JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

MIND THE GAP: EVALUATING STRATEGY, PERFORMANCE, AND USER EXPERIENCE IN AI-AUGMENTED EXTENDED REALIT (XR) FOR BUSINESS EXCELLENCE

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ABSTRACT:
Purpose/Objective: This study looks at how AI-powered Extended Reality (XR) technologies affect business excellence and the gaps in strategy, operations, and experience that come up when they are used. Its goals are to (1) look into the link between AI-XR implementation and how well an organization performs, and (2) look into how strategy alignment and user experience (UX) affect how effectively AI-XR apps can be agile and innovative.
Methods/Approach: A structured questionnaire was utilized to gather primary data from100 people working in different fields, such as healthcare and logistics. The conceptual framework has five parts: business excellence, AI-XR deployment, user experience, operational performance, and strategic alignment. Using regression analysis, correlation, and descriptive statistics, we determined that there were important links and mediating effects in the data.
Results/Findings: The results reveal that AI-XR technologies are becoming more common, but their full potential is often limited by poor training, unclear strategy, and bad UX design. Companies who had good AI-X Ralignment and high UX satisfaction were far more efficient, flexible, and innovative. The study says that UX is another crucial link between AI-XR deployment and business success.
Conclusions/Implications: This study gives one of the first real-world ways to measure how AI-XR helps businesses do better. It shows how important it is to align strategy, technology, and human experience in order to get the best return on investment and the most inventive results. The suggested performance framework gives organizations a handy tool to successfully assess, enhance, and grow their AI-XR projects.

"The future belongs to those who prepare for it today."– MalcolmX.

Keywords: AI-Augmented Extended Reality (AI-XR), Business Excellence, Strategic Alignment, User Experience (UX), Operational Performance, Digital Transformation, Innovation Enablement, XR Adoption in Commerce.

INTRODUCTION

Companies are transforming the way they make, plan, and run things in a big way by using both Extended Reality (XR) and Artificial Intelligence (AI). XR, which includes Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR), creates immersive and interactive spaces that change the way people learn and interact with things. AI becomes smarter, more adaptable, and more personalized when it is combined with XR. This lets businesses make tough decisions by giving them real-time data analytics, automated replies, and predictive insights (Innovature, 2024; Qualium Systems, 2025). Thereare many business opportunities for AI-augmented XR (AI-XR). Using digital twin simulations to speed up design and production, AI-enabled XR solutions in manufacturing have cut design cycles by as much as 40% and system errors by 25% (Qualium Systems, 2025). Being immersed AI-powered XR solutions are making healthcare training and diagnosis more accurate (Innovature, 2024). Even while these use cases are promising, there is growing concern that organizations are not getting the most out of AI-XR. A recent global poll found that only 31% of business leaders are delighted with their digital transformation efforts. This is often the result of poor strategic planning, not getting the workforce ready,and not fully integrating new technologies (Steil, 2025). One of the biggest problems in using AI-XR successfully isthat strategy, technology, and user experience (UX) don't always work together. Businesses often buy new technology, but they don't always have a clear plan for how to use it

to reach their goals. Trust, weariness, cognitive overload, and system usability are further user-related factors that affect adoption and performance (Bachetal.,2023;Xuetal.,2023).Companieshaveahardtimecomingup with frameworks that measure the real benefits of AI-XR for innovation, efficiency, and flexibility from a strategic point of view. The current body of research acknowledges these limitations and calls for the development of integrated models that consider both human-centered design principles and technological capabilities. Academics like Zeng (2025) and Xu et al. (2023) stress the necessity for empirical study that looks at the real-world implications of AI-XR, taking into account factors like explain ability, user trust, and organizational readiness. Most of the research that is currently being done is either conceptual or technical, and it doesn't have any reliable primary data to back up its claims in a corporate setting. The current study looks into how AI-XR techniques, implementation quality, and user experience may help businesses be excellent, which we describe as having good operational performance, being flexible, and coming up with new ideas. This study develops and tests a conceptual framework that includes five essential characteristics: strategic alignment, AI-XR deployment, user experience, operational performance, and business excellence. The research has two main goals:

a) To analyze how strategic alignment and user experience (UX) effect how well AI-XR apps can be flexible and come up with new ideas, and

b) To find out how AI-XR implementation affects the success of an enterprise.

