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Digital Shariah Banking System on Cash Waqf in Indonesia

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Abstract: The concept of cash waqf has significantly progressed, incorporating more modern and efficient models. Today, cash waqf can be processed through digital platforms that are fully integrated with Sharia compliant banking system. Even though Indonesia Muslims recognize cash waqf as a sustainable investment, data shown only 47% expressed strong willingness to donate. Research shows approximately only 45% of Indonesia Muslims were fully aware of the procedures to donate cash waqf through digitalization. This study aims to examine how Digital Shariah Banking System (DSBS) impact the decision-making process of Muslims in Indonesia to involve in cash waqf. The reaction of Indonesia Muslims to the Digital Shariah Banking System (DSBS) on cash waqf reflects a combination of growing interest, literacy and digital awareness. The research employs Partial Least Squares-Structural Equation Modeling (PLS SEM) constructed by analyzing the influence of Islamic economic literation, Islamic financial inclusion, digitalization index toward intention to use digital waqf. The data was generated by survey to 205 Indonesian Muslims from all generation. The findings indicate that digitalization index and Islamic financial inclusion influences the intention to use digital waqf. Meanwhile, experience, gender and Islamic economic literation does not significantly influence the Intention to use digital waqf. The recommendation for Indonesia waqf regulators is to promote infrastructure of digitalization around region in Indonesia to strengthen awareness of digital waqf platforms and enhance accessibility to digital platforms.

Keywords: *Digital Shariah Banking System, Islamic Financial Inclusion, Islamic Economic Literation Digitalization Index.*

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Digital Shariah Banking System on Cash Waqf in Indonesia

1. Introduction

In Indonesia, cash waqf has been formally recognized by the MUI and is regulated under Government Regulation No. 42/2006, which outlines its implementation framework. The government has designated the Indonesian Waqf Board (IWB) as the official institution responsible for managing cash waqf funds. Operationally, collected funds are invested in state-linked enterprises to generate revenue, which is subsequently allocated for public welfare. Despite its potential, cash waqf remains underutilized. To address this issue, IWB has collaborated with Islamic financial institutions and integrated financial technology (FinTech) into waqf transactions. This collaboration led to the development of the Digital Sharia Banking System (DSBS), designed to facilitate seamless online cash waqf transactions, making participation more convenient for the public. Notably, cash waqf does not require a fixed minimum contribution. Several DSBS platforms currently in operation in Indonesia include BSI Digital Wakaf Hasanah managed by Bank Syariah Indonesia, as well as other digital waqf services offered by Bank Muamalat Indonesia, Waqfchain, Dompet Dhuafa Digital, etc.

Indonesia has the largest Muslim population globally, with approximately 85% of its 260 million citizens identifying as Muslims (Putraa, 2020). Indonesia possesses the highest waqf potential worldwide, with an estimated value of $14 billion annually, surpassing Malaysia ($1.4 billion), Egypt ($6.5 billion), and Pakistan ($8 billion) (Mohsin, 2007). The total value of cash waqf transactions in Indonesia has reached IDR 180 trillion (Fadhilah & Aminah, 2018). Furthermore, data from Bank Indonesia indicate that the country's waqf potential stands at IDR 217 trillion, which accounts for 3.4% of Indonesia’s Gross Domestic Product (KNEKS, 2019). The cash waqf transactions are closely linked to DSBS, which is supported by Indonesia’s Islamic banking sector. According to the Charities Aid Foundation’s (CAF) World Giving Index (2018), Indonesia was ranked as the most generous country among 144 nations surveyed (Nurfadilah, 2018).

Eventhough the concept of cash waqf has significantly progressed in Indonesia, incorporating more modern and efficient models, data shown only 47% expressed strong willingness to donate via digital waqf system. Research shows approximately only 45% of Indonesia Muslims were fully aware of the procedures to donate cash waqf through digitalization. The limited market share and low index of Islamic financial inclusion in

Indonesia present a significant challenge (Islamic Strategic Studies Center-Financial Services Authority, 2023). Despite the demographic advantage in Indonesia, public interest in Islamic finance remains substantially lower than in conventional financial systems. The 2022 National Survey of Financial Literacy and Inclusion reports that the Islamic financial inclusion index stands at just 12.12%, while the market share for Islamic financial institutions was recorded at 10.41% as of June 2022.

The Islamic financial inclusion index in Indonesia remains relatively low, with DKI Jakarta and Nanggroe Aceh Darussalam identified as the provinces exhibiting the highest levels of financial inclusion (Sakti & Devi, 2019). This limited inclusion is largely attributed to insufficient financial access, particularly for low-income communities in the country's eastern regions. Based on research by the Asian Development Bank (ADB) in 2022, financial literacy is an intrinsic factor that influences and motivates society which indirectly increases the sharia financial literacy index and sharia financial inclusion index. Financial literacy in Indonesia is much lower than in other ASEAN nations, including the Philippines (27%), Malaysia (66%), Thailand (73%), and Singapore (73%), according to a 2016 report by the Financial Services Authority (OJK).

2. Research Objectives

This study aims to examine how Digital Shariah Banking System (DSBS) impact the decision making process of Muslims in Indonesia to involve in cash waqf.

3. Theorical Foundation And Hypothesis Development

3.1 Cash Waqf concept

Cash waqf is a significant instrument in Islamic social finance that supports government-led economic development initiatives (Sanusi & Shafiai, 2015; Musa & Salleh, 2018). It contributes to various socio-economic objectives, including poverty alleviation (Ahmad & Hassan, 2015; Mahamood & Rahman, 2015; Kachkar, 2017; Hasan et al., 2018; Saiti et al., 2019), enhancing community welfare (Cizakca, 2009; Medias, 2017; Khamis & Che Mohd Salleh, 2018), providing financial assistance for entrepreneurs (Thaker, 2018), and addressing fiscal deficits and social disparities (Nasiri et al., 2019). Additionally, cash waqf can be allocated to fund socio-religious initiatives (Othman, 2015), renovate educational institutions (Razak, 2020), and enhance healthcare services.

Historically, the concept of cash waqf was introduced by Imam Zufar in the 8th century, who defined it as a form of financial investment where the generated profits are directed toward social welfare (Hasan et al., 2019). The legitimacy of cash waqf is affirmed by a fatwa issued by the Indonesian Ulema Council (MUI) in 2002, which based its ruling on the perspective of Imam Az-Zuhri (d. 124 H), who permitted the use of dinars and dirhams as waqf assets for da'wah and social causes (Priantina, 2019). Functionally, cash waqf is utilized as business capital, with the returns being allocated to sectors such as da'wah, social welfare, education, and healthcare (Rusydiana & Devi, 2014; Medias, 2017; Nasiri et al., 2019).

Unlike traditional waqf, which typically involves fixed assets like land, buildings, or vehicles, cash waqf enables broader participation, allowing individuals to contribute according to their financial capacity (Hasan et al., 2018, 2019). For instance, in Somalia, cash waqf is considered an inclusive donation method, offering an opportunity for those without physical assets to partake in waqf activities (Saiti et al., 2019). In Indonesia, cash waqf management and implementation are governed by Law No. 42 of 2006, categorizing it as a movable waqf asset, similar to its regulation in Malaysia (Anwar et al., 2019; Hafiz et al., 2019). Contributions to cash waqf can be made through Islamic financial institutions in partnership with the Ministry of Religious Affairs, strengthening the professionalism and accountability of the Indonesian Waqf Board (IWB), which is responsible for overseeing cash waqf operations.

At present, individuals have two options for contributing: direct deposits at Islamic banks or digital transactions via the Digital Sharia Banking System (DSBS). Once collected, these funds are invested in Sharia-compliant financial instruments, with the generated profits allocated to beneficiaries in need (Hasan et al., 2018; Jalil et al., 2019). To ensure long-term sustainability, cash waqf funds are predominantly channeled into productive assets (Siswantoro et al., 2018) and lucrative investment portfolios. Unlike other Islamic philanthropic models, waqf assets are preserved indefinitely and cannot be sold, transferred, or inherited, as stipulated by MUI (2002) and Iqbal et al. (2019). This unique feature positions cash waqf as a sustainable waqf model, maximizing revenue generation through strategic investment in Indonesia. Digital Sharia Banking Systems (DSBS) are revolutionizing the approach to cash waqf transactions, particularly appealing to the younger generations in Indonesia. These innovative platforms leverage digital technology to facilitate the donation process, making it more accessible, transparent, and efficient. Research indicates that key factors such as perceived usefulness, ease of use, and the influence of societal norms play a significant role in shaping the adoption of DSBS for cash waqf purposes (Abdullah Haidar et al., 2024). By aligning with the digital habits of a tech-savvy demographic, these systems are well-positioned to engage younger individuals in fulfilling their philanthropic obligations.

The integration of financial technology (FinTech) with traditional cash waqf systems has opened new avenues for the collection, management, and distribution of waqf funds. This synergy enhances the efficiency and reach of waqf initiatives, enabling them to contribute more effectively to community welfare and poverty alleviation (A. Fahmi Zakariya et al., 2021). Through streamlined digital processes, FinTech solutions can reduce administrative bottlenecks and maximize the impact of waqf resources. The result is a modernized approach that maintains the spiritual integrity of waqf while addressing the socio-economic challenges of contemporary society.

The Unified Theory of Acceptance and Use of Technology (UTAUT) model provides a robust framework for understanding the adoption dynamics of digital-based cash waqf systems. Studies have shown that factors such as effort expectancy, social influence, and facilitating conditions significantly influence users' behavioral intentions and their subsequent use of these platforms (N. Hidayah & Tira Mutiara, 2022). Effort expectancy highlights the importance of user-friendly interfaces and intuitive designs that minimize the complexity of engaging with digital waqf platforms. Social influence underscores the role of community and peer encouragement, which can foster collective participation. Facilitating conditions, such as reliable internet infrastructure and regulatory support, ensure the seamless operation and adoption of DSBS.

Moreover, cash waqf-based instruments are gaining recognition as innovative non-profit alternatives for personal financing in Islamic banking. These instruments cater to financial needs that are not traditionally addressed by profit-driven mechanisms, such as loans requiring interest payments (M. Kahf & A. Mohomed, 2017). By adhering to Islamic principles, cash waqf-based financing provides ethical and inclusive options for individuals and businesses alike. The growing adoption of DSBS reflects a significant transformation in how Islamic financial principles are applied in the digital era. By promoting transparency, efficiency, and inclusivity, these systems hold immense potential to advance the socio-economic objectives of waqf. They not only enable individuals to contribute meaningfully to community welfare but also position Islamic banking as a progressive and socially responsible alternative in the global financial landscape.

3.2. Digital Sharia Banking Systems

The integration of digital technology has become a strategic imperative for enhancing business performance and profitability within the banking sector (Chiu et al., 2017; Wirdiyanti, 2018). Digitalization refers to the adoption of digital or computer-based technology, including mobile applications, by organizations, businesses, and individuals (Larsson & Viitaoja, 2017). Accordingly, digital banking is characterized as a financial service application that enables users to conduct transactions without geographical or time constraints. Similarly, Digital Sharia Banking Systems (DSBS) offer digital banking solutions that facilitate customer financial transactions through electronic devices such as smartphones, tablets, laptops, and personal computers, all connected via the internet and operated by Islamic banks.

The shift toward digital Sharia banking marks a significant transformation in the financial sector, presenting a mix of challenges and opportunities. Among the primary hurdles are issues such as ensuring robust data security, successfully integrating emerging technologies, and adapting to the continuously evolving regulatory landscape (Marbawani et al., 2024). These challenges are crucial to address, as they directly influence the trust and operational efficiency necessary for widespread adoption. Ensuring compliance with both digital and Sharia principles adds another layer of complexity, making this transition a multifaceted endeavor.

Despite these challenges, the digitalization of Sharia banking offers substantial opportunities. One of the most promising aspects is the potential to enhance financial inclusion. By leveraging technology, digital platforms can reach underserved populations, including those in rural and remote areas, who traditionally lacked access to conventional banking services (Marbawani et al., 2024). Additionally, digital banking paves the way for innovative financial products tailored to meet the unique needs of Sharia-compliant banking, which can help attract a broader customer base. Strengthening customer relationships through personalized and seamless services is another significant advantage that digitalization brings to this sector.

However, the growth of Sharia banking in Indonesia has been relatively modest, with its market share standing at just 5.12% as of 2016 (Abdussalam Dz, 2018). Various factors contribute to this limited market penetration, including low levels of public awareness about the available products, difficulties in accessibility, and a lack of financial literacy regarding Sharia principles (Abdussalam Dz, 2018). These challenges underscore the need for a concerted effort to bridge the gap between potential customers and Sharia banking services.

To address these barriers, advancements in digital banking are essential. They offer the ability to close service gaps, improve accessibility, and enhance operational efficiency (Abdussalam Dz, 2018). By leveraging digital tools, Sharia banks can streamline their operations, offer more competitive services, and cater to the growing expectations of tech-savvy customers. Furthermore, initiatives focused on education and awareness are vital. Programs that emphasize the benefits of Sharia-compliant digital banking and promote financial literacy in Islamic finance can help cultivate a more informed and engaged customer base (Nugroho et al., 2023).

The integration of digital technologies in Sharia banking also promises to transform the transactional experience. With improvements in accessibility, speed, and convenience, non-cash transactions can become more efficient and user-friendly, further encouraging adoption (Parapat et al., 2023). This evolution represents not just a modernization of financial services but also a step toward aligning them with the ethical and spiritual values of Sharia principles. As the sector continues to evolve, a strategic focus on technology, education, and customer engagement will be key to unlocking its full potential.

Beyond commercial banking services, DSBS have introduced innovative features that support Islamic philanthropic activities, enabling customers to contribute to cash waqf with greater convenience and efficiency. The Islamic banking sector's decision to embrace digital technology is aimed at minimizing operational costs, which in turn enhances overall bank profitability (Chiu et al., 2017; Sharma, 2017; Mbama & Ezepue, 2018; Yaseen & Qirem, 2018). The transformation brought about by digital technology has not only reshaped communication, business operations, and financial transactions but has also influenced the mechanisms through which donations and social contributions are made. The adoption of digital payment methods has created positive trends in charitable giving, including cash waqf contributions (Boersma & Burgers, 2013; Jalil et al., 2019). A study by Jalil et al. (2019) highlighted that the volume of cash waqf transactions significantly increased after the implementation of online payment methods through a collaboration with Bank Muamalat Malaysia Berhad.

3.3. Previous studies

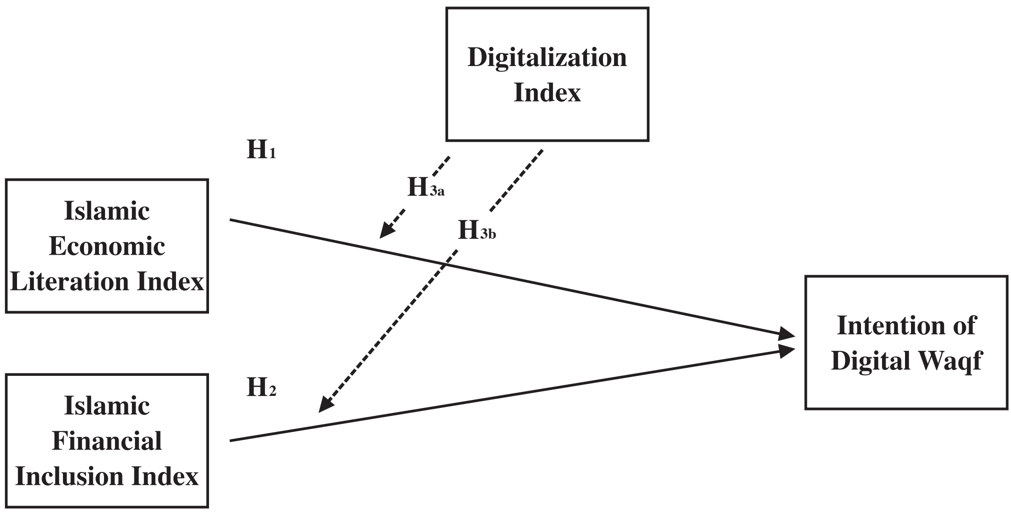
Applications designed to deliver banking services through technological and informational platforms, accessible anytime and anywhere, are referred to as "digital banking." These services leverage internet-enabled devices, including smartphones, tablets, laptops, and desktop computers, to address customers' financial transaction requirements. Among the offerings, digital banking facilitates Islamic philanthropy by incorporating online payment systems for cash waqf contributions, significantly boosting transaction volumes (Ali et al., 2019). Users benefit from a swift and accurate process for cash waqf payments (Berakon et al., 2022). The Digital Sharia Banking System (DSBS) signifies a transformative step in integrating financial technology (FinTech) into Islamic financial systems, particularly in managing waqf (Islamic endowments). This system, developed collaboratively by Badan Wakaf Indonesia (BWI) and several Islamic banks, is tailored to simplify and optimize cash waqf transactions, making them more user-friendly and efficient for the Muslim community. DSBS primarily seeks to harness modern FinTech to improve the overall experience and efficiency of waqf transactions. It represents a broader initiative to digitalize the Islamic finance sector, acknowledging the necessity of adapting traditional practices to meet the expectations of younger demographics, especially Millennials and Generation Z. Through intuitive interfaces and secure processes, DSBS tackles typical challenges linked to conventional waqf systems, such as complicated steps and transparency issues.

Key aspects of DSBS include streamlined transaction workflows, advanced security protocols, and real-time monitoring of waqf contributions. These elements cater to tech-savvy younger users who value the simplicity and efficiency of digital financial tools. By providing a transparent and user-friendly platform for waqf contributions, DSBS aims to enhance engagement, thereby strengthening the sustainability of Islamic philanthropy both in Indonesia and in other Muslim-majority regions. This innovation reflects the dynamic evolution of Islamic finance, merging traditional principles with modern technology to better serve its community.

Robust legal support for cash waqf is crucial in enhancing the role of Islamic banks in mobilizing funds for waqf purposes, as it creates a secure and trustworthy environment for all parties involved. A well-defined legal framework instills confidence in stakeholders, encouraging their active participation in cash waqf initiatives. Furthermore, effective coordination among regulatory authorities and Islamic financial institutions is necessary to boost the capability of Islamic banks in managing and raising cash waqf funds. This collaborative approach will maximize the potential of waqf resources for socio-economic development. Nevertheless, a significant challenge lies in the lack of education and awareness about cash waqf, which impedes its widespread acceptance and adoption. Bridging this knowledge gap is essential to promoting financial literacy and encouraging increased involvement in cash waqf, thereby unlocking its full potential to support community welfare (Khairunnisa et.al., 2018).

Research Framework

Figure 1: *Research Framework*



4. Hypothesis Development

Waqf literacy have a significant impact on the intention to engage in waqf (Huda et al., 2023). Education also plays a crucial role in enhancing waqf literacy and fostering the intention to participate in waqf activities (Juliana et al., 2024). Furthermore, a positive association has been established between waqf literacy and students' interest in waqf, emphasising the relevance of financial literacy in this setting.Research findings collectively indicate that higher levels of Islamic financial literacy, particularly in relation to waqf, positively influence the intention to contribute to waqf in Indonesia (Rasela, 2021).

H_1: Islamic economic literacy influences the intention of digital waqf

H_2: Islamic financial inclusion influences the intention of digital waqf

H_{3a}: Islamic economic literacy influences the intention of digital waqf moderated by digitalization

H_{3b}: Islamic financial Inclusion influences the intention of digital waqf moderated by digitalization.

Table 1: Variables, Dimensions and Indicators

Variable	Dimensions	Indicator	Scale	Source
Islamic Economic Literacy Index	(X1) Islamic Economic	Knowledge of basic principles of Islamic economics: Riba, profit sharing, maysir, gharar, zakah, infaq, sadaqa.	Likert	Bank Indonesia
	(X2) Islamic Social Finance Institution	Knowledge of Islamic social finance institution		
	(X3) Islamic Product Knowledge	Knowledge of islamic product		
	(X4) Islamic Financial wealth Management	Ability to islamic financial management		
	(X5) Numerical Ability	Ability to perform financial calculations based on sharia principles including calculating profit sharing and zakah.		
	(X6) Attitude for Future	Focusing in future direction		

Islamic Financial Inclusion Index	(Y1) Accessability	Measuring the penetration of islamic Finance in the community	Likert	Bank Indonesia
	(Y2) Availability	Measuring the community's ability to utilise official Islamic financial services		
	(Y3) Usage	Measuring the effectiveness of Islamic financial services in addresing community needs		
Digitalization Index	(Z1) Digital Skill	The ability of an individual to recognize, comprehend, and effectively utilize ICT hardware, software, and digital operating systems in everyday life.	Liket	Indonesia Ministry of Communication and Information Technology
	(Z2) Digital Ethics	The ability of an individual to be aware of, demonstrate, adapt to, rationalize, reflect on, and cultivate the principles of digital ethics (netiquette) in daily life.		

(Z3) Digital Safety	The ability of the user to recognize, pattern, apply, analyze, assess, and enhance awareness of personal data protection and digital security in daily life
(Z4) Digital Culture	The capacity of an individual to read, interpret, internalize, critically assess, and incorporate national values, such as Pancasila and Bhinneka Tunggal Ika, into everyday life, particularly in the context of cultural digitalization.

Source: Bank Indonesia, Indonesia Ministry of Information and Technology, (modified)

5. Data Analysis and Results

5.1. Sample Profile

A total of 205 questionnaires were distributed across several regions of DKI Jakarta province. According to Hair and Sarstedt, an optimal sample size for statistical analysis is 10 times the number of variables being examined in the study. Therefore, the sample size of meets all the recommended assumptions for statistical analysis.

5.2. Respondent Profile

Table 2 displays the respondent profile regarding the gender, age, generation. and experiences using digital money in digital devices.

Table 2. Respondents Profile

Respondent Profile	frequency	Percentage (%)
Gender		
Male	126	61.46
Woman	79	38.54
Age		
Less than 20	-	-
20–29	79	38.54
30 – 39	32	15.61
40 – 49	59	28.78
Above 50	35	17.07
Generation Type		
1946 - 1964 (Baby Boomers)	11	5.36
1965 - 1980 (Generation X)	49	23.91
1981 – 1996 (Generation	66	32.19
Y/Millennials)	79	38.54
1997 – 2012 (Generation Z)		
Digital Money Transactions	12	5.85
Never	27	13.17
Less	34	16.59
Sometimes	81	39.51
often	51	24.88
very often		

From Table 2 it shows that the majority of respondents (61.46%) were male. In terms of age, the largest group of respondents fell within the 20-29 year age range, accounting for 38.54, namely the Generation Z. Additionally, the majority of the respondents reported experiencing often using digital transactions.

5.3. Assessment of Measurement Models

The Partial Least Squares Structural Equation Modelling (PLS-SEM) Path Model is used to assess both the measurement and structural models. To determine whether an item should be included in the study, the measurement model for each latent concept was evaluated based on reliability and validity. The Average Variance Extracted (AVE) and composite reliability values were used to evaluate the validity and reliability. Table 3 shows the AVE and composite reliability values for each construct in the Path Model.

Table 3: *Average Variance Extracted (AVE) and Composite Reliability*

	Composite Reliability	Average Variance Extracted (AVE)
Digitalization Index	0.925	0.756
Experiences	1.000	1.000
Gender	1.000	1.000
Generation	1.000	1.000
Intention to Use Waqf Digital	0.936	0.879
Islamic Economic Literation	0.909	0.667
Islamic Financial Literation	0.882	0.715

As previously noted, the goal of the measurement model is to identify the items that should be included in each construct before evaluating the structural model. In this study, the measurement model was performed by examining the outer loading of each construct, utilizing high outer loading values to ensure that the minimum acceptable levels of Composite Reliability and Average Variance Extracted (AVE) were met (Hair et al., 2014). If the outer loading value of an item was found to be low, the item was removed until the required AVE and Composite Reliability values were achieved. According to Hair et al. (2014), the AVE should be above 0.5, and the composite reliability should exceed 0.7.

5.4. Items in Digitalization Index

The following tables show the results of increasing the outer loading for further analysis:

Table 4: *Outer Loading, AVE. and Composite Reliability Digitalization Index*

Variable	Dimension	Outer Loading	AVE	Composite Reliability
Digitalization Index			0.756	0.925
	DI1	0.819		
	DI2	0.924		
	DI3	0.846		
	DI4	0.885		

The table above presents a reassessment of the factor model. The results of this reevaluation show that all items have an outer loading value greater than 0.7, with the AVE and composite reliability values for performance expectancy being 0.756 and 0.925, respectively. According to Hair et al. (2014), the acceptable levels for AVE and composite reliability are 0.5 and 0.7. Based on these values, the Digitalization Index construct has passed both the validity and reliability tests.

5.5. Items in Islamic Economic Literation

The Islamic Economic Literation construct has six items for the assessment of the measurement model. The AVE value was 0.667 and the composite reliability was 0.909. Based on these values. the Effort expectancy construct has passed validity and reliability tests.

Table 5: *Outer Loading, AVE and Composite Reliability Islamic Economic Literation*

Variable	Dimension	Outer Loading	AVE	Composite Reliability
Islamic Economic			0.667	0.909
Literation	IELI1	0.803		
	IELI2	0.825		
	IELI3	0.862		
	IELI4	0.776		
	IELI5	0.815		

5.6. Items in Islamic Financial Inclusion

The Islamic Financial Inclusion construct has only one item with appropriate outer loading, AVE and Composite reliability values.

Table 6: *Outer Loading, AVE, and Composite Reliability Islamic Financial Inclusion*

Variable	Dimension	Outer Loading	AVE	Composite Reliability
Islamic			0.715	0.882
Financial	IFI1	0.771		
Inclusion	IFI2	0.842		
	IFI3	0.918		

5.6. Items in Intention to Use Digital Waqf

The Intention to use Digital Waqf construct comprises two items. The outer loading values IU1 and IU2 are, respectively. The AVE value was 0807. and the composite reliability was 0.893. Based on these values. the Attitude Toward digital money construct passed the validity and reliability tests.

Table 7: *Outer Loading, AVE and Composite Reliability Intention to Use Digital Waqf*

Variable	Dimension	Outer Loading	AVE	Composite Reliability
Intention to Use			0.879	0.936
Digital Waqf	IU1	0.936		
	IU2	0.940		

5.7. Structural Model Assessment

The measurement model was assessed to ensure that the construct items were reliable and valid. The next step is to assess the structural model. In this study, a 4-step structural model assessment procedure was performed.

5.8. Assessmen of Coefficient Determinant (R^2 and adjusted R^2)

The significance of structural correlations was assessed, followed by evaluating their accuracy using R^2, effect size (f^2), and predictive relevance (Q^2). Testing the accuracy of these relationships is essential for interpreting the findings (Hair et al., 2014). The Determinant Coefficient (R^2) is one of the most commonly used parameters for evaluating structural models (Hair et al., 2014). R^2 was calculated to assess the relationship between the actual construct and the predicted values, which reflects the accuracy of the predicted model. The R^2 value ranges from 0 to 1, where a higher R^2 value indicates greater prediction accuracy.

Table 8: *Model Fit*

	R square	Adjusted R Square
Intention to Use r-CBDC	0.509	0.467

The table above shows that the R^2 value is 0.509, meaning that the independent variables explain 50.9% of the variation in the intention to use digital waqf. This suggests that 49.1% of the variation in intention to use digital waqf is influenced by other factors outside the model. However, one limitation of using R^2 as a measure of predictive accuracy is that adding insignificant constructs to the structural model can artificially increase R^2. Therefore, R^2 alone is not a reliable indicator of model goodness-of-fit (Hair et al., 2014), as the inclusion of insignificant constructs can inflate R^2. To address this, the adjusted R^2 (R^2adj) is used, which adjusts R^2 by considering the number of constructs and sample size. According to the above table, the corrected R2 value is 0.467, which means that the independent variables statistically explain 46.7% of the variation in the intention to use digital waqf, while factors outside the model account for the remaining 53.3%.

5.9. Assessing Effect Size f^2

The change in R^2 that occurs when a particular exogenous component is eliminated from the model is measured by effect size f^2. It aids in determining whether the endogenous construct is significantly impacted by the eliminated exogenous construct. The R^2 values of the endogenous construct with and without the chosen exogenous construct in the model are compared to determine the f^2. Generally speaking, a modest effect is indicated by a f^2 value of 0.02; a medium effect is indicated by a 15; and a considerable effect is indicated by a 35 value or greater.

