

The role of AI in the success of Saudi Startups: Moderation of AI readiness

دور الذكاء الاصطناعي في نجاح الشركات الناشئة السعودية: الاعتدال في جاهزية الذكاء الاصطناعي

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Abstract

This study examines the factors influencing Startup success (SS) by analyzing the impact of Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Responsiveness (RES). The findings reveal that PU and RES significantly contribute to SS, while PEOU does not have a direct impact. This suggests that users prioritise functionality and system responsiveness over ease of use when evaluating satisfaction. The study extends the Technology Acceptance Model (TAM) by incorporating service quality dimensions and highlights practical implications for system design and customer support. Limitations and future research directions are also discussed to provide insights for further exploration.

Keywords: Start-up success, Perceived Usefulness, Perceived Ease of Use, Responsiveness, Technology Acceptance Model, Service Quality, User Experience

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1. Introduction

With the increased advancement in technology, the adoption of artificial intelligence (AI) has also become common to a great extent. In this regard, the adoption of AI has also transformed the business operations on a global level. Similarly, the startups of Saudi Arabia and the associated ecosystem is no exception (Kumar et al., 2025). Saudi Arabia is working forward with Vision 2030 (Grand and Wolff, 2022). In this regard, it plays an important role in fostering entrepreneurship and innovation as it has become a national priority. Thus, AI is also playing an important role in fostering the efficiency and competitiveness of businesses leading to optimal outcomes. The startups have increasingly relied on AI-driven solutions so that they can optimise the decision-making. In this way, customer interactions can also be improved and operations can be streamlined. There are different factors that can influence the successful adoption of AI in the startups. It includes perceived usefulness, perceived ease of use, and AI responsiveness (Aljarboa, 2024). Perceived usefulness deals with the extent to which entrepreneurs consider AI as an important driver of productivity and business growth. However, perceived ease of use determines the way through which AI technologies can be integrated into the operations of startups in an efficient manner (Gupta, 2024). AI responsiveness deals with the ability of system so that it can adapt to the needs of users and provide timely and relevant insights. It can further shape AI adoption and utilisation. It is important to understand the way through which these factors contribute to the success of Saudi startups. It is also essential for policymakers, investors, and business leaders that seeks to foster a thriving ecosystem of entrepreneurship. Therefore, the aim of this research is to provide insights regarding various factors that drive business growth in the evolving market of Saudia. This is because the technological and strategic factors can potentially influence the business operations in Saudi Arab. The research also intends to enrich the growing body of literature by examining the relationship between AI adoption and startup success.

The increased technological advancements have underscored the need to integrate AI within the business operations. However, despite of a significant increase in AI integration, there remains a potential gap regarding the factors of AI and its influence on the success of Saudi Arabia. The integration of AI can potentially enhance the efficiency of operations (Waqar et al., 2024). However, due to the limited budget and resources, numerous startups also struggle with its effective implementation. It can be due to various factors which includes uncertainties regarding the integration of AI. Furthermore, the challenges of AI integration can also be resulted due to the perceived usefulness, ease of use, and responsiveness of AI. The associated entrepreneurs can also be hesitant to invest in various AI technologies if they perceive them as difficult (Gupta, 2024). This hesitation can also hinder the growth and sustainability of business. Moreover, the responsiveness of AI systems also plays an important role in its effective outcomes and optimal performance. This is because the responsiveness through which it

can adapt to the needs of users and requirements of market also plays a crucial role in assessing their effectiveness (Gao et al., 2025). Despite of the huge implications of AI for the startup businesses, there is also limited empirical research that assesses the way through which these factors impact the success of startups. Moreover, the assessment of these factors in Saudi Arabia collectively has also not been explored in the prior literature. Without a clear understanding regarding these aspects, startups can struggle to gain optimal performance outcomes. Moreover, the associated startups can also potentially encounter challenges regarding the integration of AI so that a competitive advantage can be attained. Therefore, this study seeks to bridge this gap. The researcher also aims to examine the role of perceived usefulness, perceived ease of use, and AI responsiveness in driving the success of Saudi startups.