This study uses primary data from healthcare and logistics firms to offer a scalable and evidence-based method that can help businesses assess how well their AI-XR projects are working and how far along they are. This adds to the expanding discourse around digital transformation and gives good suggestions on how to bring together people, technology, and strategy for success that is ready for the future.

STATEMENTOF THE PROBLEM

Companies still have a hard time tying AI-augmented Extended Reality (AI-XR) to user satisfaction, operational performance, and strategic goals, even though it is becoming more common in fields like manufacturing, logistics, and healthcare. A lot of businesses can't see any measurable gains from AI or XR because their planning is all over the place, their UX strategies aren't good enough, and they don't have any ways to measure performance. Most of the research that is currently being done on AI-XR focuses on its theoretical benefits or technicalcapabilities,andthereisnoreal-worldevidencetobackitup.Thereisabiggapin research and practice since there isn't a complete framework for assessing performance that includes strategy, execution, user experience, and results.

NEEDFORTHE STUDY

This inquiry is needed because of three linked problems. First, researchers are looking into XR and AI independently, but they don't know how they operate together to make businesses better by improving performance, flexibility, and innovation. Second, there isn't any scientific, data-driven research that explains why people utilize AI-XR differently based on their experience, training support, and organizational strategy. Third, organizations need a scalable way to measure how well their AI-XR investments are working, especially when it comes to making sure that the quality of the implementation matches the benefits that can be seen. This study will provide both scholarly insight and management relevance to help next- generation digital transformation projects move forward by building a model that measures the combined effects of strategy alignment, AI-XR deployment, user experience, and operational success.

SCOPE OF THE STUDY

The goal of this study is to look at how AI-XR has changed the performance of some industries in Bengaluru City. It looks at how user experience and strategy alignment effect how successfully AI-XR encourages innovation and flexibility. The study comprises professionals from a variety of fields, ages, and degrees of experience so that it may better grasp the disparities in how well people know and understand AI. The scope doesn't include longitudinal or experimental study; it only includes perceptual data collected through standardized questionnaires. The report gives helpful information to schools, IT users, and policymakers who want to help their organizations do a better job of going digital.

LITERATUREREVIEW

ARTIFICIALINTELLIGENCEINBUSINESS STRATEGY

Artificial intelligence (AI) is a significant part of efforts to change organizations because it can find patterns, automate processes, make predictions, and help people make decisions. AI makes it easier to analyze scenarios, speeds up decision-making, and makes forecasting more accurate in strategic planning. Researchers have found that adding artificial intelligence (AI) to important tasks including supply chain management, customer service, and human resourceplanningcanmakeorganizationsmoreflexible(Davenport&Ronanki,2018).

Still,differentindustriesuseAIinlong-termplanningindifferentways,andmany organizations have trouble moving past the pilot stage (Bughin et al., 2019).

EXTENDED REALITY (XR)IN COMMERCIAL APPLICATIONS

XR technologies like AR, VR, and MR have shown a lot of potential for improving operating simulations, customer experience, and training at work. Logistics companies use VR to teach employees and simulate warehouses, while retailers utilize AR to provide customers a more realistic experience with their products. XR's impact is especially clear in high-risk fields like healthcare and aviation, where real-time simulations improve learning outcomes and minimize operational risk (Innovature, 2024; XR Today, 2025). However, things like cost, content production, and hardware limits still affect scalability.

AI-AUGMENTED XR(AI-XR)

AI and XR work together to make immersion experiences that are smart, flexible, and happen in real time. AI makes XR better by making it easier to recognize gestures, understand naturallanguage,personalizeexperiences,andmakedynamiccontent.Computer vision and machine learning power AI-XR technologies, which are used in manufacturing for quality control and predictive maintenance. Even with these improvements, there isn't any real research on how AI-XR affects measurable business performance. Most of the research that is out there right now is either focused on a certain technology or only looks at case studies that show the idea is possible (Qualium Systems, 2025; Xu et al., 2023).

STRATEGIC ALIGNMENT OF EMERGING TECHNOLOGIES

Strategic alignment is when technology projects help a corporation reach its goals and stay ahead of the competition. Luftman(2000) and others say that for a digital transition to be effective, people, procedures, and technology must all work together. Still, alot of companies use XR and AI without having clear plans on how to leverage them to reach their strategic goals. Steil (2025) says that a lack of coordination often results in broken digital ecosystems and investments that aren't used enough.

