-square value is 0.120 which means that our independent variable, Participative leadership (PL) causes 12% change in the dependent variable innovative work behavior (IWB) of ITPs employees.

TABLE 4.11: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.156	1	17.156	32.948	0.000
	Residual	126.012	242	0.521		
	Total	143.168	243			

a. Dependent Variable: iwbm2 b. Predictors: (Constant), PLM.

Table 4.11 ANOVA results shows that p – value is 0.000 which is less than 0.05, hence we say that there is a significant relation between PL and IWB.

TABLE 4.12: Coefficients^a

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.
1	(Constant)	2.893	0.193	14.973	0.000
	PLM	0.285	0.05	5.74	0.000

a. Dependent Variable: iwbm2.

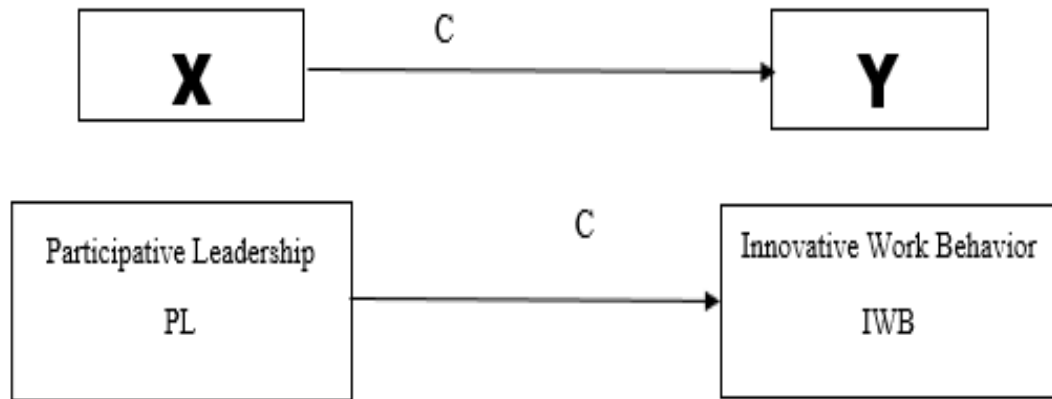
The **Table 4.12** show the coefficients results, as indicated that the beta value is 0.346, which means that the change in independent variable ‘PL’ by one unit will bring about the change in the dependent variable IWB by 0.346 units.

Furthermore, the beta value is positive which indicates the positive relationship between PL and IWB.

H1: Participative Leadership (PL) is positively linked with Innovative work behavior (IWB) of ITPs employees.

The current research study is based on Participative Leadership (PL) is denoted by X, and innovative work behavior (IWB) of project employees, which is denoted

by Y. The input is an X variable, while Y is an outcome variable. The pictorial demonstration of the model is given below:



4.9 Mediating Role of EVB (Employees Voice Behavior)

For the evaluation of mediation between Participative Leadership (IV) and Innovative Work Behavior of ITPs employees (DV), we used Preachers and Hayes (2004) model 4 in SPSS. Mediation testing is used to determine whether or not the mediator mediates the relationship between the independent and dependent variables. Participative leadership (IV) is used as an independent variable (X), innovative work behavior as a dependent variable (Y), and employee voice behavior as a mediator (M) in the proposed study.

In order to perform a mediation analysis, we looked at the following relationships: the impact of participative leadership (X) on the employees' voice behavior (M) path a; the impact of EVB (M) on the Innovative Work Behavior (Y) path b; the direct effect of participative leadership (X) on the Innovative Work Behavior (Y) path c; the combined effect of participative leadership (X) on the Innovative Work Behavior (Y) path c; and the indirect effect of participative leadership (X) through mediator (M) on dependent (Y).

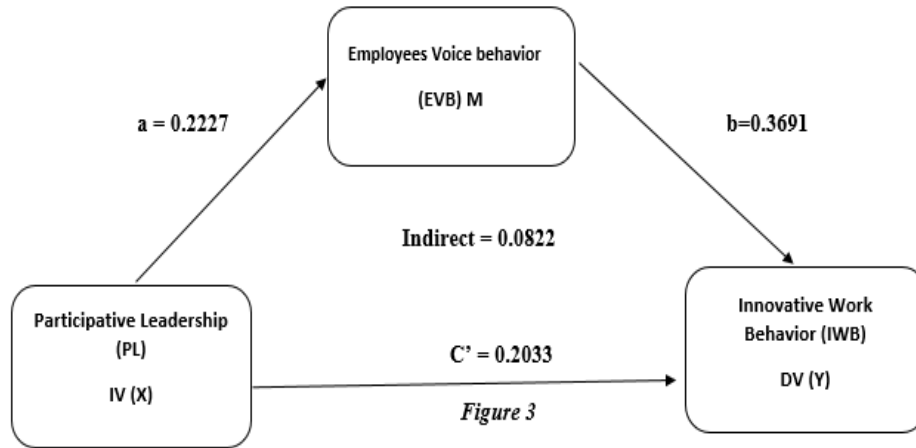


TABLE 4.13: Mediation Analysis

	B	P
PL (X) to EVB (M) Path a	0.2227	.0000
EVB (M) to IWB (Y) Path b	0.3691	.0000
Direct Effect PL (X) to IWB (Y) Path c'	0.2033	.0000
Total effect PL (X) to IWB (Y) path c	0.2855	.0000
Indirect Effect (a*b)	0.0822	.0000
	LLCI	ULCI
Bootstrap for Indirect Effect	0.0226	0.2073

Table 4.13 demonstrates that Participative Leadership (PL) independent variable (X) to Employees' Voice Behavior (EVB) mediator (M) has a value of 0.2227, which indicates that Participative Leadership (PL) has a positive impact on employee voice behavior (EVB) and is significant as the p-value is less than 0.001. Consequently, hypothesis 2 accepted, which states that,;

H2: Participative leadership (PL) is positively linked with employee voice behavior (EVB) in ITPs context.

Additionally, **Table 4.13** states that the voice behavior of employees (M) influences innovative work behavior (path b) favorably, with a beta value of 0.3691 indicating significance at the p-value less than 0.001. Since there is a strong and positive relationship between employee voice behavior (M) and innovative work

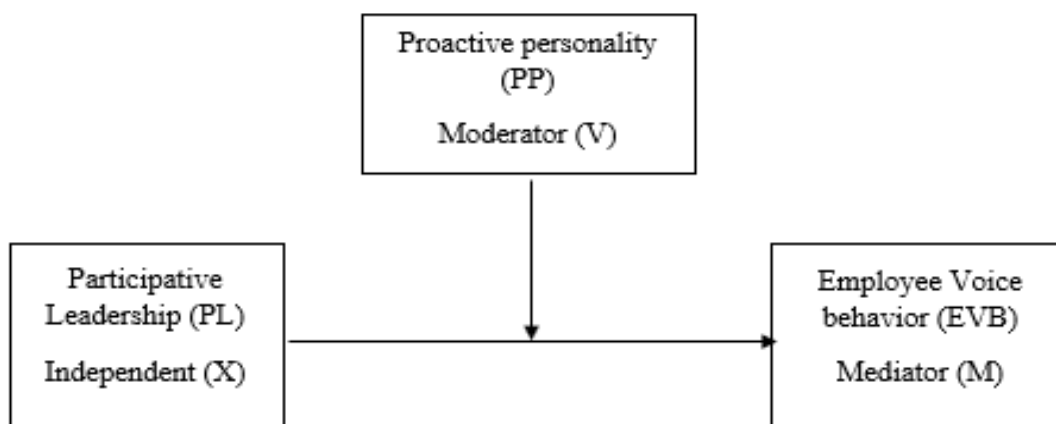
behavior (Y), this effect shows that our hypothesis 3 is supported by results. Therefore, the third hypothesis is accepted, which is

H3: There is a positive association between employee voice behavior (EVB) and innovative work behavior (IWB) of ITPs employees.

The direct effect of Participative Leadership (PL) on Innovative Work behavior (IWB) is positively associated and has a significance value 0.0000 $p < 0.001$ means that path c' or direct effect is significant. The indirect effect (Path $a * \text{path } b$) is also positive and significant as beta value 0.0822 and bootstrap lower limit 95% confidence interval is 0.0226 bootstrap upper limit 95% confidence interval is 0.2073 . Results showed that the total effect of Participative Leadership (PL) on Innovative Work Behavior (IWB) is positively associated and significant with having a beta value of 0.0000 $p < 0.001$ where p -value indicates that it's significant. Bootstrap limits have the same signs as there is no zero between these, so the indirect effect is significant. So the hypothesis 4 is accepted and here is mediation as direct and indirect, also both are significant that states;

H4: Participative leadership (PL) is positively linked to innovative work behavior (IWB) and employee voice behavior (EVB) mediates this relationship.

4.10 Moderation analysis



To determine the impact of the moderator (V) between EVB (M) and PP (x), we carried out preachers and Hayes's (2004) model 7 through PROCESS macros in

SPSS. It is conducted to verify the moderator (V) effect, i.e., that the mediator (M) and the dependent variable (Y) influence one another.

TABLE 4.14: Moderation Analysis

	β	Se	T	P
Int-term 1	-0.2841	0.0636	-4.4706	0.000
		LLCI	ULCI	
Bootstrap for int- term 1		-0.4093	-0.1589	

Coefficient of unstandardized regression is mentioned. N=244, *p<0.05; **p<0.01; ***p<0.001, LLCI & ULCI = 95%.

In **Table 4.14** beta value is -0.2841 and p value is significant, which shows the significant relationship between independent variable (PL) and mediator (EVB) but in opposite direction. It shows that Proactive personality (PP) moderates (W) the relationship between Participative leadership (PL) and Employee Voice behavior (EVB) but on negative side as the value of the beta is negative. But on other hand, Participative leadership (PL) directly affect positively to mediator Employees Voice Behavior (EVB). So, the Hypothesis number five accepted but in opposite direction.

H5 a: Proactive personality (PP) moderates the relationship between participative leadership (PL) and employee voice behavior (EVB) such that ITPs employees with proactive personality will show higher voice over behavior under a participative leader (PL). **Table 4.13** Conditional indirect effect(s) of X on Y at values of the moderator(s):

TABLE 4.15: Conditional Indirect Effect(s) of X on Y at Values of the Moderator(s)

Index Of Moderated Mediation				
Mediation	Index	SE (Boot)	Boot LLCI	Boot ULCI
	-0.1049	0.0209	-0.1727	-0.0516

Table 4.15 demonstrates the moderated mediation role of proactive personality (PP) through mediator (M) Employees voice behavior (EVB) on dependent variable (Y) innovative work behavior (IWB) under the participative leadership (X). The results show that PP (W) is moderating this relationship but in opposite

direction. Negative beta value -0.1049 shows that its weakening the relationship between them. Therefore, the hypothesis five (b) is accepted but in opposite direction, which is:

H5 b: Proactive personality (PP) moderates the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs employees through EVB such that employees with proactive personality will raise their voices to boost innovativeness under a participative leader (PL).

TABLE 4.16: Summary of Hypotheses

Hypothesis Statement		Results
H1	Participative leadership (PL) is positively linked to Innovative work behavior (IWB) of ITPs employees.	Accepted
H2	Participative leadership (PL) is positively linked with employee voice behavior (EVB) in ITPs context.	Accepted
H3	There is a positive association between employee voice behavior (EVB) and innovative work behavior (IWB) of ITPs employees.	Accepted
H4	Participative leadership (PL) is positively linked to innovative work behavior (IWB) and employee voice behavior (EVB) mediates this relationship in ITPs context.	Accepted
H5 a	Proactive personality (PP) moderates the relationship between participative leadership (PL) and employee voice behavior (EVB) such that employees with proactive personality will show higher voice over behavior under a participative leader (PL).	Accepted but in opposite direction*
H5 b	Proactive personality (PP) moderates the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs employees through EVB such that employees with proactive personality will raise their voices to boost innovativeness under a participative leader (PL).	Accepted but in opposite direction*

Chapter 5

Discussion and Conclusion

This chapter contains justifications for hypothesized relationships. The implications for the information technology projects (ITPs) and their employees' voice and innovative behavior under the supervision of participative leadership (PL) have been discussed in light of the findings. Also provided are the theoretical implications, the study's weaknesses and strengths, along with suggestions for future directions.