Research has shown that there has also been an increased integration of artificial intelligence in business operation. However, it has also created new opportunities for the startups. In this way, they are more likely to foster efficiency and innovations in the business operations (Lee et al., 2023, Harahap et al., 2024). The number of startups in Saudi Arabia has increased to a great extent. Thus, the present study holds great importance because it addresses the gap in existing literature regarding the way through which perceived usefulness, perceived ease of use, and AI responsiveness influence the performance of startups (Celestin and Vanitha, 2018). Saudi Arabia is also strongly focusing on digital transformation and entrepreneurship corresponding to the Saudi Vision 2030. In this regard, the present research also holds great importance. The insights from this research are important in providing valuable guidance for various stakeholders. It includes stakeholders such as entrepreneurs, policymakers, and investors that seeks to maximise the benefits of AI adoption. Therefore, the study is also important for the associated startups in Saudi Arabia. In this way, they can optimise their technological strategies. Key determinants of AI-driven success can be determined. In this way, the adoption of users can be improved and sustainable business models can be created in an increasingly competitive market.

2. Literature Review

2.1. Underpinning Theory

In this study, the hypothesised associations are underpinned by the technology acceptance model (TAM) (Davis, 1989). TAM deals with the way in which individuals adopt and use new technologies on the basis of two key perceptions. It includes perceived usefulness (PU) and perceived ease of use (PEOU). The technology acceptance model was developed by Davis (1989). This model depicts that if the users seek a technology as beneficial and easy to operate, they are more likely to integrate it. The adoption of technology within business operations can lead towards improved outcomes of the business (Belmonte et al., 2024). In the context of Saudi startups, AI responsiveness can be integrated into TAM. It explains as an important and

additional factor through which their adoption can be influenced. Moreover, the ability of system through which it can quickly and effectively respond to needs of users enhances their trust and usability with the system. As the startups operate in contemporary and competitive environments, in this regard, AI technologies are more likely to both accessible and functionally valuable for the attainment of business success (Kulkov et al., 2024). Therefore, this study provides a theoretical foundation and examines the association between PU, PEOU, and AI responsiveness and its impact on the startup success through the application of TAM. The study also provides important insights regarding the behaviour of integrating artificial intelligence within the environment of entrepreneurship specifically within the startups of Saudi Arabia.

Apart from the Technology Acceptance Model (TAM) this study also highlights the Resource-Based View (RBV) theory (Madhani, 2010). RBV emphasises the role of unique organisational resources so that competitive advantage can be achieved. AI-driven capabilities include automation, data-driven decision-making, and enhanced customer interactions. It can be considered valuable, rare, and inimitable resources that contribute to the success of startups. The effectiveness of these AI resources (Jacobs, 2025) depends on the way through which entrepreneurs perceive their usefulness, ease of integration, and responsiveness to business needs. When the startups effectively adopt and leverage AI, they are more likely to improve the efficiency of operations, enhance innovation, and strengthen market positioning (Ali et al., 2024). By integrating TAM with RBV (Obiki-Osafiele et al., 2024), this study provides a comprehensive theoretical framework. Thus, it also explains both the adoption of AI technologies and their impact on startup success. It depicts the strategic advantage that AI can offer in the entrepreneurial environment of Saudi Arabia.

2.2. Perceived Usefulness and Startup Success

Perceived usefulness plays a crucial role in assessing the adoption and effectiveness of artificial intelligence (AI) (Alzboon et al., 2025) within startups. It directly influences their success. When the entrepreneurs and business owners perceive AI technologies as beneficial in improving efficiency, decision-making, and customer engagement, they are more likely to integrate them into their operations which leads to optimal outcomes (Magableh et al., 2024). AI-powered solutions include predictive analytics, chatbots, and automated financial management. It can enhance productivity and streamline processes (Challoumis-Κωνσταντίνος

Χαλλουμή, 2024). Consequently, it enables startups so that they scale faster and compete more effectively. Furthermore, AI-driven insights are also important for the startups so that they can make data-informed decisions. It can also optimise the allocation of resources and improve the satisfaction of customers (Georgewill and Gabriel, 2024). These are considered as the key factors in long-term success. Within the context of evolving digital economy of Saudi Arabia innovation and technological adoption are key drivers of business growth (Ogosi et al., 2024). In this regard, perceived usefulness of AI can also play an important role as a strong determinant of startup sustainability and profitability (Awal and Chowdhury, 2024).