USER EXPERIENCE (UX) IN AI-XR SYSTEMS

User experience (UX) is a big part of why people use technology and stay interested in it for a long time. UX in XR is affected by things like how the interface looks, how easy it is to
use, how comfortable it is to move around, and how quickly it responds to feedback. When AI is implemented, users also need to trust the recommendations or outputs that the computer makes. But studies show that issues like XR fatigue, restricted explain ability, and AI opacity might makeusersless happy and less trusting (Bach et al., 2023; Xu et al., 2023). Still, UXis often seen as a secondary concern in studies of AI-XR deployment.

MEASURING BUSINESS EXCELLENCE

Dynamic abilities like client focus, flexibility, and invention have replaced traditional models of corporate excellence that centered on efficiency. Models like the EFQM and TQM stress the importance of continuous improvement and making sure that strategy and operations arein sync. Because of the emergence of AI-XR, businesses today need new ways to monitorsuccessthatcombinetechnologywithperformancemetrics. Therearecurrentlyno recognized frameworks in the literature for measuring performance that are specifically designed for AI-XR settings.

RESEARCH GAP AND CONCEPTUAL NEED

The information above shows that there are a number of gaps. First, hardly many studies look at how AI and XR work together to affect business strategy; most look at these areas separately. Second, while everyone knows about scientific advances, there isn't much real- world research on how AI-XR is used in businesses. Third, we don't know much about how user experience affects the link between AI-XR use and business outcomes. Finally, businesses need a scalable, proven mechanism to measure their AI-XR performance and readiness in terms of strategy, operations, and experience.This study fills in these gaps by presenting an empirical model that brings together business excellence, user experience, operational success, strategic alignment, and the quality of AI-XR implementation. It gives businesses who want to make the switch to AI-XR amodel that is both diagnostic and prescriptive. It also uses primary data to test critical ideas.

MOTIVATION FOR THE STUDY

The creation of AI-augmented Extended Reality (AI-XR) technology opens up amazing new possibilities for company agility, innovation, and operational effectiveness. However, when organizations really use these technologies, they often find that their promise doesn't match their actual strategic results. This difference led to the following research questions:

- HowcanbusinessesmakesurethattheirAI-XReffortsstayinlinewiththeir operational excellence and business goals?
- How much does the quality of the user experience (UX) affect AI-XR's ability to help businesses be more creative and flexible?

RESEARCH OBJECTIVES:

- To find out if there is a link between how well an organizations does and how it uses AI-XR.
- To find out how user experience (UX) and strategy alignment effect how well AI-XR apps can be flexible and come up with new ideas.

RESEARCH METHODOLOGY

Research Approach

This study uses both qualitative and quantitative research methodologies. The goal is to find out how AI-augmented Extended Reality (AI-XR) affects a company's performance, flexibility, and ability to come up with new ideas.The main focus of the study is on howuser experience (UX) and strategic planning effect these results. We got the data directlyfrom professionals by using a standardized questionnaire.

Sources of Data

- **Primary Data**: People filled out a Google Form to give their answers.
- **Secondary Data**: We used previous research and publications to create the model and the questions.
- **Universe and Sample**
- **Target Group (Universe)**: professionals that work in healthcare or logistics who use or are familiar with AI-XR.
- **Sampling Method**: We employed purposive sampling to pick people depending onhow often they had used AI or XR before.
- **Sample Size**: There were 100 valid responses used for the analysis.
- **Methods of Data Analysis**
- **Descriptive Statistics**: used to give a summary of the answers, like percentages and averages.
- **Reliability Test**: Cronbach's Alpha was used to check how consisten the grouped questions were.
- **Correlation Test**: to find out how different things are related to each other, including strategy and performance.
- **Regression Analysis**: to see how strategy and AI-XR deployment affect performance and innovation.
- **Mediation Analysis** :to find out if user experience (using SPSS methods like PROCESS) is a link between planning and results.

LIMITATIONSOFTHESTUDY

- The survey might not be a good representation of all AI-XR professionals because only 100 people answered it.
- The results might not apply to other fields because they only look at healthcare and logistics.
- The people who were chosen to participate were chosen based on their past experience with AI or XR, which may have left out other important points of view.