Table 9: *Effect Size. f^2*

Path	coefficient	t-stat	p-value	f^2	Hypothesis	Effect Size
Digitalization Index -> Intention	0.425	5.386	0.000	0.167	Accepted	Small
to Use Digital Waqf						
Experience -> Intention to Use	0.061	1,009	0.313	0.007	Rejected	None
Digital Waqf	-0.036	0.646	0.519	0.002	Rejected	None
Gender -> Intention to Use	0.050	0.945	0.345	0.004	Rejected	None
Digital Waqf	-0.123	1,783	0.075	0.024	Rejected	None
Generation -> Intention to Use	0.012	0.142	0.887	0.000	Rejected	None
Digital Waqf	0.046	0.546	0.585	0.002	Rejected	None
IEL*DI -> Intention to Use						
Digital Waqf	-0.046	0.593	0.554	0.003	Rejected	None
IEL*EXP -> Intention to Use						
Digital Waqf	0.111	1,309	0.191	0.013	Rejected	None
IEL*GENDER -> Intention to	-0.055	0.636	0.525	0.002	Rejected	None
Use Digital Waqf	0.005	0.062	0.951	0.000	Rejected	None
IEL*GENERATION -> Intention						
to Use Digital Waqf	0.051	0.754	0.451	0.004	Rejected	None
IFI*DI -> Intention to Use Digital						
Waqf	0.127	1.346	0.179	0.013	Rejected	None
IFI*EXP -> Intention to Use						
Digital Waqf	0.209	2.993	0.003	0.051	Accepted	Small
IFI*GENDER -> Intention to Use						
Digital Waqf						
IFI*GENERATION -> Intention						
to Use Digital Waqf						
Islamic Economic Literation ->						
Intention to Use Digital Waqf						
Islamic Financial Inclusion ->						
Intention to Use Digital Waqf						

Digitalization index and islamic financial Inclusion have a small effect size on the Intention to Use Digital Waqf. Meanwhile, Islamic Economic Literation Index, Gender, Experience, Generation had no effect sizes. This indicates that the intention to use digital waqf is influenced more by digitalization index and islamic financial Inclusion index.

5.10. Assessment of the Predictive Relevance Q^2

To evaluate the magnitude of the R^2 value as a criterion for predictive accuracy, researchers must examine Stone Geisser's Q^2 value. The Stone Geisser Q^2 score measures whether the indicator is predictively relevant. If the Stone Geisser Q^2 value is greater than zero, then the model has a relevant endogenous construct. If the Stone Geisser Q^2 value is less than zero, then the model has an endogenous construct that is less relevant. In this study, the Endogenous of Intention to Use Digital Waqf construct had a Stone Geisser's Q^2 value of 0.392. This means that the model used in this study has an endogenous construct with relevant predictors.

Table 10. *Stone Geisser Q^2 Value*

	SSO	SSE	Q^2 (=1-SSE/SSO)
Digitalization Index	712.000	712.000	
Experience	178.000	178.000	
Gender	178.000	178.000	
Generation	178.000	178.000	
IEL*DI	178.000	178.000	
IEL*EXP	178.000	178.000	
IEL*GENDER	178.000	178.000	
IEL*GENERATION	178.000	178.000	
IFI*DI	178.000	178.000	
IFI*EXP	178.000	178.000	
IFI*GENDER	178.000	178.000	
IFI*GENERATION	178.000	178.000	
Intention to Use Digital Waqf	356.000	216.536	0.392
Islamic Economic Literation	890.000	890.000	
Islamic Financial Inclusion	534.000	534.000	

Table 9: *Effect Size. f^2*

Path	coefficient	t-stat	p-value	f^2	Hypothesis	Effect Size
Digitalization Index -> Intention	0.425	5.386	0.000	0.167	Accepted	Small
to Use Digital Waqf						
Experience -> Intention to Use	0.061	1,009	0.313	0.007	Rejected	None
Digital Waqf	-0.036	0.646	0.519	0.002	Rejected	None
Gender -> Intention to Use	0.050	0.945	0.345	0.004	Rejected	None
Digital Waqf	-0.123	1,783	0.075	0.024	Rejected	None
Generation -> Intention to Use	0.012	0.142	0.887	0.000	Rejected	None
Digital Waqf	0.046	0.546	0.585	0.002	Rejected	None
IEL*DI -> Intention to Use						
Digital Waqf	-0.046	0.593	0.554	0.003	Rejected	None
IEL*EXP -> Intention to Use						
Digital Waqf	0.111	1,309	0.191	0.013	Rejected	None
IEL*GENDER -> Intention to	-0.055	0.636	0.525	0.002	Rejected	None
Use Digital Waqf	0.005	0.062	0.951	0.000	Rejected	None
IEL*GENERATION -> Intention						
to Use Digital Waqf	0.051	0.754	0.451	0.004	Rejected	None
IFI*DI -> Intention to Use Digital						
Waqf	0.127	1.346	0.179	0.013	Rejected	None
IFI*EXP -> Intention to Use						
Digital Waqf	0.209	2.993	0.003	0.051	Accepted	Small
IFI*GENDER -> Intention to Use						
Digital Waqf						
IFI*GENERATION -> Intention						
to Use Digital Waqf						
Islamic Economic Literation ->						
Intention to Use Digital Waqf						
Islamic Financial Inclusion ->						
Intention to Use Digital Waqf						

Digitalization index and islamic financial Inclusion have a small effect size on the Intention to Use Digital Waqf. Meanwhile, Islamic Economic Literation Index, Gender, Experience, Generation had no effect sizes. This indicates that the intention to use digital waqf is influenced more by digitalization index and islamic financial Inclusion index.

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IEL*GENDER	178.000	178.000	
IEL*GENERATION	178.000	178.000	
IFI*DI	178.000	178.000	
IFI*EXP	178.000	178.000	
IFI*GENDER	178.000	178.000	
IFI*GENERATION	178.000	178.000	
Intention to Use Digital Waqf	356.000	216.536	0.392
Islamic Economic Literation	890.000	890.000	
Islamic Financial Inclusion	534.000	534.000	

Summary of Findings

Table 11: *Summary of Hypothesis Testing*

Hypothesis	Hypothesized	Coefficient	P-value	Findings
H_1	Islamic economic literacy influences the intention of digital waqf	0.127	0.179	Not supported
H_2	Islamic financial inclusion influences the intention of digital waqf	0.209	0.003	supported
H_{3a}	Islamic economic literacy influences the intention of digital waqf moderated by digitalization	-0.123	0.075	Not Supported
H_{3b}	Islamic financial Inclusion influences the intention of digital waqf moderated by digitalization	0.111	0.191	Not supported
H_{4a}	Islamic economic literation influences the intention of digital waqf moderated by gender	0.046	0.585	Not supported
H_{4b}	Islamic financial Inclusion influences the intention of digital waqf moderated by gender	0.005	0.951	Not supported
H_{5a}	Islamic financial inclusion influences the intention of digital waqf moderated by generation	0.051	0.451	Not supported
H_{5b}	Islamic economic literation influences the intention of digital waqf moderated by generation	-0.046	0.554	Not Supported

6. Conclusion And Recommendations

6.1. Conclusion

In Indonesia, a country with a significant Muslim population, a higher digitalization index can play a crucial role in shaping the intention to use digital waqf. First and foremost, increased accessibility to digital platforms is a key factor. As internet connectivity improves, individuals find it easier to access waqf services online, whether through dedicated websites or mobile applications through Digital Shariah Banking System. This convenience can motivate potential donors to engage with waqf initiatives, as they no longer face the barriers associated with traditional. The removal of these barriers fosters a culture of giving, encouraging individuals to consider waqf as a viable option for their charitable contributions. Furthermore, the relationship between the digitalization index and awareness cannot be overstated. A higher digitalization index often correlates with more effective educational campaigns and outreach programs conducted via digital channels.

The availability and accessibility of financial services that adhere to Islamic principles, such as the proscription of interest (riba) and the encouragement of risk-sharing, is referred to as Islamic financial inclusion. The concepts of Islamic finance are essential in influencing financial attitudes and behaviours in Indonesia, the nation with the biggest Muslim population in the world. The aim to use digital waqf and Islamic financial inclusion are related in a number of ways, including community involvement, trust in financial institutions, accessibility, and knowledge of Islamic financial products. One of the primary ways that Islamic financial inclusion influences the intention to use digital waqf is through enhanced accessibility to financial services. As financial institutions in Indonesia strive to create products that comply with Islamic principles, more individuals gain access to savings, investment, and donation mechanisms. This inclusivity empowers community members to engage with waqf initiatives more actively. When people have easier access to financial tools, they are more likely to consider making contributions to waqf, as they see it as a legitimate and beneficial way to utilize their resources in line with their beliefs. When individuals understand how waqf functions, including its role in wealth redistribution and community support, they are more likely to engage with digital waqf platforms. This understanding demystifies the process, making it easier for potential donors to see their contributions as fulfilling religious obligations and supporting charitable causes.

The Islamic Economic Literacy Index (IELI) measures individuals' understanding of

Islamic economic principles, including concepts related to waqf, zakat, and other forms of charitable giving. While one might assume that a higher level of Islamic economic literacy would directly correlate with increased participation in digital waqf initiatives among the Muslim community in Indonesia, the reality may not always reflect this expectation. Several factors contribute to the limited influence of the IELI on the intention to use digital waqf. Firstly, the disconnect between knowledge and action can explain why the IELI does not significantly influence the intention to use digital waqf. Many individuals may possess a basic understanding of Islamic economic principles but may not translate this knowledge into active participation in waqf initiatives. For instance, even if people are aware of the benefits and religious significance of waqf, they might lack the motivation or practical means to contribute digitally. Factors such as socioeconomic status, personal circumstances, or competing financial priorities can hinder individuals from acting on their knowledge, illustrating that literacy alone is insufficient to drive engagement.

6.2. Recommendations

To enhance participation in digital waqf, the Indonesian government should prioritize initiatives aimed at improving both financial and digital literacy across diverse demographic groups. National campaigns focused on educating citizens about the importance of waqf and its role in the Islamic economy could substantially boost engagement. Workshops and seminars arranged in collaboration with academic institutions, non-governmental organisations, and neighbourhood associations may be part of these initiatives. These kinds of programs would give people the abilities and information they need to use digital platforms efficiently, empowering them to choose their philanthropic gifts wisely. By promoting financial and digital literacy, the government can foster an informed citizenry that understands the value of participating in digital waqf through Digital Shariah Banking System (DSBS).

Raising awareness about the benefits of digital waqf platforms is also vital for increasing community involvement. Public awareness campaigns that make use of a variety of media platforms, including social media, television, and local events, can be quite effective in spreading knowledge about the benefits of using digital waqf. Showcasing successful case studies and real-life examples of the positive impacts of contributions on communities can motivate potential participants. Collaborations with religious leaders and organizations to emphasize the charitable significance of waqf in Islam further reinforce this effort. Leveraging the influence of religious figures can effectively convey the social and religious benefits of engaging in digital waqf.

To ensure that digital waqf is accessible to all citizens, particularly in rural and underserved areas, the government should invest in improving digital infrastructure. This includes enhancing internet connectivity and expanding access to reliable digital financial services. Moreover, encouraging developers of digital waqf platforms to create user-friendly applications that accommodate various levels of digital literacy is essential. Integrating local languages and cultural elements into these platforms can enhance their accessibility and relatability for a broader audience. By addressing issues of accessibility and ensuring that digital platforms are intuitive and inclusive, the government can significantly increase participation in digital waqf initiatives.

References

Ahmad, I.F. (2022). Urgensi Literasi Digital di Indonesia pada Masa Pandemi COVID-19: Sebuah Tinjauan Sistematis. *Nusantara: Jurnal Pendidikan Indonesia.*

Allen, Franklin and Demirgüç-Kunt, Asli and Klapper, Leora F. and Martinez Peria, Maria Soledad, The Foundations of Financial Inclusion: Understanding Ownership and Use of Formal Accounts (December 1, 2012). World Bank Policy Research Working Paper No. 6290, Available at SSRN: https://ssrn.com/abstract=2188803

Ali, M.M., Sakti, M.R., & Devi, A. (2019). Developing Islamic Financial Inclusion Index for Islamic Banks in Indonesia: A Cross Province Analysis. *Journal of Islamic Monetary Economics and Finance.*

Alsayigh, N.A., & Al-Hayali, Z.M. (2022). Islamic Financial Literacy, Concepts, and Indicators. Asian Journal of Economics, Business and Accounting.

Amaliyah, N., Maslahah, M., Leviansyah, M.R., Pramuja, M.W., & Rahmawati, L. (2022). Waqf Uang Digita;: Transformasi dan Implementasui di Indonesia. *Al-Infaq: Jurnal Ekonomi Islam.*

Amagir, A., Groot, W., Maassen van den Brink, H., & Wilschut, A. (2018). A review of financial-literacy education programs for children and adolescents. Citizenship, Social and *Economics Education, 17(1), 56-80.*

Anwar, S. (2021). Development of Islamic Financial Literacy Media for I-Generation (Internet Generation) as an Effort to Build a Sharia Economic Society.

Azqia, H., Ali, M.M., & Nurhasanah, S. (2024). Islamic Financial Inclusion Index in Indonesia and its Correlation to Women's Quality of Life. Ekonomi Islam Indonesia.

Baraba, R.A., & Mahmudi, M.M. (2023). Understanding The Millennial Generation Behavior

In Using Digital Banking. Asean International Journal of Business.

Bonang, D., Ismail, S., & Sukmana, R. (2024). Empowering the Future of Cash Waqf through Digitalisation: An Insight into the Philanthropic Intention of the Indonesian Muslim Community. *ISRA International Journal of Islamic Finance.*

Cassidy, R. (2021). Attitudes Towards Digital Health Technology: Introducing the Digital Health Scale. medRxiv.

Chin, W. W. (1998). The partial least squares approach for structural equation modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295–336). Lawrence Erlbaum Associates Publishers.

Coakes, S.J., & Steed, L.G. (1999). SPSS: Analysis Without Anguish Using Spss Version 14.0 for Windows.

Dani, Setiawan., Darwanto, Darwanto., Edy, Yusuf, Agung, Gunanto. (2021). Determinants of Behavioral Intentions to Use Sharia Financial Technology (Fintech). Signifikan, 10(2):325-342. doi: 10.15408/SJIE.V10I2.21451.

Dupas, A & Robinson, J. 2013. "Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya," *American Economic Journal: Applied Economics, American Economic Association, vol. 5(1), pages 163-92, January*.

Fadillah, A.N., & Lubis, D. (2024). The Influence of Islamic Financial Literacy, Islamic Financial Inclusion, and Financial Behavior on the Investment Decisions of Generation Z in West Java. Falah: Jurnal Ekonomi Syariah.

Farida, N., Ardyan, E., & Nuryakin (2016). Gender Differences In Interest in Using Electronic Money: An Application of Theory Planned Behavior. International Review of Management and Marketing, 6, 898-903.

Fanani, A., Kuncoro, A.W., Husni, A.B., & Wijayanti, E.A. (2021). The Contribution of Waqf on Poverty Alleviation through Digital Platforms: A Case of Indonesia. Shirkah*: Journal of Economics and Business*.

Falahati, L., & Paim, L. (2011). A comparative study in Money Attitude among University Students: A Gendered View.

Fauzi, R., Astarudin, T., & Khaeruman, B. (2023). Optimization of Digital-based Waqf and Its Role in Economic Development in Indonesia. *Jurnal Sosioteknologi.*

Fauzia, I.Y. (2020). Enhancing the Literacy of Shariah Financial Technology for Generation X, Y and Z in Indonesia.

Fischer, M., Wömmel, A., Reith, R., & Lis, B. (2017). A Generation Comparison of Mobile

Payment Acceptance Factors: an Empirical Investigation. European Conference on Information Systems.

Firdausi, M.R., & Kasri, R.A. (2022). Islamic Financial Literacy Amongst Muslim Students in Indonesia: A Multidimensional Approach. AL-MUZARA'AH.

Hafizah, S.N., & Rahim, A. (2014). Psychosocial factors and gender influencing the level of Islamic financial literacy.

Hair, J.F., Cheah, J.H., Becker, J.M. and Ringle, C.M. (2019), "How to specify, estimate, and validate higher-order constructs in PLS-SEM", *Australiasian Marketing Journal*, Vol. 27 No. 3, pp. 197–211

Hair, J.F., Hult, T.M., Ringle, C.M. and Sarstedt, M. (2017), *A Primer on Partial Leaste Squares Structural Equation Modelling (PLS-SEM)*, Second., Sage Publications, Inc, London.

Hair, Sarstedt, M., Matthews, L.M. and Ringle, C.M. (2016), "Identifying and Treating Unobserved Heterogeneity with FIMIX-PLS: part I – Method", *European Business Review*, Vol. 28 No. 1, pp. 63–76.

Hair, J.F., Ringle, C.M. and Sarstedt, M. (2011), "PLS-SEM: Indeed a silver bullet", *Journal of Marketing Theory and Practice*, Vol. 19, pp. 139–151.

Hasan, Z., Sulaiman, A.A., & Putri, M.R. (2021). The Influence of Gross Enrollment Ratio (GER) on the Literacy and Inclusion Index: A Case Study of Islamic Finance in Indonesia. Unisia.

Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009), "The use of partial least squares path modeling in international marketing", *Advances in International Marketing*, available at:https://doi.org/10.1108/S1474-7979(2009)0000020014.

Henseler, J. and Chin, W.W. (2010), "A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling", *Structural Equation Modeling*, Vol. 17, pp. 82–109.

Hs, S. (2021). Strengthening Islamic Financial Literacy Education for Millennial Generation. AL-ISHLAH: Jurnal Pendidikan.

Huda, N., Rini, N., Zulihar, & Hulmansyah (2023). Impact of Understanding, Islamic Religiosity, Product Knowledge, and Trust on Intellectual Property Rights Waqf Intentions. *Jurnal Penelitian.*

Juliana, J., Ismail, S., Avriliani Utami, S., Rohmana, Y., & Marlina, R. (2024). Factors Affecting Students' Intention to Donate Cash Waqf: The Mediating Role of Literacy in Indonesia. *ISRA International Journal of Islamic Finance.*

Kasri, R.A., & Chaerunnisa, S.R. (2021). The role of knowledge, trust, and religiosity in explaining the online cash waqf amongst Muslim millennials. Journal of Islamic Marketing.

Kılıç, Yunus, Ata, Ali H. ve İbrahim H. Seyrek (2015), "Finansal Okuryazarlık: Üniversite Öğrencilerine Yönelik Bir Araştırma", Muhasebe ve Finansman Dergisi, 2015 Nisan, ss.129-150.

Koziuk, V. (2021). Confidence in digital money: Are central banks more trusted than age is matter? Investment Management and Financial Innovations.

Kurnia, N.S., & Astuti, S.I. (2017). Peta Gerakan Literasi Digital di Indonesia: Studi tentang Pelaku, Ragam Kegiatan, Kelompok Sasaran dan Mitra Yang dilakukan oleh Jepelidi.

Masrizal, M., Huda, N., Harahap, A., Trianto, B., & Sabi'u, T.T. (2023). Investigating The Determinants of Cash Waqf Intention: An Insight from Muslims in Indonesia. *Journal of Islamic Monetary Economics and Finance.*

Mohieldin, Mahmoud and Iqbal, Zamir and Rostom, Ahmed Mohamed and Fu, Xiaochen, The Role of Islamic Finance in Enhancing Financial Inclusion in Organization of Islamic Cooperation (Oic) Countries (December 1, 2011). *World Bank Policy Research Working Paper No. 5920, Available at SSRN: https://ssrn.com/abstract=1974851*

Muthiah, Baga, L.M., & Saptono, I.T. (2021). Cash Waqf Literacy Index and Determinants of Public Intention to Pay Cash Waqf. *International Journal of Research and Review*.

Niswah, F.M., Mutmainah, L., Hadyantari, F., Nurwahidin, N., & Huda, N. (2020). Do Indonesian Muslims Have Intention to Participate on Cash Waqf Through Fintech?

Nusaibah, U. (2023). Digitalisasi Ekonomi Syariah di Kalangan Generasi Z Untuk Peningkatan Literasi Keuangan Syariah (Studi Kasus Mbanking BSI). Musyarakah. *Journal of Sharia Economic (MJSE).*

Puji, P.S., & Hakim, L.N. (2021). Peran Gender sebagai Variabel Moderating Pembelajaran Perbankan Syariah, Literasi Keuangan Syariah, Religiusitas, Inklusi Keuangan Syariah Terhadap Minat Menabung Bank Syariah. Jurnal Pendidikan Akuntansi (JPAK).

Rachman, A., Kartaatmadja, N.P., Rasya, Z.A., & Husniyyah, S. (2023). Strategies For Improving The Sharia Financial Literacy Index In The Millenial Generation In Indonesia. I-Finance: a Research Journal on Islamic Finance.

Rahma, M., Najib, M., & Saptono, I.T. (2021). Analisis Intensi Wakaf Gen Y Dalam Gerakan Digital Berwakaf Uang atay Melalui Uang di Indonesia. *Jurnal Aplikasi Bisnis dan Manajemen.*

Rahmatia, A., Wijaya, A.P., Saputra, A.D., & Ma'ruf, M.I. (2022). Islamic Financial Literacy: Evidence From Indonesian Urban Middle-Class Women. Journal of Islamic Economic Laws.

Rasela, F. (2021). Pengaruh Literasi Wakaf terhadap Minat Mahasiswa Berwakaf pada Forum Mahasiswa Indonesia.

Rohim, A.N., Priyatno, P.D., & Sari, L.P. (2022). Transformation of Waqf Management in The Digital Era: A Meta Synthesis Study. *AL-FALAH : Journal of Islamic Economics.*

Said, S., & Amiruddin, A.M. (2017). Literasi Keuangan Islam di Perdidikan Tinggi Islam. *Al-Ulum, 17, 44-64.*

Syaiin, E.H., Othman, Y.H., & Beik, I.S. (2024). Technology or Spiritual Motivation? The Determinant of Waqifs' Behavior in Online Waqf in Indonesia. *International Journal of Research and Innovation in Social Science.*

Sekaran, Uma. (2003). Research methods for business : a skill business approach.

Septiarini, D.F., Habiburrochman, H., Sukmawati, H., & Sri, N. (2022). Factors Influencing The Intention of Cash Waqf To Support The Sustainability Waqf Movement : Empirical Study In Indonesia.

Sarstedt, M., Ringle, C.M., Cheah, J.H., Ting, H., Moisescu, O.I. and Radomir, L. (2020), "Structural model robustness checks in PLS-SEM", *Tourism Economics*, pp. 1–24.

Tjiptono, F., Arli, D., & Viviea (2016). Gender and digital privacy: Examining determinants of attitude toward digital piracy among youths in an emerging market. International Journal of Consumer Studies, 40, 168-178.

Tsourgiannis, L., Zoumpoulidis, V., Kontogiannis, S., & Valsamidis, S.I. (2023). Intergenerational Attitudes Towards Digital Banking Applications. Int. J. Inf. Syst. Soc. Chang., 14, 1-16.

Umar, A.I. (2017). Index Of Syariah Financial Inclusion In Indonesia.

Wadi, D.A., & Nurzaman, M.S. (2020). Millennials Behaviour towards Digital Waqf Innovation.

Warno, W., Isrowiyah, N., & Junusi, R.E. (2020). Development Strategy for Micro, Small and Medium Enterprises through Islamic Financial Inclusion. IQTISHODUNA:

Jurnal Ekonomi Islam.

Yanti, N., Mulyati, Y., Sunendar, D., & Damaianti, V.S. (2021). Tingkat Literasi Digital Mahasiswa Indonesia. Diksa : Pendidikan Bahasa dan Sastra Indonesia.

Zain, N.H., Muda, M., & Rosman, R.B. (2019). Personality factors influencing intention on cash waqf behavior.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). Business Research Methods. Boston, MA: Cengage Learning

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Evaluating the Impact of Career Development Practices on Employee Retention among Healthcare Professionals

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Abstract: *Healthcare professionals particularly doctors, face increasing challenges in retaining their positions in a demanding and often politically influenced medical environment. This study investigates how career development practices specifically work environment, promotion opportunities, and professional training affect the retention of healthcare professionals in Karachi's healthcare sector. Employing a quantitative, deductive research approach, data was collected via structured questionnaires from 200 doctors working in hospitals, clinics, and healthcare institutions across Karachi. career development initiatives significantly improve doctors' motivation, job satisfaction, and their intent to remain in their organizations. The findings that structured training programs, clear promotion pathways, and a supportive work environment are pivotal in reducing staff income and fostering long-term commitment. Career development structures within healthcare facilities to ensure employee 'well-being and improve service delivery. This research contributes to the growing conversation on healthcare human resource management in developing countries and offers actionable guidance for hospital administrators and policymakers.*

Keywords: *Career Development Practices, Employee Retention, Healthcare Professionals, Work Environment, Professional Training*

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Evaluating the Impact of Career Development Practices on Employee Retention among Healthcare Professionals

1. Introduction

The effect of career development practices (Loo et al., 2024) can be defined as the procedure of knowing yourself, exploration, and choice that makes your career. It involves a fine art of maneuvering your career choices to choose and prepare in those professions that best suit your personality, talents, and interests. In the case when an individual is worried about his or her professional progress, he or she examines his own advantages and weaknesses and strives to develop his or her abilities. It also presupposes the understanding of other businesses and sectors. To seek one that was suitable to their abilities, to seek chances of promotion and possibly to switch professions altogether in case they discovered that there was one which fitted them better(Al Balushi et al., 2022). In order to understand how career development practices in all the workspace where many opportunities open their door for the corporate sector for healthcare professionals to work better, we need to analyze that it always shows its influence in long term on the mass amount of people entering in the corporate sector.

The fulfillment of such departments is kept through students who enter from a small scale of corporate world to some large extensive units of their companies or firms. The events can be different while going for career counseling and the practices which come under incentive rational which is provided to the certain doctors so that they can experience the factors of career development practices. One might catch the track of the pathway they want to carry forward in their lives. In this research work, the researcher is taking in consideration of how career counseling impact the retention of employees who belong to corporate sector of health providers such as medicine doctors, dentists, and other health care professionals. The pros and cons of how career development practices has an impact on their right selection of pathway will be discussed. It might get difficult at many stages for the students to conclude their degrees with the accurate selection of their choice of interest and their possible course of action to be pursued. It's highly important to know that how career counseling is going to impact the students or employees in the working environment(Farooq et al., 2022). For that, the researcher will be making sure of encountering the problems and then suggest the solutions as well.

Interests, abilities, values, personality, background, and circumstances are all aspects that influence your professional development. There is a critical need for career counselling and support for students and parents, and a comprehensive program has been developed to assist students in overcoming difficulties in their career choices. This program is tailored to the needs of each student is help them develop their personalities and sharpen the skills they need to succeed in life. Career development practices and guidance services will not only improve students' grades but will also assist them achieve their life goals(Al Balushi et al., 2022; Farooq et al., 2022). Considering all this information, this research work is going to focus on how career development training sessions, their counseling helps and impact the lives of students around the world especially in the departments of health care providing professionals such as medicine doctors, dentists and other heather care providers we are surrounded by.

1.2. Problem Statement

Retaining employees is a key issue to organizations, and the cost of replacing the departing employees is usually expensive and disruptive (Farooq et al., 2022). Many organizations have retaliated to this by progressively focusing on career development practices as a strategic approach of enhancing the retention of employees. Career development is generally considered as an important process of increasing the level of employee commitment, job satisfaction, as well as long term attachment in an organization.

Quality of work life research indicates that employees are more likely to stay with the company because of good and equitable remuneration, socialization at the work place, job security, human capabilities and career growth (Endalamaw et al., 2024)determined that there was a high positive association between quality of work life, career development practices and employee retention. An empirical study of a survey of Dhaka, Bangladesh also shows that healthcare workers, especially doctors, tend to undergo psychological stress, lack of motivation, and inefficiencies within the organization, which adversely influence their commitment to their organization. The situational and organizational factors significantly influence these problems and not personal weaknesses.

Human resources working in the healthcare industry encounter a challenging workplace, political conditions, and management stress that may destroy retention in spite of the rigorous professional training and emotional stamina. All the doctors are well trained and equipped with coping mechanisms, but due to workplace politics and mismanagement in the organizations, they are also susceptible to many of the same ailments as other employees in other industries(Main & Anderson, 2023). It is against this background that the current study discusses the issue that affect retention of health professionals, and in particular doctors and attempts to come up with viable and contextual based solutions to enhance retention by engaging in effective career development practices.