H1: Perceived usefulness has a significant positive impact on the success of business startups.

2.3. Perceived Ease of Use and Startup Success

Perceived ease of use is also critical factor that can influence the adoption and effectiveness of AI technologies (Yao and Wang, 2024) in Saudi startups. It can ultimately impact their success. When the entrepreneurs and employees find AI systems intuitive, they are more likely to yield optimal outcomes. (Amarasekara Rajapaksha, 2024). Thus, they are more likely to adopt and utilise these technologies effectively. Those AI tool which are difficult-to-navigate are more likely to create resistance to adoption which can also limit their potential benefits (Jisham et al., 2024). Startups are usually constrained by limited resources and technical expertise. It requires AI solutions that are accessible without extensive training or technical know-how (Ahmad and Jima, 2025). AI-driven tools that simplify tasks plays an important role. This is because the tools such as customer interactions, market analysis, and financial forecasting can significantly enhance efficiency of operations and decision-making (Io Conte, 2025). Within the context of startups, where digital transformation is accelerating (Io Conte, 2025). It is important to ease the AI adoption as it can be a key driver of business success (Lai et al., 2025).

H2: Perceived ease of use has a significant impact on the success of Saudi startups.

2.4. AI Responsiveness and Startup Success

AI responsiveness deals with the ability of artificial intelligence systems so that they can quickly adapt to the needs of users (Popa et al., 2025). It provides real-time insights, and enhance the process of decision-making processes. These factors are crucial for the success of Saudi startups (Tsaniyah et al., 2025). In a competitive business environment, startups rely on

AI-driven tools so that effective outcomes can be attained. These tools can rapidly analyse data, respond to customer queries, and automate business operations with minimal delay (Mirza et al., 2025). Highly responsive AI enhances the experience of customers, streamlines workflows, and allows startups so that they can design their strategies efficiently on the basis of market trends (Alabi, 2024). AI-powered chatbots that provide instant support to the customers or predictive analytics that offer real-time business insights can significantly improve performance of operations and customer satisfaction (Anozie et al., 2024). Based on the increased reliance on digital solutions, AI responsiveness can be an important factor of growth and sustainability of business (Kalishina, 2023).

H3: AI responsiveness has a significant positive impact on the success of Saudi startups.

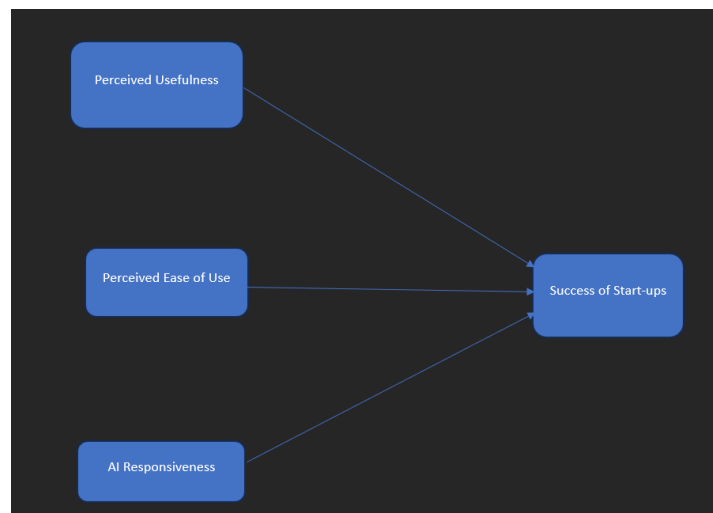


Figure 1: Conceptual Framework (Source: Author Generated)

3. Methodology

3.1. Research Philosophy

Positivism has been considered as the appropriate research philosophy for this study (Maretha, 2023). This is because it has emphasised objective measurement, quantifiable data, and hypothesis testing. It can lead towards the establishment of causal relationships. A positivist philosophy was also effective in allowing for systematic collection of data and statistical analysis. Positivism ensured that findings are based on empirical evidence. The implementation of positivism philosophy also aids in minimising the biasness of research. Most importantly, the reliability and generalizability of results can also be enhanced.