DATA INTERPRETATION & ANALYSIS: DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Table1:The Demographicprofileofthe respondents

Demographic Parameters	χ^2(Chi-square value)	TV@ 0.05	D .f	Result of χ^2	C(Contingency Coefficient)	Strength of Association
Industry vs AI Familiarity	12.34	11.07	5	Significant	0.33	Moderate Association
Age Group vs AI Familiarity	16.28	15.51	8	Significant	0.36	Moderate to High
Years of Experience vs AI Familiarity	9.84	12.59	6	Not Significant	0.29	Low Association
Industry vs AI Knowledge	14.67	11.07	5	Significant	0.34	Moderate Association
Age Group vs AI Knowledge	18.95	15.51	8	Significant	0.37	High Association

Source: Field Survey

Interpretation: The Chi-square study shows that there are statistically significant links between a number of demographic characteristics and how knowledgeable or skilled people are with AI. There is a relatively strong relationship (C = 0.33) and a significant association ($\chi^2 = 12.34$, $p < 0.05$) between industry and AI knowledge. This suggests that the industry professionals work in may affect how familiar they are with AI technologies. In a similar

way, there is a moderate to high correlation (C = 0.36)between age group and AI knowledge. This means that older or more experienced professionals may have more familiarity with AI ($\chi^2 = 16.28$, $p < 0.05$).

The link between years of experience and familiarity with AI is weak (C = 0.29) and not statistically significant ($\chi^2 = 9.84 < TV = 12.59$). This means that experience alone doesn't always mean that you know AI better.

The strong and moderate link between industry and AI expertise ($\chi^2 = 14.67$, C = 0.34) shows that sectoral factors affect AI competence again. There is also a substantial and significant link between age group and AI knowledge ($\chi^2 = 18.95$, C = 0.37), which supports the concept that older people may have a better understanding of AI.

H_0: (Null Hypothesis): There is not a strong link between AI-XR implementation and organizational performance.
H_1 (Alternative Hypothesis): There is a strong favorable link between AI-XR implementation and organizational performance.

Table2: Correlation

Correlations					
		Q5	Q6	Q7	Q8
Q5	Pearson Correlation	1	.855**	.954**	.869**
	Sig.(2-tailed)		.000	.000	.000
	N	100	100	100	100
Q6	Pearson Correlation	.855**	1	.899**	.957**
	Sig.(2-tailed)	.000		.000	.000
	N	100	100	100	100
Q7	Pearson Correlation	.954**	.899**	1	.884**
	Sig.(2-tailed)	.000	.000		.000
	N	100	100	100	100
Q8	Pearson Correlation	.869**	.957**	.884**	1
	Sig.(2-tailed)	.000	.000	.000	
	N	100	100	100	100
**.Correlation is significant at the 0.01level (2-tailed).					

Correlations					
		Q13	Q14	Q15	Q16
Q13	Pearson Correlation	1	.906**	.946**	.906**
	Sig.(2-tailed)		.000	.000	.000
	N	100	100	100	100
Q14	Pearson Correlation	.906**	1	.878**	.827**
	Sig.(2-tailed)	.000		.000	.000
	N	100	100	100	100
Q15	Pearson Correlation	.946**	.878**	1	.906**
	Sig.(2-tailed)	.000	.000		.000
	N	100	100	100	100
Q16	Pearson Correlation	.906**	.827**	.906**	1
	Sig.(2-tailed)	.000	.000	.000	
	N	100	100	100	100
**.Correlation is significant at the 0.01level (2-tailed).					

Interpretation: The Pearson correlation analysis shows that there is a strong and statistically significant positive link between AI-XR implementation (Q5–Q8) and organizational performance (Q13–Q16). There is a strong relationship between all of the correlation coefficients, which are all above 0.82. This shows that there is a strong link between better accuracy, time management, productivity, and teamwork in businesses and the successful integration, training, infrastructure, and implementation of AI-XR solutions. The alternative hypothesis (H_1) is accepted and the null hypothesis (H_0) is rejected based on these results. This means that there is a substantial positive relationship between the success of an organization and the use of AI-XR.

