Impact of Employee Resilience and Job Engagement on Project Success: Mediating role of Innovative Work Behavior

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This study aims to examine the impact of employee resilience and job engagement on project success, and the mediating role of innovative work behavior. The study draws on a sample of 170 from the population of 304 information technology (IT) companies in Lahore Pakistan to test the proposed hypotheses. Smart PLS statistical software has been used to calculate the structural modelling equation results for the subject study. The results indicate that both employee resilience and job engagement have a positive impact on project success. Furthermore, innovative work behavior partially mediates the relationship between employee resilience and project success, as well as between job engagement and project success. These findings highlight the importance of fostering employee resilience and job engagement to promote project success and the role of innovative work behavior in facilitating this relationship. Organizations can benefit from implementing strategies that enhance employee resilience and job engagement while promoting a culture of innovation to achieve project success.

1. Introduction

Projects that involve information technology have a reputation for being difficult endeavors because they display characteristics that distinguish them from other types of projects, these characteristics include a higher level of complexity and innovation. Failures of projects of this nature are extremely commonplace in every region of the world. The failure of a project involving information technology is able to result in damages that are measured in the billions of dollars. The findings of the Standish Group Report (2021) indicate that only 16.2% of projects are finished within the given budget and time frame, 31% are terminated, and the bulk of projects incur losses. On the basis of this, it is so frequent for information technology projects in Pakistan to be unsuccessful. Therefore, it is essential that an investigation be conducted into the aspects that are able to contribute to the success of information technology projects.

One of the behavioral elements that was discovered as contributing to the success of information technology initiatives was the presence of people with extrovert personalities (Ramírez-Correa et al., 2019). According to Chau et al., (2018) stated that creative personality impacts positively on innovative behaviour of individuals innovative technology development. Wang and Wang (2023) conducted study regarding employee resilience and have found out that it is very important to have resilient employees, since they contribute to build resilient organizations. Which eventually helps in dealing with the uncertainties and complexities involved in construction projects.

When you have the presence of mind to be a resilient employee, rather than becoming rigid on the basis of your intelligence, you are open to receiving new information and expanding your knowledge base. According to Zaman et al., (2021) resilience, high self-esteem and high self-efficacy are the important personality traits much needed for successful high tech startup project, it has also been suggested that while selecting project leaders for high tech startups these three personality traits must be considered for project success. Moreover, employee resilience refers to the ability to maintain composure even under high-pressure conditions and to continue putting up one's best effort even when things get challenging (Britt et al. 2016). While studying the negative impact of psychological distress on project success Mubarak, Khan & Khan (2022) recommends that employee resilience and mindfulness act as barriers against psychological distress and employee resilience is very important for completion of projects.

While exploring the mediating role of psychological empowerment and job crafting between servant leadership and innovative work (Khan et al. 2022) have found out that in service industry the customer expectations necessitate the employees innovative work behaviour all the more important and service leadership helps in fostering innovative work behaviour. (Ali, Li, & Qiu, 2022) states that it has been empirically established that the highly engaged employees are more likely to show innovative work behaviour and also keep good work life balance. Projects are temporary endeavour, the innovative work behaviour is very important aspect of project staff working on different project, the innovative work behaviour of

employees is quite helpful in enhancing the innovativeness of project work and lead to successful project (Spanuth & Wald, 2017). According to Ali et al., (2020) innovative work behaviour and psychological empowerment are important elements for the success of projects. Lot of human resource studies stress that job engagement is an important aspect, since an engaged employee plays a significant role in the success of every project (Khattak et al., 2022; Yang et al., 2023; Fait et al., 2023). Job engagement is an important variable to link between transactional leadership and innovative work behavior (Udin et al., 2022). Hence, the aim of this study is to examine the role that resilient and engaged employees play in the success of projects both directly and indirectly through innovative work behavior.

Although there is a wealth of literature on the impact of employee resilience on many aspects of employee well-being and performance, there is an absence of research on the role that innovative work behavior plays in mediating this relationship. This is despite the fact that there is a wealth of literature on the effects of employee resilience on different aspects of employee well-being and performance. In particular, there is a lack of knowledge regarding the ways in which employees who are more persistent and resilient may display innovative work behavior and possibly contribute to organizational outcomes. This specific research area that has received relatively little attention in recent years (Khan et al., 2020).

In addition, there is a paucity of research that investigates the effect that employee engagement has on the relationship between the degrees of persistence, resilience, and creative problem-solving that employee's exhibit while on the job (Naswall et al., 2015). To get a better understanding of the underlying mechanisms and boundary conditions of the connection that exists between resilience, and creative work behavior, more research is required. The vast majority of the research that has been done on the subjects of employee resilience has focused on investigating the connections between these elements and individual-level outcomes such as stress, well-being, and job satisfaction (Bibi & Afsar, 2018). To assess the consequences of these characteristics at the level of the organization, however, such as how they affect productivity and creativity, more research is required.