3.2. Research Approach

Based on the research objectives and implementation of positivism philosophy, the “deductive approach” was considered suitable for this study (Kumar and Ujire, 2024). This is because it initiates with the established theories, hypotheses are formulated, and the hypothesis are tested through the utilisation of empirical data. The present study assesses the impact of AI-related factors such as perceived usefulness, perceived ease of use and AI responsiveness on the success of Saudi startup businesses. Therefore, it also followed a structured process of hypothesis testing through the utilisation of the quantitative analysis. This approach was also effective and equally important in this study.

3.3. Research Design

The research has focused on assessing the cause-and-effect relationship between variables. In this regard, the quantitative research design was considered appropriate for this study (Price and Lovell, 2018). The adoption of this research design facilitated the researcher for objective measurements. Moreover, the chosen research design also facilitated the statistical analysis and testing of the associated hypothesis. The main focus of this study is to assess the relationships between AI-related factors and Saudi startup success. In this regard, the quantitative research design was important as it provided numeric results.

3.4. Sampling and Population

A simple random sampling technique was considered to be appropriate for this study so that the data can be collected from the target audience (Olken and Rotem, 1995). Simple random sampling was considered appropriate in ensuring that every startup in the target population has an equal chance of being selected in the study. Moreover, simple random sampling also enhanced the representativeness of the sample significantly (Mitra and Pathak, 1984). The population in this study was aligned with the context and objectives of this research. For this purpose, the population was consisted of Saudi startups that have integrated AI into their business operations.

3.5. Data Collection

An online survey questionnaire was considered as the most suitable data collection method for this study. This is because it allowed for efficient collection of data from the target audience. Moreover, the online survey also enabled the researcher to access large-scale data from the Saudi startups who integrates AI within their operations. This method was also important in ensuring accessibility. It also enabled the participants so that they can respond at their convenience leading to more effective outcomes.

Table 3.1. Measurement of Variables

Variable	Number of Items	Source
Perceived ease of use	4 items	(Plewa et al., 2012)
Perceived Usefulness	5 items	(Plewa et al., 2012)
AI Responsiveness	3 items	(Chen et al., 2021)
Success of Saudi Startups	10 items	(Pillai and Srivastava, 2024)

3.6. Data Analysis

The data was analysed on SPSS. In this regard various preliminary tests were performed which aided the researcher to assess data reliability, validity and normality. After assessing the preliminary properties of data, the regression analysis was performed through SPSS. It was conducted so that the impact of perceived usefulness, perceived ease of use, and AI responsiveness on the success of Saudi startups can be assessed. Descriptive statistics also summarised the data characteristics. However, multiple regression analysis assessed the direct relationships between variables after which the researcher draws final conclusions regarding hypothesised association. This approach was also important in ensuring the objective and data-driven insights regarding the role of AI in the success of startups.

4. Results

The gender distribution of the sample indicates a significant male predominance, with 169 male respondents (93.9%) compared to only 11 female respondents (6.1%). This suggests that the study population is heavily male-dominated, which may reflect the demographics of the specific industry or sector under investigation. The limited female representation should be considered when interpreting the study results, as it may impact the generalizability of findings to a more gender-balanced population.