Objective2:

Table:3– Regression

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.826[a]	.682	.676	.46225	.682	104.164	2	97	.000	1.990
Predictors: (Constant), UX, Strategic_ Alignment										
Dependent Variable: Business_ Excellence										

Interpretation: The multiple linear regression model showed that Strategic Alignment, User Experience (UX), and Business Excellence were all strongly linked (R = 0.826). The model's ability to predict is shown by the fact that it explains 68.2% of the variation in business excellence (R2 = 0.682). The modified R2 of 0.676 shows that the model is reliable when the number of predictors is taken into account. The F-statistic (F = 104.164, p < 0.001) showsthat the complete model is statistically significant. The Durbin-Watson value of 1.990 also reveals that there is no clear autocorrelation between the residuals. These results suggest that strategic alignment and user experience are very helpful for making businesses more flexible and innovative.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	44.514	2	22.257	104.164	.000[b]
	Residual	20.726	97	.214		
	Total	65.240	99			
a.Dependent Variable: Business_ Excellence						
Predictors: (Constant), UX, Strategic_ Alignment						

Interpretation: The ANOVA table shows that the regression model is statistically significant. The total sum of squares is 65.240. This comprises the regression sum of squares (44.514) with 2 degrees of freedom and the residual sum of squares (20.726) with 97 degrees offreedom.Theregression'smeansquareis22.257,andthep-valueis.000andtheF-statistic is 104.164. This means that the result is very significant. This shows that the model is powerful and useful since it shows that the combination of Strategic Alignment and User Experience (UX) has a big effect on Business Excellence.

Coefficients[a]								
Model		ıstandardized Coefficients		˙tandardized Coefficients	t	Sig.	ollinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.624	.241		2.584	.011		
	Strategic_ Align ment	.330	.078	.330	4.255	.000	.544	1.838
	UX	.567	.078	.566	7.301	.000	.544	1.838
a.Dependent Variable: Business_ Excellence								

The coefficients table gives a full explanation of how each independent variable—Strategic Alignment and User Experience (UX)—affects the prediction of Business Excellence.

- The intercept (constant) valueof0.624, which is statistically significant (p=0.011), is the starting point for business excellence when both predictors are at zero.
- The t-value for Strategic Alignment is 4.255, the unstandardized coefficient (B) is 0.330, and the p-value is very low (p <0.001). This means that for every unit increase in Strategic Alignment, Business Excellence goes up by 0.330 units, assuming UX stays the same.
- User Experience (UX) has a substantially bigger ffect on Business Excellence, witha coefficient of 0.567, t = 7.301, and p < 0.001.
- The standardized beta coefficients show that UX (β = 0.566) has a bigger effect on Business Excellence than Strategic Alignment (β = 0.330).
- The tolerance levels (0.544) and VIF (1.838) for both variables do not show any problems with multicollinearity.

Interpretation: Both of these criteria have a statistically significant positive effect on Business Excellence. Without a doubt, UX is the most crucial of these. This approach backs up the assumption that user-centered design and good alignment in AI-XR implementation lead to business agility and innovation.

SUMMARY, DISCUSSIONS & FINDINGS

The study found a robust and positive link between the use of AI-XR and the performance of organizations. Pearson correlation study indicated that performance measures (accuracy, productivity, time management, and cooperation) and AI-XR aspects (integration, training, infrastructure, and deployment) were strongly linked. According to chi-square tests, years of experience did not have a big effect on AI familiarity and expertise, but demographic factors like age group and industry did. This suggests that learning and exposure to different sectors at different ages may be crucial variables in the adoption of AI. Multiple regression studies show that both strategy alignment and user experience are important predictors of business success, but user experience has a bigger impact. The model explained 68.2% of the difference in performance, showing how important it is to combine technology with user-centered design to encourage innovation and flexibility.

CONCLUSION

The study's conclusion is that using AI-XR makes organizations work better, especially when it is supported by a good user experience and a solid strategic fit. Demographic factors like age and industry affect how familiar and skilled people are with AI. This shows how important it is to have targeted education and awareness efforts. The results show that organizational alignment and user-centered design are just as critical for successfullyadopting AI-XR as the technology itself, which encourages business excellence, innovation, and flexibility.

FUTURE RESEARCH

Future studies can build on this findings by using bigger sample numbers and looking at more than one area. Looking into things like organizational culture, training effectiveness, and digital readiness may help people understand better. Long-term and comparative studies of the effects of AI and AI-XR could give us useful information about how to improve performance and creativity over time.

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