1.3. Research Objectives

The aim of the given research is to carry out analysis through a questionnaire that how the impact of career development practices is working on the retention of health care professionals. Following is the research objective which researcher will be working on and make sure that it is achieved by the end of the research:

- To investigate the impact of work environment on employee retention of health care professionals.
- To investigate the impact of promotion on employee retention of health care professionals.
- To investigate the impact of training on employee retention of health care professionals.

2.3.Research Questions

Research question for the given research is as follows:

- What is the impact of work environment on employee retention of heath care professionals?
- What is the impact of promotion on employee retention of health care professionals?
- What is the impact of training on employee retention of health care professionals?

1.4. Significance of the Study

The importance of this research lies in the fact that when it comes to career development practices, there are instances when it might become too theoretical and intellectual. The realities of guiding and counselling the practices to subordinates about data processing job development differ dramatically from theory. Data processing in which the career development practices are involved, encourages the employees such as health care professionals and there, especially doctors, to understand about the psychological and vocational components of career progression due to its nature and the focus it has in most businesses. When it comes to making a career move, a doctor or any health care professional can be very stressed. An examination of where the person has been and how he or she got there is the greatest place to start for a career plan(Bradacs et al., 2025). A set of inquiries can be used to reveal their reason for working in hospitals or their own clinics or supporting their home business of medicine or doctoral lane of already creating an impact on their career counselling. It's a good idea to take a look at the facts of the current hospital systems and their political framework. A review of the employee's present job description and performance should be the next step. The career counselling practices plays an immensely very effective role in choosing the line to pursuing the career. For instant, the higher the career development training is done through its specific departments, the higher are the chances that a lot of doctors and other health care professionals are going to be successful in choosing their choice of workspace. Otherwise(Maniscalco et al., 2024), it would be difficult for the employees to retain themselves in that specific area of their allocated job when career development practices are not implemented in the way they are promised where the faith may get downscale as well.

1.5.Scope of the Research

This investigation's research scope is limited. For example, this study is being conducted in Karachi's healthcare industry. As a result, the scope is limited in two ways: it is limited in terms of region, and it is limited in terms of industry. Because the research is being conducted in the city of Karachi, all healthcare organizations working outside of the Karachi region are not included in the scope of this investigation. Similarly, in Karachi, only healthcare organizations such as hospitals, clinics, medical institutions, university hospitals, and other healthcare service providing organizations located in Karachi are included, so the scope is limited to the Karachi healthcare service providing industry.

2. Literature Review

The actual purpose of this study is to enable readers aware of the information which is available in the existing literature of the given field of study. This study's information is derived and verified from previously held research articles and research studies. In this study, the researcher first described the definitions of career development practices as an independent variable, followed by specific category of health care professionals as a dependent variable.

Considering previous research studies and research publications, the researcher has also identified and mentioned the impact of career development practices on retention of healthcare professional especially Doctors who deal in medicine. Similarly, the study included a theoretical framework for the study's topic(Batanda, 2024). Finally, and perhaps most importantly, the study has identified hypotheses for the specific research work.

2.1. Retention of Healthcare Professionals

The World Health Organization has highlighted a global shortage of healthcare workers, with a particularly uneven distribution of human resources in developing countries. Many nations face critical shortages of healthcare manpower, which pose significant challenges to achieving health-related goals. Limitations in human resources within the health sector have become a major barrier to improving population health outcomes, especially when the results do not reflect the level of resources invested.

These concerns have encouraged many countries to pursue reforms in healthcare human resource systems. However, in developing contexts, human resource management remains inadequate, particularly in areas such as skill development, competency building, and accountability(Merry et al., 2023). An effective workforce strategy can help address key challenges by improving recruitment, strengthening the performance of existing staff, and reducing the rate at which healthcare professionals leave the sector. Persistent shortages of healthcare workers are influenced by multiple interconnected factors, including under-resourced health systems, poor working conditions, limited career development opportunities, and weak human resource management practices.

The World Health Organization reports that health staff and human resource distribution are inadequate especially in the developing countries (Yi et al., 2024). One of the challenges in achieving health-related objectives is human resource constraints in the health. The increasing concern of poor results of enhancement of population health relative to amount of resources deployed has necessitated numerous nations to adopt human resource reform approaches in the health sector that can provide a broad spectrum of normal and less stressful medical work environment to doctors. In the developing countries, Human Resource Management in skill development, competencies and accountability are distant to satisfaction. The three fundamental challenges of enhancing the recruitment, enhancing the performance of the already recruited workforce, and reducing the rate at which the doctors quit the health workforce particularly upon joining the literal medical centers like hospitals and clinics can be effectively managed through an effective workforce strategy like training sessions of the healthcare professionals. The causes of the constant shortage of doctors in the world are quite complex and interrelated, and some of them are; the lack of proper resources in the health systems, unsatisfactory career development and working conditions, and poor human resources management in the developing countries such as Pakistan. The presence of larger numbers of temporary doctors poses a threat to the support-ability and sustainability of the hospital and clinical workforce due to lack of profession enhancement in the system. Doctors who are having administrative obligations, disparity in honors and occupation conditions is viewed as lower status in the hierarchical progressive system and this sabotages their power when other medical care laborers working under them who are also super durable representatives(*Silvia+Hendrayanti*, n.d.). Work qualities that impact work fulfillment in clinics are simply the work, pay, advancement open doors, preparing offices, associations with administrator and colleagues, and the functioning conditions, accessibility of foundation. Work fulfillment addresses the mentalities of authoritative responsibility in which a representative character like doctors for this research work himself with a specific medical center and wishes to keep up with participation in every task of that hospital. The point arises where the career development played its role in creating an impact on doctors for this whole situation to carry and make themselves eligible for the current medical positions. Doctors are the primary human resource in hospitals, delivering health care services to all patients in the event of an emergency. They not only provide health treatment but also serve as leaders and managers in health care companies. With this context in mind, the purpose of this research is to investigate the good and negative effects of career growth on doctors in Karachi district hospitals and other private hospitals. Also, this study has an aim to provide with the suggestions and recommendations regarding the policies and programs for retaining and engaging doctors at healthcare organizations such as in public hospitals, clinics, and another medical institute.

2.2. Career Development Practices

Career development practices refers to a deliberate, structured, premeditated attempt to fulfill an equilibrium between the career musts of a person and the workforce needs of an organization (Goens & Giannotti, 2024; Ofei et al., 2023; Surya Herjuna et al., 2024).Once

CDP was an essential component of the HRMP in the lifetime employment practices in order to motivate employees to enrich their career and achieve desired performance in the organization (Nadler, Nadler, 1989). Career development is under one's control and responsibility and therefore, he or she should make decisions, adjust to situations (change in the organization), learn to grow and be able to control his or her own fate. Whether the work is demanding or not, whether the employees find support at work and personal development may be the determining factor between the employees staying at the job and quitting. This necessitates employers to deliver resources and means and the right environment to continue self-development. Although individual effort is highlighted, career literature has demonstrated that there is convergence between individual and 3 organizational efforts in career development is possible. These scholars proposed that CDP is a type of co-operative and reciprocity in terms of collective possession and sharing of the responsibility of the employees career (Al Balushi et al., 2022; Batanda, 2024; Loo et al., 2024; Main & Anderson, 2023) CDP should be a continuous development system related to HR policies and structure of an organization. The collaboration and reciprocity of devotion depicts CDP as a long-term progressive phenomenon. therefore, developing the competency of workers, and conversely, establishing a sustainable employment relationship. According to the organizational support theory, a mutual commitment between an employee and an employer begins with the organization creating an enabling and caring environment to the employees and vice versa, where employees are attached and take action to accomplish organizational objectives. The social exchange theory has its underpinning that resources received by another party may be of great need and value as well as the activities discretionary, and thus the exchange of favorable treatment may be prolonged. (Wu & Liu, 2022)the history of positive treatments by an organization to other employees would improve POS. These imperatives give speculation to the personal-idemin individual perception of CDP, in which the longer the time, the more POS the employee would have, and thus such is likely to be replicated by the desire to remain and prolonged additional effort with the employer.

2.3.Impact of Career Development Practices

(Hosen et al., 2024) have demonstrated how motivation is related with career development. Career development prompted by the intensification of career opportunities in future is more apt to have a positive effect on the level of motivation of individuals when they choose to take the right road to continue in their professional circle, vice versa, the reduced possibilities of career furtherment the lesser effect is the career development on the motivation level. In the research work, the researcher has chosen a particular line of employee that are healthcare professional like the doctors dealing with medicine. A physician as an employee may find it quite stressful to make career-related changes. The most appropriate beginning of a career plan is assessment of the part the employee has come and how he or she has arrived. In the research work, it is healthcare professional specially doctor who works in the field of medicine. The researcher has in subsequent sections demonstrated how career development practices affect retention of the doctors who are working either clinic in paid time shifts or in hospitals with legacy of their families.

2.4.Work Environment

Non-financial incentives, such as the provision of work autonomy at hospitals or healthcare units, flexibility in working hours for shifts, and work recognition, are critical for any medical department. Workplace motivation is thought to be a vital component in the success of individuals and departments, as well as a substantial predictor of intention to leave the workplace if any ambiguity is encountered. Professional growth, sufficient medical education, and training are motivating, and they provide health professionals, doctors, and researchers more confidence in their ability to fulfil their jobs. Their spirit to work on such platforms arise when they are motivated by right person and at right point of their lives. There is no chance of modelling stress and work environment tensions for the wellbeing of doctors. The number of patients arrive every day and due to increasing poor health facilities in many regions of Karachi, inadequate availability of health equipment in emergency units and other hygiene issues been faced at hospitals, may play their role in demotivating doctors. Career development teach them what to choose for their professional circle, but environment of such circles indirectly influences the interests of doctors at health care departments(Shiri et al., 2023).

2.5.Promotion and Training

This is the case in promotion in an organization where the performance and ability of an individual are formally rewarded with an increase in pay, work challenges, responsibility, status and autonomy. Promotion is seen by the employees as an accomplishment of an established track record of performance towards a successful career. In keeping with the organizational support theory, promotion provides recognition to employees by the management which means that an organization is acknowledging and evaluating the performance of the employees through the formal method of promotion. It is also a promise by the organization to evolve further on the career paths and learning opportunities of every employee.

Employee retention importance has been found to be sensitive to training (Al Balushi et al., 2022; Endalamaw et al., 2024; Loo et al., 2024; Maniscalco et al., 2024; Merry et al., 2023; Shiri et al., 2023; Surya Herjuna et al., 2024) Performance of specific work independent of a specific organization and that a worker is a wanted one to that specific organization. An employee accidentally placed in such a state of affair grows more devoted and desiring to work throughout life in the establishment. Staff members must be made to feel like they are part of something and thus training is very essential. training can shape turnover thinking and it is an important source of generating turnover intentions. Staff who are fully committed to the company will have fewer chances of leaving. Actually, trainings create a connection between retention and dedication. (Hosen et al., 2024)argued that training is seen as a kind of investment whereby, the organization will finance the whole cost of the training and then become an investor by anticipating a payoff in terms of commitment and retention among the employees. The trainees have higher employee retention and dedication as they are perceived as a form of investment that they are expected to offer some returns to the company. (Aman-Ullah et al., 2022)Training A long term investment in employee skills. Training is not an instrument used to refine existing competencies of the employees but rather to equip employees to meet future effects of the competitive forces. Such training improves the level of determination and employees believe that the organization is opening gates to our success. This feeling gets the ideas of quitting out of the mind of the employees and compels them to keep thinking.

3. Research Hypotheses

Based on the premise established above, the following hypothesis are designed

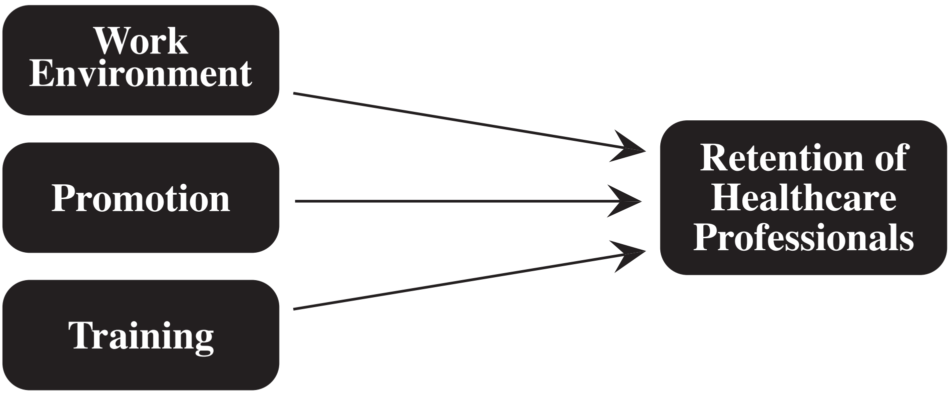
H1: Work environment has a significant impact on the employee retention of healthcare professionals

H2: Promotion has a significant impact on the employee retention of healthcare professionals

H3: Training has a significant impact on the retention of healthcare professionals

4. Conceptual Framework

Figure 1: *Conceptual Framework of the Study*



5. Methodology

5.1. Research Approach and Type

For this research study, the researcher has decided to employ deductive approach so the study will start from general observation of impact of career development practices on the retention of healthcare professionals such as doctors at healthcare units like public or district hospitals and then ends up at concluding impact of career development on doctors in medical management and wellness of health centers. All of these research philosophies are used on different research topics and different nature of research studies. For example, Positivism research approach is applied when the researcher intends to undertake research on the topic on which research works are already conducted (Ann et al., n.d.; Fitzpatrick et al., 2023)This type of research is carried forward to statistically validate what is already known. Similarly, on the other hand, Interpretivist research philosophy is used when the investigator intends to undertake research work in the area where there is a huge gap in the literature and the researcher is conducting research in that gap for the first time. Lastly, Pragmatism is not any new research philosophy, but it is an amalgam of both of previously discussed research philosophies (Sija, 2022)In addition to that, another reason for selecting deductive inference is the use of Positivism research philosophy as in most cases, with Positivism philosophy, researchers usually choose deductive approach which is Fall 2021 64597 16 considered as the most suitable approach(Ann et al., n.d.; Sija, 2022). Therefore, the investigator has also opted this line of action to undertake the given study. Type of investigation is also particularly important tool which provides information about the nature of investigation. Researchers classify their investigations as one among three research investigations. These three different types are exploratory investigation, explanatory investigation, and lastly descriptive investigation. In exploratory investigation, the main aim of the researcher is to explore a new theoretical phenomenon(Suprayitno, n.d.) which is not known yet. Similarly, in explanatory investigation the investigator focuses on explaining the details about already established theoretical phenomenon. Thirdly, descriptive investigation is a type of investigation where the researcher describes the characteristics features of already known research phenomenon(Al Kharusi et al., n.d.). Descriptive investigation is least used type of investigation. In the given investigation, the investigator has decided to incorporate explanatory investigation because in this investigation the researcher has tried to explain what ready is known with the help of statistical authentication. There is not new exploration or description of characteristics of already known phenomenon.

5.2. Research Design

In the given research work, the investigator has decided to use quantitative research design. The data was collected in the form of numbers and mathematical figures to satisfy the conditions of the research work been opted. The data was arranged, evaluated, and analyzed with the help of mathematical equations. The reason behind selecting quantitative research design is because the investigator has in view to get to the point information without any irrelevant details which might be obtained during the process of the investigation. Additionally, quantitative data and calculations produce accurate answers with the help of mathematical laws and principles which is the desired intention of the researcher for this investigation.

5.3.Research Population

Population of any investigation refers to the group of people which are primary stakeholders of the research undergoing and are directly affected by problem of investigation (Taherdoost, 2016). As this research study is conducted for doctors in medical centers therefore the population of the investigation is decided to be doctors working in healthcare organizations of Karachi. This includes the public or private hospitals, medical clinics, and other healthcare organizations where doctors are employed either on paid house jobs or permanently employed at medical workspaces. These doctors may include regular hospital staff such as professional taskforce, professional teaching doctors, and other relevant taskforce of doctors in medical organization.

5.4.Sample Size and Sampling Technique

The population of any research study is a massive number of people, and it is not possible for the investigator to conduct survey from all of the people comprising that population, therefore, a limited number of people are selected from entire population which is known as *sample or sample size* (Suprapto et al., 2023)The sample usually represents entire population which is selected for the research work (Suprayitno, n.d.)In the given research 200 members among the population are chosen as a sample of investigation through non-probability random sampling technique method. In this study the sampling technique that is used is convenient sampling mode because it reliant upon the availability of participants, doctors, from different hospitals and healthcare institutions of Karachi.

5.5.Research Instrument

Research instrument is a vital and decisive factor in any investigation process. Research instruments allude to the equipment or tool which is used for the purpose of collecting data for the sampling (Al Kharusi et al., n.d.)There are many types of research instruments, and the choice of research instrument is mainly dependent on which type of research study is undertaken by the researcher (Ann et al., n.d.; Hosen et al., 2024)For example, in quantitative research designs the researchers use survey questionnaire while in qualitative research design the researchers use interview questionnaire. In this research, the investigator has decided to use survey questionnaire on ***Likert scale***. A detailed questionnaire containing 20 questions is being designed to collect data from the participants of this research study. The questionnaire is given to the participants who are doctors for this study through email and are received back with the help of internet. The questionnaire is not distributed by hand due to two main reasons. First the investigator has avoided to meet in person with such a significant sample size of the investigation. Secondly the researcher prefers to go paperless, a tiny effort towards pollution free and green environment. Additionally, circulating questionnaire through internet and receiving the same has saved a great deal of time and energy which is utilized on other aspects of investigation along with the safety against Covid virus which has again reached a dangerous level in Karachi.

Table 1: *Summary of Research Instrument*

Variable	Authors / Source	No. of items	Scale
Work environment	Bibi, Pangil, Johanim, Ahmad (2017)	05	1-5
Promotion	Bibi, Pangil, Johanim, Ahmad (2017)	05	1-5
Training	Wane (2013)	05	1-5
Employee Retention	Wane (2013)	05	1-5

5.6.Data Collection

Data collection method plays essential role in any research methodology. Based on this research method, larger number of other research tools and techniques depends. Besides that, implications for future research also depends on this research tool. There are two considerable types of data collection techniques which are known as primary approach of data collection and secondary approach of data collection (Woiceshyn & Daellenbach, 2018). The difference between both approaches is based on sources which are used for collecting data in these approaches. For instance, in primary approach of data collection, data is collected from primary sources which are participants of investigation of the study (Beer & Faulkner, 2014). In this data collection approach, data is collected by the investigator itself, so the probability of data exploitation is also lesser as compared to secondary approach of data collection. Further, the data which is collected through primary approach is clear, up to date and is especially collected for the use in investigation purpose. In contrast, in secondary data collection, the researcher gathers information from previously held research articles, research papers, research studies, research journals, annual reports of organizations or official websites of organizations, or any other authentic sources such as news channels and news agencies about the topic under discussion (Neelankavil, 2015). According to an investigation about the utilization of both approaches, the secondary data is not as authentic as primary data is and it is not produced especially for the purpose of undertaking research. Therefore, this type of data is not as accurate and reliable as primary data is and there are quite chances of data handling issues at the hands of person who has collected the data at first place. Additionally, such type of data is superseded, overtaken, and is outmoded.

5.7.Data Analyses Method

Data evaluation approach is a method which is used to research the received facts (Smith & Firth, 2011). Data evaluation approach play crucial function in research methodology. Different studies designs use extraordinary facts evaluation categories. For example, in quantitative research, the investigators use *E-views, SPSS* and different software program equipment to statistically validate the facts, maximum not unusual place strategies are correlation and regression methods. Similarly, in qualitative investigations the maximum not unusual place approach of facts evaluation is thematic evaluation. As far as secondary studies investigations are concerned, content material assessment is the most common approach of facts evaluation. In this investigation, the investigator has determined to apply SPSS facts evaluation software program utility and correlation and regression methodology to research the facts and acquire outcomes.

5.8.Ethical Considerations

Ethical considerations are especially important part of any investigation which represents the standards which the investigator has observed while undertaking entire research work (Connelly, 2014). Without considering ethical standards, the research is not considered as authentic and that is the reason the investigator has ensured to obey all the standards of ethics appropriate to the primary research work. For instance, the researcher has ensured that participation of the respondents is nor based on compulsion, and it is completely voluntarily. Secondly, the participants of the study are not forced to answer each question of the questionnaire, but they are allowed to skip the question if they choose not to answer. Similarly, participants can leave the study whenever they consider it suitable without giving any reason. The personal information of the participants will be kept confidential and will not be disclosed to anyone. Moreover, the data that will be collected from the participants will be stored in password encrypted hard drive which will be substantially possessed by the investigator itself. Furthermore, the researcher has also ensured that entire work is the work of her own. She has not got any help from any other person except for the supervisor appointed to her. The statements and quotations which are used in the investigation and belongs to any other author are properly referenced and credits to the authors are given in the form of proper in-text citations and putting reference in the list of bibliography. The investigator has additionally ensured that whole research record is free from plagiarism.

6. Results

Respondent Profile

Table 2: *Gender*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	109	54.5	54.5	54.5
	Male	91	45.5	45.5	100.00
	Total	200	100	100	

Speaking of the age of the participants, however, upon receiving the data it is discovered that 43.5 percent of the participants are of age group 31 to 45 years, 42.0 percent of the participants are of the age group 22 to 30 years. Similarly, 13% is classified in the category of 46 to 60 years' age group. Also, the number of participants below the age group of above 61 was low.

Table 3: *Age*

	Frequency	**Percent**	**Valid Percent**	**Cumulative percent**

Valid	**22 to 30**	84	42.00	42.00	42.00
	31 to 45	87	43.50	43.50	85.50
	46 to 60	26	13.00	13.00	98.50
	61 and above	3	1.50	1.50	100.00
Total		200	100.00	100.0	

Reliability Analyses

Reliability analysis is the instrument that is utilized to assess the inner stability and the solidity of the questionnaire and the topic of the variables. The effect of Cronbach alpha and value of greater than 0.6 can be used to measure the reliability of the questionnaire.

Table 4: *Reliability Statistics*

Sr. no.	Variables	Cronbach Alpha	Items
1.	Work environment	0.79	5
2.	Promotion	0.86	5
3.	Training	0.83	5
4.	Retention of Doctors	0.87	5

Correlation

The correlation between independent variables that are work environment, promotion and training in this research study and the dependent variable that is retention of doctors is 0.00 that indicates that the career development practices do have a strong correlation with the retention of healthcare professionals (Doctors).

Table 5: *Correlations*

	WE	P	T

WE	Pearson Correlation	1.00	.632**	.643**
	Sig. (2-Tailed)	-	.000	.000
	N	200	200	200
P	Pearson Correlation	.633**	1.00	.798**
	Sig. (2-Tailed)	.000		.000
	N	200	200	200
T	Pearson Correlation	.623**	.798**	1.00
	Sig. (2-Tailed)	.000	.000	.000
	N	200	200	200

** Correlation is significant at the 0.01 level (2-Tailed)

6.1. Regression Analysis

The method of statistic that is applied in identifying the relationship of the variables used in the study is regression analysis. Through this tool the investigator will be in a position to discover the difference that occurs in the dependent variable due to existence of independent variable. The regression analysis is made up of three tables i.e., model summary table, ANOVA table and Coefficient table.

Table 6: *Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1.	.654	.598	.543	.7075

The table above shows the value of the R that is contained in the table as 0.598 denotes that the variation expressed by the independent variables of the study in the dependent variable is 59.8%. The model summary values are in favor of the research and indicate that research model is substantially fit to be used in future research.

Table 7: *ANOVA*

Model		Sum of Squares	df	Mean Square	F	Sig.
1.	Regression	65.56	1	65.56	131.21	.000
	Residual	98.09	196	.500		
	Total	163.65	198			

Competently fitness of model should be 2 and 0.05 or less value of F. The value of sig in the given table above is less than 0.05. It means the importance of the research model. The acceptable value of T is greater than 2 and acceptable value of sig is less than 0.05. In above table, it is observed that career development practices have positively and significantly influenced the retention of doctors as the beta value is positive and less than 0.05 is the sig value.

Table 8: *Co-Efficient Test*

	Unstandardized Coefficients		Standardized Coefficients		
Model	**B**	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	.661	.147		4.468	0.000
a. Retention of Doctors (RD)	0.651	0.1029	0.1032	7.287	.000
b. Work Environment (WE)	0.586	0.3415	0.1427	3.427	.000

c.	Promotions (P)	0.443	0.2169	0.1176	4.626	.000
d.	Training (T)	.703	.061	0.631	12.410	.000

Dependent Variable: Retention of doctors

7. Summary of Hypothesis

The research hypothesis developed to support this research work was that the career development practices could impact the retention of doctors in medical institutions. The findings of the survey that has been conducted show that the outcome of the hypothesis is acceptable based on all the instruments and methods of measuring results that have been implemented.

Table 9: *Summary of Hypotheses Testing*

Hypothesis	**Result**
H1 Work environment has a significant impact on the retention of healthcare professionals	Accepted
H2 Promotion has a significant impact on the retention of healthcare professionals	Accepted
H3 Training has a significant impact on the retention of healthcare professionals	Accepted

7.1. Discussion

The career development training of the doctors in the medical unit are mandatory figures that are usually supervised because of lack of teaching staff or even training staff. The most significant obstacle that is perceived by the doctor in regard to career advancement is Lack of training policy at different levels in medicine. Lack of appropriate hospital infrastructure is another major challenge to doctors. Similar results of poor hospital working infrastructure were established by doctors working in Karachi medical centers. They stated that health workforce motivation and career development at hospitals were dependent on logistics, availability of drugs and hospital infrastructure. The other constraints chosen during the current research are contract work, ineffective hospital management, and low salaries of doctors. These are hospital-wide administration policy matters, which either are state-run and are regarded as a state-owned medical facility or are privately-run medical units. Similar issues have been raised in previous studies in hospitals that found that medical organization policies, practices, and administration are major source of dissatisfaction by medical officers in the health organization. In a contractual work, advancement and advancement do not exist. The doctors have worked over a decade on contract and their wages are fixed as well as during variable hours of work and shifts and are also lower than those of their counterparts in the Karachi hospitals. The large number of assigned doctors is a threat to the sustainability of the hospital work force. Other studies have established that low compensation is also a demoralizing factor to health care workers in hospitals. Research by Soeters and Griffiths has attention centered on the fact that performance based financial incentives on health staff resulted to better health services and higher productivity in the health sector where they are provided with some chance towards promotions as well. Present study also proposed such performance related incentives among doctors.

The Career development practices should be started at the very initial stage of doctors, when their medical training resume right after their medical education. This employment of practices creates and brings onboard the retention of healthcare professionals, mainly doctors here, which leads them to attain the incentives of their responsibility, perks of promotion at workplace and understand the medical unit environment as well. This significantly assist the medical economy of the city to upscale and more doctors are trained to enter the medical world in due time.

Over the past few years the role of motivated human aid in the medical field has gained recognition amongst the policymakers within the international medical organizations. The employment of the National Rural Health Mission (NRHM) under the contractual agreement is gradually becoming linked to more challenges and miseries in the country. Re-signing of doctor contracts, unsatisfactory service terms and remuneration increments, high turnover rate, unwillingness to subject them to further skill based entirely education and failure to have an effective and backward hierarchy between contractual and permanent employees are only some of the problems as reported by doctors in Karachi Health Centers. The failure to focus on doctor career development in the health sector due to the government disinterest in the same. The government is interested in more macroeconomic matters like health-care spending and number of workforce than micro-level focus of human resource (HR) which are predominantly doctors, practices of human resource development.

7.2. Recommendations

Based on the outcomes of this research study, the investigator has suggested few recommendations to the healthcare professionals and especially doctors who have been the main target for this whole research work. Although work stress is one of the factors which is present in every healthcare providing unit, the policy makers and senior management of healthcare organizations should realize the fact that increased level of health issues and their direct impact on mental and physical health of doctors. This means that higher is the career development training been done in regards of medical individuals, doctors, the higher will be their accurate productivity. Therefore, career development units at different levels of organizations must take initiatives to increase the training from higher to middle and lower, all sections of medical education institutions.

Career development should also be done in a certain way that provide the doctors with the validation of calibrating work to fit their abilities and aspirations. They must provide them with social support that builds their right productive energy. Consequentially, it will enhance autonomy, giving doctor's stress-reducing control over what, when, where, and how of work and their shifts in day and nighttime. Such departments also ensure that intrinsic and extrinsic rewards are commensurate with doctors' perceived contributions. The reason is that they sacrifice whole of their physical and mental energy along with their wellbeing for the betterment of the healthcare units and in return, they deserve to receive validations and reassurance.