Table 4.1. Demographic Profile of Respondents

		Gender			Cumulative
		Frequency	Percent	Valid Percent	Percent
Valid	male	169	93.9	93.9	93.9
	female	11	6.1	6.1	100.0
	Total	180	100.0	100.0	

The age distribution of respondents shows a diverse range, with the majority falling within the younger to middle-aged brackets. The 20-25 age group accounts for 31.1% of respondents, followed by 26-30 years (26.1%) and 31-35 years (23.3%). The number of participants decreases in older age groups, with 6.7% aged 36-40 and 12.8% over 40 years old. This distribution suggests that a significant portion of the workforce is relatively young, which may have implications for factors such as adaptability to technology, career progression, and professional development.

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		Age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25	56	31.1	31.1	31.1
	26-30	47	26.1	26.1	57.2
	31-35	42	23.3	23.3	80.6
	36-40	12	6.7	6.7	87.2
	more than 40	23	12.8	12.8	100.0
	Total	180	100.0	100.0	

Regarding work experience, the largest proportion of respondents (43.9%) have 4-5 years of experience, followed closely by those with 6-7 years of experience (41.7%). A smaller percentage of respondents have 2-3 years (5.0%) or 8-9 years (9.4%) of experience. This suggests that most participants are in the mid-career stage, possessing a reasonable level of expertise in their field. The relatively low percentage of employees with fewer than three years of experience indicates that the workforce is composed mainly of experienced professionals, which could influence perspectives on workplace efficiency, job satisfaction, and career stability.

		Experience			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2-3 years	9	5.0	5.0	5.0
	4-5 years	79	43.9	43.9	48.9
	6-7 years	75	41.7	41.7	90.6

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8-9 years	17	9.4	9.4	100.0
Total	180	100.0	100.0	

The descriptive statistics indicate varying levels of responses across the measured constructs. RES (Responsiveness) has a mean of 2.92 with a standard deviation of 1.23, suggesting moderate responsiveness perceptions with some variation among respondents. PEOU (Perceived Ease of Use) has a slightly higher mean of 3.13 (SD = 1.04) and a near-zero skewness (-0.036), indicating a relatively balanced distribution. PU (Perceived Usefulness) and SS (Startup success) exhibit higher means of 3.30 and 3.39, respectively, with PU showing moderate left skewness (-0.433) and SS displaying the highest negative skewness (-0.570). This suggests that more respondents leaned toward higher ratings for usefulness and satisfaction. Overall, the data distribution appears fairly normal, with slight negative skewness in PU and SS, indicating a tendency toward more positive perceptions in these areas.

Table 4.2. Descriptive Summary of Respondents

Descriptive Statistics							
	N	Minimu	Maximu	Mean	Std.	Skewness	
	Statistic	m	m	Statistic	Deviation	Statistic	Std. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
RES	180	1.00	5.00	2.9241	1.23413	.297	.181
PEOU	180	1.00	5.00	3.1250	1.04424	-.036	.181
PU	180	1.00	5.00	3.2978	1.07745	-.433	.181
SS	180	1.00	5.00	3.3956	.96704	-.570	.181
Valid N (listwise)	180						

The correlation analysis reveals significant positive relationships among all constructs at the 0.01 significance level. RES (Responsiveness) is moderately correlated with PEOU (Perceived Ease of Use) ($r = 0.678$, $p < 0.01$), PU (Perceived Usefulness) ($r = 0.505$, $p < 0.01$), and SS (Startup success) ($r = 0.564$, $p < 0.01$), indicating that higher responsiveness is associated with greater ease of use, perceived usefulness, and satisfaction.

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PEOU and PU exhibit a strong correlation ($r = 0.732$, $p < 0.01$), suggesting that ease of use significantly influences perceived usefulness. Similarly, PEOU and SS are strongly correlated ($r = 0.703$, $p < 0.01$), implying that a user-friendly system contributes to higher satisfaction. The highest correlation is observed between PU and SS ($r = 0.826$, $p < 0.01$), indicating that perceived usefulness plays a crucial role in overall startup success. These findings suggest a strong interdependence among the constructs, emphasizing the importance of usability and usefulness in enhancing responsiveness and satisfaction.