5.1 Discussion

Organizations are working hard to gain the competitive edge as competition intensifies. "Innovative work behavior" (IWB) has become an intriguing topic for researchers and academicians since it produces a number of advantageous outcomes for both ITPs and their employees. By examining the moderation and mediation mechanisms by which participative leadership (PL) affects innovative work behavior (IWB), the current study combines the field of leadership research with the behavior of employees having a proactive personality (PP).

The LMX theory served as the foundation for a research model. The methodological framework used is adapted to investigate the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs team members, with employees' voice behavior serving as a mediator and proactive personality as a moderator.

This research study is exploratory. It employs the "hypothetical deductive method" to empirically test and validate the relationships that have been suggested by or based on prior literature. It measures the impact of "participative leadership" (PL) on the "innovative work behavior" (IWB) of ITPs information technology projects employees with the mediation of "Employees' voice behavior" (EVB) and the moderating role of (PP) "proactive personality"

The adopted questionnaires were used to study all variables. Data were collected from employees working for ITPs in major cities of Pakistan via a survey by the time lag method. Model fitness was tested by SMART PLS. There were a total of five hypotheses developed. All hypotheses are tested through the SPSS statistical package. Mediation and moderation hypotheses were assessed through Preacher and Hayes Macros by Models 4 and 7, respectively. All hypotheses are affirmed and have been discussed through the research question. Thus, the research question of the study proves that innovative work behavior (IWB) is triggered by participative leadership (PL) when employees raise their voices and have a proactive personality (PP).

Let's discuss all research question and the findings of study one by one:

5.1.1 Question 1: What Impact does Participative Leadership (PL) have on its Employees' Innovative Work Behavior (IWB)?

The research question number one was about the direct impact of participative (PL) on innovative work behavior (IWB) in information technology projects (ITPs).

5.1.1.1 Hypothesis 1: Participative leadership positively linked with Innovative work behavior in ITPs

The study hypothesized the positive relationship between participative leadership (PL) and innovative work behavior (IWB). The findings of studies have shown that there is a strong positive relationship between PL and IWB. These findings are consistent with previous studies ([Fatima, Majeed, & Saeed, 2017](#); [Ahn &](#)

Bessiere, 2022). Participative leadership is an approach, which is admired for creating positive linkages to engage employees in innovative work practices (Fatima, Majeed, & Saeed, 2017; Rogoll, 2021). It is generally referred to as someone who regards employees' opinions (Lam et al., 2021). Participative leadership encourages employees' innovativeness positively, which in turn increases innovative work behavior (Akter et al., 2022). Participative leadership boosts the employee's idea generation capability to enhance innovative work behavior in ITPs (Fonias & Rocklind, 2021; S. F. Haider, 2021). Under participative leadership, power and authority are shared between a leader and their employees (Lo & Stark, 2020). This power sharing and the authority to make decisions positively enhance the employee's innovative work behavior (Lumbantoruan et al., 2019). Through this process Participative leadership is positively linked to innovative work behavior (IWB) (Odoardi et al., 2019).

5.1.2 Question 2: What impact does participative leadership (PL) have on employees' voice behavior (EVB) in ITPs context?

The research question number two was about the direct effect of Participative leadership (PL) on Employees voice behavior (EVB) in information technology projects context.

5.1.2.1 H2: Participative leadership (PL) is positively linked with employee voice behavior (EVB) in ITPs context

Talking specifically about the leadership styles, the one who empowers and lets the employee's participation positively toward EVB. Participative leadership is one of them because it values the voice of their employees in decision making and empowers them (Makwetta et al., 2021). Participative leadership has the ability to positively influence their employees' voices (Alsubaie, 2021). When employees perceive an appropriate participative climate, they feel free to speak up about work-related problems in projects (i.e. ITPs) (Gyensare et al., 2019). Participative leaders focus on the employee voice (Wilkinson et al., 2020), and enhance their

motivation to speak, share ideas and suggestions. Participative leadership style is a possible antecedent of employee voice because this sort of leadership style facilitates discourse, encourages employees to express their thoughts, and lets the workers feel that their opinions matter (Newman et al., 2016). Employee voice emerges under participative leadership because of encouragement, facilitation, and the feeling that their suggestions are valuable. Likewise, participative leadership inculcates internal motivation (Newman et al., 2016).