Career development centers for doctors should make sure that all their experts for this particular field have practices purely based on merit and doctors' performance, that can be taken into consideration after trials of teaching and giving sessions to healthcare professionals, mainly doctors. Transparent and clear justification should be given to the medical individuals for choosing any peculiar domain for medical practices so that other medical employees also become aware about the reason of someone's achievement.

Healthcare organizations must ensure transparency and accountability in its routine practices so that doctors who are working either as paid internees or full-time job participants become assure about how nursing and therapeutic organizations work and how decisions are made along while carrying the legacy of doctrine department.

7.3.Limitations

The research for this topic is managed with the help of primary quantitative research design therefore for future research work on this topic or relatable topics, same research method can be undertaken with the help of primary qualitative research design and interviews instead of survey will be conducted to gather data from the participants who will be doctors and other healthcare professionals.

Further, this research is specifically conducted in the geographical location of the city of Karachi, however, in future same research could be conducted in any other geographical location of Pakistan or at any other region of the world. It will increase the result for conclusion and interpretation of similar topics. Lastly, the researcher of this work has conducted this investigation in healthcare service providing industry which makes this research industry specific as the targeted audience was healthcare professionals and narrowing down the pipe, it is doctors who were the focus point for this research work. It is the only one limitation that cannot be applied for broad aspect of healthcare professionals, but can be applied for other outlook of this field such as dentists, therapists, pathologists etc.

7.4.Conclusion

The given research study is conducted in the topic to look into the impact of career development on the retention of healthcare professionals and this research includes the professionals at medical workspace especially doctors. This study is conducted in the region of Karachi and on the healthcare, industry including hospitals, clinics, and healthcare centers. The researcher has found out that there is a significant impact of career development and its training sessions on the retention of doctors in their workspace such as health centers. While workplace politics also plays its role and has a significant impact on the doctor's commitment level for their duties at shifts. For instance, it is found out that career development trainings or sessions at alternate periods help in the retention and motivation elevation in doctors, ultimately, they become more enthusiastic towards their duties and their role in the society as a whole healthcare unit for people. Additionally, the level of job stress and lack of concentration of work while performing duties at night shifts in place of other doctors also play great deal of role in affecting their performance attitude. Therefore, the outcomes of the given research study have proven the fact that career development have an impact on outcomes at individual level as well as on the collective unit of other healthcare professionals as well.

References

Al Balushi, A. K., Thumiki, V. R. R., Nawaz, N., Jurcic, A., & Gajenderan, V. (2022). Role of organizational commitment in career growth and turnover intention in public sector of Oman. PLoS ONE, 17(5 May). https://doi.org/10.1371/journal.pone.0265535

Al Kharusi, S., Binti, H., & Mahmood2, N. (n.d.). RECRUITMENT, CAREER DEVELOPMENT, AND PERFORMANCE APPRAISAL AS DETERMINANTS OF EMPLOYEE RETENTION IN THE OMANI MINISTRY OF HEALTH. 10(2), 181. Retrieved http://sbr.journals.unisel.edu.my/ojs/index.php/sbr

Aman-Ullah, A., Ibrahim, H., Aziz, A., & Mehmood, W. (2022). Impact of workplace safety on employee retention using sequential mediation: evidence from the health-care sector. RAUSP Management Journal, 57(2), 182–198. https://doi.org/10.1108/RAUSP-02-2021-0043

Ann, J., John, S., Wiggins, N., Menking, P., & Smithwick, J. (n.d.). ``Community health workers bring value and deserve to be valued too:" Key considerations in improving CHW career advancement opportunities.

Batanda, I. (2024). Prevalence of burnout among healthcare professionals: a survey at fort portal regional referral hospital. Npj Mental Health Research, 3(1). https://doi.org/10.1038/s44184-024-00061-2

Bradacs, A. I., Voita-Mekeres, F., Daina, L. G., & Mekeres, G. (2025). Exploring the Impact of Workplace Satisfaction, Leadership, and Career Development on Employee Retention n Hospitals. Cureus. https://doi.org/10.7759/cureus.81493

Endalamaw, A., Khatri, R. B., Erku, D., Zewdie, A., Wolka, E., Nigatu, F., & Assefa, Y. (2024). Barriers and strategies for primary health care workforce development: synthesis of evidence. BMC Primary Care, 25(1). https://doi.org/10.1186/s12875-024-02336-1

Farooq, H., Janjua, U. I., Madni, T. M., Waheed, A., Zareei, M., & Alanazi, F. (2022). Identification and Analysis of Factors Influencing Turnover Intention of Pakistan IT Professionals: An Empirical Study. IEEE Access, 10, 64234–64256. https://doi.org/10.1109/ACCESS.2022.3181753

Fitzpatrick, J. M., Bianchi, L. A., Hayes, N., Da Silva, T., & Harris, R. (2023). Professional development and career planning for nurses working in care homes for older people: A scoping review. In International Journal of Older People Nursing (Vol. 18, Number 1). John Wiley and Sons Inc. https://doi.org/10.1111/opn.12519

Goens, B., & Giannotti, N. (2024). Transformational Leadership and Nursing Retention: An Integrative Review. In Nursing Research and Practice (Vol. 2024). Hindawi Limited. https://doi.org/10.1155/2024/3179141

Hosen, S., Hamzah, S. R. ah, Arif Ismail, I., Noormi Alias, S., Faiq Abd Aziz, M., & Rahman, M. M. (2024). Training & development, career development, and organizational commitment as the predictor of work performance. Heliyon, 10(1). https://doi.org/10.1016/j.heliyon.2023.e23903

Loo, S. H., Wider, W., Lajuma, S., Jiang, L., Kenikasahmanworakhun, P., Tanucan, J. C. M., & Ahmad Khadri, M. W. A. (2024). Key factors affecting employee job satisfaction in Malaysian manufacturing firms post COVID-19 pandemic: a Delphi study. Cogent Business and Management, 11(1). https://doi.org/10.1080/23311975.2024.2380809

Main, P. A. E., & Anderson, S. (2023). Evidence for continuing professional development standards for regulated health practitioners in Australia: a systematic review. In Human Resources for Health (Vol. 21, Number 1). BioMed Central Ltd. https://doi.org/10.1186/s12960-023-00803-x

Maniscalco, L., Enea, M., de Vries, N., Mazzucco, W., Boone, A., Lavreysen, O., Baranski, K., Miceli, S., Savatteri, A., Fruscione, S., Kowalska, M., de Winter, P., Szemik, S., Godderis, L., & Matranga, D. (2024). Intention to leave, depersonalisation and job satisfaction in physicians and nurses: a cross-sectional study in Europe. Scientific Reports, 14(1). https://doi.org/10.1038/s41598-024-52887-7

Merry, L., Castiglione, S. A., Rouleau, G., Létourneau, D., Larue, C., Deschênes, M. F., Gonsalves, D. M., & Ahmed, L. (2023). Continuing professional development (CPD) system development, implementation, evaluation and sustainability for healthcare professionals in low- and lower-middle-income countries: a rapid scoping review. BMC Medical Education, 23(1). https://doi.org/10.1186/s12909-023-04427-6

Ofei, A. M. A., Poku, C. A., Paarima, Y., Barnes, T., & Kwashie, A. A. (2023). Toxic leadership behaviour of nurse managers and turnover intentions: the mediating role of job satisfaction. BMC Nursing, 22(1). https://doi.org/10.1186/s12912-023-01539-8

Shiri, R., El-Metwally, A., Sallinen, M., Pöyry, M., Härmä, M., & Toppinen-Tanner, S. (2023). The Role of Continuing Professional Training or Development in Maintaining Current Employment: A Systematic Review. In Healthcare (Switzerland) (Vol. 11, Number 21). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/healthcare11212900

Sija, A. (2022). DETERMINANTS OF EMPLOYEE RETENTION IN PRIVATE HEALTHCARE. European Journal of Human Resource Management Studies, 5(4). https://doi.org/10.46827/ejhrms.v5i4.1220

Suprapto, S., Lalla, N. N., Mulat, T. C., & Arda, D. (2023). Human resource development and job satisfaction among nurses. International Journal of Public Health Science, 12(3), 1056–1063. https://doi.org/10.11591/ijphs.v12i3.22982

Suprayitno, D. (n.d.). Assessing the Effect of Compensation Packages, Work-Life Balance Policies, and Career Development Opportunities on Employee Retention: A Case Study of MSME Employee (Vol. 5, Number 2). Retrieved https://ijble.com/index.php/journal/index

Surya Herjuna, S. A., Fitriawaty Marhaeni, V., Alvira, M., Putri, F., & Anastasya, F. (2024). Impact of Training and Development Programs on Employee Performance in the Manufacturing Sector. Acta Psychology, 3(3), 140–151.

Wu, H., & Liu, Y. (2022). The relationship between organisational support for career development, organisational commitment, and turnover intentions among healthcare workers in township hospitals of Henan, China. BMC Primary Care, 23(1). https://doi.org/10.1186/s12875-022-01753-4

Yi, L., Chen, Z., Jiménez-Herrera, M. F., Gan, X., Ren, Y., & Tian, X. (2024). The impact of moral resilience on nurse turnover intentions: the mediating role of job burnout in a cross-sectional study. BMC Nursing, 23(1). https://doi.org/10.1186/s12912-024-02357-2

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Quantifying the Mediation of Firm's Internal Integration on Supply Chain Uncertainty and Customer Satisfaction: Study from Oil and Lubricant Industry

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Abstract: This study evaluates the facets of Supply Chain Uncertainty, Strategy Innovation, Firm's Internal Integration, and Customer Satisfaction within the Oil and Lubricant Industry of Pakistan. In this explanatory research, a model is developed to validate the premise of drafting a value-creating Firm's internal Integration to assist and implement in Oil and Lubricant Industry. The study exploits the primary data source from 150 professionals working in Industry; Structural Equation Modelling analyzes data from the respondents. The antecedent of Supplier uncertainty negatively affects firm's internal integration and Customer satisfaction. In contrast, Technology Uncertainties positively affect Customer satisfaction. However, the moderating effect of Strategy Innovation amplifies the relationship between Firm' Internal Integration and Customer Services. To increase Firm's Internal Integration, managers need to comprehend the dynamics of Supply Chain uncertainty and adopt strategies for innovation to satisfy end customers. The study exclusively focuses on Oil and Lubricant Industry of Pakistan and the first of its kind. In contrast, previous research about Supply Chain Uncertainty and Integration has been conducted outside Pakistan. Future examinations can include more elements and can increase the demographic horizon by involving other industries as well. It is recommended to take Supply Chain Resilience as a mediating variable in studies to evaluate firms' integration effect. The study results make a theoretical contribution to existing literature due to analyzing the mediating effect of a Firm's internal Integration among Uncertainty and Customer satisfaction yet moderating through Strategy Innovation within the context of Oil and Lubricant Industry of Pakistan.

Keywords: Internal Integration, Supply Chain Performance, Oil and Lubricant.

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Quantifying the Mediation of Firm's Internal Integration on Supply Chain Uncertainty and Customer Satisfaction: Study from Oil and Lubricant industry

1. Introduction

Many supply chains become unsuccessful in delivering products and services to the customers during the coronavirus pandemic(Salih & Salih, 2025). At the start of COVID-19, it was initially observed as a Chinese local matter. But it adversely affected the global supply chains; reportedly, 95% of Fortune 1000 firms that had the Integration with China experienced disruptions and issues in the flow of operations. Supply Chain Integration (SCI), along with its antecedents, Supplier, Customer, and Internal Integration, have been studied extensively in the literature, and its impacts on global SCM networks' smooth functioning. Yet, these pandemic disruptions brought new talks to the forefront. Apart from the recent pandemic of 2019, numerous incidents have threatened the Supply Chains of companies worldwide associated with terrorism, political, and economic crises
.

The convergence of all inventory flow processes is essential for a successful and reliable supply chain. Every organization competes successfully to support its partnerships with suppliers and customers(Li et al., 2025). Demand in the supply chain will increase the supply chain surplus's overall value in producing products. Considering the globalization in view, the growth Oil and Lubricant supply chains in Pakistan is not in line with the swift growth of world-wide markets. Pakistan, having a struggling economy need to apply more for a structured industrial supply chains and keeping in view the market uncertainties, supply chain integration becomes an essential problem for the management of supply chains.

On the other hand, minimal research has been conducted to analyze suppliers and customer integration. The Oil and Lubricant (O&L) industry comprises many companies in the Pakistani economy. Moreover, it is known that these businesses are immune to a different form of economic recession shocks, especially in the form of volatility in oil prices or pandemics. Supply chains of O&L companies also needs to be the integrated among its network players. Integration serves better to handle the relationship between manufacturers, suppliers, and customers. Market oriented companies need ultimate supply chain integrations in order to improve their performances. Market integration has a significant relationship with overall business performance(Setyadi et al., 2025)
.

The Oil and Lubricant (O&L) Industry is a complex trade with corresponding complex processes across its supply chain. O&L has been a significant impact on the global and local economy. Despite being a high-risk industry, many of the supply chain strategies are copies of other sectors. This is because few players are compared to other sectors in O&L; these players include clients and contractors (Caliskan et al., 2025).

For a struggling economy like Pakistan, the outbreak of Covid-19 could not have come at a worse time since Pakistan's overall economic outlook was already at a low ebb. For the oil and lubricant industry, in particular, Covid-19, along with a persistent lockdown of business activity, is turning out to be a continuous disaster for supply chains with no end in sight. The country's oil sector has to also grapple with poor decision-making being done by OGRA, which severely lacks clear-cut, result-oriented policies to drive the industry out of the crisis. The oil sector currently demands some drastic measures to be taken immediately in supply chain integration focusing on the Firm's internal Integration.

1.1 Problem Statement

In the tempestuous and uncertain business environment, every firm in the supply chain is susceptible to disruptive incidents. In recent times, numerous researchers have conducted studies to understand integrations patterns in supply chain, from investing in supply chain capabilities of internal Integration and making the system agile and robust. The control of the investment is necessary for increasing the company profit and sustaining the competitive position. The current business scenario has been critically important to gauge supply chain integration and its capability to perform in the long-run if it would be controlled timely and accordingly. Therefore, supply chain integration challenges, including internal and external Integration, require an immediate and proactive approach from organizations. However, such dependency may also come with specific parameters that, utmost importantly, include supply chain performance. Usually, companies rely on and become dependent on their capabilities, including their information systems, supply chain orientation, and risk management strategies. On such factual grounds, it becomes essential to understand organizations' internal supply chain integration and its capabilities to coup up with any unfavorable situation in a larger perspective.

1.2 Objectives and Scope of the study

The study will attempt to measure the effect of mediation of firm’s internal integration among, supply chain uncertainty and customer satisfaction while moderating through strategy innovation.

Through this study, the gaps have been identified in the Internal supply chain integration of organizations, which can give insights to improve the processes carried out in given organizations, which can enhance the organization's capabilities of Integration, decrease supply chain uncertainty and enhance customer satisfaction besides provide ways to improve supply chain performance by investing in internal integration capabilities and making supply chain resilient and thereby increasing the efficiency and strengthening of strategies to attain the respective goals and to satisfy the end customer.

1.3. Significance of the Study

This research will help companies make tactics and strategies that can help achieve strategic goals through mutual benefit between internal and external players. This study will also help Oil and Lubricant industry personnel understand the significance of Supply chain capabilities and internal Integration and its dynamic nature that could foster any company's success by acquiring the resources that are not in their control.

1.4 Research Questions

RQ1: How could a Firm's Internal Integration affect the relationship between Supply chain uncertainty and Customer Satisfaction?
RQ2: How can a firm's strategic innovation affect the Firm's Internal Integration and Customer Satisfaction relationship?

2. Literature Review

Supply Chain Integration (SCI) is the intensity of engagement with business's vendors and customers(Salous & Dwaikat, 2025). SCI has become a vital factor for organizations to succeed. Many studies have been carried out in the subject area over the last decade, where SCI's importance has been highlighted. A study conducted by (Alahmad, 2024)signifies SCI's importance for organizational success in the long run. Firms playing their role in the chain urges the need for engagement with their immediate supplier and supplier's supplier and similarly for the downstream customer and customer's customer. This extensive cooperation is required to reflect sustainable business success has done considerable work in the same area stating that SCI is a form of the strategic partnership between the producer of goods and their respective supply chain partners. SCI comprises integrations between supplier, internal, and customer, and all the stated integrations are equally crucial for sustainable supply chain management.

A supply chain is seen as a node and link network. A node is an organization that can be a supplier, producer, or consumer of goods/services who act as an agent capable of determining and optimizing its benefit within the constraints of its supply chain operations. The connections are transactions concerning the flow of goods, information, and financing between nodes(Alahmad, 2024; Langer & Acciaro, 2025). An organization must be integrated internally as well as externally as a partner in the supply chain. This Integration requires information convergence systems, improved cooperation, and knowledge exchange among its suppliers and customers.

Several empirical types of research had revealed that there is an important and positive relationship between the level of supply chain integration and organizational performance as well as customer satisfaction (Langer & Acciaro, 2025; Olunwa & Joshua, n.d.; Shish, 2025) but inadequate and evolving concepts made by these researchers have led to varying conclusions of the relationship.

consumer integration requires understanding the relationship between the supplier and the company information system. To help the customer and strengthen its business position, the company's time and money are required. As such, the incorporation of consumers requires consumers' involvement in decisions related to the retailer's goods. (Shish, 2025)also highlighted that customer integration comprises of the understanding of relationships among suppliers and firm’s policies and procedures. The time and resources allocated by the provider for these activities were expected to support the client, i.e., improve his market role. As such, customers' participation requires customers' involvement in the decisions about the retailer's offer of products.

The importance of Integration across many industries.(Eusufzai, 2023) urges the cooperation and working together of supply chain allies to upsurge the effectiveness and efficiency of end-to-end chain to meet the customer demand, which in turn achieve supply chain surplus for the partners. Likewise, found out the factor influencing competitive advantages and their effect on companies' performance. SCI also has a constructive impact on Customer Satisfaction (CS) as well as financial performance (FP) of the organizations. Similar nature of work has been carried out by(Aydogan et al., 2025) in India, where Integration positively impacts CS and FP. However, both the studies were carried out with the smallest sample size. SCI is considered as a construct of multiple dimensions and since there are two forms of SCI external and internal. Externally, there are another two types, i.e., supplier and customer. Initiatives and services that facilitate linkages between trade partners could theoretically be included in the partnerships. Customer integration involves information, service, and material information flows that flow from end customer to the supplier, and the services and materials that flow forward(Fajar et al., 2022a; Tao et al., 2025).

Researchers have analyzed Integration in Supply Chain in combination with other component variables such as (Fajar et al., 2022b)reported a case study conducted on East African manufacturing firms and concluded that firms with strategic intra-company capital were less dedicated to external Integration and that SCI was hampered by reliance across multiple levels but improved by interdependence. do related work in the retailing field of France and China, where the variables of supplier and consumer relationships are analyzed with cost and flexibility. The study concluded that the Integration of consumers and vendors is a significant component in a cost-oriented configuration. The Integration of supply chain systems is a substantial component in flexibility-oriented configuration. Higher-level supply chain alignment in the retailing industry will contribute to improved market results.

In various areas, including company theory, marketing, and strategy, complexity has become an important construct. (Chan et al., 2025) indicates that the supply chains are split up by three distinct causes of uncertainty: supplier uncertainty, manufacturing uncertainty, and market or demand uncertainty. The literature also suggests that technology uncertainty also exists, and it becomes the driving force for the companies to get a competitive advantage(Hossain, 2025). As a theoretical framework through supply chain uncertainty can be studied is based on manufacturing strategy theory, which recognizes that manufacturing strategy is affected by environment uncertainty and is a major factor of business performance

Studies conducted by (Hossain, 2025; Song et al., 2025; Tao et al., 2025) signify SCI's importance on the Firm's performance and particularly on Customer satisfaction. Similarly, a recent study by (Song et al., 2025)also suggested that Customer satisfaction is eventually the final product of all variables studied under Supply chain integration. It's a source of increasing profitability for the company and overall achievement in the business. However, this study was only conducted on Indian SME enterprises and cannot be generalized for other companies
.

Based on the above literature discussions, the conceptual framework for the study is devised where the Supply chain uncertainties, including demand, supply, and technology, are considered independent variables. Its impact is checked on customer satisfaction through the mediating role of the Firm's internal Integration. Strategy innovation is considered as a moderator to gauge its effect on the relationship between the Firm's internal Integration and customer satisfaction(Zhang et al., 2025). A study conducted by (Aydogan et al., 2025) concluded that satisfaction of the customer has a significant positive relationship with the financial performance of the company and it also has a positive mediating effect between the relationship of customer integration and company performance. Similarly, demonstrated types of integrations used by 3PLs companies in which internal integration has the most significant effect on supply chain practices. The following variables used for this study are taken from various sources of literature as mentioned below table;

Table 1: *Variables used for the study and their sources*

Variables	Sources
Firm's Internal Integration	Flynn, B. B., Huo, B., & Zhao, X. (2010). The impact of supply chain integration on performance: A contingency and configuration approach. *Journal of operations management*, *28*(1), 58-71.
Supply Chain Uncertainty	Chen, I. J., & Paulraj, A. (2004). Towards a theory of supply chain management: the constructs and measurements. *Journal of operations management*, *22*(2), 119-150.
Strategy Innovation	Terziovski, M. (2010). Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: a resource-based view. *Strategic Management Journal*, *31*(8), 892-902.
Customer Satisfaction	Al-Hawary, S. I. S., Mohammad, A. S., Mohammad, A. A. S., & Alsarahni, A. H. H. (2017). Supply chain flexibility aspects and their impact on customers satisfaction of pharmaceutical industry in Jordan. *International Journal of Business Performance and Supply Chain Modelling*, *9*(4), 326-343.

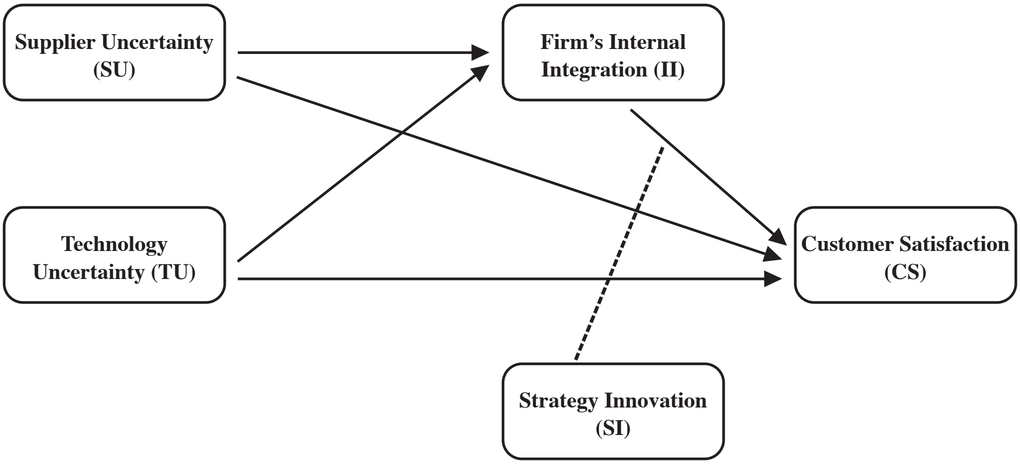
Source*: Author's construction*

2.1 Hypotheses

Following hypotheses are extracted from the literature to carry out this research study.

No.	Hypothesis Statements
H1	Supplier Uncertainty (SU) has a negative effect on Customer Satisfaction (CS) in the Oil and Lubricant industry of Pakistan.
H2	Supplier Uncertainty (SU) has a negative effect on the Firm's Internal Integration (IN) in the Oil and Lubricant industry of Pakistan.
H3	Technology Uncertainty (TU) has a negative impact on Customer Satisfaction (CS) in the Oil and Lubricant industry of Pakistan.
H4	Technology Uncertainty (TU) has a negative impact on the Firm's Internal Integration (IN) in the Oil and Lubricant industry of Pakistan.
H5	Firm's Internal Integration (IN) has a positive impact on Customer Satisfaction (CS) in the Oil and Lubricant Industry of Pakistan.
H6	Firm's Strategy Innovation (SI) positively affects Customer Satisfaction (CS) in the Oil and Lubricant Industry of Pakistan.
H7	Firm's Strategy Innovation (SI) positively affects the relationship between the Firm's Internal Integration (IN) and Customer Satisfaction (CS) in the Oil and Lubricant Industry of Pakistan.

Figure 1: *Theoretical and Conceptual Model*



3. Research Methodology

An empirical, methodological approach is followed for this study based on a resource-based perspective given by(Haque, 2025). Data is collected through a questionnaire, which is considered the most favored instrument in supply chain surveys. It is used by almost 42% of the supply chain researches (Kamal & Irani, 2014). An online survey through Google forms was created because the online web approach has advantages over paper-based surveys, including cost-effectiveness, accessibility, efficiency, and data analysis(Aditya et al., n.d.).The target group was professionals working in Oil and Lubricant Industry of Pakistan, and data were collected for four months starting Sep 2020 to Dec 2020. Since the respondents are already available in Pakistan's different cities, a non-probability sampling design is used through the purposive sampling technique.

The collected data is further analyzed through Structural Equation Modeling (SEM) using SMART-PLS. Cause and effect relationships are considered an important research area, and such interactions focus on various market concerns. Past complex approaches have been developed in economic and social science, such as causal analysis or structural equation analysis for multivariate analyses(Raygoza-Limón et al., 2025). In the past two decades, the structural equation approaches have grown firmly in supply chain management for multivariate computational data analysis.In addition to this area, the dynamic causal relations study using Structural Equation Modelling (SEM) is still commonly used in economics, psychology, and sociology.

The clear distinction between the measurement theory (model of measurement) and material theory is characteristic of SEM models (structural model). The calculation model explains how the theoretical structures (latent variables) are related to their measures (observable variables), modeled on a factor structure.

To conduct this study, a sample of 150 respondents is taken from the personnel to know the relationship as calculated by G Power (Song et al., 2025)Purposive sampling has been used in this study because we need to quantify and analyze the responses from experts working in Pakistan's Oil and Lubricant industry. The subject sampling technique is when the people are sorted out from a pre-specified group and then sampled (Gerrish & Lacey, 2010).

3.1 Questionnaire Design and Measures

As discussed in Table 1 (above), following questions have been taken for the given constructs to test the relationships.

Table 1: *Questions to test the relationships*

Construct	Code	Items	Source
Firm's Internal Integration	IN1	There is an efficient data integration system among the internal functions of our company.	Flynn and Zhao (2010)
	IN2	We have an Enterprise application integration among internal functions	
	IN3	We have Integrative inventory management in place.	
	IN4	We have cross-functional teams for process improvements in our company.	
Supplier Uncertainty	*SU1*	Our suppliers consistently meet our requirements – *Omitted*	Chen and Paulraj (2004)
	SU2	Our suppliers provide consistent quality of product.	
	SU3	We have a comprehensive inspection of incoming critical product from suppliers	
	SU4	We have a high rejection rate of incoming product from suppliers	
Technology Uncertainty	TU1	Our industry is characterized by rapidly changing technology	
	TU2	The rate of process obsolescence is high in our industry	
	TU3	If we don't keep up with changes in technology, it will be difficult for us to remain competitive	
Strategy Innovation	SIn1	Our company's Vision or mission includes a reference to innovation	Terziovski (2010)
	SIn2	Our innovation strategy helps the Firm to achieve its strategic goals	
	SIn3	Internal cooperation in the Firm is seen as an essential part of innovation strategy implementation in the Firm	
	SIn4	Customer satisfaction in the Firm is seen as an essential part of the firm innovation strategy	
Customer Satisfaction	CS1	Our companies provide good quality of Products	Al-Hawary et al. (2017)
	CS2	Our companies provide products with low, competitive prices	

CS3	We provide fast delivery to our customers.
CS4	Our company responds to our customers' requirements and their complaints in an active manner - *Omitted*

4. Results and Discussion

4.1 Descriptive Statistics

A total of 150 responses have been collected from Oil and Lubricant Industry of Pakistan. These respondents are the companies engaged in the business of Petroleum Marketing as well as Lubricant manufacturing and distribution business. Demographic characteristics are given in Table no. 2.