Table 4.3. Correlation Results

		Correlations			
		RES	PEOU	PU	SS
RES	Pearson Correlation	1	.678**	.505**	.564**
	Sig. (2-tailed)		.000	.000	.000
	N	180	180	180	180
PEOU	Pearson Correlation	.678**	1	.732**	.703**
	Sig. (2-tailed)	.000		.000	.000
	N	180	180	180	180
PU	Pearson Correlation	.505**	.732**	1	.826**
	Sig. (2-tailed)	.000	.000		.000
	N	180	180	180	180
SS	Pearson Correlation	.564**	.703**	.826**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	180	180	180	180

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

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is 0.930, indicating that the data is highly suitable for factor analysis. Additionally, Bartlett's Test of Sphericity is significant ($\chi^2 = 3735.126$, $df = 231$, $p < 0.001$), confirming that the correlation matrix is appropriate for principal component analysis (PCA).

Table 4.4. Factor Loadings and Sample Adequacy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.930
Bartlett's Test of Sphericity	Approx. Chi-Square	3735.126
	Df	231
	Sig.	.000

The Rotated Component Matrix (RCM) presents the factor loadings after applying Varimax rotation. The results reveal that all items load strongly onto their respective constructs, supporting construct validity. RES (Responsiveness) items load onto Component 1, with values ranging from 0.761 to 0.793. PU (Perceived Usefulness) items load onto Component 2, with factor loadings between 0.742 and 0.814. SS (Startup success) items strongly load onto Component 3, with values ranging from 0.747 to 0.840. Lastly, PEOU (Perceived Ease of Use) items load onto Component 4, with factor loadings between 0.596 and 0.782.

These results confirm that each variable aligns well with its respective construct, reinforcing the reliability of the measurement model and the appropriateness of the factor structure.

Table 4.5. RCM results
Rotated Component Matrix^a

	Component			
	1	2	3	4
RES1		.793		
RES2		.779		
RES3		.761		
PEOU1				.774
PEOU2				.782
PEOU3				.596
PEOU4				.727
PU1			.742	
PU2			.814	

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PU3			.742	
PU4			.768	
PU5			.787	
SS1	.773			
SS2	.827			
SS3	.838			
SS4	.840			
SS5	.774			
SS6	.836			
SS7	.787			
SS8	.747			
SS9	.799			
SS10	.767			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalisation.

a. Rotation converged in 6 iterations.

The reliability analysis demonstrates strong internal consistency across all constructs. Startup success (SS) exhibits the highest reliability (Cronbach's Alpha = 0.939, 10 items), indicating excellent consistency in measuring user satisfaction. Perceived Usefulness (PU) follows with a reliability score of 0.873 (5 items), confirming strong coherence among its items. Responsiveness (RES) achieves a Cronbach's Alpha of 0.846 (3 items), suggesting good reliability, while Perceived Ease of Use (PEOU) records 0.787 (4 items), reflecting acceptable reliability. Overall, all constructs surpass the recommended threshold of 0.70, confirming their suitability for further analysis.

Table 4.6. Reliability Results

Construct	Cronbach's Alpha	Number of Items
RES	0.846	3
PEOU	0.787	4
PU	0.873	5
SS	0.939	10

The regression analysis reveals that Perceived Usefulness (PU), Responsiveness (RES), and Perceived Ease of Use (PEOU) collectively explain 71.5% of the variance in Startup success (SS) ($R^2 = 0.715$, Adjusted $R^2 = 0.710$), indicating a strong model fit. The ANOVA results confirm the model's significance ($F = 147.084$, $p < 0.001$), showing that the predictors significantly impact SS. Among the independent variables, PU has the strongest positive effect on SS ($B = 0.599$, $\beta = 0.667$, $p < 0.001$), indicating that users who perceive the system as useful are more likely to be satisfied. RES also significantly influences SS ($B = 0.119$, $\beta = 0.151$, $p = 0.006$), suggesting that system responsiveness contributes to user satisfaction. However, PEOU does not have a significant direct effect on SS ($B = 0.104$, $\beta = 0.112$, $p = 0.108$), implying that ease of use alone does not necessarily enhance satisfaction. These findings suggest that improving Perceived Usefulness and Responsiveness is crucial for increasing Startup success, while Ease of Use may play an indirect role in user experience.