According to research scholars, it is an extra-role activity (Van Dyne & LePine, 1998). This form of leadership encourages, supports, and influences their employees to participate in collaborative activities and organizational decision-making, instead of directing the team. Participatory leaders seek agreement and encourage open communication (Newman et al., 2016), which encourages employee voice behavior. The finding of this study prove that participative leadership (PL) have positive influence over the employee's voice behavior. Previous literature also states that employee voice is described as the "discretionary communication of ideas, suggestions, concerns, or about work-related issues with the intent to improve organizational or unit functioning "(Morrison, 2011) p. 11. It is the Participative leader who has a major positive impact on their employees' voices (Van Dam et al., 2008).

5.1.3 Question 3: What impact does employees' voice behavior (EVB) have on innovative work behavior (IWB) of ITPs?

The research question number three was the direct influence of Employees voice behavior (EVB) on the innovative work behavior of ITPs employees.

5.1.3.1 H3: Positive association between employee voice behavior (EVB) and innovative work behavior (IWB) of ITPs employees

The findings of our research suggest that there is a positive association between EVB and IWB. As, prior studies reflect employees voice associate to ask questions, express their concerns, solve problems to innovate. The term "employees' voice

behavior” also refers to innovative suggestions that bring innovativeness in work behavior. The recommendations and solutions are more likely to be put into practice since they frequently center on the ideal situation that can be attained in the future. Because it is primarily concerned with increasing innovative work behavior (IWB), it gets widespread support from the project through employee voice behavior (Liang et al., 2012).

To increase people’s willingness to express themselves in a constructive way, Employees voice behavior is associated with innovative work behavior. To get high marks on performance reviews or to hold important roles inside ITPs, employees will need to stand up and promote themselves. To get the attention of management, to produce innovative performance and outcomes, or to hold crucial roles within IT projects, employees will need to speak up in a persuasive manner (Miao et al., 2014). The potential of the project to encourage innovative work behavior is positively impacted by voice behavior This the most efficient way to help an IT project to innovate and adapt to a dynamic competitive environment is through the use of voice (Liang et al., 2012).

5.1.4 Question 4: Does Employees’ Voice Behavior (EVB) mediate the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs employees?

The research question number four was about the mediating role of Employees’ Voice behavior (EVB) between Participative leadership (PL) and innovative work behavior (IWB). We test is it mediates this relationship or not, Hypothesis number 4 helps to solve this.

5.1.4.1 H4: Participative leadership (PL) is positively linked to innovative work behavior (IWB) and employee voice behavior (EVB) mediates this relationship in ITPs context

The findings of our research reflects that EVB have a mediation role between PL and IWB. As previous suggest that Employees’ ability to raise their voice, is source

of novel ideas, proposals, and information sharing regarding difficulties at work is what enables ITPS to innovate (Morrison, 2011; H. Zhou et al., 2017). A person's voice, actions, or ideas are turned into innovative work behavior (IWB) under the participative leadership (PL).

5.1.5 Question 5: 5 a: Does proactive personality (PP) moderate the relationship between participative leadership (PL) and employee voice behavior (EVB) such that employees with a proactive personality will show higher voice behavior under a participative leader?

5.1.6 5 b: Does proactive personality (PP) moderate the relationship between participative leadership (PL) and innovative work behavior (IWB) through mediation employee voice behavior (EVB) such that ITPs, employees with a proactive personality will show higher voice behavior under a participative leader?

The question number five discuss the following two roles of our variable proactive personality (PP):

Number 1: Role as moderator between PL independent variable and EVB mediator

Number 2: Role as moderated mediator between PL (IV) and IWB (DV) through mediator EVB.