In conclusion, additional research is required to understand the elements that may modify the connection between the resilience possessed by workers and their propensity to be creative while they are on the job (Tulucu et al., 2022). However, additional research is required to determine the precise mechanisms and conditions under which these factors might influence the relationship. Some evidence suggests that leadership behaviors and organizational culture may play a role in this relationship; however, this theory is not supported by all of the available evidence. To get a comprehensive understanding of the linked nature of elements such as employee engagement, creativity, resilience there has to be more research done. Filling up these information gaps will allow to comprehend the dynamic relationship that exists between the aforementioned components and the strategies that are able to be utilized to maximize both productivity and creativity in commercial settings. The main question of the study is, "what is the underlying mechanism through which employee resilience impact on project success"? Moreover, the main objective of the research is to investigate the impact of project success

while mediating for innovative work behaviour of employees and moderating for job engagement.

2. Literature Review

2.1 Theoretical Background

Following is a theoretical background study of all the variables used in the theoretical framework:

2.2 Employee Resilience

The concept of resilience was conceptualized as a result of the work that clinical psychologists undertook with developing children who fulfilled the goals, they had set for themselves and succeeded despite the presence of risk and tough conditions. According to Luthans (2002), the potential of an individual to recover and prosper after facing adversity and failures can be classified as resilient. As per the discoveries of a study that was led in 2010 by Masten and Wright, the process of developing resilience may be defined as the act of making positive modifications and preparations to one's working environment. Individuals who have a high resilience level are able to take risks and be successful in spite of the difficulties that they are presented with (Masten & Reed, 2002). They maintain an upbeat demeanor and have a good sense of humour (Masten & Wright, 2010; Wolin & Wolin, 1993). Workers that are resilient are interested in life and have a positive attitude towards it (Block, & Kremen 1996; Klohnen, 1996). These individuals are inventive, they take pleasure in attempting new things, and they investigate the artistic world in order to further develop their ideas (Cohler, 1987).

The term "resilience" refers to "a positive force that might be utilized to counter the negative events by adding the extreme positive occurrences. Connectedness, coherence, and control are the "three Cs" that Enzi and Ibrahim (2012) identify as the three pillars of resilience. These pillars are referred to by the authors as "the three Cs." When we talk about a worker having resilience, we are referring to their capacity to quickly recover from setbacks and continue out their responsibilities regardless of the circumstances. Workers that have resilience are able to face problems and barriers, emerge victorious over them, and keep moving forward in spite of these challenges and setbacks. Resilience is a priceless personal quality that shines brightest when a person is put to the test by adversity, whether that adversity comes in the form of challenges, obstacles, or a setting that is constantly shifting and unpredictable. Resilience is a personal quality that shines brightest when a person is put to the test by adversity.

2.2 Project Success (PS)

A project is a venture that is launched with the purpose of obtaining a certain result within the time and resources that have been allowed. The term "project" refers to this type of endeavor. It is not possible to condense PS into a single facet due to the fact that PS is defined and quantified along a range of dimensions. Rezvani et al. (2016) came to the conclusion that the successful completion of a project is characterized by its timely, high-quality, and cost-effective completion. According to Samakova and her coworkers, a successful project is one in

which the project team is employed and worked with, to achieve the key aims of the project (Samáková et al., 2013).

Essential to the practice of PS is the ability to operate within limited resources while still conceiving and implementing workable answers to problems facing a particular region or the society as a whole. Communication and trust are two crucial components of PS (Diallo & Thuillier, 2005). According to Briere et al. (2015) and colleagues found a number of necessary components that must be present for PS to function properly. Counted among these components are a number of human attributes, including flexibility, knowledge, the capacity for communication and collaboration, leadership tactics, interaction skills, norms and ethics, situational awareness, and the capability to handle change. According to Ahmed and Tinne (2017), the successful execution, review, and continuation of a project all require the participation of the local community as well as the establishment of partnerships with local businesses. In conclusion, there are a wide variety of definitions and explanations for PS, each of which might change on the basis of the author or the region of the world in which you examine.

2.3 Employee Resilience and Innovative Work Behavior

Recent studies have reached a near-universal consensus that resilient employees are essential to an organization's capacity not only for survival but also for continuous development in the face of intense competition, financial setbacks, and uncertainty. This is because resilient employees are better handle adversity and remain focused on the long-term goals of the company (Kuntz et al., 2016). Although studies on resilience have mainly focused on the field of psychology, some researchers have highlighted its potential as a tool for enhancing labor market flexibility (Linnenluecke, 2017).

According to Seibert et al. (2016), resilience is a crucial area of study since it is a component of an individual's personality that is able to impact their response to organizational change and their ability to cope with the associated stress. In addition to being a factor that influences an employee's attitude towards organizational change and their coping mechanisms, resilience is a quality that encompasses steadfastness. Hence, investigating resilience is able to provide insights into the development of effective coping strategies for employees undergoing organizational change.

According to the findings of another study (Bimrose & Hearne, 2012), which investigated the connection between career adaptability and resilience, it was discovered that resilience emerged as a crucial variable in the process of overcoming individual as well as structural obstacles. This was discovered in their research on the relationship between career adaptability and resilience. According to the findings of certain studies, employees who were more resilient were also those who were better able to adapt to changes brought about by their organizations (Wanberg & Banas, 2000). It was hypothesized in the past that employees who are resilient could be advantageous to the company on the basis of their propensity to grow as

a result of having terrible experiences and subsequently enhance their overall performance as a direct result of those experiences (Hoang & Rothaermel, 2005).

The more resilient you are able to become in the face of difficulties, both in the present and in the future, the better prepared you will be for the difficulties that life will throw at you. Those who are able to bounce back from adversity more easily have a stronger tendency to explore innovative, creative, and spontaneous avenues of thought and activity. This implies that resilience is a trait that lasts throughout their lives, is developed over time as a result of the experiences that individuals have throughout their lives and age, and is the basis upon which individuals have the ability to react to the environments in which they find themselves. There is a significant and positive relationship between having a high level of resilience and being able to adjust to a variety of various situations (Cicchetti, 2010). As a consequence of this, we formed the hypothesis that an employee who possessed resilience would be better equipped to cope with trying and stressful circumstances, and would also find it simpler to adapt to a workplace that is in a state of perpetual change.

The cognitive flexibility theory asserts that the capacity for cognitive flexibility is something that is fundamentally present in the sentience of a person regardless of the circumstances in which they find themselves. According to the theory, there are also other alternatives that are able to be pursued, such as the speed with which modifications are performed and the acknowledgement of resilience as a commendable quality in an individual (Fujikawa et al., 2013). Those who are capable of perceiving a situation with flexibility are persons who are more likely to be able to think creatively and adjust to new circumstances. Cognitive flexibility is able to only be detected in a person when that person is aware of the need to be flexible and is willing to do so. We hypothesized that the capacity to adapt innovative work behavior has a positive correlation with the ability to be resilient, which involves the ability to adapt, improvise, and remain flexible in circumstances that are marked by change and uncertainty. This was on the basis of the fact that being resilient involves being able to adjust, improvise, and remain flexible in circumstances that are marked by change and uncertainty. Hence, we propose that:

Hypothesis 1: Employee resilience is significantly related to innovative work behavior.

2.4 Employee Resilience and Project Success

Since the 1980s, organizational psychology and management literature have been devoting a significant amount of attention to the concept of employee resilience. The capacity of an individual to adjust to new circumstances and recover well after experiencing stressful situations or traumatic events is referred to as resilience. In recent years, there has been a growing interest in understanding how employees' resilience influences project success. This literature review aims to examine the existing research on the relationship between employee resilience and project success, and to identify significant findings and practical implications in this area

There have been a great number of studies that have pointed to a beneficial connection between resilient employees and successful projects. For example, Luthans et al. (2007) discovered that an employee's level of resilience was a strong predictor of both their job performance and their level of job satisfaction. In a similar vein, Wang and colleagues (2019) discovered that the amount of employee resilience has a positive favorable impact on project performance, particularly in projects characterized by high levels of complexity and unpredictability.

It has been determined that a number of aspects are essential to the resilience of employees and the impact that it has on the performance of projects. To begin, it is necessary to have supportive corporate cultures that place an emphasis on the overall well-being of employees and give resources for handling stress and hardship. For instance, Youssef and Luthans (2007) discovered that organizations with positive psychological capital (PsyCap), which is a construct consisting of resilience, self-efficacy, hope, and optimism, had better project outcomes than those organizations without PsyCap. Second, strong leadership is essential to the process of developing and sustaining the resiliency of one's workforce. According to studies, leaders that exhibit emotional intelligence, are able to effectively connect with their teams, and offer both feedback and support are able to boost their teams' resiliency and the overall success of their projects (Wang et al., 2019).

In addition, it has been discovered that individual-level variables, including as self-efficacy, optimism, and emotional intelligence, are positively connected with staff resilience and the success of projects. Workers that have a high level of self-efficacy think they are able to perform effectively and be successful despite the difficulties of the settings in which they are placed. In a similar vein, persons who have high levels of optimism have a tendency to regard obstacles in their path as merely being temporary and to anticipate favorable outcomes in the future. Those who possess high levels of emotional intelligence are able to exercise self-control over their feelings and formulate appropriate responses to challenging situations.

Existing study has a few flaws that need to be worked out before it is able to be considered comprehensive, despite the favorable findings about the connection between resilient employees and successful projects. To begin, the majority of research have concentrated their attention on individual-level factors and have not thoroughly investigated the effect of team-level elements. Second, the vast bulk of research has been carried out in Western settings, and there is a demand for more studies to be carried out in non-Western environments.

In conclusion, the body of research demonstrates that the resilience of employees is an essential component in successful project completion. Employee resiliency is able to be greatly influenced by a number of characteristics, including self-efficacy, optimism, and emotional intelligence on an individual level, as well as supportive organizational cultures and strong leadership. The role of team-level characteristics should be examined in future study, as should the relationship between employee resilience and successful project completion in non-Western environments. The research has a number of practical implications, including the need for

organizations to cultivate a positive organizational culture that promotes the well-being and resilience of their employees and to provide leadership training to enhance the effectiveness of leaders in constructing and sustaining the resilience of their employees. Hence, we propose that:

Hypothesis 2: Employee resilience is positively and significantly related to project success.

2.5 Job Engagement and Project Success

When a person is actively involved in what they are doing and directs all of their attention and focus to the task at hand, we refer to that state as being engaged in the work that they are doing. Customers, both internal and external, will undoubtedly be more interested in their work if they see other crucial partners, such as employees, who are enthusiastic about the work they do. Humans have a fundamental need to have their needs met in a comprehensive manner, to receive an education, and to be acknowledged. According to the findings of a study, the key reason why the majority of projects end up going over their timelines and budgets is because employees are not sufficiently interested in their work, and as a consequence, they do not make significant contributions to the project (Bajjou & Chafi, 2020).

In order for the project to be deemed successful, the organization's objectives must be met, and the deliverable must be created while adhering to both the time and financial constraints that were established. According to Khan and Rasheed (2022a), the reason that the majority of projects fail is because employees are not participating in the process. This is the primary contributing factor to the failure of most projects.

Ethics is the study of moral judgements as well as right and wrong behavior, and the term has been used in this capacity for a very long time. In a study that was carried out in 2007 by the Project Management Institute (PMI), it is crucial for individuals who work in the field of project management to behave ethically while performing their jobs. Workers who act ethically place a higher focus on the organization's broad level organizational goals than on their own personal goals. This is because they believe that these goals are more important to the organization as a whole. A disengaged workforce is able to significantly drive up costs for an organization or a project, making it increasingly important for businesses to consider employees' level of commitment to their work (Matthews et al., 2018). Employees that demonstrate the traits of ethical behavior from an Islamic perspective are able to carry out business activities more successfully, which in turn pushes up to higher performance and extended success. One of the most significant aspects of effective project management is ensuring that employees continue to participate in project activities (Pandita & Ray, 2018).

Workers who are involved in their work have a greater likelihood of encouraging participation from important partners, such as the company's internal and external customers. Workers have the obligation to be dealt with thoroughly, educated, and certified in their fields. People who exhibit a greater level of engagement in their work demonstrate a profound attachment to both their work and their organization (Schaufeli & Salanova, 2007). The most significant issue that occurs in project-based enterprises in Pakistan is that employees do not

work with their full commitment, which ultimately results in the failure of the project. Hence, we propose that:

Hypothesis 3: Job Engagement relates significantly to the project success.

2.6 Mediating Role of Innovative Work Behavior

As creativity is the most important factor in determining whether or not project-based businesses will be successful, cultivating resilience will lead to successful projects (Khan et al., 2022a). The employee resilience has been shown to have a clear correlation with the productive invention of new ideas. It has been demonstrated that the creative and practical suggestions made by workers for the project are beneficial towards the achievement of organizational goals (i.e., project success). In addition, practicing resilience makes it possible for a person to disregard the unfavorable features of a particular occurrence. This is due to the fact that it encourages workers and frees them to increase their productivity and ruminative attention (Lee, 2018). When people are able to maintain an optimistic outlook while at work, they are able to release themselves from the internal and external tension as well as negative ideas. As a result, they have a tendency to concentrate on locating answers and coming up with suggestions that will boost the project goals (i.e., project success). Innovating is necessary since the business climate is extremely uncertain, and the firm is under constant pressure to meet the difficulties it faces.

Employees on a project must to make it a priority to improve their adaptability, vigilance, and level of expertise. Both technically and organizationally creative behaviors are essential to the success of a firm in the marketplace and to its continued expansion over the long run. The identification of a problem is the initial stage of innovative activity in the workplace. This is able to only be accomplished if the worker is attentive to the point where they identify there is an issue. As a result, innovative work behavior on the part of employees will be produced via the employee resilience, which will result in sustained improvements in company performance. Hence, cultivating resilience will lead to greater survival and improved performance in the market. In order for businesses to remain profitable and successful over time, innovation is an essential component. The level of resilience that each individual worker possesses has an effect on this behavior. On the basis of TAT, a number of researchers have proposed that individuals differ in their innovative potential on the basis of their characteristics, and that they also behave differently in a variety of settings (such as coping with the intricacies of the project) (Tang & Braver, 2020). Past studies have demonstrated that engaging in innovative work behavior is necessary in order to bring out positive traits such as openness and conscientiousness. These characteristics may prove useful in ensuring the success of a project.

Individuals that are resilient have an outstanding aptitude for both managing and adjusting to the changes that occur in their environments. (Avey et al., 2006). They are capable of keeping an emotional equilibrium (Coutu, 2002), have positive coping skills (Masten & Reed, 2002), are open to new experiences (Fredrickson, 2004), and have a realistic outlook on life. An employee with a relatively high resilience is more likely to be able to deal with

challenging circumstances. This is because she or he will have the ability to recover from failures while simultaneously maintaining a high level of productivity. This makes it more likely that the employee will be able to deal with the challenging circumstances. On the basis of this, it is more probable that the employee will be able to deal with the difficult situation (Tugade & Fredrickson, 2004). In light of this, an individual needs to have a high level of resilience in order to outperform innovative work behavior, which is able to be tough, dangerous, and stand alone, particularly in the early stages of the process. Also, persons who are resilient are able to evoke pleasant emotions not only in themselves but also in the others around them (Fredrickson, 2004). This has the ability to contribute to the formation of an atmosphere that is supportive of innovative conduct in the workplace and fosters such behavior. In this context, resilience is crucial because it gives individuals the energy to deal with trying situations and the ability to refocus their attention on the activity that they want to do even after they have been distracted by those demanding conditions. Hence, we propose that:

Hypothesis 4: Innovative work behavior mediates the relationship between Employee Resilience and Project Success.

Theoretical Framework

Figure No 1: Theoretical Framework
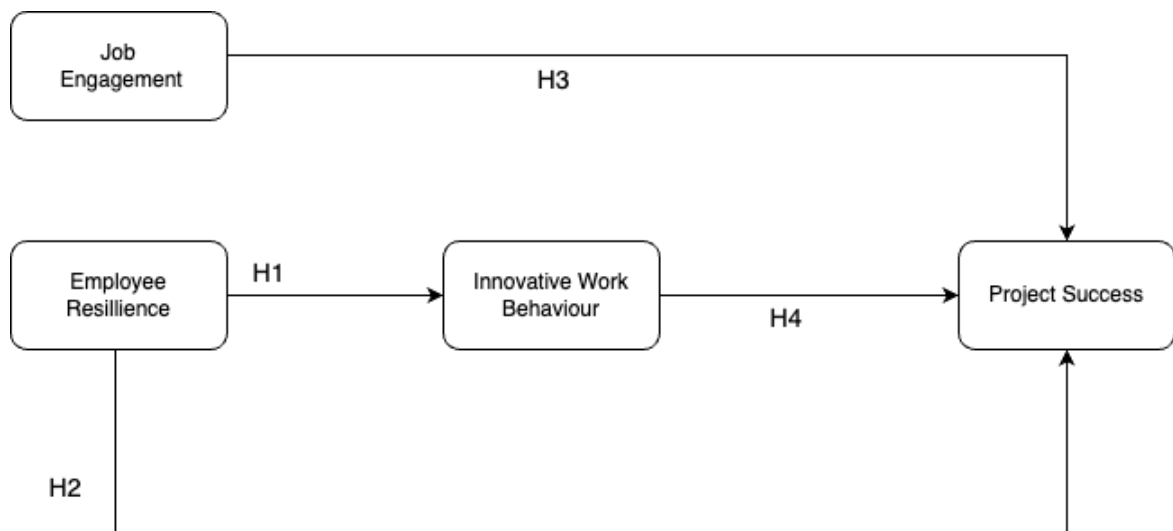
3. Research Methodology

A quantitative survey research study has been carried out at different information technology businesses located in Lahore. This study investigates the relationship between the personal characteristics of employees such as employee resilience, job engagement and the success of previous projects, as well as the role of innovative work behavior.

3.1 Population Sampling

The information technology (IT) businesses in Lahore are going to serve as the study's population of interest. Lahore is home to a total of 304 information technology businesses, as reported by the Pakistan Software Houses Association (P@SHA). According to the (Krejcie & Morgan), the population is calculated to be 170, which will be chosen at random from among 304 different enterprises. I will use a selection method called convenience sampling to select an average from each company, bringing the total number of individuals to 170.

3.2 Measurement and Instrumentation

This study aims to investigate the relationship between employee resilience, job engagement, and project success (as previously studied), with a focus on the mediating effect of innovative work behavior. All the variables will be measured on the basis of the following scales:

- For the measurement of Employee resilience, the measuring scale by Naswall et al. (2015) and will be measured on 1 to 5 Likert scale i.e. (1) Never or very rarely, (2) Rarely, (3) Sometimes, (4) Often, (5) Always or very often

- For the measurement of Job Engagement, the measuring scale by Schaufeli et al. (2006) and will be measured on 1 to 5 Likert scale i.e. (1) Strongly disagree, (2) Disagree, (3) Not Sure, (4) Agree, (5) Strongly Agree

- For the measurement of Innovative Work Behavior, the scale will be adapted from Feng et al. (1994) and will be measured on 5-points Likert scale i.e. (1) Strongly disagree, (2) Disagree, (3) Not Sure, (4) Agree, (5) Strongly Agree

- Project Success will be measured on a scale adapted from Wu et al. (2017) and will be measured on 1 to 5 Likert scale i.e. (1) Strongly disagree, (2) Disagree, (3) Not Sure, (4) Agree, (5) Strongly Agree

In addition to these theoretical variables and its scales, all personal information regarding respondent will be gathered separately for demographics purposes and project related information will be gathered to evaluate findings on the basis of project situations in the past.