Table 2: *Demographic Characteristics of the Sample*

Description Sample Size = 150		Frequency	Percent
Designation	Manager	71	47.3
	Asst. Manager	49	32.7
	Executive	15	10.0
	Head of Department	15	10.0
Education	Masters & Above	92	61.3
	Graduate	53	35.5
	Intermediate	5	3.3
Department	Procurement	52	34.7
	Supply Chain	36	24.0
	Operations	24	16.0
	Sales & Marketing	17	11.3
	Finance	15	10.0
	Other	6	4.0
Company Age (in years)	7-9	76	50.7
	4-6	54	36.0
	10-12	12	8.0
	1-3	7	4.7
	13 & Above	1	0.7
Company Size (No. of employees)	Uptil 50	45	30.0
	101 to 200	44	29.3
	51 to 100	43	28.7
	201 to 400	14	9.3
	401 & Above	4	2.7
Gender	Male	133	88.7
	Female	17	11.3

Note: The source of this table is author's estimation

Table 2 shows the demographic nature of the data that is collected from 150 respondents. This study was industry-focused, so the sample from Oil and Lubricant industry has been taken to evaluate the mediating effect of the Firm's Internal Integration (II) between Supply Chain Uncertainty (SCU) and Customer Satisfaction (CS).

4.2 Testing Data for Normality

Before estimating the model and testing hypotheses, the collected data is reviewed through reliability and validity testing and checking for normal distribution. Information is checked for normality through Mardia's Test of Normality, which states that if p-values are less than 0.05, the data is not normal; therefore, we can run non-parametric testing through SMART PLS. Figure 2 shows that the p-values are 0, which means that the respondents' data is useful for non-parametric testing.

Figure 2 : *Output of Skewness and Kurtosis*

```
Sample size:  150
Number of variables:  5

Univariate skewness and kurtosis
               Skewness   SE_skew  Kurtosis   SE_kurt
Cust_Satis  -1.4154255 0.1980384 1.7914957 0.3935831
Inter_Integ -0.8425887 0.1980384 0.5084698 0.3935831
Strag_Inn   -1.6705360 0.1980384 1.5634636 0.3935831
Supp_Uncer  -0.9472580 0.1980384 0.7942560 0.3935831
Tech_Uncer   1.5834543 0.1980384 1.6143214 0.3935831

Mardia's multivariate skewness and kurtosis
                b         z p-value
Skewness 27.61314 690.32842       0
Kurtosis 59.17503  17.69431       0
```

4.3 Mahalanobis Distance test for outliers

Mahalanobis Distance test for outliers is carried out on the data received from the respondents on SPSS Software. It is a renowned criteria for detection of outliers in multi-variate data (Penny, 1996). Example of results output is given as under: -

Table 3: *Example of Mahalanobis Distance Test for Outliers*

Case ID	Mahalanobis Distance	P-value	Outlier Coding	Rank
105	18.39390	0.00	1	1

Mahalanobis Distance is calculated with Customer satisfaction as a dependent variable in the given table while taking Supplier, and Technology Uncertainty as an Independent Variable. It is found that case # 105 (Rank # 1) as an outlier after the arrangement of P values of the Mahalanobis Distance in ascending order.

4.4 Construct Reliability and Validity

Evaluation of the measurement model adopts a confirmatory assessment of the convergent and discriminant validity (Campbell & Fiske, 1959). Convergent validity (CV) is adequate in the given study because the Average Variance Extracted (AVE) is over 0.500. Composite Reliability is also established since each construct's values are above 0.70 (See Figure 3). The results for Reliability and validity and outer loadings for the items are given in Table 4. Discriminant validity is evaluated through the forell-larcker criterion (Table 5). The table shows that the Average Variance Extracted (AVE) square root for the construct is greater than the inter-construct correlation. Discriminant validity is also assessed by the Heterotrait-Monotrait (HT-MT) ratio of correlations (Henseler et al., 2015) having values below 0.90. Hence, discriminant validity for the model is also established (See Table 6)

Figure 1: *Measurement Model with Composite Reliability (Construct Validity)*

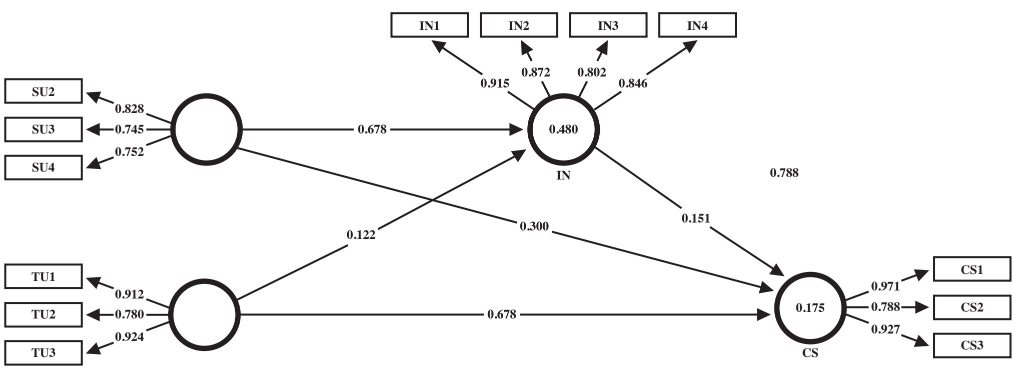


Figure 4: *SMART PLS Output for CR and AVE*

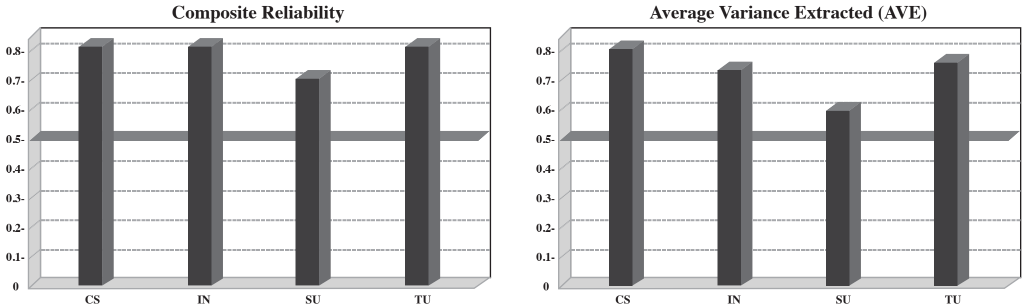


Table 4: *First Order Reflective Measurement Model Results*

First Order Reflective Constructs	Items	Loadings	CR	AVE
Customer Satisfaction	CS1	0.962	0.926	0.808
	CS2	0.827		
	CS3	0.902		
	CS4	ǂ		
Internal Integration	IN1	0.915	0.919	0.739
	IN2	0.871		
	IN3	0.803		
	IN4	0.847		
Strategy Innovation	SI1	0.891	0.929	0.766
	SI2	0.843		
	SI3	0.834		
	SI4	0.929		
Supplier Uncertainty	SU1	ǂ	0.819	0.602
	SU2	0.827		
	SU3	0.747		
	SU4	0.751		
Technology Uncertainty	TU1	0.909	0.907	0.765
	TU2	0.780		
	TU3	0.927		

ǂ *Item dropped*

Note: The above table indicates Outer Loadings, Composite Reliability (CR), and Convergent Validity (AVE) with threshold values of 0.708, 0.700, and 0.500, respectively.

Table 5: *Value for Fornell-Larcker Criterion*

	CS	IN	SI	SU	TU
CS	***0.899***				
IN	0.358	***0.860***			
SI	0.742	0.540	***0.875***		
SU	0.393	0.682	0.427	***0.776***	
TU	0.008	0.147	-0.045	*0.038*	***0.875***

Notes: Values in Italic represents Square Root of AVE.

Table 6: *Values for Heterotrait-Monotrait Ratio (HTMT)*

	CS	IN	SI	SU
CS				
IN	0.398			
SI	0.815	0.615		
SU	0.507	0.872	0.540	
TU	0.090	0.164	0.135	0.099

4.5 Predictive Capability of the Model

After confirming the Reliability and validity of the construct measures, structural model results are evaluated, i.e., examining the model's predictive capabilities. The structural model reflects the paths hypothesized in the research framework. It is assessed based on R^2 and the significance of paths. The goodness of the model is resolute by the strength of each structural path determined by R^2 value for the dependent variable (Briones Penalver et al., 2018); the given value of R^2 should be equal to or over 0.10. Hence, the predictive capability is established for the model.

Through bootstrapping in SMART-PLS, 5000, resamples also make 95% confidence intervals, as given in Table 7. A confidence interval different from zero designates a significant relationship among variables. Hypotheses testing results for the same are tabulated in Table 7, where the relationships of Supply Chain Uncertainty (SCU) with Customer Satisfaction (CS) moderating through Firm's Internal Integration (IN) is calculated.

PLS-SEM aims to maximize the $\mathbf{R^2}$ values of the endogenous variables in the path model. As given in Table 7, of determination of CS is 0.158, which indicates that 15.8 per cent of the variance in CS is explained by SCU while mediating through IN and moderating via SI

4.6 Hypotheses Testing

Hypotheses testing is done in two phases. First examined the dimensions of Supply Chain Uncertainty on Customer Satisfaction for Hypotheses 1 to 5, while mediating through Firm's Internal Integration. Results of these hypotheses are given in the below table:

Table 7: *Values for Hypotheses Testing*

Relationships	β	STDEV	T Stats	P Values	5.00%	95.00%
IN → CS	0.151	0.137	1.105	0.135	-0.073	0.372
SU → CS	0.300	0.093	3.217	0.001	0.154	0.460
SU → IN	0.678	0.047	14.383	0.000	0.600	0.754
TU → CS	-0.014	0.088	0.163	0.435	-0.169	0.114
TU → IN	0.122	0.07	1.734	0.042	-0.007	0.226

	R^2
CS	0.158
IN	0.473

4.6.1 Moderation Analysis

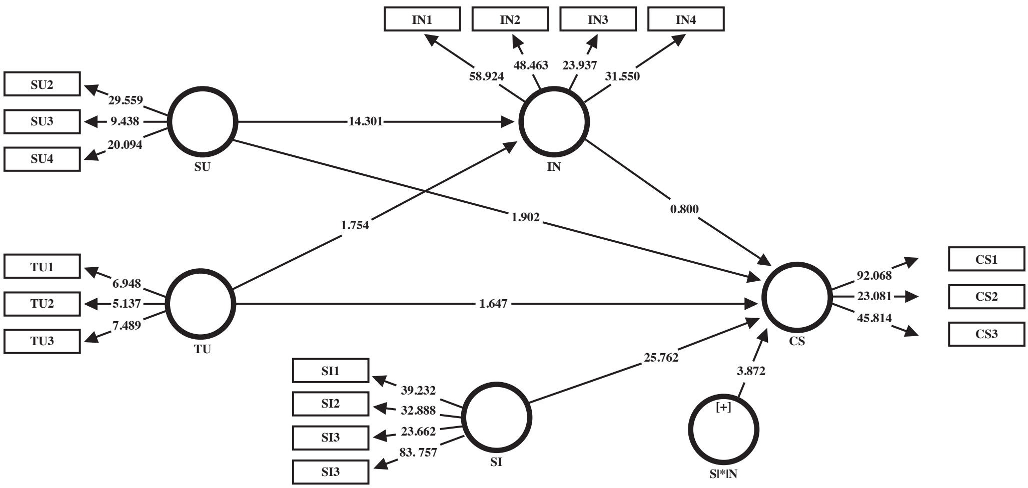
To test the hypothesis *H6,* i.e., to check the effect of moderator Strategy Innovation (SI) on the relationship between Internal Integration (IN) and Customer Satisfaction (CS), following results are received.

Table 8: *Values of Hypotheses Testing (Moderation Analysis)*

Relationships	β	STDEV	T Stats	P Values	5.00%	95.00%
IN → CS	-0.060	0.075	0.800	0.212	-0.178	0.068
SI → CS	0.966	0.038	25.762	0.000	0.901	1.020
SI*IN → CS	0.294	0.076	3.872	0.000	0.150	0.400
SU → CS	0.132	0.069	1.902	0.029	0.015	0.242
SU → IN	0.677	0.047	14.301	0.000	0.597	0.753
TU → CS	0.078	0.047	1.647	0.050	-0.003	0.152
TU → IN	0.121	0.069	1.754	0.040	-0.002	0.229

	R^2
CS	0.719
IN	0.473

Figure 4: *Measurement Model with Moderation Effect*



4.6.2 Hypotheses Testing Results

As given in Table 9, Hypotheses results revealed that at a significance level (p>0.05), our premise in five cases i.e., SU effecting CS & IN, TU effecting IN, SI effecting CS & SI*IN impacting CS (H1: t=1.771, p=0.038), (H2: t = 14.301, p = 0.000), (H4: t = 1.754, p = 0.000), (H6: t = 25.762, p = 0.000) and (H7: t = 3.8720, p = 0.000). However, for the remaining two cases, the hypotheses are not supported.

Table 9: *Hypotheses Testing Results*

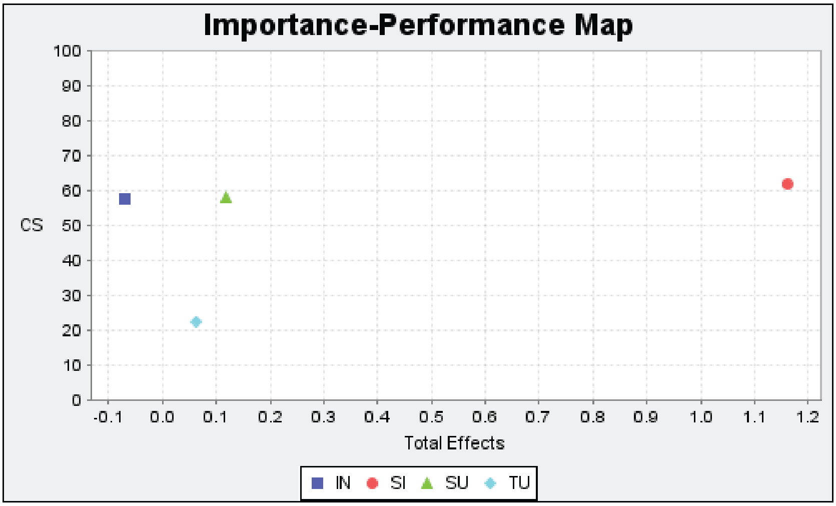
Hypotheses	Relationships	T Stats	P Values	Results
H1	SU → CS	1.771	0.038	**Supported**
H2	SU → IN	14.301	0.000	**Supported**
H3	TU → CS	1.548	0.061	Not Supported
H4	TU → IN	1.754	0.040	**Supported**
H5	IN → CS	0.800	0.212	Not Supported
H6	SI → CS	25.762	0.000	**Supported**
H7	SI*IN → CS	3.872	0.000	**Supported**

Note: P < 0.05;

4.7 Importance-Performance Map Analysis (IPMA)

IPMA Analysis Ranks Strategy Innovation (SI) as the highest variable having both importance and performance in the model. However, Technology Uncertainty (TU) is on the lower side of the map.

Figure 5: *SMART PLS Output for IPMA*



4.5 Discussion

The study results give surprising results about Supply chain practices in Oil and Lubricant Industry of Pakistan. It is evident from the study that Technology Uncertainty (TU) doesn't negatively influence Customer Satisfaction (CS) of the consumers of Oil and Lubricant products. This may because the Oil & Gas Regulatory Authority (OGRA) of Pakistan regulates the industry and sets the prices and therefore, any change in demand and supply of the products doesn't directly affect the prices. On the other hand, the study also proves that the Supplier Uncertainty (SU) is having a negative effect on Customer Satisfaction (CS) as well as Internal Integration of the firm because the industry mostly relies on the imports of oil either in the form of raw crude Oil or in finished form therefore any change in supply will affect directly to the customer need of the industry.

The study results confirm the negative effect of Supplier Uncertainty on Firm's Internal Integration and Customer Satisfaction which corroborates B. B. Flynn et al., (2010) and Chang et al., (2016) who concluded similar results while studying relationships of supply chain integration.

5. Conclusion, Limitations and Recommendations

5.1 Conclusion

The given study set out to understand how Supply Chain Uncertainty Impacts Customer Satisfaction of Oil and Lubricant Industry and how internal Integration mediates the relationship between them Further, the study also checks the moderation of Strategy Innovation among these relationships in Pakistan's context. The study supports the manufacturing strategy theory which recognizes that manufacturing strategy is affected by environmental uncertainty and is a major factor of business performance (Swamidass & Newell, 1987). It is found that within the context of Pakistani market, technology uncertainty doesn't harm Firm's internal Integration and customer satisfaction; however, Supplier Uncertainty has a negative effect on Firm's internal Integration and customer satisfaction. Furthermore, it is also observed that Strategy innovation play a vital role and greatly influence the relationship between the Firm's Internal Integration and customer satisfaction.

The given study improves knowledge and understanding of Firm's Internal Integration for Oil and Lubricant Industry's subtle phenomenon, thus providing a new viewpoint to the literature, which usually not focused on such relationships. In this sense, the study contributes while testing Strategy Innovation as a moderator, which provides a broader viewpoint of Internal Integration in Supply Chain for Oil and Lubricant Industry. The study also contributes to help the managers understand the disruptions caused by the uncertainties in the oil and lubricant supply chain and accordingly prepare plan for Firm's internal Integration and adopt strategies for innovation to satisfy the end customers. A suitable planning mechanism is required for the import of given products from foreign entities. A delay in acquiring the products will end up the Firm in stock out position and, therefore, affect customer satisfaction.

5.2 Limitations and Recommendations

Although the study is one of few quantitative works undertaken on Structural Equation Modelling which has taken into account various magnitudes of Supply Chain Uncertainty and Firm's Internal Integration, the study is exclusively focused on Oil and Lubricant Industry of Pakistan. Previous researches about Supply Chain Uncertainty have been conducted outside Pakistan. Future examinations can include more elements and can increase the demographic horizon by involving other industries as well. Supply Chain Resilience can be taken as a mediating variable in studies to evaluate the integration effect of firms.

References

Aditya, M., Permana, E., & Dwiyanti, V. (n.d.). licensed under a Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA). *Journal Industrial Servicess Is*, *11*(2), 2025. https://doi.org/10.62870/jiss.v11i2.37761

Alahmad, Y. Y. (2024). *Supply Chain Coordination and Supply Chain Cooperation Towards Supply Chain Performance: Mediating Role of Supply Chain Ambidexterity in the Kingdom of Saudi Arabia*.

Aydogan, S., Akay, D., Demiray, A., E. Kremer, G., & Boran, F. E. (2025). Determining the Effect of Trust on Supply Chain Network Performance with Linguistic Summarization Over Heterogeneous Information Network. *Informatica*, 525–555. https://doi.org/10.15388/25-infor602

Caliskan, K., MacKenzie, D., & McGowan, A. (2025). Prodexchange: Digital–industrial economization in Google Search supply chain. *Platforms & Society*, *2*. https://doi.org/10.1177/29768624251337868

Chan, E. M. H., Hui, F. W.-C., Suen, D. W.-S., & Tsang, C.-W. (2025). Synergistic Integration of ESG Across Life Essentials: A Comparative Study of Clothing, Energy, and Transportation Industries Using CEPAR® Methodology. *Standards*, *5*(3), 17. https://doi.org/10.3390/standards5030017

Eusufzai, Z. (2023). IOT INTEGRATION IN INTELLIGENT LUBRICATION SYSTEMS FOR PREDICTIVE MAINTENANCE AND PERFORMANCE OPTIMIZATION IN ADVANCED MANUFACTURING INDUSTRIES. *Journal of Sustainable Development and Policy*, *02*(04), 140–173. https://doi.org/10.63125/zybrmx69

Fajar, M. I., Kusnoputranto, H., Koestoer, R. H. T. S., & Gozan, M. (2022a). Impact of Producer's Environmental Performance on Consumers and Retailers Simultaneously in the Indonesian Retail Environment. *Sustainability (Switzerland)*, *14*(3). https://doi.org/10.3390/su14031186

Fajar, M. I., Kusnoputranto, H., Koestoer, R. H. T. S., & Gozan, M. (2022b). Impact of Producer's Environmental Performance on Consumers and Retailers Simultaneously in the Indonesian Retail Environment. *Sustainability (Switzerland)*, *14*(3). https://doi.org/10.3390/su14031186

Haque, E. A. (2025). QUANTITATIVE ANALYSIS OF MECHANICAL TESTING AND VALVE PERFORMANCE IN THE OIL AND GAS SECTOR: ENSURING COMPLIANCE WITH ISO/IEC 17025 IN GLOBAL INDUSTRIAL INFRASTRUCTURE. *ASRC Procedia: Global Perspectives in Science and Scholarship*, *01*(01), 1424–1457. https://doi.org/10.63125/a5c2w129

Hossain, M. A. (2025). ARTIFICIAL INTELLIGENCE-DRIVEN FINANCIAL ANALYTICS MODELS FOR PREDICTING MARKET RISK AND INVESTMENT DECISIONS IN U.S. ENTERPRISES. *ASRC Procedia: Global Perspectives in Science and Scholarship*, *01*(01), 1066–1095. https://doi.org/10.63125/9csehp36

Langer, B., & Acciaro, M. (2025). Value creation through sustainable supplier management in maritime transport. *Transportation Research Procedia*, *82*, 1353–1368. https://doi.org/10.1016/j.trpro.2024.12.129

Li, D., Geng, R., Eyers, D. R., Zhang, M., & Han, S. (2025). The challenges and opportunities of 3D printing implementation and sustainability performance: the double-edged sword of environmental uncertainty. *Production Planning and Control*. https://doi.org/10.1080/09537287.2025.2482234

Olunwa, J., & Joshua, O. K. (n.d.). *BUDGETING AND FORECASTING ON PERFORMANCE OF LUBRICANT FIRMS IN ANAMBRA STATE*.

Raygoza-Limón, M. E., Orduño-Osuna, J. H., Trujillo-Hernández, G., Bravo-Zanoguera, M. E., Amezquita Garcia, J. A., Ramírez-Hernández, L. R., Flores-Fuentes, W., Antúnez-García, J., & Murrieta-Rico, F. N. (2025). Supply Chain Management in Renewable Energy Projects from a Life Cycle Perspective: A Review. In *Applied Sciences (Switzerland)* (Vol. 15, Number 9). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/app15095043

Salih, S., & Salih, A. (2025). *Operationalising Trust for Supply Chain Sustainability and Resilience*.

Salous, N., & Dwaikat, N. Y. (2025). *Leveraging Inter-Organizational Systems for Enhanced Supply Chain Performance in the Auto Spare Parts Industry: Unpacking the Role of B2B Integration*. https://doi.org/10.20944/preprints202507.2299.v1

Setyadi, A., Pawirosumarto, S., Damaris, A., & Syarif, D. (2025). Integrating green HRM and sustainable operations: the moderating role of digital transformation in the Indonesian energy sector. *Discover Sustainability*, *6*(1). https://doi.org/10.1007/s43621-025-01764-y

Shish, Z. H. (2025). SECURING ERP SYSTEMS: THE ROLE OF INFORMATION SECURITY ANALYSTS IN U.S. TEXTILE AND MANUFACTURING ENTERPRISES. *International Journal of Business and Economics Insights*, *05*(03), 459–493. https://doi.org/10.63125/y8evt228

Song, F., Wu, M., & Liu, R. (2025). The Impact of Supply Chain Structure Diversification on High-Quality Development: A Moderating Perspective of Digital Supply Chains. *Journal of Theoretical and Applied Electronic Commerce Research* , *20*(4). https://doi.org/10.3390/jtaer20040301

Tao, J., Aamir, M., Shoaib, M., Yasir, N., & Babar, M. (2025). Bridging the Gap Between Supply Chain Risk and Organizational Performance Conditioning to Demand Uncertainty. *Sustainability (Switzerland)*, *17*(6). https://doi.org/10.3390/su17062462

Zhang, J., Cao, Z., & Qu, X. (2025). Research on the influencing mechanism of enterprises' adoption intention toward blockchain-based food safety traceability systems: a UTAUT model perspective. *Frontiers in Sustainable Food Systems*, *9*. https://doi.org/10.3389/fsufs.2025.1637246

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Supply Chain Integration and Flexibility as Drivers of Supply Chain Performance: Evidence from Pakistan's Manufacturing Sector

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Abstract: *In an increasingly competitive and uncertain business environment, supply chain capabilities play a critical role in enhancing organizational performance, particularly within emerging economies. This study examines the impact of Supply Chain Integration (SCI) and Supply Chain Flexibility (SCF) on Supply Chain Performance (SCP) in Pakistan's manufacturing sector. Grounded in the Resource-Based View (RBV), the study conceptualizes integration and flexibility as strategic organizational capabilities that enable firms to achieve superior performance outcomes. A quantitative research design was employed, and primary data were collected through a structured survey administered to managers working in textile, fast-moving consumer goods (FMCG), and pharmaceutical manufacturing firms across Pakistan. A total of 250 valid responses were analyzed using multiple regression techniques. The empirical findings reveal that both supply chain integration and supply chain flexibility have a positive and statistically significant influence on supply chain performance. Specifically, internal supply chain integration and reactive supply chain flexibility emerged as the most influential dimensions, indicating that cross-functional coordination and the ability to respond rapidly to operational disruptions are critical drivers of performance. The combined regression model explains approximately 39% of the variance in supply chain performance, demonstrating the substantial explanatory power of these supply chain capabilities. The results suggest that Pakistani manufacturing firms can enhance delivery reliability, cost efficiency, and overall operational effectiveness by simultaneously strengthening their integration mechanisms and flexibility practices. From a managerial perspective, the study highlights the importance of investing in information sharing systems, cross-functional collaboration, and adaptive supply chain structures. Theoretically, this research contributes to the supply chain management literature by extending RBV-based empirical evidence from a developing-country context. Future research is encouraged to explore longitudinal designs, incorporate additional moderating or mediating variables, and examine other industrial sectors to further validate and generalize the findings.*

Keywords: *Supply Chain Integration, Supply Chain Flexibility, Supply Chain Performance, Manufacturing Sector, Pakistan; Resource-Based View.*

Paper type: Research paper

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Supply Chain Integration and Flexibility as Drivers of Supply Chain Performance: Evidence from Pakistan's Manufacturing Sector

1. Introduction

In today's highly dynamic and competitive business environment, the supply chain has emerged as a critical strategic asset for enhancing organizational competitiveness, particularly in emerging economies. Among the various supply chain capabilities, Supply Chain Integration (SCI) and Supply Chain Flexibility (SCF) are widely recognized as key drivers of Supply Chain Performance (SCP). Prior research suggests that effective integration across internal functions and external partners improves coordination, information sharing, and cost efficiency, while flexibility enables firms to respond rapidly to market disruptions and demand uncertainty (Albhirat et al., 2023; Lau et al., 2025; Yimer et al., 2025)

Despite growing scholarly attention, empirical evidence on the combined effects of supply chain integration and flexibility remains limited in developing-country contexts such as Pakistan. Pakistani manufacturing firms face persistent challenges, including inadequate infrastructure, volatile demand conditions, resource constraints, and increasing global competition. These challenges heighten the need for integrated and flexible supply chain systems; however, limited research has examined how these capabilities translate into performance improvements across key manufacturing sectors.

Addressing this gap, the present study investigates the influence of supply chain integration and supply chain flexibility on supply chain performance in Pakistan's textile, fast-moving consumer goods (FMCG),(Bolaji et al., 2024) and pharmaceutical industries. By providing empirical evidence from a developing economy, this research contributes to the supply chain management literature and offers practical insights for managers seeking to enhance operational effectiveness through strategic supply chain capabilities.

1.1 Research Objectives

The specific objectives of this study are to:

1. Examine the impact of supply chain integration on supply chain performance.
2. Assess the impact of supply chain flexibility on supply chain performance.
3. Analyze the combined effect of supply chain integration and flexibility on supply chain performance in Pakistan's manufacturing sector.

2 Literature Review

2.1 Supply Chain Integration

Supply Chain Integration (SCI) refers to the extent to which a firm strategically collaborates with internal functions and external partners to achieve coordinated, seamless, and information-driven supply chain operations. SCI enables organizations to synchronize material flows, information exchange, and decision-making processes across the supply chain network, thereby improving efficiency and responsiveness (Bolaji et al., 2024). The literature commonly categorizes SCI into internal integration coordination among departments such as procurement, production, and logistics and external integration, which involves collaboration with suppliers and customers.

Internal integration enhances cross-functional communication, aligns organizational goals, and reduces operational silos. When departments share real-time information and jointly participate in planning and execution, firms can reduce lead times, minimize inventory costs, and improve service quality(Hafeez et al., n.d.; Rahman et al., 2025). Recent studies further suggest that digital technologies, such as enterprise resource planning (ERP) systems and cloud-based platforms, significantly strengthen internal integration by enabling visibility and data accuracy. In manufacturing environments, (Junejo et al., 2022)internal integration has been shown to play a foundational role, as effective internal coordination often precedes successful external collaboration.

(Hafeez et al., n.d.). Empirical evidence indicates that externally integrated firms experience improved delivery reliability, reduced transaction costs, and enhanced market responsiveness. In emerging economies, however, external integration is often constrained by trust issues, technological gaps, and weak institutional frameworks (Arshad Ali & Mahmood, 2024; Tao et al., 2025). These challenges make it particularly important to understand how integration practices operate within developing-country contexts such as Pakistan. (Arshad Ali & Mahmood, 2024)demonstrated that internal and supplier integration significantly improve operational performance in the textile industry. Similarly, Khan et al. (2024) customer integration strengthens supply chain agility and cost efficiency in FMCG firms. Collectively, these findings suggest that SCI functions as a strategic capability that enhances organizational performance by enabling coordination, transparency, and alignment across supply chain actors.

Based on the reviewed literature, the following hypothesis is proposed:
H1: *Supply Chain Integration positively influences Supply Chain Performance.*

2.2 Supply Chain Flexibility

Supply Chain Flexibility (SCF) is defined as the capability of a supply chain to adapt efficiently and effectively to changes in demand, supply conditions, and environmental uncertainty (Shafique et al., 2023). In today's volatile business environment, flexibility has become a critical determinant of supply chain resilience and performance. SCF allows firms to reconfigure resources, modify production volumes, and adjust logistics operations in response to disruptions and market fluctuations.

(Siddiqui et al., 2025) Recent studies highlight the increasing importance of SCF in emerging economies, where supply chains are frequently exposed to infrastructural inefficiencies, political instability, and fluctuating demand patterns. (Bhatti et al., 2023)found that reactive flexibility significantly improves delivery reliability and customer satisfaction in manufacturing firms operating under high uncertainty. Similarly, proactive flexibility has been linked to long-term performance gains through improved risk management and strategic adaptability.

Digital tools such as predictive analytics, artificial intelligence, and real-time tracking systems enhance firms' ability to anticipate disruptions and respond rapidly(Fahad et al., n.d.). These technologies are particularly valuable for manufacturing firms seeking to balance efficiency with adaptability. In the context of Pakistan, limited technological adoption remains a challenge; however, firms that invest in flexible supply chain structures demonstrate superior performance outcomes compared to less adaptive competitors (Jing & Fan, 2024)

Empirical research consistently supports the positive relationship between SCF and supply chain performance. (Qadeer et al., n.d.)reported that both reactive and proactive flexibility significantly enhance operational efficiency in Pakistani manufacturing firms. More recent evidence by Ahmed et al. (2024) further confirms that flexibility improves cost performance and service levels in volatile market conditions. These findings suggest that SCF functions as a dynamic capability that enables firms to sustain performance under uncertainty.
Accordingly, the following hypothesis is proposed:
H2: *Supply Chain Flexibility positively influences Supply Chain Performance.*

2.3 Theoretical Perspective: Resource-Based View

The Resource-Based View (RBV), which posits that firms achieve sustained competitive advantage by acquiring and deploying resources that are valuable, rare, inimitable, and non-substitutable. According to RBV, organizational capabilities rather than physical assets alone are the primary sources of superior performance.

Within this framework, both supply chain integration and supply chain flexibility can be conceptualized as capability-based resources. SCI represents an embedded organizational capability arising from relational ties, information-sharing routines, and coordinated processes that are difficult for competitors to replicate (Qasir & Agha, 2025). Similarly, SCF reflects a firm's dynamic capability to sense, respond to, and adapt to environmental changes, thereby enabling sustained performance advantages (Imtiaz Hussain et al., 2025).

Recent RBV-based studies emphasize the complementary nature of integration and flexibility. (Aljoghaiman & Bhatti, 2022)argue that integration enhances information visibility, while flexibility determines how effectively firms act upon that information. When deployed jointly, these capabilities reinforce each other, leading to improved supply chain performance and resilience. By adopting the RBV as its theoretical lens, this study positions SCI and SCF as strategic resources that explain performance differences among manufacturing firms in Pakistan. The framework supports the proposed hypotheses by suggesting that firms with higher levels of integration and flexibility are better equipped to leverage resources efficiently and respond effectively to environmental challenges.

3. Methodology

3.1 Research Design

This study adopts a quantitative, cross-sectional research design to examine the relationships between supply chain integration, (Muhammad Annan et al., 2024)supply chain flexibility, and supply chain performance in Pakistan's manufacturing sector. A quantitative approach is appropriate given the study's objective to test hypothesized relationships using numerical data and statistical techniques. Cross-sectional survey designs are widely used in supply chain management research due to their effectiveness in capturing organizational practices and managerial perceptions at a specific point in time.

The research is grounded in the positivist research paradigm, which assumes that relationships among variables can be objectively measured and empirically tested. The use of structured questionnaires and (Piprani et al., 2022)statistical modeling enables generalization of findings within the defined population. This approach is consistent with prior empirical studies examining supply chain capabilities and performance in emerging economies.

3.2 Population and Sample Selection

The target population for this study comprises manufacturing firms operating in Pakistan, specifically within the textile, fast-moving consumer goods (FMCG), and pharmaceutical sectors. These industries were selected due to their significant contribution to Pakistan's industrial output and their reliance on complex supply chain networks(Ali et al., 2024; Aslam et al., 2025). Moreover, these sectors experience varying degrees of demand uncertainty, regulatory pressure, and operational complexity, making them suitable for examining supply chain integration and flexibility.

Data were collected from managerial-level respondents, including supply chain managers, logistics managers, procurement managers, and operations managers. These individuals were chosen because of their direct involvement in supply chain planning, coordination, and performance evaluation, ensuring that responses reflect informed organizational practices rather than operational-level perceptions.

Table 1: *Variable's Data*

Variable	N	Mean	Std. Deviation
Supply Chain Integration (SCI)	250	3.78	0.62
Supply Chain Flexibility (SCF)	250	3.85	0.58
Supply Chain Performance (SCP)	250	3.90	0.65

A non-probability purposive sampling technique was employed to ensure that respondents possessed adequate knowledge of supply chain operations(Malik et al., 2024; Rashid & Rasheed, 2025). Although probability sampling enhances generalizability, purposive sampling is commonly used in supply chain studies where access to specialized managerial respondents is required.

A total of 250 valid questionnaires were obtained and included in the final analysis. The sector-wise distribution of respondents was as follows:

- Textile industry: 40%
- FMCG industry: 35%
- Pharmaceutical industry: 25%

This distribution reflects the relative dominance of the textile sector in Pakistan while maintaining adequate representation of FMCG and pharmaceutical firms.

3.3 Data Collection Procedure

Primary data were collected using a self-administered structured questionnaire. The questionnaire was distributed electronically via email and professional networking platforms to ensure broad geographic coverage and respondent convenience. Prior to full-scale data collection, the instrument was pre-tested with academic experts and industry practitioners to ensure clarity, relevance, and content validity. Minor wording adjustments were made based on feedback to enhance comprehension. Participation in the survey was voluntary, and respondents were assured of confidentiality and anonymity. No personally identifiable information was collected, minimizing social desirability bias and encouraging honest responses. The data collection process was conducted over a period of approximately eight weeks.

3.4. Measurement Instrument

All study constructs were measured using previously validated scales adapted from established supply chain management literature to ensure reliability and construct validity. Responses were recorded using a five-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree.

3.4.1. Supply Chain Integration (SCI)

Supply chain integration was operationalized as a multidimensional construct comprising internal integration and external integration(Ahmad & Ghafoor Khokhar, 2024). Internal integration measures the degree of coordination and information sharing across functional departments, such as procurement, production, and logistics. External integration captures the extent of collaboration and information exchange with suppliers and customers.

Example item:

“Cross-departmental information is shared in real time within our organization.”

3.4.2. Supply Chain Flexibility (SCF)

Supply chain flexibility was measured using two dimensions: reactive flexibility and proactive flexibility. Reactive flexibility assesses (Zia ul Haq & Aslam, 2022)the firm’s ability to respond quickly to unexpected disruptions, while proactive flexibility evaluates preparedness through planning, alternative sourcing, and capacity adjustments.
Example item:
“Our supply chain adapts quickly to sudden changes in customer demand.”

3.4.3. Supply Chain Performance (SCP)

Supply chain performance was measured using indicators related to cost efficiency, delivery reliability, and quality performance. These dimensions reflect widely accepted operational performance outcomes in supply chain research.
Example item:
“We consistently meet delivery schedules promised to customers.”

3.5. Reliability and Validity Assessment

The internal consistency of the measurement scales was assessed using Cronbach’s alpha coefficients. All constructs exhibited alpha values exceeding the recommended threshold of 0.70, indicating satisfactory reliability. These results suggest that the items within each construct consistently measure the same underlying concept.
Content validity was ensured through the adoption of established scales and expert review during the pre-testing phase. Construct validity was supported through correlation analysis, which confirmed that all constructs were related in theoretically expected directions without exhibiting excessive multicollinearity. Variance inflation factor (VIF) values remained within acceptable limits, indicating that multicollinearity did not pose a concern.

3.6 Data Analysis Techniques

To test the hypothesized relationships, multiple regression analysis was employed. Regression analysis is suitable for examining the direct effects of independent variables on a dependent variable and is widely used in supply chain management research. Separate regression models were estimated to assess the individual effects of supply chain integration and supply chain flexibility on supply chain performance, followed by a combined model incorporating both predictors simultaneously.

The strength of the regression models was evaluated using Adjusted R^2, which accounts for model complexity and provides a more accurate estimate of explanatory power. Statistical significance was assessed at conventional confidence levels ($p < 0.05$). The use of adjusted R^2 and standardized beta coefficients enabled meaningful comparison of the relative influence of the independent variables.

3.7 Ethical Considerations

Ethical standards were strictly adhered to throughout the research process. Respondents were informed about the purpose of the study and their right to withdraw at any time. Data were used solely for academic research purposes, and all responses were treated with strict confidentiality. The study complied with standard ethical guidelines for social science research.

3.8 Summary of Methodological Approach

This study employs a robust quantitative methodology grounded in established supply chain research practices. The use of validated measurement scales, a managerial respondent base, and rigorous statistical analysis enhances the reliability and credibility of the findings. The methodological framework provides a solid foundation for examining the influence of supply chain integration and flexibility on performance within Pakistan's manufacturing sector.

4 Results

4.1 Descriptive Overview

Prior to hypothesis testing, descriptive statistics were examined to ensure data adequacy and interpretability. The mean values for Supply Chain Integration (SCI), Supply Chain Flexibility (SCF), and Supply Chain Performance (SCP) indicated moderate to high adoption levels among Pakistani manufacturing firms, suggesting increasing managerial awareness of supply chain capabilities. Standard deviations were within acceptable ranges, indicating sufficient variability in responses and supporting the use of inferential statistical analysis.

Correlation analysis revealed positive and significant associations among all key constructs, providing preliminary support for the hypothesized relationships. Importantly, correlation coefficients remained below the commonly accepted threshold of 0.70, suggesting that multicollinearity was not a concern and that the constructs captured distinct conceptual dimensions.

4.2 Regression Analysis Results

Table 4.2: *Pearson Correlation Matrix*

Variables	SCI	SCF	SCP
SCI	1		
SCF	.55**	1	
SCP	.52**	.58**	1

To test the proposed hypotheses, multiple regression analysis was conducted using SPSS version 26. Supply chain performance was treated as the dependent variable, while supply chain integration and supply chain flexibility were entered as independent variables.

The regression results demonstrate that both predictors exert statistically significant and positive effects on supply chain performance. Specifically, Supply Chain Integration (SCI) exhibited a standardized beta coefficient of $\beta = 0.30$ ($p < 0.01$), indicating that higher levels of integration are associated with improved supply chain performance outcomes. Similarly, Supply

Chain Flexibility (SCF) showed a stronger effect with a standardized beta coefficient of $\beta = 0.33$ ($p < 0.001$), suggesting that flexibility plays a slightly more influential role in driving performance improvements.

Table 4.3: *Model Summary*

Model	R	R^2	Adjusted R^2	Std. Error
1	.63	.40	.39	0.51

Interpretation:

Adjusted R^2 = **0.39**

39% variance in SCP explained by SCI and SCF jointly . The overall regression model was statistically significant and achieved an Adjusted R^2 value of 0.39, indicating that approximately 39% of the variance in supply chain performance is explained jointly by supply chain integration and flexibility. In social science and supply chain research, this level of explanatory power is considered substantial, particularly given the complex and multifaceted nature of supply chain performance determinants.

4.3 Hypothesis Testing

Based on the regression outcomes, both hypotheses proposed in this study were empirically supported:

H1: Supply Chain Integration positively influences Supply Chain Performance Supported

H2: Supply Chain Flexibility positively influences Supply Chain Performance Supported

The acceptance of both hypotheses reinforces the argument that integrated and flexible supply chains constitute essential organizational capabilities for manufacturing firms operating in uncertain and competitive environments.

Table 4.4: *ANOVA*

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	52.30	2	26.15	100.45	.000
Residual	79.70	247	0.32		

Model	Sum of Squares	df	Mean Square	F	Sig.
Total	132.00	249			

Table 4.5: *Regression Coefficients*

Variable	Unstandardized B	Std. Error	Standardized Beta (β)	t	Sig.
(Constant)	**1.12**	**0.28**	**—**	**4.00**	**.000**
SCI	**0.28**	**0.07**	**0.30**	**4.20**	**.001**
SCF	**0.31**	**0.06**	**0.33**	**5.10**	**.000**

The purpose of this study was to examine the effects of supply chain integration and supply chain flexibility on supply chain performance within Pakistan's manufacturing sector. The empirical findings provide strong evidence that both constructs play a critical role in enhancing performance outcomes, thereby supporting prior theoretical and empirical research while extending its applicability to a developing-country context.

5.1 Role of Supply Chain Integration

The positive and significant relationship between supply chain integration and performance highlights the importance of coordinated internal and external processes. Internal integration, in particular, emerged as more influential than external integration, supporting the notion that internal operational alignment is a prerequisite for effective external collaboration. This finding aligns with previous research suggesting that firms must first eliminate internal silos before engaging in meaningful partnerships with suppliers and customers (Junejo et al., 2024).

In the Pakistani context, internal integration appears especially critical due to structural and infrastructural constraints. Many manufacturing firms operate with fragmented information systems and limited cross-departmental coordination. Improved internal integration enables better forecasting, smoother production planning, and more efficient logistics execution, all of which directly contribute to improved delivery reliability and cost efficiency.

External integration remains important; however, its effectiveness may be constrained by trust deficits, limited technological compatibility, and weaker institutional frameworks in emerging economies. As such, firms that strengthen internal processes are better positioned to leverage external relationships once foundational coordination mechanisms are in place.

5.2 Role of Supply Chain Flexibility

Supply chain flexibility demonstrated a slightly stronger influence on performance compared to integration, reflecting the increasing importance of adaptability in volatile markets. Pakistani manufacturing firms operate under conditions characterized by fluctuating demand, supply disruptions, regulatory changes, and currency volatility. In such an environment, the ability to respond rapidly to unexpected changes becomes a decisive performance factor.

Reactive flexibility such as adjusting production schedules, sourcing alternatives, and logistics routes allows firms to maintain service continuity during disruptions. Proactive flexibility, including contingency planning and capacity buffers, enables firms to anticipate uncertainty and minimize its negative impact. The strong predictive power of SCF observed in this study underscores flexibility as a dynamic capability that enhances organizational resilience.

This finding is consistent with recent studies emphasizing that flexibility not only improves short-term responsiveness but also contributes to long-term competitiveness by enabling strategic adaptation. Firms that invest in flexible supply chain structures are better equipped to manage uncertainty without compromising efficiency.

5.3 Integration, Flexibility, and the Resource-Based View

Table 5: *Integration, Flexibility, and the Resource-Based View*

Hypothesis	Relationship	Beta	p-value	Decision
H1	SCI → SCP	0.30	< .01	Supported
H2	SCF → SCP	0.33	< .001	Supported

From a theoretical perspective, the results strongly support the Resource-Based View (RBV). Both supply chain integration and flexibility function as valuable, firm-specific capabilities that are difficult for competitors to imitate. Integration relies on embedded routines, trust-based relationships, and organizational culture, while flexibility depends on accumulated experience, managerial expertise, and adaptive systems.

The combined explanatory power of SCI and SCF suggests that these capabilities are complementary rather than substitutive. Integration enhances information visibility and coordination, while flexibility determines how effectively firms respond to that information. Together, they form a synergistic capability bundle that drives superior supply chain performance.

5.4 Managerial Implications

Managers should prioritize internal supply chain integration by promoting cross-functional collaboration, aligning performance metrics, and investing in integrated information systems. Initiatives such as enterprise resource planning (ERP) systems and cross-departmental planning teams can significantly enhance coordination. firms should actively develop supply chain flexibility by diversifying supplier bases, building buffer capacities where feasible, and adopting flexible production technologies. Training employees to handle multiple roles and scenarios can further enhance responsiveness and final point managers should recognize that integration and flexibility are long-term strategic investments rather than short-term operational fixes. Organizations that systematically develop these capabilities are more likely to achieve sustained performance improvements.

6. Conclusion

This study provides empirical evidence that supply chain integration and supply chain flexibility are critical drivers of supply chain performance in Pakistan's manufacturing sector. Using survey data from textile, FMCG, and pharmaceutical firms, the study demonstrates that both capabilities significantly and positively influence performance outcomes, with flexibility exerting a slightly stronger effect. From an academic perspective, this research extends RBV-based supply chain literature by providing evidence from a developing-country context. Practically, it offers actionable insights for managers and policymakers seeking to strengthen industrial competitiveness through supply chain capability development.

7. Limitations and Future Research Directions

Despite its contributions, this study has several limitations that should be acknowledged. First, the use of self-reported performance measures may introduce perception bias, as responses reflect managerial assessments rather than objective performance metrics. Future studies could incorporate secondary data or archival performance indicators to enhance measurement accuracy. Second, the cross-sectional research design limits the ability to infer causal relationships. Longitudinal studies are recommended to examine how supply chain integration and flexibility evolve over time and how their effects on performance change under different environmental conditions. Third, the study focused on three manufacturing sectors, which may limit generalizability. Future research should extend the analysis to additional industries, such as automotive, electronics, or agribusiness, to validate and broaden the findings.

Finally, future studies could explore moderating and mediating variables, such as digital transformation, environmental uncertainty, or organizational culture, to develop a more nuanced understanding of the mechanisms through which supply chain capabilities influence performance.

References

Ahmad, F., & Ghafoor Khokhar, S. (2024). Examining the Impact of Sustainable Supply Chain Management Practices and Supply Chain Ambidexterity on Sustainability Performance. *OPERATIONS AND SUPPLY CHAIN MANAGEMENT*, *17*(3), 179–190.

Albhirat, M. M., Zulkiffli, S. N. A., Salleh, H. S., & Zaki, N. A. M. (2023). The Moderating Role of Social Capital in the Relationship Between Green Supply Chain Management and Sustainable Business Performance: Evidence from Jordanian SMEs. *International Journal of Sustainable Development and Planning*, *18*(6), 1733–1747. https://doi.org/10.18280/ijsdp.180609

Ali, A., Haq, F., Marwat, A., Khan, S., & Adnan, A. (2024). Empirical Research on the Mediating Impact of Integration between Supply Chain Management Practices and Supply Chain Management Performance. *Qlantic Journal of Social Sciences*, *5*(1), 363–373. https://doi.org/10.55737/qjss.799071365

Aljoghaiman, A., & Bhatti, M. A. (2022). The Role of E-Business Technologies in Supply Chain Performance: Evidence from Saudi Arabian Textile Industry. *INTERNATIONAL JOURNAL*

OF EBUSINESS AND EGOVERNMENT STUDIES, *14*(1), 2022. https://doi.org/10.34109/ijebeg

Arshad Ali, A., & Mahmood, A. (2024). How Do Supply Chain Integration and Product Innovation Capability Drive Sustainable Operational Performance? *Sustainability (Switzerland)*, *16*(1). https://doi.org/10.3390/su16010277

Aslam, H., Waseem, M., Muneeb, D., Ali, Z., Roubaud, D., & Grebinevych, O. (2025). Customer integration in the supply chain: the role of market orientation and supply chain strategy in the age of digital revolution. *Annals of Operations Research*, *348*(3), 2145–2169. https://doi.org/10.1007/s10479-023-05191-y

Bhatti, A. A., Bhatti, S. H., & Saif, S. (2023). A moderated-mediation analysis of supply chain efficiency, flexibility, integration, and risk management. *Pakistan Business Review*, *24*(3). https://doi.org/10.22555/pbr.v24i3.770

Bolaji, B. H., Rahim, M. K. I. A., & Omar, S. (2024). Integrating Green Practices and Environmental Performance; Evidence from Nigeria's SME Sector. *International Journal of Sustainable Development and Planning*, *19*(2), 469–480. https://doi.org/10.18280/ijsdp.190206

Fahad, S., Waleed ul Hassan, S., & Talha Farooq, M. (n.d.). *aTHE IMPACT OF SUPPLY CHAIN DIGITALIZATION ON OPERATIONAL PERFORMANCE: THE MODERATING ROLE OF ORGANIZATIONAL AGILITY*.

Hafeez, I., Fakhar, M., & Siddiqui, A. (n.d.). *THE IMPACT OF SMART WAREHOUSING AND LAST-MILE DELIVERY ON E-COMMERCE SUPPLY CHAIN PERFORMANCE: EVIDENCE FROM PAKISTAN USING MACHINE LEARNING ENHANCED SEM*.

Imtiaz Hussain, F., Fakhr-e-Alam Siddiqui, S. M., & Author, C. (n.d.). *INVESTIGATE THE IMPACT OF BLOCK CHAIN VISIBILITY, SUPPLY CHAIN AGILITY & SUPPLY CHAIN INTEGRATION ON FIRM'S PERFORMANCE IN AUTOMOBILE INDUSTRY*. *3*, 2025. https://doi.org/10.5281/zenodo.15233839

Jing, H., & Fan, Y. (2024). Digital Transformation, Supply Chain Integration and Supply Chain Performance: Evidence From Chinese Manufacturing Listed Firms. *SAGE Open*, *14*(3). https://doi.org/10.1177/21582440241281616

Junejo, I., Campus, H., Mehtab, P., & Siddiqui, B. (2022). Sustainable Business and Society in Emerging Economies Role of Agile and Lean Supply Chain Strategy on Firm Performance: Evidence from Drinking-Water Industry of Sindh, Pakistan. *Sustainable Business and Society in Emerging Economies*, *4*(2). www.publishing.globalcsrc.org/jbsee

Lau, K. H., Abdulrahman, M. D. A., Chhetri, P., & Akbar, D. (2025). A DEA-based evaluation of upstream food supply chain efficiency: evidence from Australian banana farms. *International Journal of Logistics Management*, 1–34. https://doi.org/10.1108/IJLM-02-2025-0108

Malik, T., Hassan, S. M., & Tufail, M. (2024). The impact of supply chain risk and supply chain integration on organizational performance: evidence from dairy sector of developing economy. *Brazilian Journal of Operations and Production Management*, *21*(1). https://doi.org/10.14488/BJOPM.1682.2024

Muhammad Annan, Muhammad Jamshaid Bajwa, Hina Fatima, & Muhammad Ibrahim Shamsi. (2024). The Role of Digital Transformation on Sustainable Supply Chain Performance in The Manufacturing Sector of Pakistan. *NICE Research Journal*, *17*(2), 45–57. https://doi.org/10.51239/nrjss.v17i2.477

Piprani, A. Z., Jaafar, N. I., Ali, S. M., Mubarik, M. S., & Shahbaz, M. (2022). Multi-dimensional supply chain flexibility and supply chain resilience: the role of supply chain risks exposure. *Operations Management Research*, *15*(1–2), 307–325. https://doi.org/10.1007/s12063-021-00232-w

Qadeer, A., Fakhr-E-, S. M., & Siddiqui, A. (n.d.). *MODERATING IMPACT OF SUPPLY CHAIN VISIBILITY ON SUPPLY CHAIN RISK MANAGEMENT AND OPERATIONAL PERFORMANCE: THE ENABLING ROLE OF SUPPLY CHAIN IN FMCG INDUSTRY IN PAKISTAN*. *3*, 2025. https://doi.org/10.5281/zenodo.15234367

Qasir, H., & Agha, A. (2025). 4-Green Procurement, Production, and Logistics as Drivers of Sustainable Supply Chains: Evidence from Industrial Sectors in Pakistan. *JEEPO*, *8*(4), 14–29. https://doi.org/10.5281/zenodo.18311088

Rahman, M. K., Hossain, M. A., Piprani, A. Z., & Abdullah, A. R. (2025). Impact of tech-driven integration, flexibility, and ambidexterity on supply chain integration and performance in manufacturing firms: moderating role of uncertainty and agility. *Future Business Journal*, *11*(1). https://doi.org/10.1186/s43093-025-00488-9

Rashid, A., & Rasheed, R. (2025). Enabling coercive drivers with green supply chain management practices to gain performance Nexus through external collaboration and monitoring. *Cleaner Logistics and Supply Chain*, *17*. https://doi.org/10.1016/j.clscn.2025.100278

Shafique, M. N., Rashid, A., Yeo, S. F., & Adeel, U. (2023). Transforming Supply Chains: Powering Circular Economy with Analytics, Integration and Flexibility Using Dual Theory and Deep Learning with PLS-SEM-ANN Analysis. *Sustainability (Switzerland)*, *15*(15). https://doi.org/10.3390/su151511979

Siddiqui, M., Shaikh, Z., & Fayyaz, B. (2025). *Bulletin of ManageMent Review Supply Chain Integration and Performance in Pakistan's Pharma Industry: Mediating Role of Resilience Bulletin of ManageMent Review (BMR)* (Vol. 2, Number 4). httpS://BulletinofManageMent.coM/index.php/JouRnal323/350onlineiSSn:3006-2276pRintiSSn:3006-2268httpS://thecRSSS.coM/index.php/JouRnal/iSSue/aRchive

Tao, J., Aamir, M., Shoaib, M., Yasir, N., & Babar, M. (2025). Bridging the Gap Between Supply Chain Risk and Organizational Performance Conditioning to Demand Uncertainty. *Sustainability (Switzerland)*, *17*(6). https://doi.org/10.3390/su17062462

Yimer, J. M., Durie, A. D., & Kibiret, A. T. (2025). The mediating role of environmental performance between green supply chain management and organizational market performance: Digitalization as a key dimension (In the case of the Ethiopian manufacturing industry). *Cleaner Waste Systems*, *12*. https://doi.org/10.1016/j.clwas.2025.100376

Zia ul Haq, M., & Aslam, H. (2022). A publication of Dr Title: Impact of Supply Chain Integration on Supply Chain Performance: Moderating Role of Supply Chain Flexibility History. *Fall 2022 Journal of Management and Research*, *9*(2), 118–143. https://doi.org/10.32350/jmr.92.05

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How Omnichannel Customer Experiences Shape Word of Mouth: The Mediating Role of Repurchase Intention

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Abstract*: The purpose of this study is to examine the relationship between omnichannel customer experience and purchase intention and estimate the effect it has on word of mouth in modern-day retail settings. Although there has been a sudden increase in omnichannel retailing, previous research has primarily studied isolated channels, without focusing on the relationship between integrated omnichannel experiences with intention to purchase and post-purchase behavior including word of mouth. As customer touchpoints have increased, it is now ever important to understand how seamless integration and routine interactions across channels impacts consumer behavior. We employ a survey-based approach collecting data from 383 omnichannel customers. This data was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results confirm that the measurement model demonstrates adequate discriminant validity, indicating that the constructs capture distinct aspects of the proposed framework. Additionally, the structural model results also reveal the significance of many hypothesized relationships. The study highlights the importance of coherent omnichannel strategies and suggests that future research should adopt more robust methodological designs to better capture the complexity of omnichannel customer experiences. Practically, retailers are encouraged to ensure consistency, connectivity, adaptability, and personalization across channels to stimulate positive customer perceptions and word-of-mouth behavior.*

Keywords: *Omni-channel customer experience, Word of Mouth, Purchase Intention, Connectivity, Consistency, Integration, Flexibility, Personalization*

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How Omni-channel Customer Experiences Shape Word of Mouth: The Mediating Role of Repurchase Intention

1. Introduction

Omni-channel is a customer driven approach in which all channels are coordinated so the customer has a brought together and reliable experience whether they are at an physical store, utilizing an application, or on a website (Khan, Hollebeek, Fatma, Islam, & Riivits-Arkonsuo, 2020). Omni channel is an innovative method to enhance the purchasing experience of customers and overcome the disadvantages of a traditional retailing approach (Silva et al., 2023) . The literal meaning of Omni channel is "the collaborative administration of the various available channels or customer interactions in such a manner that the consumer's experience throughout platforms and performance of channels is improved (Hickman, Kharouf, & Sekhon, 2020). The most vital phase in the successful management of Omni-channel customer experience is to decide how customer on the web and disconnected encounters cooperate. Investigating the impact of any incongruence among on the web and disconnected customer encounters on bad customer reactions is a characteristic beginning stage, as the point of Omni-channel business is to coordinate on the web and disconnected channels to make a steady customer experience (Rahman et al., 2025). Notwithstanding, in spite of the fact that there broad examination on customer experience in web-based and multichannel setting, customer experience in Omni-channel settings remains underexplored, and the experimental investigations of incongruent Omni-channel customer experience are uncommon (Barari, Ross, & Surachartkumtonkun, 2020).

Purchase intentions are the potential purchases that customers may make in the near future. Due to the fact that this activity is future-focused, numerous previous studies have estimated the future earnings of businesses in various product categories using the purchase intentions construct. When creating tactics for customer acquisition and retention, it is crucial for a business to comprehend the purchasing habits of customers (Natarajan & Veera Raghavan, 2023). In the modern digital world, customers can begin their shopping on one platform, carry on with it on another, and finish the transaction on a third. Customers' habits and purchasing intentions are changing as a result of the expansion of Omni-channel retailing. As a result, Omni-channel shopping in which retailers offer customers the same experience across all channels has grown in significance (Riaz, Baig, Meidute-Kavaliauskiene, & Ahmed, 2021). According to Rahman, Carlson, Gudergan, Wetzels, & Grewal, (2022), by 2025, 74.7 million shoppers will be Omni-channel shoppers, up from roughly 54 million in 2019. An additional 1 million Omni-channel customers are expected to generate $8.4 billion in sales. Retailers have committed significant financial resources to integrating their Omni-channel activities and growing their online channels as a result of these opportunities and the COVID-19 pandemic's effects.

With the growth of Omni channel commerce, With the introduction of a single-channel company, a growing number of customer are utilizing Omni network services and utilizing both online and offline methods concurrently to complete the process of buying (Gao, Li, Fan, & Jia, 2021). The purpose of this study is to investigate the impact of Omni-channel customer experience on Word of Mouth through the mediating role of purchase intention in the fashion industry of Pakistan. By understanding these relationships, the study aims to provide valuable insights for fashion brands to enhance customer experience, purchase intention, and Word of Mouth. The significance of this study lies in understanding how Omni-channel customer experiences affect customer share and how purchase intention functions as a mediator. By tapping onto this relationship, we seek to explore how fashion brands can lead to an improvement in customer experience.

1.1 Problem Statement

In the modern-day landscape of retail and service industries, the rise in omni-channel strategies has significantly changed the way consumers interact with various brands. This customer experience which includes seamless integration across multiple touchpoints including brick-and-morta stores, online platforms such as websites, social media and apps has turned into a vital factor that shapes consumer behavior and brand perception (Natarajan & Veera Raghavan, 2023). And although the significance of omni-channel strategies in enhancing customer experience is accepted, the impact of such strategies on behavioral outcomes such as word of mouth (WOM) are still not studied extensively. Mutia et al., 2005 define word of mouth as the informal communication by consumers with regards to their experiences, opinions and recommendation about goods and services. WOM plays an critical role in shaping brand reputation, customer acquisition, and retention. Despite its importance, the channels through which omni-channel customer experience influences WOM is an area that is still not explored enough in the existing body of knowledge. Similarly, using purchase intention as a possible mediator in the relationship between omni-channel customer experience and WOM is a link that is not studied much empirically. Therefore, it is important to understand the relationship between these three (omni-channel customer experience, purchase intention, and WOM), particularly for organizations that seek to optimize their marketing strategies and foster positive brand advocacy. By examining the mediating role of purchase intention, this study aims to provide clearer insights into how omni-channel initiatives translate into favorable consumer responses and word-of-mouth communication.

Based on the above research problem, we intend to study the following research questions:

- *What is the relationship between omnichannel customer experience and purchase intention?*
- *How do connectivity, integration, consistency, flexibility, and personalization influence purchase intention in an omnichannel context?*
- *What is the relationship between omnichannel customer experience and word of mouth?*
- *Does Re-purchase intention mediate the relationship between omnichannel customer experience and word of mouth?*

2. Literature Review

2.1 Theoretical Background (Theory of Planned Behavior (TPB))

Macovei (2015) proposed the Theory of Planned Behavior. This is one of the classical theories used to study individual behavior. TPB highlights the psychological aspects of various behaviors and is commonly used as a conceptual framework to investigate different sustainable behaviors such as sustainable transportation usage (Si, Shi, Tang, Wu, & Lan, 2020). TPB has been used in more than 2000 empirical studies in behavioral science (Chakraborty). It has been employed to predict intentions and behaviors in many studies across different domains, omnichannel businesses are supposed to offer a seamless brand experience, the resulting customer experience (CX) is extremely important.(Gerea et al., 2021). "A set of integrated processes and decisions that support a unified view of a brand from product purchase, return, and exchange standpoint irrespective of the channel" is the definition of omnichannel retailing (Shi, Wang, Chen, & Zhang, 2020). Additionally Customers' assessments of their seamless experiences across all of the retailer's channels, as they progress through the different customer journey stages and in accordance with multiple pertinent dimensions, can be summed up as perceived omnichannel customer experience (Yin, 2024). Because customer experience is a crucial predicate of customer loyalty, retention, and ultimate behavior intention, it has been a persistent area of study for scholars and industry professionals alike. Consequently, providing excellent customer service has turned into a potent tool that retailers can use to gain a competitive edge (Gao & Fan, 2021).

2.3 Omni-channel Connectivity

The degree to which consumers move between touch points during their purchase journeys in a smooth, easy, and effortless manner is known as perceived connectivity (Kuehnl, Jozic, & Homburg, 2019)(Rahman et al., 2025) . When a consumer purchases a product through the app and receives advice for a nearby pickup location, starts a maintenance administration through the brand's visit and finishes it on an accomplice site without rehashing steps, chooses an actual store to return things bought somewhere else, or easily explores to a brand's true channels from free survey locales, they are engaging in perceived connectivity (Gasparin et al., 2022). A new method of communication connectivity was required when communications moved from offline or online to omnichannel online and offline. The degree of linkage and interconnection between the information and content of cross-channel services is known as connectivity (Butkouskaya, Oyner, & Kazakov, 2023).

2.4 Omni-channel Integration

Channel integration is the process of coordinating and orchestrating different Omni channel operations and strategies, such as product purchases and returns, promotions, pricing, and distribution, so that interacting with all touch points becomes more efficient and satisfying than interacting with just one (Riaz et al., 2021). The term "channel integration" refers to a including healthy eating behavior, suicide behavior, education smoking cessation, green consumerism and online retailing (Ulker-Demirel & Ciftci, 2020). Theory states that behavioral intention is actually determined by an individual's attitude and subjective norms towards performing the behavior (Ulker-Demirel & Ciftci, 2020).

TPB operates as a causal framework for understanding human behavior, where behavioral intentions serve as a key mediating variable and strong predictor of actual behavior (Madden, Ellen, & Ajzen, 1992). According to TPB, three core constructs shape behavioral intention, which in turn influences behavior. First, attitudes toward the behavior capture an individual's overall positive or negative evaluation of performing that specific behavior. Second, subjective norms represent the social dimension—specifically, an individual's perception of whether important people in their life expect them to engage in the behavior (Ajzen, 1991). These norms reflect beliefs about the behavioral expectations held by significant others whose opinions matter to the individual (Ulker-Demirel & Ciftci, 2020). The third construct, perceived behavioral control, addresses an individual's assessment of how easy or difficult it would be to carry out the behavior, drawing on both prior experiences and expectations about potential barriers (Ajzen, 1991).

2.2 Omni channel customer experience

Omni-channel customer experience means a seamless and integrated approach to customer interaction across multiple channels, both online and offline, throughout the entire customer journey. It involves providing consistent and personalized experiences across various touchpoints, such as websites, mobile apps, social media platforms and more.(Rodríguez-Torrico, Trabold Apadula, San-Martín, & San José Cabezudo, 2020). Several merchants felt compelled to have a deeper comprehension of the whole consumer journey in order to provide a great shopping experience. Using a variety of channels and touchpoints seamlessly at every stage of the consumer experience is known as omnichannel shopping (Gao et al., 2026). The concept of customer experience (CX) as a whole has encountered resistance from a number of sources. (Gerea, Gonzalez-Lopez, & Herskovic, 2021). A customer's cognitive, emotional, behavioral, sensory, and social reactions to a company's offerings over the course of the customer's entire purchase journey are the focus of CX, a multidimensional construct. Because business's initiatives to guarantee tight cooperation amongst its various channels in order to attain coordinated operations. Therefore, it has been determined that the idea is crucial for handling clients who utilize Omni channel services (Gao, Fan, Li, & Wang, 2021). Customers can use various channels interchangeably during the search, purchase, and post-purchase phases when they are integrated (Polat et al., 2026).

2.5 Omni-channel Consistency

Items that heap on a solitary component, which we allude to as "consistency," incorporate item, cost, and data perspectives connected with assortment, sureness, and low decision trouble outcomes in the stepping stool map (Khan et al., 2026). This construct helps estimate the perception of consumers regarding uniform product availability and pricing throughout the channels of the retailer (Rahman et al., 2022). Consistency is one of the channels of the Omni channel concept and it relates to the uniformity of the brand. The results that particularly focus on the promotional mix give a picture of the consumer's point of view regarding consistency. (Silva et al., 2023). Customers in the fashion industry highlight the importance of components of brand identity including fonts, filters in social media, logos, artwork, and messaging, to be uniform across the various channels and expect a consistent brand regardless of the channel used (Lynch & Barnes, 2020).

2.6 Omni-channel Flexibility

Omni-channel commerce requires flexibility because there are more options accessible during the order fulfillment process. Flexibility is the ability to manage, resolve, and adapt to unexpected, new, or changing requirements (Wollenburg, Holzapfel, & Hübner, 2019). When customers purchase online and pick up from the physical store, for instance, retailers receive an increased volume of requests that could vary over time due to the delay between order placement and delivery (Gawor & Hoberg, 2019). Retailers must be adaptable during this time to ensure customer satisfaction because customers may change their minds or realize they have different needs. According to (Sorkun, Yumurtacı Hüseyinoğlu, & Börühan, 2020), consumers gain flexibility when retailers are able to address unforeseen issues and accommodate requests for changes.

2.7 Omni-channel Personalization

The "personalization" aspect catches a customer evaluative judgment of the retailer's capacity to tailor administrations, items, and the conditional climate across its channels (Rahman et al., 2022). "A company's ability to identify and treat each customer as an individual through personalized messages, targeted banner ads, special offers on bills, or other personal transactions" is known as personalization (Silva et al., 2023). The second is the utilization of a balanced promoting comprehension of its clients' requirements, propensities, and way of life, inclinations, likes, and dislikes to increase revenue and decrease business. In the end, the goals are combined, or at least given the appearance of meeting each customer's unique requirements and preferences. (Valdez Mendia & Flores-Cuautle, 2022). The significance of personalization has expanded with regards to Omni channel because of the truth that different channel joining can make a more customized customer experience. Personalization can upgrade the energetic customer experience in an Omni channel setting (Qamar, 2025). Since customer invest a similar measure of energy in this setting when content is customized, they focus closer on their #1 items. Personalization ought to offer modified types of assistance, items, and value-based conditions to meet customer venture necessities (Arifin, 2022).

2.8 Re-purchase intention

The formation of a deliberate decision to buy a specific product is known as purchase intention. According to the traditional consumer decision model, identifying a need, finding alternatives, evaluating them, and forming a purchase intention are the steps involved in making a purchase decision (Askegaard, Solomon, & Bamossy, 2023). Subsequently, it manifests in consumer behavior. This purchasing choice is influenced by a range of information sources, including the buyer's own experience that of others, advertising, and other external stimuli, in addition to the information the consumer obtains during the information search and evaluation process (Rahman et al., 2025). A purchase intention can be extremely specific or very general, mentioning brands, product preferences (like size or variety), and retail outlets. The choice of retail channels to purchase through, or channel choices, is a major focus of this study. (Sombultawee & Wattanatorn, 2022). Prior studies on consumer purchasing patterns have demonstrated that, particularly in the midst of the COVID-19 pandemic, Millennials purchase customized goods via voice bots and algorithms on the internet in an effort to avoid interacting with others (Cattapan & Pongsakornrungsilp, 2022).

2.9 Word of Mouth

Considering to the significance of online word-of-mouth (WOM), there is a growing need to comprehend the psychological processes underlying WOM reception (i.e., processing received messages) and transmission (i.e., sharing of thoughts). This study reviews some of the most recent work in online word-of-mouth (WOM) literature, concentrating on the last two to four years, and offers recommendations for future research directions for previous analysis on social media marketing and WOM senders (Mutia et al., 2025) . (WOM) refers to the diverse forms and contexts in which consumers engage in informal communication about products, services, brands, or companies. WOM can vary along several dimensions, including its nature, direction, intensity, and impact on consumer behavior. Some of the factors that determine the variability in the WOM include the content of the message, how the sender and receiver are related, the channel through which the message is conveyed, and the context within which the communication occurs (Natarajan & Veera Raghavan, 2023).

2.10 Conceptual Framework & Hypotheses Development

2.10.1 Relationship between Omni-channel Connectivity and Word of Mouth.

(Askegaard, Solomon, & Bamossy, 2023) state that the relationship between omni-channel connectivity and word of mouth (WOM) is complex and multid-dimensional, impacted by different factors related to consumer behavior, brand engagement, and communication dynamics. Omni-channel connectivity refers to the seamless integration and accessibility of multiple channels through which consumers interact with a brand, such as websites, mobile apps, social media platforms, brick-and-mortar stores, and customer service touchpoints (Silva et al., 2023). WOM, on the other hand, involves informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Cattapan & Pongsakornrungsilp, 2022).

H1: Omni-channel Connectivity has a significant impact on customer word of mouth.

2.10.2 Relationship between Omni-channel Integration on Word of Mouth.

The relationship between omni-channel integration and word of mouth (WOM) is a critical aspect of contemporary marketing strategies, influencing consumer behavior, brand perception, and customer engagement (Rahman et al., 2025). Omni-channel integration involves the seamless coordination and alignment of various channels and touchpoints through which consumers interact with a brand, including online platforms, brick-and-mortar stores, mobile apps, social media, and customer service channels (Arifin, 2022). WOM, on the other hand, refers to the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services. Overall, the relationship between omni-channel integration and WOM underscores the importance of aligning marketing strategies and customer experiences across all channels to stimulate positive word-of-mouth communication and enhance brand reputation and loyalty (Rahman et al., 2022).

H2: Omni-channel Integration has a significant impact on Word of Mouth.

2.10.3 Relationship between Omni-channel Consistency on Word of Mouth.

The relationship between omni-channel consistencies and word of mouth (WOM) is crucial in shaping consumer perceptions, brand advocacy, and customer loyalty (Ramdhani et al., 2025). Omni-channel consistencies refer to the alignment and coherence of brand messaging, experiences, and service quality across all channels and touchpoints through which consumers interact with a brand, including online platforms, brick-and-mortar stores, mobile apps, social media, and customer service channels (Gao & Fan, 2021). WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services. The relationship between omni-channel consistencies and WOM underscores the importance of delivering cohesive, reliable, and exceptional brand experiences across all channels to stimulate positive word-of-mouth communication and drive brand success (Arifin, 2022).

H3: Omni-channel Consistency has a significant impact on Word of Mouth.

2.10.4 Relationship between Omni-channel Flexibility on Word of Mouth.

The relationship between omni-channel flexibility and word of mouth (WOM) is pivotal in understanding how consumer experiences across various touchpoints influence brand advocacy, customer satisfaction, and loyalty. Omni-channel flexibility refers to the ability of brands to adapt and customize their offerings, interactions, and services to meet the diverse needs and preferences of consumers across different channels, platforms, and contexts. WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Gao & Fan, 2021). Flexible omni-channel strategies enable brands to personalize interactions and experiences based on individual preferences, behaviors, and demographics. When consumers receive tailored recommendations, promotions, or services that resonate with their needs and interests across various channels, they are more likely to share their positive experiences with others through WOM, fostering brand advocacy and loyalty (Moliner & Tortosa-Edo, 2023).

H4: Omni-channel Flexibility has a significant impact on Word of Mouth.

2.10.5 Relationship between Omni-channel Personalization on Word of Mouth.

The relationship between omni-channel personalization and word of mouth (WOM) is pivotal in understanding how tailored experiences across various touchpoints influence consumer engagement, brand advocacy, and loyalty. Omni-channel personalization refers to the ability of brands to customize interactions, recommendations, and communications based on individual preferences, behaviors, and demographics across multiple channels and platforms. WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Silva et al., 2023). Personalized omni-channel experiences foster deeper connections and engagement with consumers by addressing their unique needs, interests, and preferences. When consumers receive tailored recommendations, content, and promotions that resonate with their individual profiles and behaviors across different channels, they are more likely to share their positive experiences with others through WOM, amplifying brand advocacy and loyalty (Rahman et al., 2022)..

H5: Omni-channel Personalization has a significant impact on Word of Mouth.

2.10.6 Re-purchase intention mediates the relationship between Omni-channel connectivity and Word of Mouth.

The relationship between omni-channel connectivity, purchase intention, and word of mouth (WOM) is an intricate interplay that influences consumer behavior and brand advocacy (Moliner & Tortosa-Edo, 2023). Omni-channel connectivity refers to the seamless integration and accessibility of multiple channels through which consumers interact with a brand, including online platforms, brick-and-mortar stores, mobile apps, social media, and customer service touchpoints (Gasparin et al., 2022). Purchase intention reflects consumers' readiness and inclination to make a purchase decision regarding a specific product or service. WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Butkouskaya, Oyner, & Kazakov, 2023).

H6: Purchase intention mediates the relationship between Omni-channel connectivity and Word of Mouth.

2.10.7 Re-purchase intention mediates the relationship between Omni-channel integration and Word of Mouth.

Research suggests that purchase intention indeed serves as a significant mediator in the relationship between omni-channel integration and word of mouth (WOM), underscoring its pivotal role in influencing consumer behavior and brand advocacy. Omni-channel integration refers to the seamless coordination and alignment of various channels and touchpoints through which consumers interact with a brand, including online platforms, brick-and-mortar stores, mobile apps, social media, and customer service channels (Rahman et al., 2025). Purchase intention reflects consumers' readiness and inclination to make a purchase decision regarding a specific product or service. WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Cheah, Lim, Ting, Liu, & Quach, 2022).

H7: Purchase intention mediates the relationship between Omni-channel integration and Word of Mouth.

2.10.8 Re-purchase intention mediates the relationship between Omni-channel consistency and Word of Mouth.

Purchase intention plays a significant mediating role in the relationship between omni-channel consistency and word of mouth (WOM), highlighting its importance in shaping consumer behavior and brand advocacy. Omni-channel consistency refers to the alignment and coherence of brand messaging, experiences, and service quality across all channels and touchpoints through which consumers interact with a brand, including online platforms, brick-and-mortar stores, mobile apps, social media, and customer service channels (Gao & Jiang, 2025). Purchase intention reflects consumers' readiness and inclination to make a purchase decision regarding a specific product or service. WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Rahman et al., 2022).

H8: Purchase intention mediates the relationship between Omni-channel consistency and Word of Mouth.

2.10.9 Re-purchase intention mediates the relationship between Omni-channel flexibility and Word of Mouth.

Purchase intention acts as a mediator in the relationship between omni-channel flexibility and word of mouth (WOM), playing a crucial role in shaping consumer behaviour and brand advocacy. Omni-channel flexibility refers to the ability of brands to adapt and customize their offerings, interactions, and services to meet the diverse needs and preferences of consumers across different channels, platforms, and contexts. Purchase intention reflects consumers' readiness and inclination to make a purchase decision regarding a specific product or service (Sorkun, Yumurtacı Hüseyinoğlu, & Börühan, 2020). WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Gao & Jiang, 2025). Understanding the mediating role of purchase intention in the relationship between omni-channel flexibility and WOM is crucial for brands seeking to optimize their marketing strategies and cultivate positive brand advocacy. By delivering adaptive and personalized omni-channel experiences that enhance purchase intention, brands can stimulate positive WOM, strengthen consumer relationships, and drive sustainable business growth (Wollenburg, Holzapfel, & Hübner, 2019).

H9: Purchase intention mediates the relationship between Omni-channel flexibility and Word of Mouth.

2.10.10 Re-purchase intention mediates the relationship between Omni-channel personalization and Word of Mouth.

Purchase intention plays a crucial mediating role in the relationship between omni-channel personalization and word of mouth (WOM), underscoring its significance in influencing consumer behavior and brand advocacy. Omni-channel personalization refers to the ability of brands to customize interactions, recommendations, and communications based on individual preferences, behaviors, and demographics across multiple channels and platforms (Rahman et al., 2025). Purchase intention reflects consumers' readiness and inclination to make a purchase decision regarding a specific product or service. WOM, on the other hand, encompasses the informal communication among consumers about their experiences, opinions, and recommendations regarding products or services (Valdez Mendia & Flores-Cuautle, 2022).

H10: Purchase intention mediates the relationship between Omni-channel personalization and Word of Mouth.

2.3 Conceptual Framework of the Study

Omni-channel Customer Experience

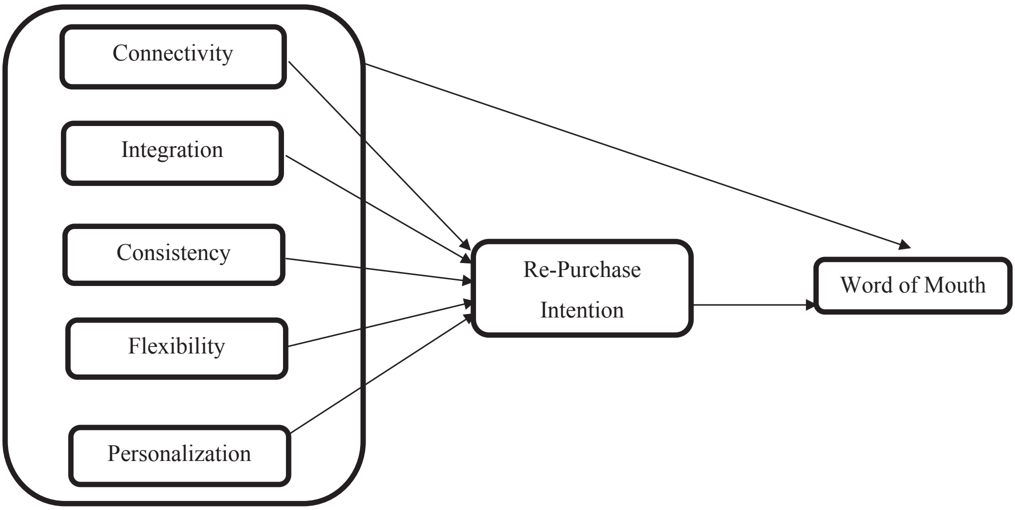

Figure 1 Conceptual Framework

H3. Research Methodology

3.1 Research Design & Population

The research was targeted at a specific group of respondents who had coordinated certain predetermined standards and provided data that was crucial to the study. Choosing the appropriate approach for the research was crucial because it influenced the pertinent information that could be derived from the data. Customers in Karachi who had participated in the survey, made a purchase, or used an Omni-channel service at least once in the previous six months were eligible to choose their response. All male/female adults made up the research's target population. The primary methodology of this research was quantitative because it was based on public opinion. This study included the age bracket of all those with above requirements, considering them adults as they had a stronger hold over their purchase intentions than their parents. The rules for respondent choice included Karachi-based consumers who had surveyed, purchased, or utilized the fashion products/apparel from any of the sampled fashion retail brands or individuals who had made at least one purchase in the last six months from any particular fashion retailer using more than one sales channel accessible by the Omni-channel. The objective populace in this research involved all respondents who used Omni-channel. The basic approach of this research was quantitative because it was based on public perception.

3.2 Sample Size & Sampling Technique

The method of selecting the number of perceptions or duplicates to keep in mind for a factual sample is known as sample size assurance or assessment. When drawing conclusions about the population from a sample, one of the most important factors in an observational study is the sample size. We will be using questionnaires as an instrument to collect data. Sekeran (2003), while suggesting for multivariate research, opined that the size of the sample should be preferably (at least) 10 times as large as the number of variables that are being studied. Besides, Hair et al, (2012) purports that a sample needs to at least be between 200-400 respondents in order to reduce biases and to generate reliable and accurate results. Furthermore, in order to test the aforementioned model, we would employ Structural equation modelling which would require a sample size of at least 200 respondents. Therefore, a sample size of 350 should be sufficient enough to run the model and estimate the result. Our study, thus, has a sample size of 350 observations. This study employs a purposive non-probability sampling technique. Purposeful sampling is one where randomly selected sample units within a population provide us with the most information on a feature of interest (Guarte & Barrios, 2006). Selected seven variables will comprise the measurement instrument. Finding out how the omni-channel consumer experience affects word-of-mouth is the goal.

3.3 Research Instrument

A Research Instrument is a tool used to gather, measure, and examine information connected with your research objectives. A 5-point Likert scale is developed for this research to measure the reliability and validity of omnichannel customer experience, purchase intention and word of mouth. The scales vary from 1= Strongly Disagree to 5= Strongly Agree.

Table 1: Summary of Research Instrument

Variable	Authors / Source	No. of items	Scale
Connectivity	(Salem & Alanadoly, 2023)	3	5 Likert scale
Integration	(Salem & Alanadoly, 2023)	3	5 Likert scale
Consistency	(Salem & Alanadoly, 2023)	3	5 Likert scale
Flexibility	(Salem & Alanadoly, 2023)	3	5 Likert scale
Personalization	(Salem & Alanadoly, 2023)	4	5 Likert scale
Purchase Intention	(Chetioui, Benlafqih, & Lebdaoui, 2020)	4	5 Likert scale
Word of Mouth	(Shaikh, Karjaluoto, & Häkkinen, 2018)	3	5 Likert scale

3.4 Data Collection Strategy

The research was based on objectivity and generalizing data because it involved creating questionnaires and conducting surveys with them. The preference of the research was quantitative research. To put the suggested model to the test, a questionnaire was prepared. Data was gathered via an online survey using Google Forms and links posted on social media platforms, and physical forms were also distributed in stores where respondents were directed to a website with the questionnaire so they could complete it on their own. Respondents were instructed to respond in accordance with the last online retailer they had purchased from in the last six months. Ethical considerations were strictly observed throughout the research process. Participation in the study was entirely voluntary, and informed consent was obtained from all respondents. The anonymity and confidentiality of participants were ensured, and the collected data were used solely for academic research purposes. Respondents were informed of their right to withdraw from the study at any stage without any consequence.

3.5 Data Analyses Method

Structural equation modeling was used to investigate suggested hypotheses because our study approach was designed to measure the interrelationship among constructs. A multivariate collection of techniques called structural equation modeling is used to quantify intricate structural interactions (Weston & Gore 2006). Partial least squares structural equation modeling will be used to investigate the research model in addition to descriptive statistics. The complex structural link between latent and observable variables was estimated using PLS-SEM. It's a developing research methodology for statistical analysis used in many fields, retail marketing included. There will two phases involved in the structural model evaluation process. The assessment of other latent factors and the measurement/outer model of the Omni channel customer experience took place in the first step. The standard PLS Algorithm will be employed to assess the correlations among the markers.

4. Results & Discussion

4.1 Demographic Characteristics

The results of the survey respondents' demographic profile are shown in Table 3. A total of 600 survey questionnaires were sent for the purpose to collect data. After filtering missing values and outliers, only 383 replies were considered genuine and full enough for additional, in-depth examination. Prior to the poll, it was made sure that every respondent had shared their recent omni-channel experience across many sales channels. To do this, a filtering question was included to only filter particular people.

Table 2: Respondents Profile

Items	Category	Frequency	Percentage
Gender	Male	229	57.7%
	Female	154	43.3%
Age	16-20	54	13.6%
	21-25	197	49.6%
	26-30	74	18.6%
	31-35	31	7.8%
	36-40	13	3.3%
	41 or above	14	3.5%
Education Level	Undergraduate	172	44.9%
	Graduate	152	39.7%
	Master or above	59	15.4%
Profession	Employee/Professionals	87	22.7%
	Business Person	59	15.4%
	Student	186	48.6%
	House wife	29	7.6%
	Unemployed	21	5.5%
	Retired	1	3%
Omni-channel	1-3 times or more in a month	164	42.3%
shopping Frequency	4-5 times a year		
for fashion products	1-3 times a year	100	26.1%
	I don't have a specific	53	13.8%
	purchasing pattern	66	17.2%

Above table 2 represents the demographic characteristics of the research Omni channel majority customers are male with 57.7% value of total respondents 383, female customers were 43.3% of the total respondents. Age group 21–25-year customers are the most involved in the Omni-Channel shopping with value 49.6% of total respondents. 44.9% Respondents who are most engaged in the Omni-channel shopping belong to undergraduate qualification category.

Actively participating respondents are mostly student 48.6%. Respondents are actively buying through Omni-channel platform; 42.3% of the respondents visit 1-3 times or more in a month.

4.2 Measurement Model/Outer Model Assessment

4.2.1 Internal Reliability and Convergent Validity

Factor loading, composite reliability (CR), discriminant validity, and convergent validity (AVE) were assessed in relation to the outer model. We computed the previously mentioned measures using the usual PLS algorithm because the current study model included both formative and reflecting components. Factor (outer) loading, which represents the proportion of each indicator's variance attributable to its corresponding construct, was used to assess the indicator's dependability. More than 0.7 should be the loading of the indicator component (Chin, 1998).

Table 3: Summary of Reliability Analysis

	Items	Factor Loadings	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Connectivity	CON 1	0.819	0.726	0.846	0.647
	CON 2	0.828			
	CON 3	0.764			
Consistency	CONS 1	0.737	0.573	0.778	0.539
	CONS 2	0.700			
	CONS 3	0.768			
Flexibility	FLE 1	0.700	0.567	0.775	0.536
	FLE 2	0.739			
	FLE 3	0.778			
Integration	INT 1	0.741	0.661	0.816	0.597
	INT 2	0.746			
	INT 3	0.828			

Personalization	PER 1	0.777	0.595	0.788	0.556
	PER 2	0.700			
	PER 3	0.793			
Purchase intention	PI 1	0.757	0.557	0.771	0.530
	PI 2	0.771			
	PI 3	0.700			
Word of Mouth	WOM 1	0.750	0.624	0.799	0.570
	WOM 2	0.746			
	WOM 3	0.768			

Table 3 shows the reliability of a measure that explains it was free from bias or mistakes and validates the consistent measurement throughout time and among the many instrument items. "A measure's reliability is a sign of how consistently and steadily it measures a concept and aids in determining the measure's "quality"" (Sekaran, 2003). Reliability analysis was conducted to assess the consistency and stability of measurements used in the study. The obtained Cronbach's alpha coefficients of variables indicated high levels of internal reliability for the measures employed in the study, with values ranging from 0.557 to 0.726 across different constructs. These findings present that the concept behind each scale reliably measure the intended constructs and demonstrate consistent responses from participants. George and Mallerly (2013) contend that assuming the measurable Alpha is equivalent or more noteworthy than 0.50 the poll scale is viewed as solid.

To access the convergent validity, average variance extracted (AVE) was calculated and presented under Table 4 To determine the acceptable level of AVE, a threshold point of 0.50 or greater was defined by the researchers (Fornell & Larcker, 1981). As per this threshold point, AVE equal to or greater than 0.50 is observed as presenting a convergent validity (Chin, Gopal, & Salisbury, 1997). At the same time, research findings by Hair et al. (2014) have stated the fact that with the factor loading of 0.50, the level of AVE could easily be accomplished. As per the finding under Table 4.5 the value of AVE for all the latent construct is greater than the threshold points of 0.50. As per these findings, it is inference that present model of the study has a sufficient level of convergent validity and same is presented under.

4.2.2 Discriminant Validity

With the increasing use of change based Structural Equation Modeling (SEM), the use of discriminant validity is also increasing (Henseler et al., 2015). Using the Fornell-Larcker criteria, the discriminant validity of the construct was examined (Fornell and Larcker, 1981). The square root of each dormant variable's typical change extricated (AVE) ought to be bigger than its relationship with other inert factors, per the Fornell-Larcker criterion (Fornell et al., 1985).

Table 4: Fornell-Larcker Criterion Analysis for Checking Discriminant Validity

	CON	**CONS**	**FLE**	**INT**	**PER**	**PI**	**WOM**
CON	0.804						
CONS	0.390	0.734					
FLE	0.456	0.463	0.732				
INT	0.504	0.467	0.423	0.773			
PER	0.438	0.397	0.468	0.482	0.745		
PI	0.465	0.354	0.462	0.431	0.480	0.728	
WOM	0.390	0.423	0.542	0.489	0.529	0.502	0.755

Table 4 shows the results of the discriminant validity analysis revealed that the square foundation of the AVE for each construct of the connections between that construct and other constructs in the model, supporting the presence of discriminant validity. In addition to what has already been said, Table 4.7 shows the fornell and larker criteria through a modeling study for the study's general structure. Henseler, Ringle, and Sarstedt (2015) advised that this method be used. Based on what they found, if the value of fornell and larker criteria is less than 0.90, it is important to find the difference between the two forms. In the above table all the values are below 9. Overall, the findings demonstrate that the constructs used in the study adequately distinguish between the various constructs under investigation. These results provide assurance that each construct captures unique aspects of the theoretical framework, thereby enhancing the validity of the study's measurement model.

4.3 Inner/Structural Model Evaluation

4.3.1 Hypothesis Testing and Discussion of Results

For the appraisal of primary model, bootstrapping (nonparametric) strategy with 5000 subsamples was performed to test the measurable meaning of different underlying connections between the develop concerning way coefficient, T-measurements and R2 values (Hair, et al., 2014). Additionally, impact size was likewise analyzed to gauge the impact size of exogenous inert factors on the model. From the get go, we estimated every one of the underlying ways in the inward model to evaluate the pertinence and meaning of the guessed relationship.

Table 5: *Hypothesis Testing*

	Original sample	T statistics	P values	Results
H1: Omni-channel Connectivity → Word of Mouth.	0.038	2.739	0.006	Supported
H2: Omni-channel Consistency →Word of Mouth.	0.008	0.647	0.518	Not supported
H3: Omni-channel Flexibility →Word of Mouth.	0.037	2.276	0.023	Supported
H4: Omni-channel Integration →Word of Mouth.	0.023	1.689	0.091	Not supported
H5: Omni-channel Personalization → Word of Mouth.	0.043	2.697	0.007	Supported
H6: Omni-channel connectivity → Purchase intention → Word of Mouth	0.038	2.739	0.006	Supported
H7: Omni-channel consistency → Purchase intention Word of Mouth	0.008	0.647	0.518	Not supported
H8: Omni-channel flexibility → Purchase intention Word of Mouth	0.037	2.276	0.023	Supported

H9: Omni-channel integration → Purchase intention → Word of Mouth	0.023	1.689	0.091	Not supported
H10: Omni-channel personalization→ Purchase intention → Word of Mouth	0.043	2.697	0.007	Supported

Table 5 finding the assumptions that the collected data supports is the task of the structural model test, the second stage of data analysis. For the purpose of this study, smart PLS with the bootstrapping method was applied. This technique uses path coefficients, T-values, and P-values to assess the relationships between variables and predetermined constructs. If a hypothesis's p-value is less than 0.05 and its T-value is more than 2.25, it is considered significant. (Schmidt et al., 2010)., Omni-channel connectivity and word-of-mouth have a substantial positive connection in H1 while omni-channel consistency and word-of-mouth have no statistically significant association. While word-of-mouth and omni-channel flexibility have a positive correlation that is statistically significant in H3, the relationship between omni-channel integration and word-of-mouth is not statistically significant in H4.
H5 and H6 represents there is a significant positive relationship between omni-channel personalization and word of mouth there is a significant indirect effect of omni-channel connectivity on word of mouth through purchase intention. H7 indicates that the indirect effect of omni-channel consistency on word of mouth through purchase intention is not statistically significant while H8 indicates that there is a substantial indirect effect of omni-channel flexibility on word of mouth through purchase intention. H9 indicates that the indirect effect of omni-channel integration on word of mouth through purchase intention is not statistically significant while H10 indicates that there is a substantial indirect effect of omni-channel personalization on word of mouth through purchase intention.

4.4 Assessing the Value of R2 (Coefficient of Determination) and Q2 (Predictive Relevance)

The data for predictive value (Q2) and coefficient of determination (R2) are summarized in Table 6. The variance in endogenous components expressed by the different external structures in the model is assessed by R2. Additionally, the blindfolding sample reuse technique was used to test the value of Q2 (predictive relevance). For a particular endogenous component to indicate its predictive relevance in the PLS path model, Q2 must have a value larger than zero (Hair et al., 2014 & Fornell & Cha, 1994).

Table 6: Coefficient of Determination (R2) and Predictive Relevance (Q2)

	R-square	R-square adjusted
Re-Purchase Intention	0.358	0.349
Word of Mouth	0.456	0.447

Table 6 shows PI value of the R Square (0.358) indicates that the predictor is 35.8% explained by its association with independent variables. WOM have a bit greater value than PI that is 0.456 that is 45.6%. The values of Purchase Intention suggest that the model explains a moderate amount of variance in purchase intention and the values of Word of Mouth suggest that the model explains a substantial amount of variance in word of mouth. The model shows moderate to broad explanatory power for both purchase intention and word of mouth, according to the R2 values. These results imply that a substantial portion of the variance in both categories may be explained by the omni-channel customer experience factors that are part of the model.

4.5 Discussion of Hypotheses Results

The first hypothesis examined the relationship between omni-channel connectivity and word of mouth and was found to be significant. This finding suggests that when customers can seamlessly connect across multiple channels, they are more likely to share their experiences with others. Omni-channel connectivity enhances ease of interaction, real-time access, and uninterrupted communication, which positively shapes customer perceptions and encourages WOM. This result aligns with prior research indicating that the widespread adoption of mobile devices and connected platforms has reshaped consumer decision-making and purchase behaviors (Silva et al., 2023). The second hypothesis, which tested the relationship between omni-channel integration and word of mouth, was not supported. A possible explanation for this insignificant relationship is that customers may perceive back-end integration (such as unified databases) as an operational feature rather than a value-adding experience that motivates them to share opinions. Although channel integration is considered a fundamental distinction between multichannel and omni-channel retailing, its impact on WOM may require longer exposure or more visible customer-facing benefits. The short data collection period may also have limited respondents' ability to fully experience integrated systems (Rahman et al., 2025).

The third hypothesis related to omni-channel consistency and word of mouth was also rejected. This finding implies that consistency alone may be perceived as a basic expectation rather than a differentiating factor that stimulates WOM. While prior studies highlight the importance of consistent branding elements across channels (Lynch & Barnes, 2020), customers may only notice consistency when it is absent, not when it is present. Thus, consistency may contribute indirectly to satisfaction and loyalty rather than directly driving WOM behavior.

The fourth hypothesis revealed a significant relationship between omni-channel flexibility and word of mouth. Flexibility allows customers to shift effortlessly between channels, reducing perceived risk and effort, which enhances satisfaction and encourages positive WOM. As suggested by Shen et al. (2018), the ability to manage and adapt to changing needs during channel transitions strengthens customer confidence. Satisfied customers are more inclined to recommend brands, making flexibility a strong experiential driver of WOM (Gao & Jiang, 2025). The fifth hypothesis examined the relationship between omni-channel personalization and word of mouth and was supported. Personalization enhances emotional engagement and perceived relevance, making customers feel valued and understood, which motivates them to share their experiences. In an omni-channel environment, personalized content and offers attract greater attention and improve the overall customer experience (Arifin, 2022), thereby increasing positive WOM. The sixth hypothesis tested the mediating role of purchase intention in the relationship between omni-channel connectivity and word of mouth and was supported. This indicates that connectivity first strengthens customers' intention to purchase, which subsequently translates into WOM behavior. Seamless connectivity influences how customers evaluate options and make decisions, ultimately encouraging them to communicate their favorable experiences (Ramdhani et al., 2025).

The seventh hypothesis, which examined the mediating role of purchase intention between omni-channel integration and word of mouth, was not supported. This suggests that although integration may improve operational efficiency, it does not significantly enhance purchase intention from the customer's perspective. Prior studies (Chen et al., 2023) emphasize the mediating role of purchase intention; however, the current findings imply that integration must be perceptible and meaningful to customers to influence their behavioral intentions. The eighth hypothesis regarding the mediating role of purchase intention between omni-channel consistency and word of mouth was rejected. This result reinforces the notion that consistency functions as a hygiene factor, important but insufficient on its own to stimulate purchase intention or WOM. While consistency contributes to a stable brand image, it may not actively motivate customers to progress toward purchase intention (Carvalho et al., 2023). The ninth hypothesis confirmed the mediating role of purchase intention in the relationship between omni-channel flexibility and word of mouth. Flexibility enhances purchase intention by offering customers greater control and choice during the purchasing process, which then leads to positive WOM. As highlighted by (Mutia et al., 2025), flexibility is essential in omni-channel retailing due to dynamic fulfillment options, making it a key driver of behavioral outcomes. The final hypothesis examined the mediating role of purchase intention between omni-channel personalization and word of mouth and was supported. Personalization strengthens purchase intention by creating a sense of exclusivity and relevance, which subsequently encourages customers to advocate for the brand. Consistent with Chen et al. (2023), personalized omni-channel interactions enhance perceived value and trust, leading to stronger purchase intentions and increased WOM (Acquila-Natale & Iglesias-Pradas, 2020).

5. Conclusion

The purpose of this study is to investigate the impact of Omni-channel customer experience on Word of Mouth through the mediating role of purchase intention in the fashion industry of Pakistan. By understanding these relationships, the study aims to provide valuable insights for fashion brands to enhance customer experience, purchase intention, and Word of Mouth. Understanding how the coordination and continuous collaboration across these channels impact customer conduct is essential for firms trying to retain and grow their customer base, given the proliferation of many customer touchpoints. Because of the changes made to multiple channels to connect with customers. Omni channel retailers might be able to enhance channel integration, connection, and consistency. For example, an Omni channel retailer could rearrange the physical shop network to accommodate online stores in order to maximize cross-channel synergy and avoid cannibalization. On the other hand, when customers use Omni channel purchasing, their sense of risk will impede their intention to shop. Customers that engage in Omni channel purchase may perceive performance-related and financial worries due to the new technology involved and the lack of transparency surrounding the purchasing process.

5.1. Limitations and Future Research Direction

There are some limitations to this study that point to potential areas for future investigation. First, this study relied mostly on the survey approach with self-reported data from a methodological standpoint. Due to memory limitations, the survey responses provided by participants may not be entirely accurate because they were based on their recollections of their Omni channel shopping experiences. To pinpoint the shortcomings of previous research and improve accuracy, Omni channel retailing research must progress in both design and methodological areas. Our research showed that most empirical studies have employed a survey-based methodology, which begs the question of its durability and might not accurately reflect the real-life activity that consumers actually engage in.

In order to improve the validity of our study model, it is advised that future studies employ additional techniques including field experiments and post hoc interviews. Second, although we think that Omni channel business implications are generally applicable, the study's external validity is called into question because the data came from a single site. To improve generalizability, it would be beneficial to repeat our study in different nations and areas. In addition, it could be beneficial for future research to look at how culture functions in this particular study setting. Subsequent studies should examine the integration of objective qualitative analysis techniques, like semantic analysis software, to enhance the validity of qualitative opinions.

5.2. Practical implications of the Research

In order to give customers a smooth shopping experience, this study provides crucial insights for practitioners in the Omni channel company. These insights may then be used by practitioners to design successful Omni channel strategies. Retailers should work to improve customers' perceptions of Omni channel shopping's compatibility in order to increase Omni channel purchase intention. It is imperative for retailers to ensure that the technologies employed in Omni channel retailing align with the past purchasing behaviors and experiences of their clientele. Omni channel retailers must also closely monitor shifts in customer preferences and behaviors across a range of shopping scenarios. The perceived compatibility of Omni channel buying can be enhanced by merchants through increased connectivity, integration, and uniformity across channels, according to this study. The service content and information, for example, should be consistent and connected across all channels to guarantee that clients are not perplexed while making a purchase. To offer clients more value, Omni channel merchants should optimize their current channel setups rather than just merging them. In other words, to maximize the entire value chain, including service, promotion, store placement, customer relationship management, and so on, a seamless customer experience necessitates. This necessitates significant organizational and strategic changes for the business. Omni channel retailers may be able to improve channel integration, connectedness, and consistency as a result of the modifications made to marketing processes and infrastructures. To optimize cross-channel synergy and prevent cannibalization, an Omni channel retailer could, for instance, reorganize the physical store network in accordance with the existence of online stores. Conversely, clients' purpose to shop will be thwarted by their perception of risk when using Omni channel shopping. Due to the new technology involved and the lack of clarity surrounding the buying process, customers may perceive performance-related and financial concerns when engaging in Omni channel purchasing. Additionally, retailers can leverage customer data analytics and artificial intelligence tools to better understand cross-channel customer journeys and deliver timely and relevant personalized offerings. Training frontline employees to manage and coordinate multiple channels cohesively can further enhance service quality and customer satisfaction. Moreover, managers should adopt cross-channel performance metrics, such as channel-switching behavior, repeat purchases, and cross-channel word of mouth—rather than evaluating each channel in isolation.

References

Acquila-Natale, E., & Iglesias-Pradas, S. (2020). How to measure quality in multi-channel retailing and not die trying. *Journal of Business Research*, *109*, 38–48. https://doi.org/10.1016/j.jbusres.2019.10.041

Arifin, R. (2022). New Journey Through Young Customer Experience in Omnichannel Context: The Role of Personalization. *Jurnal Manajemen Teori dan Terapan, 15*(2).

Askegaard, S., Solomon, M., & Bamossy, G. (2013). *Consumer behaviour: a European perspective*: Pearson.

Barari, M., Ross, M., & Surachartkumtonkun, J. (2020). Negative and positive customer shopping experience in an online context. *Journal of Retailing and Consumer Services, 53*, 101985.

Butkouskaya, V., Oyner, O., & Kazakov, S. (2023). The impact of omnichannel integrated marketing communications (IMC) on product and retail service satisfaction. *Journal of Economics, Finance and Administrative Science*.

Carvalho, L., Mourão, L., & Freitas, C. (2023). Career counseling for college students: Assessment of an online and group intervention. *Journal of Vocational Behavior, 140*, 103820.

Cattapan, T., & Pongsakornrungsilp, S. (2022). Impact of omnichannel integration on Millennials' purchase intention for fashion retailer. *Cogent Business & Management, 9*(1), 2087460.

Chakraborty, S. Electric Vehicles, Intentions and Theory of Planned Behaviour: A Systematic Literature Review of the Past Decade. *Intentions and Theory of Planned Behaviour: A Systematic Literature Review of the Past Decade*.

Cheah, J.-H., Lim, X.-J., Ting, H., Liu, Y., & Quach, S. (2022). Are privacy concerns still relevant? Revisiting consumer behaviour in omnichannel retailing. *Journal of Retailing and Consumer Services, 65*, 102242.

Chen, C., Zhang, K. Z., Chu, Z., & Lee, M. (2023). Augmented reality in the metaverse market: the role of multimodal sensory interaction. *Internet Research*.

Chetioui, Y., Benlafqih, H., & Lebdaoui, H. (2020). How fashion influencers contribute to consumers' purchase intention. *Journal of Fashion Marketing and Management: An International Journal, 24*(3), 361-380.

Gao, W., Jiang, N., & Guo, Q. (2026). How to build omnichannel customer experience consistency? A perspective of resource orchestration theory. *Asia Pacific Journal of Marketing and Logistics*, 1–15. https://doi.org/10.1108/APJML-07-2025-1386

Gao, W., & Fan, H. (2021). Omni-channel customer experience (in) consistency and service success: a study based on polynomial regression analysis. *Journal of theoretical and applied electronic commerce research, 16*(6), 1997-2013.

Gao, W., Fan, H., Li, W., & Wang, H. (2021). Crafting the customer experience in omnichannel contexts: The role of channel integration. *Journal of Business Research, 126*, 12-22.

Gao, W., Li, W., Fan, H., & Jia, X. (2021). How customer experience incongruence affects omnichannel customer retention: The moderating role of channel characteristics. *Journal of Retailing and Consumer Services, 60*, 102487.

Gasparin, I., Panina, E., Becker, L., Yrjölä, M., Jaakkola, E., & Pizzutti, C. (2022). Challenging the" integration imperative": A customer perspective on omnichannel journeys. *Journal of Retailing and Consumer Services, 64*, 102829.

Gautam, V., & Sharma, V. (2017). The mediating role of customer relationship on the social media marketing and purchase intention relationship with special reference to luxury fashion brands. *Journal of Promotion Management, 23*(6), 872-888.

Gawor, T., & Hoberg, K. (2019). Customers' valuation of time and convenience in e-fulfillment. *International Journal of Physical Distribution & Logistics Management, 49*(1), 75-98.

Gerea, C., Gonzalez-Lopez, F., & Herskovic, V. (2021). Omnichannel customer experience and management: An integrative review and research agenda. *Sustainability, 13*(5), 2824.

Godovykh, M., & Tasci, A. D. (2020). Customer experience in tourism: A review of definitions, components, and measurements. *Tourism management perspectives, 35*, 100694.

Hänninen, M., Mitronen, L., & Kwan, S. K. (2019). Multi-sided marketplaces and the transformation of retail: A service systems perspective. *Journal of Retailing and Consumer Services, 49*, 380-388.

Hickman, E., Kharouf, H., & Sekhon, H. (2020). An omnichannel approach to retailing: demystifying and identifying the factors influencing an omnichannel experience. *The International Review of Retail, Distribution and Consumer Research, 30*(3), 266-288.

Kazancoglu, I., & Aydin, H. (2018). An investigation of consumers' purchase intentions towards omni-channel shopping: A qualitative exploratory study. *International Journal of Retail & Distribution Management, 46*(10), 959-976.

Khan, I., Alkadash, T., & Bashar, A. (2026). Redefining Customer Journeys in Emerging Markets: Omnichannel Marketing in the Metaverse. In A. Bashar, B. Nyagadza, & M. Wasiq (Eds.), *Marketing in the Metaverse: Opportunities, Challenges, and Future Trends in Emerging Economies* (pp. 85–105). Springer Nature Switzerland. https://doi.org/10.1007/978-3-032-02365-0_3

Khan, I., Hollebeek, L. D., Fatma, M., Islam, J. U., & Riivits-Arkonsuo, I. (2020). Customer experience and commitment in retailing: Does customer age matter? *Journal of Retailing and Consumer Services, 57*, 102219.

Kuehnl, C., Jozic, D., & Homburg, C. (2019). Effective customer journey design: consumers' conception, measurement, and consequences. *Journal of the Academy of Marketing Science, 47*, 551-568.

Lynch, S., & Barnes, L. (2020). Omnichannel fashion retailing: examining the customer decision-making journey. *Journal of Fashion Marketing and Management: An International Journal, 24*(3), 471-493.

Macovei, O.-I. (2015). Applying the theory of planned behavior in predicting proenvironmental behaviour: The case of energy conservation. *Acta Universitatis Danubius. Œconomica, 11*(4), 15-32.

Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and social psychology Bulletin, 18*(1), 3-9.

Mutia, A., Dakwah, M. M., & Maryanti, S. (2025). Can Electronic Word of Mouth Mediate the Relationship between Omnichannel and Purchase Intention? Retail Company? *Al-Kharaj: Journal of Islamic Economic and Business*, *7*(4). https://doi.org/10.24256/kharaj.v7i4.8823

McKenna, R. (1988). Marketing in an Age of Diversity. *Harvard Business Review, 66*(5), 88-95.

Mishra, S., Malhotra, G., Chatterjee, R., & Shukla, Y. (2023). Consumer retention through phygital experience in omnichannel retailing: role of consumer empowerment and satisfaction. *Journal of Strategic Marketing, 31*(4), 749-766.

Natarajan, T., & Veera Raghavan, D. R. (2023). How integrated store-service quality promotes omnichannel shoppers' word-of-mouth behaviors: The moderating role of perceived relationship investment and the shopper's perceived value. *The TQM Journal*, *36*(4), 1113–1144. https://doi.org/10.1108/TQM-12-2022-0364

Rahman, S. M., Carlson, J., Gudergan, S. P., Wetzels, M., & Grewal, D. (2025). How do omnichannel customer experiences affect customer engagement? Theory and empirical validation. *Journal of Business Research*, *189*, 115196. https://doi.org/10.1016/j.jbusres.2025.115196

Rahman, S. M., Carlson, J., Gudergan, S. P., Wetzels, M., & Grewal, D. (2022). Perceived omnichannel customer experience (OCX): Concept, measurement, and impact. *Journal of retailing, 98*(4), 611-632.

Riaz, H., Baig, U., Meidute-Kavaliauskiene, I., & Ahmed, H. (2021). Factors effecting omnichannel customer experience: evidence from fashion retail. *Information, 13*(1), 12.

Rodríguez-Torrico, P., Trabold Apadula, L., San-Martín, S., & San José Cabezudo, R. (2020). Have an omnichannel seamless interaction experience! Dimensions and effect on consumer satisfaction. *Journal of Marketing Management, 36*(17-18), 1731-1761.

Salem, S. F., & Alanadoly, A. B. (2023). Driving customer engagement and citizenship behaviour in omnichannel retailing: evidence from the fashion sector. *Spanish Journal of Marketing-ESIC*.

Silva, S. C., Silva, F. P., & Dias, J. C. (2023). Exploring omnichannel strategies: A path to improve customer experiences. *International Journal of Retail & Distribution Management*, *52*(1), 62–88. https://doi.org/10.1108/IJRDM-03-2023-0198

Shaikh, A. A., Karjaluoto, H., & Häkkinen, J. (2018). Understanding moderating effects in increasing share-of-wallet and word-of-mouth: A case study of Lidl grocery retailer. *Journal of Retailing and Consumer Services, 44*, 45-53.

Shi, S., Wang, Y., Chen, X., & Zhang, Q. (2020). Conceptualization of omnichannel customer experience and its impact on shopping intention: A mixed-method approach. *International Journal of Information Management, 50*, 325-336.

Si, H., Shi, J.-g., Tang, D., Wu, G., & Lan, J. (2020). Understanding intention and behavior toward sustainable usage of bike sharing by extending the theory of planned behavior. *Resources, Conservation and Recycling, 152*, 104513.

Singh, A. S., & Masuku, M. B. (2014). Sampling techniques & determination of sample size in applied statistics research: An overview. *International Journal of economics, commerce and management, 2*(11), 1-22.

Sombultawee, K., & Wattanatorn, W. (2022). The impact of trust on purchase intention through omnichannel retailing. *Journal of Advances in Management Research, 19*(4), 513-532.

Sorkun, M. F., Yumurtacı Hüseyinoğlu, I. Ö., & Börühan, G. (2020). Omni-channel capability and customer satisfaction: mediating roles of flexibility and operational logistics service quality. *International Journal of Retail & Distribution Management, 48*(6), 629-648.

Uderani, N. (2023, February 13). Shopping ft. Streaming: The future of e-commerce in Pakistan. *Insights by Data Darbar*. https://insights.datadarbar.io/shopping-ft-streaming-live-commerce-as-the-future-of-e-commerce/

Ulker-Demirel, E., & Ciftci, G. (2020). A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research. *Journal of Hospitality and Tourism Management, 43*, 209-219.

Valdez Mendia, J. M., & Flores-Cuautle, J. d. J. A. (2022). Toward customer hyper-personalization experience—A data-driven approach. *Cogent Business & Management, 9*(1), 2041384.

Verhoef, P. C., Kannan, P. K., & Inman, J. J. (2015). From multi-channel retailing to omni-channel retailing: introduction to the special issue on multi-channel retailing. *Journal of retailing, 91*(2), 174-181.

Wollenburg, J., Holzapfel, A., & Hübner, A. (2019). Omni-channel customer management processes in retail: An exploratory study on fulfillment-related options. *Logistics Research, 12*(1).

Yin, C.-C. (2024). Integrating or tailoring? Optimizing touchpoints for enhanced omnichannel customer experience. *Journal of Research in Interactive Marketing*, *19*(6), 1001–1017. https://doi.org/10.1108/JRIM-11-2023-0418

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