"Innovative work behavior" (IWB) has become an intriguing topic for researchers and academicians since it produces a number of advantageous outcomes for both ITPs and their employees. By examining the moderation and mediation mechanisms by which participative leadership (PL) affects innovative work behavior (IWB), the current study combines the field of leadership research with the behavior of employees having a proactive personality (PP).

5.1.6.1 Hypotheses: H5 a: Proactive personality (PP) moderates the relationship between participative leadership (PL) and employee voice behavior (EVB) such that employees with a proactive personality will show higher voice behavior under a participative leader.

5.1.6.2 H5 b: Proactive personality (PP) moderates the relationship between participative leadership (PL) and innovative work behavior (IWB) of ITPs employees through EVB such that employees with proactive personality will raise their voices to boost innovativeness under a participative leader (PL).

The results of this study shows, Proactive personality (PP) roles as moderator and moderated mediation both have significant relationship between independent variable (PL) and mediator (EVB) with dependent variable (EVB) but in opposite direction. It suggests that Proactive personality (PP) moderates (W) the relationship between Participative leadership (PL) and Employee Voice behavior (EVB) but on negative side as the value of the beta is negative. But on other hand, Participative leadership (PL) directly affect positively to mediator Employees Voice Behavior (EVB). So, the Hypotheses number five 'a' and 'b' both are accepted but in opposite direction. The impact of PL on EVB and IWB will be weaker in moderation of PP.

As study shown 'PP' moderates this relationship on opposite side. It's a significant contribution toward the literature of information technology projects (ITPs) in Pakistan context. This happened in situation where employee may act himself proactively instead of raising voice. So we can say that proactive personality moderation has negative and opposite effect between the PL, EVB and IWB.

The study is unique yet aligned indirectly with the previous studies, as according to this situation it does not necessarily mean that employee will wait for raising voice. The employee may act proactively and get approval by the leader later. Similarly, [Oyet and Withey \(2022\)](#); [Sheng and Zhou \(2021\)](#); [Maan, Abid, Butt, Ashfaq, and Ahmed \(2020\)](#); [Xu, Qin, Dust, and DiRenzo \(2019\)](#); [Vandenberghe and Ok \(2013\)](#); [L. Li and Mao \(2014\)](#), provide the same evidence.

On the other hand, counter arguments suggest that PP moderates and plays a significant role between leadership and employee behavior. For this argument studies of [Abid et al. \(2021\)](#); [Su and Zhang \(2020\)](#); [W. Jiang and Gu \(2015\)](#), are evidence.

5.2 Practical and Theoretical Implications

As we know, globalization is a phenomenon that requires highly innovative products to take competitive advantage and ensure the survival of organizations, especially in the IT sector. Innovative products are essential for the better development of the IT sector and it comes from the innovative work behavior (IWB) of IT project employees, which is about sharing their voices in the form of innovative ideas under Participative Leadership.

The contribution of study is both in practical and theoretical terms, and highlights that Participative Leadership (PL) plays a vital role in IWB by putting an emphasis on EVB as a mediating variable and moderating variable as PP to fulfill the Global Requirement of the IT sector.

This study is conducted in Pakistan's information technology (IT) sector project context, in order to examine the impact of Participative Leadership (PL) on IWB, which shows that a leader's role is significant and essential in streamlining the efforts to enhance innovation. It helps the project manager or project leader interact and coordinate with the project team in an effective manner to increase IWB.

Voice behavior is an important element of civilized societies, which has influential impacts on individuals' lives and organizations as well. In the IT sector, EVB is usually conducted with the aim of employees taking part in important decision making to promote innovation. High level EVB enhances the high level of IWB.

The useful and most important theoretical contribution is the role of EVB as a mediator between PL and IWB. Previous studies are about the role of PL on IWB, but EVB has not yet been studied as a mediator. The results of the study demonstrate

the role EVB plays as a mediator between PL and IWB. It provides appreciation for the team and raises awareness of the innovativeness of the projects. This study will also facilitate the IT sector of Pakistan in order to increase the importance of Participative Leadership (PL). The implementation of PL increases IWB along with the moderating effects of PP, which promotes innovative work behavior. It helps to polish IT employees' voicing and behavioral skills for innovativeness to compete in global markets.