Table 4.7. Regression Results (Direct Effect)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.845 ^a	.715	.710	.52076

a. Predictors: (Constant), PU, RES, PEOU

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119.666	3	39.889	147.084	.000 ^b
	Residual	47.730	176	.271		
	Total	167.396	179			

a. Dependent Variable: SS

b. Predictors: (Constant), PU, RES, PEOU

Coefficients^a

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.750	.134		5.616	.000
	RES	.119	.043	.151	2.764	.006
	PEOU	.104	.064	.112	1.614	.108
	PU	.599	.053	.667	11.295	.000

a. Dependent Variable: SS

5. Discussion

The present study aimed to assess the impact of technology integration on the success of Saudi startups. Results has shown a strong association between Perceived Usefulness and Startup success. The results also highlighted that users attain satisfaction from the extent to which the system meets the level of their satisfaction. When productivity is enhanced in a system along with the performance, the users are more likely to perceive it positively. It reinforces the idea that the benefits of AI leads to satisfaction (Urme, 2023). This also aligns with the technology

adoption theories. These theories emphasise that users are more engaged with those systems which they find useful in the attainment of their objectives (Attié and Meyer-Waarden, 2022).

The significant relationship between Responsiveness and Startup success was also resulted in the study. However, the significant association between these two also underscores the importance of reliability within a system and its timely support in shaping the user experience. A system that is responsiveness is likely to foster trust and confidence. In this regard, the concerns of users are also addressed efficiently which ensures the seamless interactions (Asif, 2024, Almusfar, 2025). This association also depicts that users seek functional benefits actively. However, they also value and prefer the real-time engagement and support. In this way, their overall satisfaction with the system can be enhanced.

The lack of a significant direct effect of Perceived Ease of Use on Startup success was also assessed in the study. It showed that while ease of use reduces complexity and learning barriers. However, it does not necessarily result into the satisfaction on its own. Users are also likely to prioritise the effectiveness and responsiveness of system over simplicity (Mirabdollah et al., 2023). It shows that ease of use can also play an indirect role by focusing on adoption rather than being an important factor and driver of satisfaction (Rawashdeh et al., 2021).

6. Research Implications

- ***Theoretical Implications***

The findings enrich the literature regarding the Technology Acceptance Model (TAM). The findings also enhance the related theories by repeating the dominant role of Perceived Usefulness as an important factor of attaining startup success. Although, the Ease of Use is usually considered as a main factor of technology adoption. However, its lack of direct influence on satisfaction depicts that users are likely to tolerate complexity if the system provides important and pronounced benefits.

- ***Practical Implications***

This study also involves practical implications. In this way, the organisations should focus on prioritising and enhancing the usefulness and responsiveness of systems so that user satisfaction can be improved. The developers of system and other service providers should focus on providing important functionalities that directly deals with the user needs. In this way,

the organisations should not solely focus on the ease of use. Moreover, the mechanisms regarding real-time support and assistance of AI in chat should be integrated so that responsiveness can be ensured. Consequently, trust and engagement is also fostered to a great extent.

7. Limitations and Future Research Indications

This study also involves certain limitations that should be acknowledged. First, the findings are comprised on a specific user group. These findings can potentially limit generalizability to other contexts or industries. Therefore, the future research can explore diverse user demographics and settings so that the applicability of the results can be enhanced. Moreover, the study mainly examines direct effects. In this regard, this study has not considered the potential mediating or moderating variables which could further refine the understanding of startup success. These can include experience of users, their trust, or complexity of a system. Future studies can focus on a more comprehensive model that also integrates these factors. Furthermore, the research depends on self-reported data. It can also introduce bias, therefore, the future studies can incorporate the usage of objective data or longitudinal approaches so that these findings can be validated over time.

