

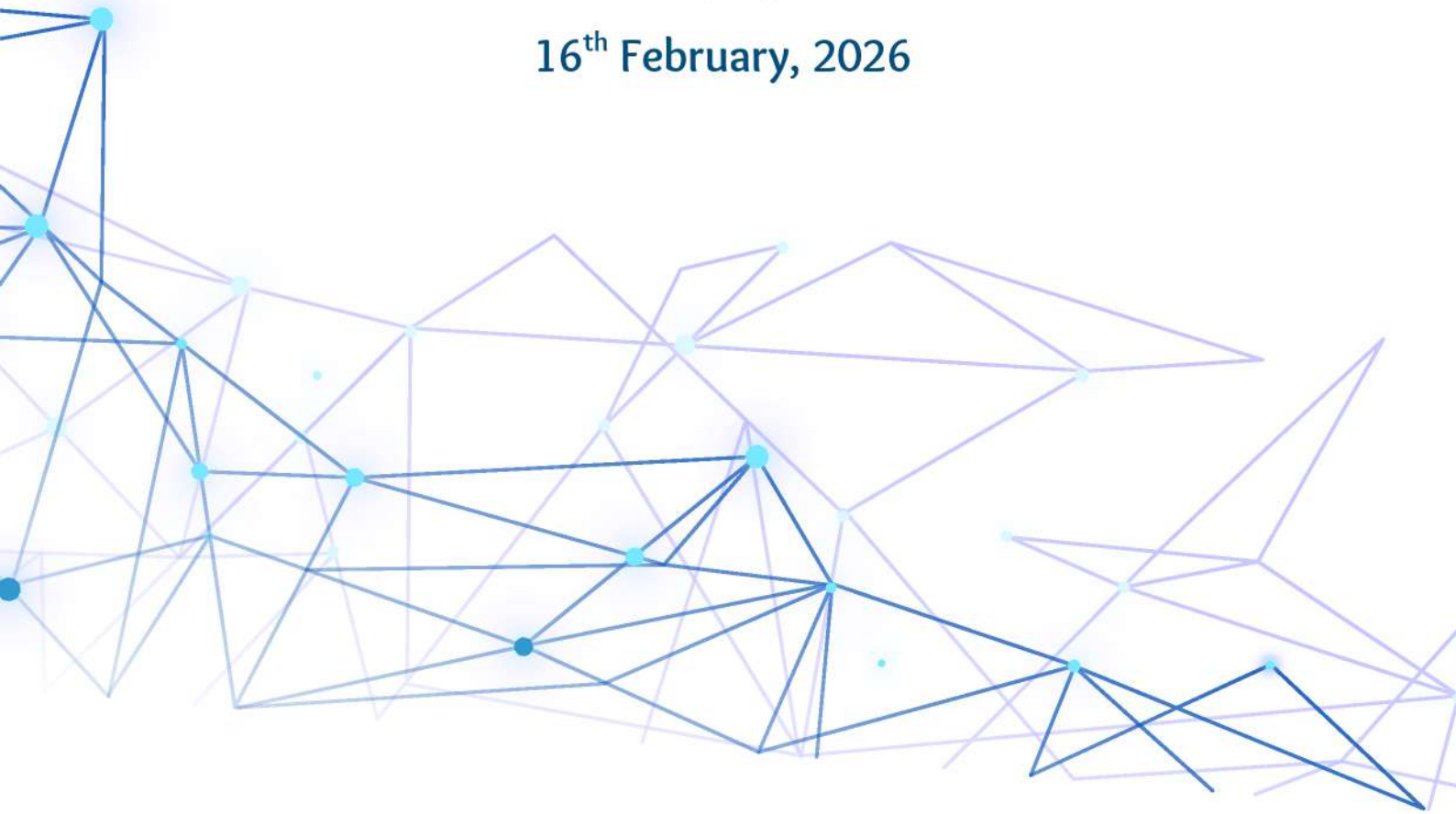


USJ FMSC
UNIVERSITY OF SRI JAYEWARDENEPURA



**PROCEEDINGS
OF THE
OPERATIONS AND TECHNOLOGY MANAGEMENT
UNDERGRADUATE RESEARCH
SYMPOSIUM
2026**

16th February, 2026



**Research Center for Innovation, Operations, and Quality
Management**

**Department of Decision Sciences
Faculty of Management Studies and Commerce
University of Sri Jayewardenepura
Gangodawila, Nugegoda, Sri Lanka**

**PROCEEDINGS OF THE OPERATIONS AND
TECHNOLOGY MANAGEMENT UNDERGRADUATE
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(OTMURS 2026)**

EXTENDED ABSTRACTS

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Proceedings of the Operations and Technology Management Undergraduate Research Symposium – 2026

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Published by:

Research Center for Innovations, Operations and Quality Management, Department of Decision Sciences, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura

Graphic Designed by:

Ms. C. H. Jayasuriya

31 Pages

ISSN: 3030-7570

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Message from the Vice Chancellor, University of Sri Jayewardenepura



It is with great pleasure that I extend my warmest greetings to all participants of the Undergraduate Research Day (URD), conducted as part of the 22nd International Conference on Business Management (ICBM) 2026, hosted by the Faculty of Management Studies and Commerce, University of Sri Jayewardenepura. The URD is a meaningful platform that celebrates undergraduate scholarship and encourages young researchers to engage in inquiry, evidence-based reasoning, and academic communication skills that are essential for the future of our nation and the global community.

Aligned with the ICBM 2026 theme, “Inclusive and Responsible Management for a Circular Economy and Digital Future,” the URD reflects the importance of building research capacity from the early stages of higher education. Undergraduate research not only strengthens critical thinking and problem-solving but also nurtures responsible citizenship by encouraging students to examine real-world issues with curiosity, integrity, and social awareness.

The University of Sri Jayewardenepura remains committed to supporting academic excellence and creating opportunities for students to develop as confident, ethical, and competent knowledge creators. I am pleased to note that the URD brings together diverse research topics and innovative perspectives from our undergraduates, and I trust that the experience will motivate them to pursue further research, professional growth, and meaningful contributions to society.

I convey my sincere appreciation to the organising committee, departmental coordinators, supervisors, reviewers, and all staff members for their dedication to making the URD a success. I also congratulate all student presenters featured in this proceedings volume and wish them every success in their academic and professional journeys.

Senior Professor Pathmalal M. Manage
Vice Chancellor
University of Sri Jayewardenepura

Message from the Dean, Faculty of Management Studies and Commerce



On behalf of the Faculty of Management Studies and Commerce (FMSC), University of Sri Jayewardenepura, I warmly welcome you to the 22nd International Conference on Business Management (ICBM 2026). It is a privilege for the faculty to host this flagship conference and to bring together an inspiring community of academics, professionals, and emerging scholars committed to advancing knowledge that matters.

The theme for 2026, “Inclusive and Responsible Management for a Circular Economy and Digital Future,” reflects the evolving expectations placed upon organisations and leaders today. Circular economy thinking calls for a decisive shift from linear models of production and consumption towards resource efficiency, regeneration, and responsible innovation. In parallel, the rapid acceleration of digital technologies continues to reshape business models, governance, and stakeholder engagement, creating both opportunities and challenges that demand thoughtful, values-driven leadership.

FMSC remains committed to strengthening research excellence, nurturing ethical and future-ready graduates, and promoting engagement with industry and society. ICBM 2026 reflects this commitment through its breadth of academic exchange, the diversity of disciplines represented, and the integration of platforms that encourage participation across different career stages, including opportunities that spotlight student and early-career research and facilitate collaboration beyond institutional boundaries.

I extend my sincere gratitude to the conference co-chairs, department coordinators, organising committees, reviewers, partners, and sponsors whose collective efforts uphold the quality and reputation of ICBM. I also congratulate all authors whose work is featured in these proceedings and thank every participant for contributing to a vibrant learning community. May the discussions and insights generated through ICBM 2026 inspire practical solutions and enduring partnerships that advance inclusive, responsible, and sustainable development.

Professor Dushan Jayawickrama
Dean, Faculty of Management Studies and Commerce
University of Sri Jayewardenepura

Message from the Co-Chairs of the International Conference on Business Management (ICBM) - 2026



We are pleased to present the Proceedings of the Undergraduate Research Day (URD) conducted as part of the 22nd International Conference on Business Management (ICBM) 2026, organised by the Faculty of Management Studies and Commerce, University of Sri Jayewardenepura. The URD is designed to provide an encouraging and scholarly platform for undergraduates to share their research, build confidence in academic communication, and experience the standards of academic dissemination and peer review.

Guided by the ICBM 2026 theme, “Inclusive and Responsible Management for a Circular Economy and Digital Future,” the URD recognises that responsible and inclusive solutions require contributions from all levels of the academic community, including emerging researchers. The student papers featured in this volume reflect a diverse range of topics and approaches, demonstrating the ability of undergraduate research to generate valuable insights relevant to organisations, communities, and the broader economy.

We extend our sincere appreciation to the supervisors, reviewers, evaluators, departmental coordinators, and organising committee members for their commitment and support. We also commend all student presenters for their effort, curiosity, and professionalism in completing and presenting their research. We trust that the URD experience will inspire our undergraduates to pursue lifelong learning, uphold academic integrity, and continue contributing to knowledge creation in meaningful ways.

We hope this proceeding volume serves as a lasting record of their scholarly achievement and encouragement for future research endeavours.

Dr. Isuru Manawadu, Co-Chair, ICBM 2026

Dr. Sepali Bamunusinghe, Co-Chair, ICBM 2026

International Conference on Business Management (ICBM) 2026

Faculty of Management Studies and Commerce, University of Sri Jayewardenepura

Message from the Head of the Department of Decision Sciences



It is my pleasure to extend warm greetings to all participants of the Operations and Technology Management Undergraduate Research Symposium 2026, organized by the Research Center for Innovations, Operations, and Quality Management of the Department of Decision Sciences. This symposium provides a valuable platform for undergraduate students to present their research, demonstrate critical thinking, and explore innovative solutions to contemporary management challenges.

I commend all participating students for their dedication and hard work. I also extend my sincere appreciation to the research supervisors, the Coordinator of the Research Center, paper reviewers, and the organizing committee for their commitment and valuable contributions in making this event a success.

I am confident that this symposium will further encourage research, intellectual curiosity, and professional growth among our students. I wish all participants every success.

Mr. L. H. T. De S. Wickramasuriya
Head of the Department
Department of Decision Sciences

Message from the Chair of the Operations and Technology Management Undergraduate Research Symposium 2026



It is with profound sense of achievement that I present the proceedings of the Operations and Technology Management Undergraduate Research Symposium (OTMURS 2026). OTMURS 2026 serves as a premier platform for our undergraduate researchers to document their scholarly work, exchange innovative ideas, and engage in meaningful academic dialogue.

In today's rapidly evolving global landscape, the integration of operations and technology has never been more vital. These proceedings bridge the gap between theory and practice, showcasing how our students explore contemporary challenges and contribute novel insights to develop solutions that are both impactful and sustainable.

I wish to extend my sincere appreciation to the organizing committee, academic mentors, and reviewers whose dedication and meticulous evaluation have ensured the high standard of this publication. Your efforts continue to strengthen the research culture within our faculty and the wider academic community. To the student researchers featured in this volume: I congratulate you on your contributions. I encourage you to use this achievement as a stepping stone toward further academic and professional excellence. May the insights shared in these pages inspire continued innovation and progress.

Ms. D.M. Endagamage

Chair – Operations and Technology Management Undergraduate Research Symposium

Coordinator – Research Center for Innovations, Operations and Quality Management

Operations and Technology Management Undergraduate Research Symposium 2026

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THE EFFECT OF SUSTAINABLE CUSTOMER EXPERIENCE MANAGEMENT PRACTICES ON COMPETITIVE ADVANTAGE IN THE SRI LANKAN HOTEL INDUSTRY

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INTRODUCTION

The worldwide tourism environment is competitive due to the sustainability concept, which is quickly becoming mainstream, but the implementation of SCXM principles is still low in developing South Asia like Sri Lanka. How the sustainability capabilities are oriented towards customers is not evident in previous research in emerging markets, since the primary emphasis was on the operational sustainability aspect. Based on the RBV, this paper analyzes how SCXM practices may be utilized as valuable, inimitable capabilities to develop competitive advantage. It empirically explores how customer-oriented sustainability practices can be used to enhance competitiveness positioning in the Sri Lankan hotel industry.

OBJECTIVES

The main aim of the research is to study the impact that sustainability-oriented customer experience management practices have on competitive advantage in the Sri Lankan hotel industry. In particular, the paper evaluates the four dimensions of SCXM, including sustainable product and service design, green supply chain and operations, customer education and engagement, as well as ethical and sustainable customer support. Competitive advantage is conceptualized as having a customer-based approach and is operationalized using the measures of differentiation and cost-related results, including customers' perceived quality of service, customer satisfaction, perceived value, customer loyalty, and cost efficiency.

LITERATURE REVIEW

According to the Resources-Based View (RBV), the sustained competitive advantage is attained in firms based on the resources and capabilities that are valuable, rare, inimitable, and hard to replace (Barney, 1991). Whereas it may be easy to replicate tangible sustainability investments in the hospitality industry, like energy-efficient technologies, customer-related sustainability capabilities are more socially complex and competitive impediments. By inculcating the principles of sustainability in customer experiences, new relational and embedded capabilities are generated by increasing differentiation and loyalty among customers. SCXM is thus an asset to the strategy that serves to gain competitive leverage. Past research undertakings indicate that sustainability

initiatives, as well as customer experience management, are critical competitive advantage drivers. SCXM incorporates the principles of sustainability in the customer touchpoints to increase value creation (Signori et al., 2019). Green operational practices enhance the performance (Chin et al., 2015), whereas sustainable product and service design enhances perceived value and quality of the service (Clark et al., 2009). Trust and satisfaction are further constructed through customer education and support by means of ethics (Wang and Lai, 2024; Sheth et al., 2020). Nevertheless, there is a lack of empirical evidence of SCXM in developing hospitality facilities in Sri Lanka.

METHODOLOGY

In this study, a deductive quantitative research design was used. The structured questionnaire was used in the collection of primary information based on the structured questionnaire on guests who had stayed in medium and large-sized hotels in Sri Lanka in the last twelve months. The non-probability sampling method that included quota and convenience sampling was employed because of the lack of an accessible sampling frame and because of the confidentiality constraints of the guest databases, which led to 250 valid responses. Sustainability and customer experience practices were comparable because of the concentration on medium and large-scale hotels. Measurement scales were borrowed based on already existing studies. The data were evaluated in SPSS 20, including demographic, reliability and validity tests, descriptive, correlation and multiple regression tests, which included normality and multiple collinearity tests to guarantee the strength of the analysis.

RESULTS / FINDINGS

The validity and reliability analyses to the suitability of the measurement scales were conducted. The normality and multicollinearity assumptions were met. Correlation analysis showed that there were strong positive associations between competitive advantage and all four dimensions of SCXM.

Table 1 : Correlation Analysis

		CA	SPD	GSC	CEE	ESC
CA	Pearson Correlation	1	.667**	.493**	.541**	.647**
	Sig. (2-tailed)		.000	.000	.000	.000

The analysis of multiple regression showed a statistically significant and positive influence of all four SCXM dimensions on the competitive advantage.

Table 2 : Coefficient of Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.871	.182		4.792	.000
SPD	.359	.047	.408	7.569	.000
GSC	.111	.042	.145	2.605	.010
CEE	.116	.050	.122	2.335	.020
ESC	.209	.049	.274	4.317	.000

Sustainable product and service design ($\beta = .408$) was the most significant predictor of competitive advantage, followed by ethical and sustainable customer support ($\beta = .274$). The Green supply chain practices and customer educating and engaging practices had smaller but significant positive impacts. The above outcomes suggest that hotels that incorporate the concept of sustainability in their service experiences receive high-quality service, customer satisfaction, perceived value, customer loyalty, and cost-efficiency, thus enhancing their competitive stance.

DISCUSSION

The results agree with the previous studies that have proposed sustainability-focused CX practices to have a role in CA. In line with RBV, the findings suggest that practices of SCXM are strategic capabilities embedded in customer relationships that prove to be socially complicated and hard to imitate. The high power of sustainable product and service design helps Clark et al. (2009), as sustainability is a service value addition attribute. The effect of ethical and sustainable customer support also proved to be significant, which further argues in favor of Signori et al. (2019) and Sheth et al. (2020), who state that transparency and ethical customer relationships result in trust and loyalty. The effect of green supply chain practices was relatively smaller, yet the results are similar to Chin et al. (2015), indicating that operational sustainability provides more direct impact on the efficiency and cost benefits rather than visible differentiation. Notably, the research extends earlier research in Sri Lanka, which has conducted its studies on the area of operational sustainability with a major percentage, by showing that customer-oriented sustainability behaviors have a direct impact on a CA. Therefore, it is possible to conceptualize SCXM as a strategic framework of emerging tourism economies.

RESEARCH / POLICY IMPLICATIONS

The implications provide managers and policymakers working in the hotel industry with practical implications. The management of hotels ought to incorporate sustainability in all customer touchpoints instead of perceiving sustainability efforts as separate operational programs. Incorporating sustainability in the customer experience design may contribute to differentiation and relational capital. These findings could be used by policymakers and tourism authorities to formulate sustainability policies and customer-based certification programs in the hotel industry. Academically, the research provides empirical findings pertaining to the SCXM practices in a

developing-country environment, and it expands the comprehension of sustainability as a strategic capability of hospitality management.

Keywords: *Sustainable customer experience management, Competitive Advantage, Customer Experience, Sustainable Product and Service Design, Green Supply Chain and Operations*

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THE EFFECT OF INVENTORY MANAGEMENT KNOWLEDGE ON COMPETITIVE ADVANTAGE: THE MEDIATING ROLE OF INVENTORY MANAGEMENT PRACTICES IN SRI LANKAN RETAILERS

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INTRODUCTION

Inventory is an essential for enhanced competitiveness among retailers. SME retailers in Sri Lanka play a critical role in the economy, but many still rely on traditional inventory management. Limited knowledge and poor practice execution often result in stockouts, unnecessary costs, and low customer satisfaction. This study examines the question of whether competitive advantage is related to inventory management knowledge, whether inventory management knowledge enhances inventory management practices, and whether inventory management practices are an intermediate to this association. This study can be valuable because it offers an empirical analysis at the Sri Lankan SME retail setting.

OBJECTIVES

The main objective of the research is to determine how the inventory management knowledge impacts competitive advantage among the Sri Lankan SME retailers. In particular, the study will fulfill the following objectives:

- To determine the relationship between inventory management knowledge and the practices of inventory management among SME retailers.
- To examine the impact of inventory management practices on the competitive advantage of small and medium retailers.
- To determine the mediating role of inventory management practices in the relationship between inventory management knowledge and competitive advantage.

LITERATURE REVIEW

In existing literature, it has been noted that good inventory management is a strategic tool that facilitates the success of the organization in terms of performance and competitiveness. Atnafu and Balda (2018) conducted research and discovered that adequate inventory practices lead to reduced holding costs and enhanced customer services, which means excellent competitive performances. In the same light, Kaewchur et al. (2021) have shown that inventory management has a direct role in creating competitive advantage in SMEs. The knowledge of inventory

management can make companies realize demand forecasting, decision-making at the stock level, and reorder, where the essential factors are the efficiency of business (Jayasekara and Silva, 2023). But knowledge is not sufficient because it will not bring improvements in performance unless it is changed into practice. As confirmed by Ahmad and Zabri (2018), the relationship between managerial knowledge and firm performance is mediated by practices in inventory management. Although such findings have been achieved, there is little empirical study on this mediating effect in the Sri Lankan retail market. This study fills this gap by empirically testing the mediating variable of inventory management practices on the interrelationship between inventory management knowledge and competitive advantage.

METHODOLOGY

This study used the quantitative research method, which utilizes the positivist research philosophy and a deductive research methodology. The survey research design was cross-sectional to gather primary data on small and medium-sized retailers in Sri Lanka. The self-administered structured questionnaire was administered both in a physical form and via the internet. A five-point Likert scale questionnaire that was used to collect data. The sample size was obtained using a convenience sampling method and sample size were 150 taken among the salespeople and owners of retail shops. Inventory management knowledge was considered as the independent variable, competitive advantage as the dependent variable and inventory management practices as the mediating variable. SPSS version 20 was used in data analysis. After confirming the validity and reliability of the data set, data were analyzed using descriptive statistics, correlation analysis, multiple regression analysis, and mediation analysis with the Baron and Kenny method were used at a significance level of 5%.

RESULTS / FINDINGS

The research analyzed data on 150 SME retailers in Sri Lanka. The results show that the inventory management knowledge positively impacts competition advantage among SME retailers. The retailer with greater knowledge of inventory management has a better performance in terms of price, quality, and delivery. The knowledge on inventory management also displays a moderate positive relation with inventory management practices. In addition, the practices of inventory management can positively enhance the competitive advantage significantly, and the implication is that the good practice enhances cost-efficiency, availability of products, and responsiveness. Most not least, the mediation analysis reveals that inventory management practices partly mediate the interrelation between inventory management knowledge and competitive advantage. This implies that the knowledge of inventory is not enough to attain a competitive advantage unless it is put into practice using proper inventory management practices.

Table 1: Correlation Analysis

		CA	IMK	IMP
CA	Pearson Correlation	1	.619**	.566**
	Sig. (2-tailed)		.000	.000
	N	150	150	150
IMK	Pearson Correlation	.619**	1	.401**

Sig. (2-tailed)	.000	.000
N	150	150

Table 2: Coefficient of Multiple Regression Analysis

Hypotheses	Variable	Standardized Coefficients	t	Sig.	Decision
		Beta			
H1	IMK-CA	.619	9.579	.000	Supported
H2	IMK-IMP	.401	5.324	.000	Supported
H3	IMP-CA	.566	8.348	.000	Supported
H4	IMP	.467	7.355	.000	Partial
	MEDIATES IMK-CA				Supported

DISCUSSION

The conclusions of this study are aligned with the past studies that have emphasized the strategic role of inventory management. The fact that the inventory management knowledge and competitive advantage are positively correlated with each other reinforces the results of Kaewchur et al. (2021), who believed that knowledge is a significant source of competitiveness. The major impact of inventory management practices on competitive advantage can be compared with Atnafu and Balda (2018), who defined inventory practices as important operational instruments in the improvement of performance. The mediation role of inventory management practices is confirmed, and therefore Ahmad and Zabri (2018) conclude that knowledge is a contributor of performance when it is converted into meaningful working practices. This means in the Sri Lankan SME retail scenario, the retailers that have knowledge on inventory should then actively execute the same by using organized practices like optimal inventory levels, correct reorder points, and appropriate lead time management in achieving sustainable competitive advantage. Although other researchers have already recognized the role of managerial knowledge, this study provides empirical evidence that inventory management knowledge has a direct positive impact on competitive advantage through operational efficiency, cost management, and responsiveness to customer demand.

RESEARCH / POLICY IMPLICATION

This piece of work has useful implications to practice and policy. To improve their competitiveness, the retail managers ought to strive to transfer the inventory-related knowledge into working inventory control systems. The training programs and low-cost inventory management tools to assist SME retailers can be created by policymakers and business development institutions. Regarding the research aspect, the study provides empirical information on how inventory management practices play the mediating factor in the context of a developing

economy that will be used in future research that will consider the influence of technological and supply chain-related variables.

Keywords: *Inventory Management Knowledge, Inventory Management Practices, Competitive Advantage*

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EXAMINING THE FACTORS AFFECTING THE INTENTION TO USE E-GOVERNMENT SERVICES AMONG GENERATION X PEOPLE IN COLOMBO DISTRICT, SRI LANKA

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INTRODUCTION

Background

In the 21st century, adopting ICT is an essential part of people’s day-to-day activities (Jonathan & Rusu, 2018). In late 2025, there were 13.9 million internet users in Sri Lanka, and it was 59.7% out of the total population (Kemp, 2025). The broader use of the internet and rapid advancement of ICT initiated “E-services” of government. The National E-Government Development Index (EGDI) is used to measure the level of E-government development, and the relevant details for Sri Lanka are presented below.

Table 1: EGDI

EGDI Index	2024	2022	2020
Rank	98	95	85
Value	0.66668	0.62850	0.67080

Source: Sri Lanka - EGOVKB

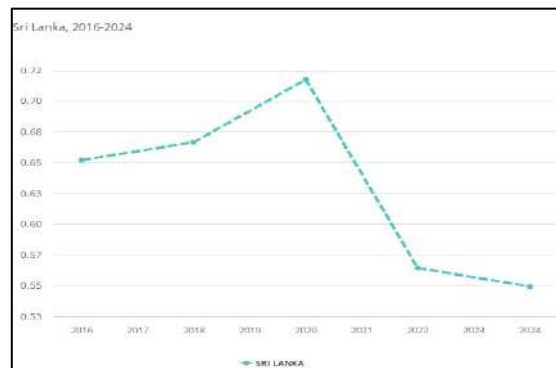


Figure 1: Trend Line

When compared with United Nations countries as shown above, Sri Lanka country's rank went down continuously. Underperforming online service delivery index was a major reason for this drop. It has a declining trend during the period 2016-2024 period. This indicated that some problems are behind citizen's E-government adoption.

Research Questions

RQ1: What are the factors affecting the intention to use E-government services among Generation X people in Colombo District, Sri Lanka?

RQ2: Does the sector of employment (public vs. private) moderate the relationship between technology adoption factors and intention to use of E-government services among Generation X people?

Originality/value

Findings of this study contributed new insights for existing body of knowledge on technology adoption. This can be useful for guiding policymakers and government authorities in designing better strategies to improve E-government services. Also, this served as a valuable learning resource for students and academics. Further this study informed practical interventions.

OBJECTIVES

This study intended to determine the factors affecting the intention to use E-government services among Generation X people in Colombo District, Sri Lanka, and to assess the moderating effect of sector of employment (public vs. private) on the relationship between technology adoption factors and intention to use E-government services.

LITERATURE REVIEW

E-government in Sri Lanka

There were several studies investigated E-government adoption in Sri Lanka and came-up with similar and dissimilar findings (Samsudeen & Thelijjagoda, 2015; Nawaz, 2015; Vidanakankanamge & Priyashantha, 2021; Ranaweera, 2016). But research on generational cohorts was not available. It was leaving unfilled gap in existing literatures.

Unified Theory of Acceptance and Use of Technology (UTAUT)

UTAUT theory was suitable for examining technology adoption because it was found by Venkatesh by reviewing 8 main theories. UTAUT's four main constructs such as Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) used in this study. But moderator variables which proposed by the theory were not used and 'Sector of employment' considered as a moderator.

Sector of Employment (public vs. private)

While public sector adoption exists globally, no existing Sri Lankan study has examined how sector of employment moderates E-government adoption and identify sector-specific differences.

Generation X

Individuals who born 1965-1980 or aged 45-65 considered under this generation. They represent significant portion of active workforce in Sri Lanka and frequently interact with government services. Hence, it is important to focus on these individual's adoption.

METHODOLOGY

This study adopted a deductive and quantitative approach. Primary data were collected through hard copy and electronic mode questionnaires. