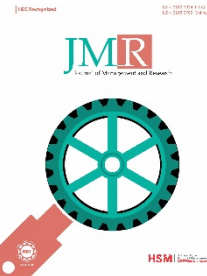
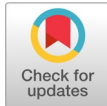


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Impact of Organizational Virtuosity on Organizational Resilience among Pakistani NGOs: Mediating Role of Organizational Learning

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Abstract

Unforeseen situations, such as crises and disasters necessitate a resilient organization to survive and perform in a sustainable way. The current study highlighted the importance of virtuosity and organizational learning in making an organization a resilient one. The study utilized a quantitative approach, while the unit of analysis was organizational. Structured questionnaires were distributed among 200 respondents personally and via Google Forms to get maximum responses. The unit of analysis was organizational as the research focused on the Non-governmental Organization (NGOs) as a whole rather than on individuals within it. Furthermore, the study examined the virtuous and learning characteristics of the NGOs that help these NGOs in becoming resilient. Targeted organizations were NGOs of Pakistan. Data was analyzed through Smart-PLS. The findings indicated that organizational virtuosity is the key driver to attain organizational resilience, while the mediating role of learning is not there in case of NGOs. The results contributed to the growing body of knowledge, emphasizing that there is a need to explore the predictors of organizational resilience. Moreover, the study results contributed theoretically by explaining that organizational resilience is a dynamic capability. This capability helps organizations in anticipating, adopting, and recovering from uncertain situations by acting as a strong protective mechanism to fight against catastrophic threats. Additionally, the study provided practical implications for policymakers and stakeholders to work on different training programs that are ultimately helpful in making the organizations more dignified.

Keywords: dynamic capabilities theory, non-governmental organization, organizational learning, organizational resilience, organizational virtuosity

Introduction

Organizational resilience became evident both in research and in practice

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Dr Hasan Murad School of Management

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after September 11th terrorist attack. While, its relevance increased after COVID-19 pandemic (Hernes et al., [2025](#)). Furthermore, organizational resilience has also become prominent in various management disciplines, such as business management, strategic management, supply chain management, and Human Resource Management (HRM) (Colberg, [2022](#)). It defines an organization's ability to adopt and maintain its core abilities in uncertain situations and upheaval. Literature highlights the importance of resilience that it provides faster recovery, minimizes decline, and helps in effective resource allocation during crises. It is considered to be a dynamic adoption that helps organizations to adjust rapidly under difficult situations (Butkus et al., [2024](#)). Keeping this in view, resilience stems from an organization's ability to apply accrued knowledge and learned practices to navigate crises and impulsive events (Butkus et al., [2023](#)).

Scholarly work has explained the structural capacities, external factors, leadership styles, and cultural foundations that help in resilience-building. Similarly, organizational resilience is one of them as it depicts collective behaviors, compassion, integrity, trust, optimism, and forgiveness. These qualities help in fostering supportive work climates, promoting constructive responses and strengthening interpersonal relationships. It has a four-level maturity framework known as Maturity Model of Organizational resilience. It includes fragile, robust, and antifragile stages. Fragile organizations are highly vulnerable and they deteriorate easily under stress, resulting in a collapse. Robust organizations are capable to withstand foreseeable disruptions but are unable to resist after effects. While, resilient organizations go beyond robustness and easily adopt and survive in unforeseen conditions. At the highest level, antifragile organizations not only tolerate adverse conditions but also grow stronger, innovate, and improve as a result of disruption (Khendlo & Beeharry, [2025](#); Munoz et al., [2022](#)).

Non-governmental Organizations (NGOs) operate in quite an uncertain environment by facing resource constraints, social helplessness, political pressures and unrest, as well as frequent crises. While, developing countries, such as Pakistan need NGOs for economic stability by delivering humanitarian aid, social services, and community development initiatives, often under highly volatile and unpredictable conditions. These realities make organizational resilience an integral part for NGOs to sustain, adopt, and grow in such conditions. Despite this, many NGOs suffer to attain and

sustain resilience. Pakistan's shocking flood statistics in 2022 illustrate the biggest climate change challenges that Pakistani NGOs had to face. The disaster claimed 1739 lives and submerged nearly one third of the country (Khendlo & Beeharry, [2025](#)). Damaged water system affected 5.4 million individuals and total economic loss was estimated around USD 15.2 billion (Khendlo & Beeharry, [2025](#)). Similarly, humanitarian assistance raised in 2023, estimating 339 million people seeking this aid (Shah et al., [2024](#)).

European Union (EU) funded the revival of Baluchistan water resource program partnered with two NGOs by allocating a budget of 40 million Euros. This explains the importance of NGOs in making the economy stable (Ahmed, [2025](#)). This escalating trend underscores the urgent need for resilient nonprofit organizations capable of delivering timely and effective responses. However, organizational learning enhances employees' skills, competencies, and continuous knowledge acquisition, thereby strengthening the organization's capacity for change and innovation (Legiman & Widayati, [2024](#)). The key factor of virtuousness that may contribute towards resilience is organizational learning. When companies learn they tend to become innovative as well as respond promptly and efficiently in future. Yet, the strength of relationship between virtuousness and learning has not been sufficiently examined in nonprofit and humanitarian settings.

Organizational virtuousness is another key construct linked to resilience and positive organizational outcomes. It has been described as the pursuit of morally-grounded excellence guided by practical wisdom. Scholars define virtue in two ways, "virtue in organization" and "virtue through organization". Virtue in organization enables virtuous qualities within organizations, while virtue through organization refers to the processes and systems that enable the organizations to be resilient (Bright et al., [2006](#); Meşe & Özer, [2025](#)). However, there is a lack of empirical evidence in explaining how these virtuous qualities help in making organizations resilient. Together, these dimensions of virtuousness contribute to creating ethical, supportive, and purpose-driven organizational environments that enhance resilience and long-term effectiveness. Furthermore, while prior studies have explored organizational learning and resilience separately, limited research has investigated organizational learning as a mediating process linking organizational virtuousness to resilience. Without understanding this pathway, NGOs may overlook how cultivating ethical

and humane organizational cultures can indirectly strengthen their adaptive capacities. This gap is particularly significant in Pakistan, where NGOs frequently operate in disaster-prone, economically-constrained, and socially-complex environments that demand both moral commitment and adaptive competence. Hence, there is a need to examine this pathway.

Research Objectives

The current study aimed to address the following research objectives:

- To investigate the positive effect of organizational virtuousness towards organizational resilience.
- To investigate the influencing role of organizational virtuousness on organizational learning.
- To investigate the mediating role of organizational learning between organizational virtuousness and organizational resilience.

Literature Review

Organizational Resilience

Organizational resilience refers to the capacity of a firm to cope with uncertain conditions and sudden consequences. It explains not only “bounce back” but how organizations “bounce forward” by innovating, adopting, and evolving (Hernes et al., [2025](#)). In this sense, organizational resilience extends beyond recovery to encompass transformation and growth under uncertain conditions.

The importance of resilience could be seen through empirical investigations of organizations, such as Southwest Airlines, Apple, Microsoft, Starbucks, Kyocera, and Lego. These studies showed that how these companies have used crises as an opportunity for antirecession growth. Additionally, it is described as a multidimensional construct. (Chen & Fey, [2023](#)) identified five key dimensions which include capital resilience, strategic resilience, cultural resilience, learning resilience, and relationship resilience. Capital resilience refers to an organization’s capacity to secure and manage financial resources during times of risk. Strategic resilience involves maintaining strategic stability while adapting development models to changing circumstances. Relationship resilience reflects the ability to sustain strong, mutually-beneficial relationships with stakeholders during crises. Cultural resilience relates to the extent to which

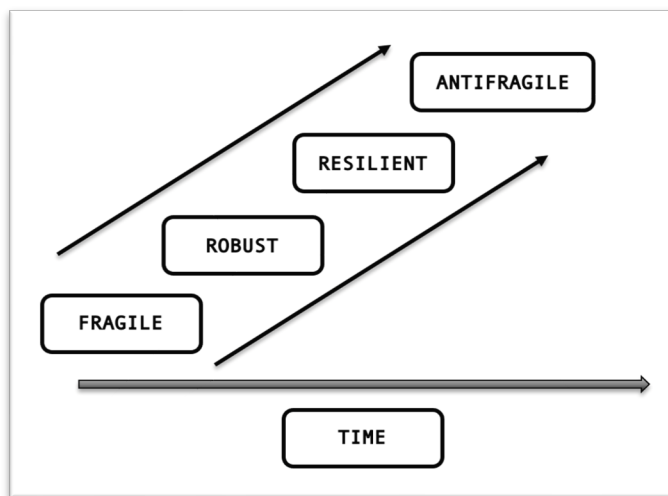
organizational culture fosters entrepreneurial spirit and employee commitment. Finally, learning resilience denotes the organization's ability to learn from stressful situations and continuously adapt to new challenges. Together, these dimensions provide a comprehensive understanding of how organizations withstand and grow through adversity (Chen et al., [2021](#)).

Despite of extensive research on resilience, it still has an evolving nature (Ewertowski et al., [2024](#)). Core characteristics of resilience also include shared vision, clear sense of purpose, effective leadership, contextual awareness, and culture that actively support resilience (Ewertowski et al., [2024](#)). These characteristics underscore that organizational resilience is not a single capability but a complex, integrated set of organizational processes, cultural elements, and strategic practices that enable sustained performance under conditions of uncertainty.

By being resilient, organizations develop capabilities to prepare for the unexpected events (anticipation), respond to disruptions (adaptability), as well as recover from them (recovery). It maintains control over structure, functions, and continuity of operations as well (Sincorá et al., [2023](#)).

Figure 1

Four-level Maturity Model (MMOR) of Organizational Resilience



Organizational resilience has a four-level maturity model (MMOR). These four levels include fragile, robust, resilient, and anti-fragile environment. When an organization is not able to survive varying

surroundings, it crashes. On the other hand, a robust organization is capable to survive in the changing environments. The third is resilient organization which is not only capable to survive in the changing environment but also works well in unpredictable events. The last one, that is, anti-fragile organization is the upgradation level where the organization not only survives, however, it flourishes and succeeds in unstable environment as well (Ruiz-Martin et al., [2018](#)).

Organizational Learning

Organizational learning has gained significant attention in the field of organizational behavior due to the strategic advantages it offers to modern organizations. It is considered as a critical tool that enhances organizational stability and competitive advantage. The core competence of organizational learning is to expand employees' knowledge, capabilities, and skills, ultimately helping in creating dynamic and resilient organizations (Al-Romeedy & Mohamed, [2022](#)). It equips organizations to generate, gather, share, spread, apply, and retain knowledge. It makes an organization innovative that has strong foundational capability for long-term performance and adoptability (Al-Romeedy & Mohamed, [2022](#)). This continuous cycle of learning and growing gives organizations an edge to proactively respond to uncertain situations with their distinctive position and competitive advantage (Soomro et al., [2021](#)).

The study identified two primary organizational learning strategies. One is exploitative learning and the other one is exploratory learning. Exploitative learning explains how existing knowledge is utilized for short-term. On the other hand, exploratory learning emphasizes experimentation, innovation, and development of new ideas. However, these two strategies are interdependent. The balanced integration of both strategies is ambidexterity that helps in efficiency while insuring long-term innovation. Moreover, learning ambidexterity has been shown to have a significant positive relationship with SME innovation outcomes (Tian et al., [2021](#)). Literature proposes that organizational learning has four interrelated phases. In first stage, the integrated new knowledge is leveraged with previous knowledge through exploitation. The second phase is multilevel within which individual, group, and organizational learning takes place. The third phase is about social and psychological mechanisms underpinning organizational learning, that is, intuiting, interpreting, integrating, and institutionalizing.

Integrating refers to the development of shared understanding and coordinated action at the group and organizational levels. Institutionalizing represents the organizational-level embedding of learning into systems, structures, routines, and strategic processes.

The final phase emphasizes the interconnection between cognition, affect, and action, recognizing that learning is not solely a cognitive process but also involves emotional and behavioral components. Together, these four phases form an integrated organizational learning framework that explains how knowledge is created, shared, embedded, and enacted within organizations (Crossan et al., [1999](#)). Organizational learning within NGOs requires a simultaneous balance between stability and adaptability, making it a strategic mechanism for planning, managing, and sustaining organizational effectiveness at the highest level. Although learning originates as a highly personal process emerging from the individual mind, its true value is realized when it is institutionalized across the organization. Relying solely on informal or individual learning is insufficient in the NGO sector, where accomplishing social missions and developmental objectives demands collective competence and continuous improvement. For NGOs to successfully achieve their intended tasks, they must transform individual insights into systematic organizational practices. The NGO sector therefore offers an important lesson in how meaningful goals and humanitarian purposes can be translated into structured training, shared knowledge, and coordinated learning systems that enhance long-term performance (Britton, [2005](#)).

Three dimensions of organizational learning have been revealed. These include connection with environment, supporting partnership, and learning with team. The study suggested to organize regular meetings with employees so as to inspire them in order to learn. It is a continuous learning and provides ideas for other workers as well. Researchers have sought to develop a deeper understanding of organizational learning, innovation, and organizational culture as key drivers of employee and organizational performance, particularly within the NGO sector. Results indicate the importance of learning in giving an organization a competitive edge (Imran et al., [2014](#)).

Organizational Virtuosity

Organizational virtuosity has five key drivers including forgiveness,

integrity, trust, optimism, and compassion. Organizational integrity refers to the commitment, truthfulness, honesty, and ethical conduct. Organizational forgiveness reflects the ability to acknowledge and address mistakes constructively, transforming them into learning opportunities that support higher performance levels. Organizational optimism emphasizes fostering a positive outlook, where employees are encouraged to believe in their ability to succeed even in the face of crises and challenges. Organizational trust pertains to the mutual belief in goodwill, respect, and reliability among employees and between employees and management. Finally, organizational compassion represents the collective awareness of organizational challenges and the empathetic responses of members to address and mitigate these difficulties (Magnier-Watanabe et al., [2020](#); Meşe & Özer, [2025](#)).

In today's rapidly changing environmental conditions, researchers have placed considerable spotlight on the concept of organizational virtuousness. The study explored that if companies increase organizational virtuousness at field level, it would lead towards an increase in the effect of proactive work behavior in employees. Organizational virtuousness increases optimism. Organizational virtuousness enhances the quality of connection among employees and top management regarding conveying their ideas and listen to their issues. If an organization inspires to have a high level of optimism between their employees, they always stay prepared for facing failure and success under any circumstances. Additionally, the employees feel confidence in themselves because they are trained to execute difficult tasks in order to achieve good experience and confidence (Abbas, [2022](#)).

The study revealed that personal virtues (integrity) play a vital role to describe ethical individuality. On the other hand, in corporate setting, collective virtues (honest within organization) also play a crucial role to develop company's social responsibility towards ethical culture and responsibility (Ramachandran et al., [2022](#)). Organizational virtuousness has been found to exert a significant positive influence on various aspects of nurses' productivity, including their happiness, work engagement, and overall job satisfaction, despite the fact that nursing is considered one of the most stressful professions. Nurses frequently encounter daily work pressures, emotional exhaustion, and challenging tasks; however, a virtuous organizational climate helps reduce frustration and enables them to address workplace difficulties through more creative problem-solving. Empirical

findings indicate that when employees experience productive accomplishments within such an environment, it strengthens their sense of belonging to the organization. This enhanced organizational attachment further promotes trust, loyalty, and job commitment among nurses, ultimately improving both individual and institutional performance (Atalla et al., [2025](#)).

Organizational Virtuousness and Organizational Resilience

Organizational virtuousness is closely associated with organizational resilience and the sustained efficiency of firms because its fundamental attributes are rooted in ethical values and positive moral beliefs. A workplace characterized by compassion, integrity, forgiveness, trust, and optimism creates a supportive environment that enables employees to respond constructively to challenges and uncertainties. Such virtuous practices not only strengthen the organization's ability to remain resilient during difficult circumstances but also generate a positive impact on individual employees by enhancing their motivation, psychological well-being, commitment, and willingness to contribute toward organizational goals. Consequently, organizational virtuousness serves as an important foundation for both employee development and long-term organizational effectiveness (Naseem et al., [2020](#)). Organizational virtuousness safeguards the firm against negative situations, destructive emotions, harmful behaviors, and pessimistic mindsets by cultivating resilience and adaptive capabilities among employees. A virtuous organizational climate fosters qualities such as hope, compassion, trust, and forgiveness, which enable individuals to withstand adversity more effectively. These virtues help employees absorb setbacks, recover from traumatic experiences, cope with challenging circumstances, and maintain psychological strength during periods of uncertainty. As a result, employees become better equipped to restore their focus, sustain productivity, and improve overall performance, thereby contributing to the organization's long-term stability and success (Rego et al., [2010](#)).

Another study found that employee resilience and agility partially mediate the relationship between organizational virtuousness and outcomes, such as innovative performance and prosocial behaviors. Organizational virtuousness functions as a job resource, fostering employees' individual capacities for resilience and agility which, in turn, enhances their performance and positive workplace behaviors (Panda & Singh, [2025](#)).

Organizational resilience frameworks encompass positive organizational perceptions that reflect virtuousness, hope, and optimism, ultimately shaping resilience (Kantur & İşeri-Say, [2012](#)). Resource-based view theory highlights the fact that how organizations can maintain competitive advantage in rapidly-changing environment. In such case organizational resilience is conceptualized as firms' ability to leverage and reconfigure from disruptive events (Parker & Ameen, [2018](#)). Organizational resilience is further characterized as a dynamic capability due to its proactive and reactive mechanism. Proactive capabilities are referred to as absorptive capabilities, anticipation, identification, and seizing opportunities.

Hypothesis 1: Organizational virtuousness is positively related to organizational resilience.

Organizational Learning and Organizational Resilience

Organizational resilience is explained as an ordinary rather than an extraordinary capability as employees develop and improve it over time and it can be cultivated through organizational learning (Coutu, [2002](#)). Literature indicates a significant positive relation between organizational learning and organizational resilience (Fani et al., [2015](#)). Furthermore, recent studies emphasize that organizational learning strengthens dynamic organizational capabilities and develop sustainable resilient organizations (Douglas & Haley, [2024](#)). Firms with strong organizational learning capabilities demonstrate higher levels of performance. Moreover, learning ability serves as a critical driver of performance, particularly when its impact is mediated by organizational resilience in conditions of instability and uncertainty (Kozcu & Özmen, [2023](#)). Therefore, dynamic capabilities are the abilities to sense opportunities and transform them into a strategic competence by learning and experience (Ma et al., [2025](#)). Dynamic Capabilities Theory (DCT) is increasingly regarded as essential for organizations facing continuous and novel challenges in contemporary business environments (Al Nuaimi et al., [2024](#)). Integration of learning, innovation, and adoptive processes makes DCT a theoretical foundation for understanding that how these abilities make a dynamic competitive advantage.

Hypothesis 2: Organizational learning has a positive impact on organizational resilience.

Hypothesis 3: Organizational learning mediates the relationship between

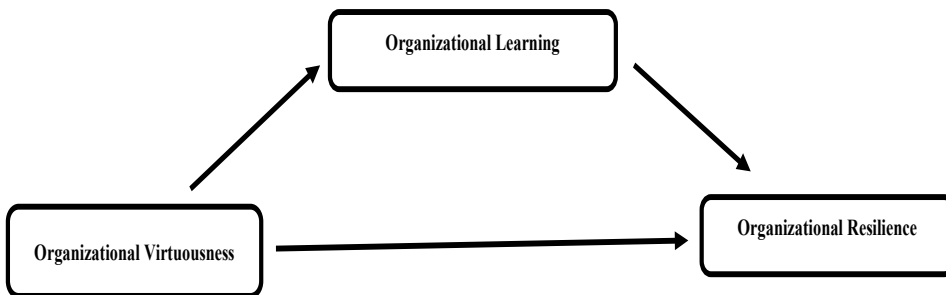
organizational virtuousness and organizational resilience.

Dynamic Capabilities Theory (DCT)

DCT defines the capacity of an organization to build, reconfigure, and integrate resources in response to environmental disruptions and opportunities. Keeping in view, dynamic capabilities not only help in recovering from adverse but also support in development of innovative business practices and resilient processes (Shojaee et al., [2025](#)). Organizational resilience is increasingly characterized as a dynamic capability because it encompasses both proactive and reactive mechanisms that enable organizations to survive and thrive under changing conditions. The proactive dimension of resilience includes absorptive capacity, anticipation of future disruptions, identification of potential threats or opportunities, and the ability to seize beneficial prospects before competitors. In contrast, the reactive dimension involves reconfiguration of resources, organizational transformation, and the capacity to generate effective responses after encountering unexpected challenges. Together, these proactive and reactive capabilities allow organizations to adapt continuously, recover efficiently, and sustain long-term effectiveness in turbulent environments (Shojaee et al., [2025](#)).

Figure 1

Conceptual Framework



Methodology

The demographics depict that the majority of respondents were males with count of 59%, while females were 41%. Most of the respondents were between 30 to 39 years of age with a percentage of 49% which indicates a relatively mature workforce. Most of the respondents were educated with a number of 60% enrolled in undergraduate and masters' studies. Regarding organizational position, largest group consisted of senior employees with

36% followed by junior employees 26% and senior managers 23%, suggesting a balanced representation across organizational level. The work experience was moderate with 61% reporting between 1 to 10 years of age. Moreover, a considerable proportion of participants worked in well-established NGOs as 55% worked in organizations older than 10 years.

Table 1*Respondent Profile*

Feature	Possible Answers	Frequency	%
Gender	Male	118	59.0%
	Female	82	41.0%
Age	25-29	28	14.0%
	30-34	46	23.0%
	35-39	52	26.0%
	40-44	38	19.0%
	45-49	22	11.0%
	50 or above	14	7.0%
	High School	18	9.0%
Education Level	Diploma	26	13.0%
	Associate degree	22	11.0%
	Undergraduate degree	64	32.0%
	Master's degree	56	28.0%
Post	Doctorate degree	14	7.0%
	Chief Executive officer	12	6.0%
	Board of Directors	18	9.0%
	Senior Managerial Level	46	23.0%
	Senior Employees Level	72	36.0%
Tenure	Junior Employees Level	52	26.0%
	Less than one Years	16	8.0%
	15- years	58	29.0%
	6-10 years	64	32.0%
	11-15 years	38	19.0%
Age of NGO	15 plus years	24	12.0%
	Less than 5 Years	34	17.0%
	5-10 years	56	28.0%
	11-15 years	48	24.0%
	16-20 years	36	18.0%
	Above 20 years	26	13.0%

Measurement

Organizational Resilience

Organizational resilience was measured using a 6 -item scale developed by Orchiston et al. (2016). The Cronbach's alpha for organizational resilience is 0.79 (Orchiston et al., 2016). The study conceptualized organizational resilience through two dimensions: planned resilience and adaptive resilience. Planned resilience was measured using a three-item scale, while adaptive resilience was also assessed through a three-item scale, resulting in a total of six measurement items for the construct of organizational resilience. Consistent with prior studies, all items were evaluated using a five-point Likert scale to capture respondents' level of agreement and ensure standardized measurement of the construct. The previous studies used five-point Likert scale (1 *Strongly Disagree* to 5 *Strongly Agree*).

Organizational Virtuousness

Organizational virtuousness was measured using a 6 items scale developed by Cameron et al. (2004) and Rego et al. (2010). The Cronbach's alpha for organizational virtuousness is 0.98 (Nikandrou & Tsachouridi, 2015). Organizational virtuousness has five dimensions, namely optimism, trust, compassion, integrity, and forgiveness. Each dimension has one item except trust which has two items scale, (Cameron et al., 2004; Nikandrou & Tsachouridi, 2015). So, there are total 6 items scale with five dimensions. Furthermore, the previous studies used five-point Likert scale ranging from (1 *Strongly Disagree* to 5 *Strongly Agree*).

Organizational Learning

Organizational learning was measured using a 5 items scale. The first two items were developed by Kale et al. (2000) and the next two items were developed by Edmondson (1999). The Cronbach's alpha for organizational learning is 0.926 (García-Morales et al., 2006; Garcia-Morales et al., 2007). Furthermore, the previous studies used five-point Likert scale ranging from (1 *Strongly Disagree* to 5 *Strongly Agree*).

Results

Table 2
Descriptive Statistics of the Items

	Mean	Standard deviation	Cramér-von Mises statistic	Cramér-von Mises p
Acquired	3.318	1.211	1.083	0.000
Build	3.536	0.973	2.334	0.000
Compassion	3.651	1.009	2.117	0.000
Competitive	3.365	1.114	1.216	0.000
Crisis	3.682	1.015	2.354	0.000
Events	3.609	1.070	1.319	0.000
Forgiving	3.505	1.051	2.583	0.000
Future	3.495	0.990	1.628	0.000
Honesty	3.531	1.190	1.212	0.000
Improvements	3.448	0.951	1.888	0.000
Leadership	3.776	0.972	2.272	0.000
Learning	3.427	1.223	1.443	0.000
Novel	3.724	0.931	2.495	0.000
Optimistic	3.781	0.886	3.114	0.000
Roles	3.646	1.020	2.454	0.000
Tough	3.609	0.957	1.825	0.000
Trust	3.828	1.064	1.878	0.000

Afterwards, initial screening of the collected data was performed, and structural model was analyzed to test the proposed hypothesis. Smart-PLS is considered as a powerful tool to analyze hypothesis (Sarstedt et al., [2016](#)). Its metrics involve estimates for both measurement model and structural model, such as path coefficients, cross loadings, factor loadings, reliability, and correlation. The above table presents the descriptive statistics and normality test results for all measurements. The mean score of items range between 3.318 to 3.781, indicating that respondents showed medium to moderate agreement with statements. While, the standard deviation values lie between 0.886 and 1.223, explaining the equal spread and no extreme variability.

Moreover, distribution of data was assessed by cramer-von Mises normality test. The results showed that all items have statistical significance with p -values equal to 0.000. It indicates the normal distribution of data.

However, the violation of normality does not threaten the analysis since PLS-SEM was employed. It does not require normally distributed data and is vigorous to non-normality. Therefore, using PLS-SEM remains appropriate for the current study despite of non-normal data distribution.

Table 3
Reflective Measurement Model

Constructs	α	Composite Reliability (rho-a)	Composite Reliability (rho-c)	Average Variance Extracted (Naveed et al., 2022)
Organizational Learning	0.82	0.821	0.870	0.573
Organizational Resilience	0.78	0.790	0.849	0.487
Organizational Virtuousness	0.82	0.834	0.872	0.535

All three constructs demonstrated satisfactory internal consistency. Organizational learning showed a Cronbach's alpha of 0.815, organizational resilience 0.784, and organizational virtuousness 0.822. These values exceed the recommended threshold of 0.70, indicating good reliability of the measurement scales.

Composite reliability values further supported internal consistency. It can be seen in rho-a values ranging from 0.790 to 0.834, while rho-c values ranged from 0.849 to 0.872. All composite reliability values were above the acceptable level of 0.70, confirming that the constructs were measured reliably.

Convergent validity was evaluated using AVE. Organizational learning (AVE = 0.573) and organizational virtuousness (AVE = 0.535) exceeded the recommended threshold of 0.50, indicating adequate convergent validity. Organizational resilience showed an AVE of 0.487, which is slightly below the 0.50 threshold. However, since its composite reliability is high (rho_c = 0.849), the convergent validity of this construct can still be considered acceptable based on established guidelines that allow AVE below 0.50 when composite reliability exceeds 0.60. Overall, the results indicate that the measurement model depicts satisfactory reliability as well as adequate convergent validity.

Discriminant validity among the study constructs was examined using the Heterotrait–Monotrait (HTMT) ratio of correlations. The HTMT values between organizational resilience and organizational learning (0.534), as well as between organizational virtuousness and organizational learning (0.650), are well below the commonly recommended threshold of 0.85. These results indicate that these pairs of constructs are empirically-distinct and measure different conceptual domains. However, the HTMT value between organizational virtuousness and organizational resilience is 0.954, which exceeds the conservative threshold of 0.85 and also surpasses the more liberal cut-off of 0.90 suggested in some methodological literature. The high value represents lack of discriminant validity that maybe respondents confused both constructs. However, the overall construct pairs show adequate discriminant validity between organizational resilience and virtuousness.

Table 4*Fornell–Larcker Criterion*

	Organizational Learning	Organizational Resilience	Organizational Virtuousness
Organizational Learning	0.757		
Organizational Resilience	0.431	0.698	
Organizational Virtuousness	0.553	0.779	0.731

Discriminant validity was further evaluated using the Fornell–Larcker criterion. For this approach, the square root of AVE should be greater than its correlation with other constructs in the model. As seen in Table 6, the AVE of learning (0.757) is higher than organizational resilience and organizational virtuousness, indicating satisfactory discriminant validity for organizational learning.

For organizational resilience, the square root of AVE is 0.698. It is lower than organizational virtuousness, and similarly the organizational virtuousness shows a square root of 0.731, that is higher in relation to organizational learning 0.533 but lower than resilience 0.799. It explains that discriminant validity is there for organizational learning but is not fully significant between organizational resilience and organizational

virtuousness. The correlation between these two constructs exceeds the square root of their AVE which explains that they overlap. This result aligns with the HTMT findings and suggests that respondents may perceive aspects of organizational resilience and organizational virtuousness as closely-related. Further theoretical justification or refinement of measurement items may therefore be necessary to better distinguish between these constructs.

Table 5

Collinearity Assessment

	VIF
Organizational Learning -> Organizational Resilience	1.441
Organizational Virtuousness -> Organizational Learning	1.000
Organizational Virtuousness -> Organizational Resilience	1.441

Collinearity among the predictor constructs was assessed using the Variance Inflation Factor (VIF). VIF values provide an indication of whether multicollinearity may distort the estimation of path coefficients in the structural model. The VIF for the path from organizational learning to organizational resilience is 1.441, and the VIF for the path from organizational virtuousness to organizational resilience is also 1.441. Additionally, the VIF for organizational virtuousness predicting organizational learning is 1.000. All reported VIF values are well below the commonly accepted threshold of 3.3 (and the more conservative threshold of 5.0), indicating that collinearity is not a concern in the model. These findings suggest that the predictor constructs do not exhibit problematic overlap when explaining the endogenous variables. Therefore, the structural model estimates can be interpreted with confidence, as the relationships are unlikely to be biased by multicollinearity effects.

The structural model was evaluated by examining path coefficients, their significance levels, and the explained variance (R^2) of the endogenous constructs. Organizational learning and organizational resilience have a path coefficient of 0.553. It indicated a statistically significant and moderately strong positive relationship between organizational virtuousness and learning. The R square value of organizational learning is 0.306, which explains that organizational virtuousness accounts for 30.6% variance in organizational learning that is a moderate level of explanatory power. Conversely, the direct path from organizational learning to

organizational resilience is not statistically significant $\beta = 0.000$, $t = 0.008$, $p = 0.993$. It explains that organizational learning does not contribute in explaining organizational resilience when organizational virtuousness is incorporated in model. However, organizational virtuousness has a strong and statistically significant direct effect on organizational resilience $\beta = 0.779$, $t = 16.202$, $p < 0.001$. This suggests that virtuous organizational characteristics, such as trust, compassion, forgiveness, optimism, and integrity play a core role in strengthening an organization's ability to adapt, recover, and remain robust during challenges. The R^2 value for organizational resilience is 0.607, indicating that 60.7% of its variance is explained by the predictors in the model, which reflects substantial explanatory power. Ultimately, the results suggest that organizational virtuousness is the key driving force in the model and directly enhances learning and resilience. While, organizational learning does not serve as the significant bridge between organizational virtuousness and organizational resilience. These results suggest that resilience in organizations may stem more from underlying virtuous cultural and behavioral qualities than from learning processes alone.

Figure 2

Path Coefficients' Model

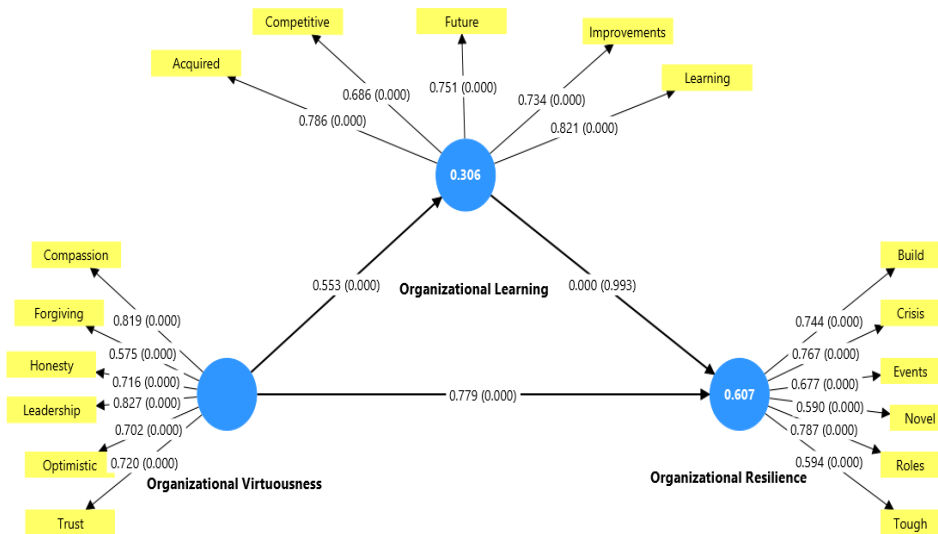
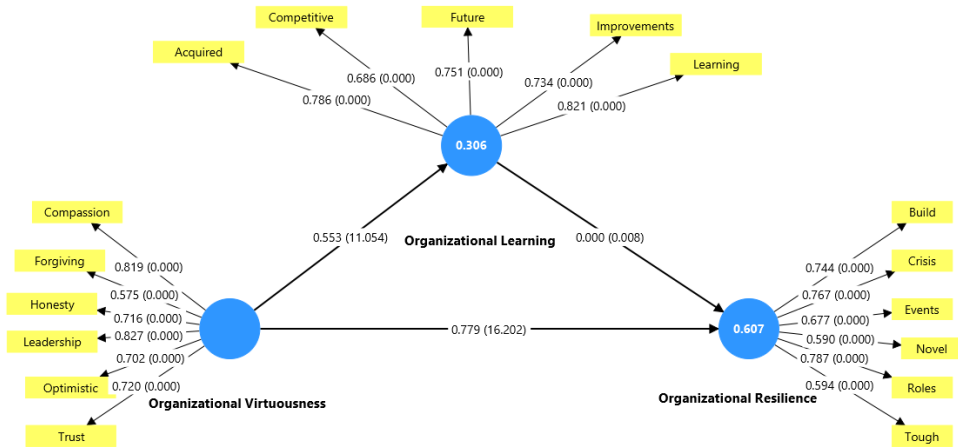


Figure 3

Bootstrapping' Model



Discussion

This study explained that how organizational virtuousness and organizational learning contribute to organizational resilience within NGOs of Pakistan. The findings reveal that virtuous organizations strengthens learning processes and resilience capacity, while learning alone cannot be directly translated to resilience. It indicates that when NGOs cultivate values, such as trust, compassion, forgiveness, optimism, and integrity, they create an environment where knowledge sharing occurs and collective reflection is seen. Mission-driven organizations, such as NGOs should have virtuous behaviors and volunteers who exchange experiences and lessons openly so that they may compete with collaboration easily. This finding aligns with prior work emphasizing that virtuous organizational climates enhance positive employee attitudes and constructive behaviors (Bright et al., 2006; Cameron et al., 2004).

In NGO settings, where work often involves uncertainty, limited resources, and emotionally demanding situations, virtuousness may serve as a social glue that encourages learning from both successes and failures (Britton, 2005). Thus, virtuousness appears to function as an important cultural foundation that supports learning processes. For NGOs operating in fragile environment, virtuousness enhances the voluntary nature of employees that helps in nurturing under pressure environment. Contrary to expectations, organizational learning does not significantly bridge the

relationship between virtuousness and organizational resilience. While learning is seen to be strengthening the adaptive capacity, here it highlights that learning alone cannot cultivate resilience, it needs supporting characteristics. Without a virtuous culture, knowledge gained through learning may not be effectively mobilized when facing sudden disruptions. This indicates that virtuousness may be a deeper cultural enabler that determines whether learning can be translated into resilient action. Additionally, knowledge intensive routines nourish strong learning culture. As per DCT, organizations that continuously learn and adopt are better able to remain resilient in uncertain situations. Concisely, resilience would make NGOs practice environmental changes and adjust their strategies accordingly (Khan & Farooq, [2021](#)).

Similarly, developing resilient systems in a firm helps them in maintaining new methods and systems. These methods and systems ultimately give both input and output of organizational resilience procedures (Khan & Farooq, [2021](#)). As organizational learning does not significantly predict organizational resilience, it does not mediate the relationship between organizational virtuousness and organizational resilience. However, virtuousness has a direct influence on resilience. For NGOs, leaders and managers should provide trainings that foster compassion, trust, integrity, and mutual respect in culture. Leadership behaviors should be encouraged that model virtuousness and ethical conduct. While learning remains an important organizational capability, resilience appears to be rooted more strongly in the moral and relational strengths of the organization. These findings underscore the importance of nurturing virtuous organizational cultures as a pathway to sustainable resilience in the nonprofit sector.

Conclusion

The findings clearly provide the evidence that internal factors considerably help in making an organization resilient. While, organizational virtuousness plays a crucial role in shaping both organizational learning and organizational resilience. NGOs having virtuous values tend to show greater capacity and capability to withstand uncertain situations. While, learning alone cannot do so. Therefore, it could be concluded that resilience in NGOs is deeply rooted un organizational culture of shared values rather than a formal knowledge-based system. Virtuousness emerges as a foundational organizational resource that strengthens social bonds, enhances

commitment, and enables coordinated responses during uncertain or crisis situations. Overall, this research contributed to a more holistic understanding of resilience in the nonprofit sector by demonstrating that moral and relational qualities are key drivers of long-term adaptability and sustainability.

Implications for Future Research

While this study provided important insights, it also opened several avenues for further investigation. Researchers could discover other mediating and moderating constructs that may strengthen the relationship between virtuousness and resilience. Moreover, longitudinal studies would provide an insight as to how, with time, virtuousness and learning strengthen/grow. Since resilience is often shaped through repeated exposure to challenges, tracking organizations across different phases of disruption could provide deeper understanding of causal dynamics. Additionally, NGOs could be compared with other sectors, that is, private or public and maybe with other mission-driven organizations. Fourthly, qualitative studies could complement these findings by exploring how employees and volunteers experience virtuousness and resilience in practice. Interviews or case studies may reveal micro-level behaviors and narratives that explain how value-based cultures translate into collective strength during crises. Last but not the least, future scholars may examine the role of cultural and regional differences in shaping virtuousness and resilience. NGOs operating in different socio-economic or political environments may experience and express these constructs in distinct ways.

Author Contribution

Sania Iftikhar: conceptualization, data curation, formal analysis, methodology, software, writing – original draft, writing – review & editing. **Noor Azman Ali:** supervision, validation, writing – review & editing.

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data associated with this study is not available due to ethical, legal, or commercial restrictions.

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