So, studying these variables in Pakistan's ITPs context is a unique opportunity and puts a significant contribution into innovative work behavior (IWB) as well.

5.3 The Research Outcome's Strengths

The strengths of the research study are given below:

1. For reporting purposes, data is collected from 244 key people who are employed in ITP i.e. like software houses in major cities of Pakistan.
2. Data analysis is carried out through SPSS statistical software.
3. Responses are collected from the project manager and their employees, which means project leaders and their employees are both respondents for the variables, i.e. for PL (employees), EVB(employees), IWB (leader), PP(employees).
4. Respondents have expertise in the IT industry, and these people are employed in software houses and working on information technologies projects (ITPs).
5. EVB as a mediator with PL and IWB is studied for the very first time in the IT sector of Pakistan, so it is an essential humble contribution to PL literature.
6. EVB significantly mediates among PL and IWB with the aim of moderation of PP.

5.4 Conclusion

The current study's goal was to examine the relationship between participative leadership (PL) and innovative work behavior (IWB), with employee voice behavior (EVB) serving as a mediator. Additionally, it was hypothesized in this study that employees who raise their voices under participative leadership exhibit highly innovative work behavior (IWB). This relationship between participative leadership (PL) and employee voice behavior (EVB) is moderated by proactive personality (PP). It has been determined through analysis using SPSS and SMART PLS statistical software programs that participative leadership (PL) increases innovative work behavior (IWB) among employees, with employee voice behavior (EVB) serving as a mediating factor in this relationship. The relationship between participative leadership and employee voice behavior is also moderated by proactive personality, but negatively.

Participative Leadership (PL) literature and has implications on practical grounds in association with Participative Leadership (PL) and Innovative Work Behavior (IWB). The IT (information technology) project's management is about to assign a Participative Leader as project manager. which are always in need of innovation with possible solutions to the high demand for innovative products and services in the IT sector worldwide.

According to the findings, this research shows a positive impact of PL on IWB, which is significant. The current study confirms the results of previous studies that argued that PL is about continuously motivating and encouraging the participation of employees in order to take innovative decisions and innovative strategic planning, which is necessary for innovation in work. In light of this, we can finally say that participatory leadership (PL) positively increases IWB.

The effects of PL on IWB can be increased when employees' voice behavior (EVB) acts as a mediating agent between PL and IWB, which is shown in our results. When both variables were mediated with EVB, the direct effect of PL on IWB was significant. It plays a partially mediating role with Participative Leadership (PL) to increase innovative work behavior (IWB).

These findings are consistent with prior research, which found that employees who work under a participative leadership style are more likely to demonstrate innovative outcomes (J. P. De Jong & Den Hartog, 2007; Avey, Hughes, Norman, & Luthans, 2008). The results of the current study also support the Leader Member Exchange (LMX) theory's examination of the connection between participative leadership and innovative work practices, both directly and indirectly through employees' voice behavior (Graen & Uhl-Bien, 1995). When leaders allow employees to participate in routine tasks and consider their opinions in decision making, employees begin to actively participate in the betterment of the ITPs, resulting in an increase in employee voice behavior (EVB). Their innovative work behavior (IWB) eventually grows as a result.

5.5 Limitation and Future Discussion

As every research has certain limitations, inadequacies, or restrictions, and similarly it also has. The resources and the time were constrained. Since just one mediator and moderator are utilized. However, researchers can use more than one mediator and moderator to improve the model for example: employee's empowerment (EE) and knowledge sharing (KS) and many others linked with Participative leadership (PL) and innovative work behavior (IWB). Due to time and resource constraints, our second limitation is that we only collected data from Pakistan, which makes it challenging to do research in many different nations. Thus, data from several countries can be obtained in the future. Third one we studied it only for information technology projects (ITPs), it must be studied for other industries as well. In this prospective we studied it for Project based organization only, there is a need for other traditional firms also. Last but not least is, to increase the generalizability of the results, sample size can be increased.

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Appendix-A

Questionnaire

Dear Respondent

Respectable respondent, I am MS (Project Management) research scholar at Capital University Science and Technology (CUST), Islamabad; I am collecting data for my thesis, “**Impact of Participative Leadership (PL) on Innovative Work Behavior (IWB) of Project employees with the mediating role of Employee Voice behavior (EVB) and moderating role of Proactive Personality (PP).**” It will take you 10-15 minutes to answer the questions and to provide valuable information. I assure you that data will be strictly kept confidential and will only be used for academic purposes.

Thank you

Muhammad Rehan,

MS Research Scholar,

Faculty of Management and Social Sciences,

Capital University Science and Technology, Islamabad.

Section 1: Demographics

Gender	1- Male 2- Female
Age(years)	1 (18-25) 2 (26-33), 3 (34-41), 4 (42-49), 5 (50-above)
Qualification	1 (Matric), 2 (Bachelor), 3 (Master), 4 (MS/M.Phil.), 5 (PhD)
Experience(years)	1 (5 and Less), 2 (6-13), 3 (14-21), 4 (22-29), 5 (30- above)

Section 2: Participative Leadership (PL)

Please tick the relevant choices: 1= strongly disagree, 2= Disagree, 3 = Neutral, 4= Agree, 5= Strongly Agree.

My executive.....

Sr. No	Statement					
1	asks for my opinion	1	2	3	4	5
2	asks me to suggest how to carry out assignments.	1	2	3	4	5
3	consult me regarding important changes.	1	2	3	4	5
4	lets me influence decisions about long term plans and directions.	1	2	3	4	5
5	allows me to set my own goals	1	2	3	4	5
6	gives me considerable opportunities for independence and freedom	1	2	3	4	5

Section 3: Employee Voice Behavior (EVB)

Please tick the relevant choices: 1= strongly disagree, 2= Disagree, 3 = Neutral, 4= Agree, 5= Strongly Agree.

Sr. No	Statement					
1	I develop and make recommendations to my supervisor concerning issues that affect my work.	1	2	3	4	5
2	I speak up and encourage others in my work unit to get involved in issues that affect our work.	1	2	3	4	5
3	I communicate my opinions about work issues to others in my work unit, even if their opinions are different and they disagree with me.	1	2	3	4	5
4	I keep well informed about issues at work where my opinion can be useful.	1	2	3	4	5
5	I get involved in issues that affect the quality of life in my work unit.	1	2	3	4	5
6	I speak up to my supervisor with ideas for new projects or changes in procedures at work.	1	2	3	4	5

Section 4: Innovative Work Behavior (IWB)

Please tick the relevant choices: 1= strongly disagree, 2= Disagree, 3 = Neutral, 4= Agree, 5= Strongly Agree.

How often does this employee...?

Sr. No	Statement					
1	pay attention to issues that are no part of his daily work?	1	2	3	4	5
2	wonder how things can be improved?	1	2	3	4	5
3	search out new working methods, techniques or instruments?	1	2	3	4	5
4	generate original solutions for problems?	1	2	3	4	5
5	find new approaches to execute tasks?	1	2	3	4	5
6	attempt to convince people to support an innovative idea?	1	2	3	4	5

7	systematically introduce innovative ideas into work practices?	1	2	3	4	5
8	contribute to the implementation of new ideas?	1	2	3	4	5
9	put effort in the development of new things?	1	2	3	4	5

Section 5: Proactive Personality (PP)

Please tick the relevant choices: 1= strongly disagree, 2= Disagree, 3 = Neutral, 4= Agree, 5= Strongly Agree.

Sr. No	Statement					
1	I am constantly on the lookout for new ways to improve my life.	1	2	3	4	5
2	Wherever I have been; I have been a powerful force for constructive change.	1	2	3	4	5
3	Nothing is more exciting than seeing my ideas turn into reality.	1	2	3	4	5
4	If I see something I don't like, I fix it.	1	2	3	4	5
5	No matter what the odds, if I believe in something I will make it happen.	1	2	3	4	5
6	I love being a champion for my ideas, even against others' opposition.	1	2	3	4	5
7	I excel at identifying opportunities .	1	2	3	4	5
8	I am always looking for better ways to do things.	1	2	3	4	5
9	If I believe in an idea, no obstacle will prevent me from making happen.	1	2	3	4	5
10	I can spot a good opportunity long before others can.	1	2	3	4	5