3.3 Data Collection Procedure

A quantitative survey research study was carried out at different information technology businesses located in Lahore. After getting approval from competent authorities, the questionnaire was sent to the participants via Email and WhatsApp. They were educated about the research aims and objectives along with the problem this study would potentially address. They were requested to give their opinion and insights about Employee Resilience, Job Engagement, Innovative Work Behavior, and Project Success of their recent or previous projects. On the basis of this procedure, we were able to collect data for our research.

3.4 Data Analysis Technique

We make use of a wide number of tools and methods to do so. In the current investigation, we have made use of the technologies that are the most applicable, dependable, and user-friendly; this has allowed us to effectively examine the data that we have acquired and obtain the results that we have been searching for. After the data were gathered through the use of the questionnaire, the acquired information was then converted into a numerical format. Both demographic and descriptive analysis have been finished with the help of SPSS, which stands for Statistical Program for the Social Sciences (SPSS).

For the primary analysis that was carried out, PLS-SEM was the method that was utilized. A Smart PLS was utilized a Confirmatory Factor Analysis in order to ascertain whether or not the questionnaire is able to be relied upon. Both the Composite reliability (CR) and Cronbach's alpha have been determined with the assistance of Smart PLS (provided that the values of both should surpass the threshold of 0.7). This has been done to ensure that the reliability of the internal consistency has been preserved, and it has been successful in doing so. The R square statistic was computed so that the predictive ability of the model could be evaluated, and correlation analysis was carried out so that the strong suit of the relationship that exists could be determined. Both of these processes were carried out in order to determine whether or not the model was successful. In the end, a piece of software known as the Structural Equation Model was used to investigate the assumptions (SEM).

4. Analysis of Measurement Model

In accordance with the recommendations provided by Hair et al. (2016), the researchers carried out reliability and validity tests in order to evaluate the measuring or outer model. Cronbach's alpha was utilized to do an evaluation of the composite reliability, and the results shown in table. According to the findings from the convergent validity test, all of the factors' items had loadings that were greater than 0.70, and the values for the average variance extracted (AVE) were likewise greater than the benchmark value of 0.50 that was proposed by Sarstedt, Ringle, and Joseph (2017). The full results for Cronbach's alpha and AVE values are reported in Table 2.

Table No 2: Reliability and Convergent Reliability

	Cronbach's alpha	Composite Reliability Rho_a	Composite Reliability Rho_b	AVE
IWB	0.803	0.806	0.801	0.504
JE	0.73	0.803	0.737	0.5
PS	0.828	0.833	0.825	0.506

RS	0.816	0.838	0.817	0.534

In a similar vein, the variables are all second-order formative constructs; hence, the traditional method cannot be used to evaluate the reliability or validity of these factors. In light of this, and in accordance with the advice made by Petter et al. (2007), the outer weights of first-order constructs are presented in Table, which demonstrates evidence for the validity of constructs. In order to investigate the multi-collinearity for all measurement items and latent constructs involved in second-order formative constructs, the researchers' VIF showed a value of 5.0, which complied with the 5.0 cut-off requirement outlined by Sarstedt et al. (2017). This was done so that the researchers could investigate the multi-collinearity. The values of the inner VIF are also included down below in Table 10. According to Fornell and Larcker (1981), if the value of AVE is less than 0.5 but greater than 0.4, it can be acceptable only if the composite reliability is greater than 0.6. Which in the Table 8 can be seen that both rho_a and rho_b composite reliabilities are greater than 0.6.

4.1 Discriminant Validity

Discriminant validity refers to the extent to which a construct is distinguishable from other constructs in the same model. The evaluation of discriminant validity is commonly conducted using two primary methodologies, namely, the Fornell and Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio of correlation. The Fornell and Larcker criterion requires that the square root of the average variance extracted (AVE) for each construct should be greater than the correlation between the construct and other constructs in the model, indicating a clear distinction. Findings from Fornell and Larcker's study, which utilized this criterion, are presented in Table 4. Alternatively, the HTMT ratio of correlation, proposed by Henseler, Ringle, and Sarstedt (2016), is a more contemporary tool for determining discriminant validity. An HTMT value of 0.85 or less is generally considered acceptable, whereas values exceeding this threshold indicate a potential issue with discriminant validity. The comprehensive findings of the HTMT investigation are shown in Table 3.

Table No 3: Heterotrait-Monotrait Ratio (HTMT)

	IWB	JE	PS	RS
IWB				
JE	0.518			

PS	0.601	0.599	
RS	0.728	0.672	0.598

4.2 Analysis of Structural Model

The structural model examines, how the model's numerous structures are connected to one another. This model is also known as the inner model (Sang, Lee, and Lee 2010). The method that is utilized the vast majority of the time to evaluate the structural model is the method known as the coefficient of determination (R^2 value). The accuracy of the model's predictions are able to be determined with the use of this method. Regarding the inquiry that is now being conducted, the value of R^2 might be anything between 0 and 1. According to Sarstedt et al. (2017) and Henseler et al. (2016), the value of R^2 for endogenous variables indicates as substantial, moderate, and weak. Specifically, these values indicate that the relationship is substantial, moderate, or weak. These findings are from a study.

Table 4: Coefficient of Determination (R Square)

	R square	R square Adjusted
IWB	0.529	0.527
PS	0.518	0.506

4.3 Mediation Analysis

After verifying the R-Square value, the following step was to investigate the bootstrapping of models in order to test each and every hypothesis. In the first step, bootstrapping was carried out for both indirect and direct relationships, with the subsample size kept at 2000 and the significant level kept at 0.05. The table given below contains the results of bootstrapping, broken down into Beta values, T values, and P values for relationships that are direct. In order to test the effectiveness of the mediation, we need to investigate both the direct and the indirect path that the variable took. In the event that the direct effect is significant despite the absence of a significant indirect effect, then there is no mediation. If the direct path does not have a significant impact, but the indirect effect does, this indicates that full mediation has taken place

Table 5: Total Effects – Direct Relationship

	Original Sample	T Stat	P Value	Interpretation
IWB -> PS	0.347	2.383	0.017	Significant
JE -> PS	0.339	2.439	0.015	Significant
RS-> IWB	0.728	13.526	0	Significant
RS -> PS	0.229	2.317	0.021	Significant

Table 6: Specific Indirect Path – Mediation

	Original Sample	T Stat	P Value	Interpretation
RS-> IWB->PS	0.253	2.451	0.014	Significant

4.4 Discussion

The aim of this study was to examine the impact of employee resilience, job engagement as well as the function that innovative work behavior plays as a mediator. Within the scope of this investigation, four hypothesis have been examined. A comprehensive literature review was carried out to comprehend the current state of knowledge about all of the constructs. In preparation for verifying the hypothesis, a theoretical framework was developed. A measure has been established on the basis of the adaptation of a variety of studies that are relevant to this investigation and involve the constructs that are being investigated in this study. Following that, information was gathered through the use of a survey questionnaire from individuals working on a variety of projects within the information technology sector in Lahore, Punjab.

Both the demographic data and the gathered data have been studied. The collected data have been analyzed using partial least squared structure equation modelling with SMART PLS, while the demographic data have been analyzed using SPSS. Cronbach's alpha, composite reliability, AVE, HTMT ratio criterion, and Fornell-Larcker criteria were some of the characteristics that were used to evaluate the reliability and validity of the model. The first step

was to conduct this evaluation. All of the results fell within the parameters of what is considered to be acceptable, meaning that all of the Cronbach's alpha values were greater than 0.7, the composite reliability values were also greater than 0.7 for all of the constructs, and the value for AVE was also greater than 0.5. On the basis of these findings, it was clear that the measuring tool that was employed in the process of data collection was both accurate and trustworthy. In a similar vein, the fornell-larcker criteria and the heterotrait-monotrait ratio criteria both fully satisfied the satisfaction criteria, which indicated the existence of discriminant validity. The same was true when collinearity requirements were applied using the inflation factor for variance (VIF). In addition, the R-Square value was examined, and the results demonstrated that independent variables were responsible for explaining the dependent variable.

The method of bootstrapping in SMART PLS was used to do the structural analysis. Every single bootstrap analysis was carried out with a subsample size of 2,000, and the level of significance was established at 0.05. The mediation/direct relationship analysis each received their own separate boot strapping. All hypotheses that were developed have been validated because both sets of bootstrapping results provided significant findings for all associations, with the exception of the hypothesis concerning the independent variable.

The findings of this research show that an employee's capacity for resilience is highly related to both innovative work behavior and the successful completion of a project. This finding is in line with findings from other research that have identified resilience as an important personal resource for coping with stress and adjusting to change in the workplace (Granger et al., 2022; Tsuno, 2022). Employees with higher levels of resilience displayed improved job satisfaction, performance, and dedication. They attributed this to the fact that resilient workers were better able to bounce back from adversity. In a similar way, Tugade and Fredrickson (2004) discovered that resilient persons had a higher propensity to have the ability to come up with creative and innovative solutions to problems. Organizations have the ability to improve innovative work behavior, which in turn adds to the success of projects when they priorities the resilience of their employees and create an engaging work environment for them.

The conclusion that job engagement is positively associated to project performance is also consistent with findings from earlier studies. For instance, (Bhuvanaiah & Raya, 2014) discovered that employee engagement at work was positively associated to job performance as well as organizational outcomes such as profitability and the level of satisfaction experienced by customers. In addition, (Sarooghi et al., 2015) conducted a meta-analysis and found that the level of employee involvement had a favorable correlation with levels of creativity and innovation. The finding that employee engagement at work has a significant impact on the successful completion of projects highlights how important it is to create an environment at work that encourages the participation of workers (Davidescu et al., 2020). Also, people who are more involved in their work are more likely to exhibit innovative behavior, which, in turn, adds to the success of their firm. This highlights the necessity for firms to invest in tactics that foster employee engagement. Some examples of such efforts include offering opportunities for employee contribution recognition and professional development.

The result that innovative work behavior mediates the association between employee resilience and successful completion of a project is also consistent with findings from earlier studies. For instance, according to a study (Tulucu et al.,2022) it was discovered that behaviors related to creative problem-solving moderated the connection between job demands and job performance. In a study that came to a similar conclusion, Altaf, Amal, and Mohammad Atif Awan (2011) discovered that creative work activities moderated the connection between a happy mood and job satisfaction. On the basis of the discovery that innovative work behavior is a mediator of the connection between employee resilience and successful project completion, it appears that encouraging employee resilience may be an efficient way to improve innovative work behavior, which in turn contributes to successful project completion. This highlights how important it is to recognize and cultivate the resilience of one's workforce as a significant resource for the purpose of obtaining successful outcomes in various projects.

5. Conclusion

In this research, the influence of employee resilience and job engagement on project performance was explored. It has been noted that innovative work behavior has a beneficial impact on the achievement of the project's goals. When there is a greater level of job engagement, there is a greater chance of the project being successful. Past academics have come to the conclusion, on the basis of their own investigations, that the resilience of employees has a valuable impact on the success of the project. It has been noticed that working in an environment that encourages innovation has a favorable influence on the achievement of the project's goals. If the work environment becomes more suitable, there will be an increase in the successful completion of the project. If a business wants to increase its level of success, it needs instill within its workforce the ability to maintain a positive working atmosphere.

5.1 Theoretical Implication

The results have significant theoretical implications for future research on the resiliency of employees, innovative work behavior, and the successful completion of projects. To begin, the findings of the study provide credence to the concept of employee resilience serving as an essential personal resource for effectively coping with stress and adjusting to a constantly shifting work environment. According to Frederickson's broaden-and-build theory of positive emotions (Fredrickson, 2001), which suggests that resilience, like optimism can be broaden an individual's repertoire of thoughts and actions, leading to improved creativity and problem-solving abilities. This finding is consistent with the broaden-and-build theory of positive emotions.

Furthermore, employee job engagement is a significant element for improving organizational outcomes and employee performance. This highlights the need for further study to be conducted to investigate the processes via which engagement increases innovative work behavior and the success of projects. In conclusion, the research reveals the important role that innovative work behavior plays as a mediator in the connection between employee resiliency and successful project completion. This finding is in line with findings from earlier mentioned studies that

found creative problem-solving activities (IWB) to be a mediator of the association between a variety of personal and contextual characteristics and one's job performance (Tulucu et al., 2022: Altaf et al., 2011; Li et al., 2017). This underscores the significance of innovative work behavior as an essential component in the overall success of projects as a vital tool for doing this.

In conclusion, the findings of this research study contribute to the theoretical knowledge of the links between employee resilience, innovative work behavior, and the successful completion of a project. On the basis of these findings, additional research may be conducted in the future to investigate the underlying mechanisms by which resilience and engagement enhance innovative work behavior and the success of projects, as well as to identify specific strategies for promoting resilience and engagement in the workplace.

5.2 Practical Implication

The conclusions of this research are intended to be provided for managers at various levels of management for the successful project completion. The manager's responsibilities included providing direction to the workers and ensuring that everything was carried out in accordance with the orders. As of late, their responsibilities have been shifting, as a result of the fact that they are required to place more emphasis on the potential and get the most out of people. They have a responsibility to cultivate a pleasant atmosphere at work, which is able to be accomplished by holding roundtable discussions with all of the members of the team before beginning any new project. On the basis of this, all of the workers will interact with one another in a cordial manner. In addition, everything will go swimmingly and the project will be headed in the right direction.

Managers have a responsibility to involve the members of their teams in the tasks they are responsible for by allowing them to make their own decisions and not interfering in their deliberations. If this is done, employees will work with all of their hearts, and the project will be finished on time and under budget. A manager needs to realize that they are managing the work of human beings just as though they were managing their own work, and as such, they need to take care of the things that may be best for the company in order to achieve maximum performance; they are the foundations upon which the organization's success is built.

5.3 Limitation and Future Work

As is the case with the vast majority of previous studies, this one too has certain limitations. Because the research was conducted in Pakistan using a representative sample of the people there, the findings are limited to that country. Researchers are able to replicate this study in a variety of countries with distinct cultures in order to observe and improve the study's generalizability. The findings of the most recent studies cannot be extrapolated to all working sectors on various fields because that is where the study focused its attention. The research study also has another drawback, which is that the data were acquired from well-established organizations.

In addition, other Asian nations may also be investigated to determine the degree to which they are similar to and distinct from one another. In order to monitor and strengthen the generalizability and objectivity of this investigation, researchers are able to repeat this survey in a number of different countries that have cultures or situations that are not the same as Pakistan. The second restriction is that there hasn't been a lot of research done on the relationship between work ethics, work environment, and the success of projects. This is the next drawback. More information is gleaned from the variables that are in close proximity. In addition, Pakistan was the location where the review was conducted. Hence, the findings are limited. The results might also be double-checked in a variety of other fields in the future.

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