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Appendix

Questionnaire

Thank you for taking the time to participate in this study. The aim of this research is to examine the role of artificial intelligence (AI) in the success of startups in Saudi Arabia. This study seeks to evaluate how AI-driven capabilities such as perceived usefulness, perceived ease of use and responsiveness influences the startup success of Saudi businesses. By exploring these associations, this research aims to provide valuable insights regarding the integration of AI and the way it can be leveraged effectively so that entrepreneurial performance and sustainability can be enhanced. Your participation is entirely voluntary. So, all the responses will be kept confidential and used solely for academic purposes.

Your insights are highly valuable for us in contributing to a deeper understanding of the impact of AI on startup in Saudi Arabia.

We also sincerely appreciate your time and effort that you put in completing this questionnaire.

Thank you for your valuable contribution!

Section A

1. Please indicate your gender

- a) Male
- b) Female

2. Kindly indicate your age range

- a) 20-25
- b) 26-30
- c) 31-35
- d) 36-40
- e) 40+

3. Please provide your work experience

- a) 2-3 Years
- b) 4-5 Years

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- c) 6-7 Years
- d) 8-9 Years

Section B

Please carefully read the following statements. For each statement of item, please indicate your opinion. Your provided opinions should be based on the scales which are provided below. The following scale items have been measured on a 5-point Likert scale as shown below:

"1= strongly disagree."

"2= disagree"

"3= neutral"

"4= agree"

"5= strongly agree."

No of items	Item	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
Responsiveness						
1	The AI-enabled services inform users of the progress of their complaints via email or messages.	☐	☐	☐	☐	☐
2	The AI-enabled services take immediate action when problems occur.	☐	☐	☐	☐	☐
3	The AI-enabled services ensure the timely provision of AI-driven insurance services.	☐	☐	☐	☐	☐
Perceived Ease of Use						
1	I find it easy to get AI-enabled insurance services to perform the tasks I need.	☐	☐	☐	☐	☐

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2	My interaction with AI-enabled insurance services is clear and understandable.	☐	☐	☐	☐	☐
3	I find AI-enabled insurance services easy to use.	☐	☐	☐	☐	☐
4	I find it easy to get AI-enabled insurance services to perform the tasks I need.	☐	☐	☐	☐	☐
Perceived Usefulness						
1	Using AI-enabled insurance services allows me to complete transactions more quickly.	☐	☐	☐	☐	☐
2	Using AI-enabled insurance services improves my financial management.	☐	☐	☐	☐	☐
3	Using AI-enabled insurance services increases my efficiency in handling transactions.	☐	☐	☐	☐	☐
4	Using AI-enabled insurance services enhances my overall banking experience.	☐	☐	☐	☐	☐
5	Using AI-enabled insurance services makes financial transactions easier.	☐	☐	☐	☐	☐
Startup Success						
1	Better relationship management enhances collaboration and strengthens employee engagement.	☐	☐	☐	☐	☐
2	Employees play a crucial role in driving the growth and success of Saudi startups.	☐	☐	☐	☐	☐
3	The ability to attract employees improves as startups create dynamic	☐	☐	☐	☐	☐

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	and technology-driven work environments.					
4	Employee retention increases with AI-driven job satisfaction, career development, and workplace efficiency.	☐	☐	☐	☐	☐
5	The quality of services and products improves through AI-powered innovation, precision, and customer-centric solutions.	☐	☐	☐	☐	☐
6	Return on investment rises as AI optimises resource utilisation, reduces costs, and enhances strategic decision-making.	☐	☐	☐	☐	☐
7	Profitability grows through automation, data-driven insights, and improved business operations.	☐	☐	☐	☐	☐
8	Productivity is enhanced by AI-driven process automation, streamlined workflows, and operational efficiency.	☐	☐	☐	☐	☐
9	Market value increases as AI adoption strengthens competitiveness and investor confidence.	☐	☐	☐	☐	☐
10	Market share expands with AI-driven marketing, customer insights, and strategic business growth.	☐	☐	☐	☐	☐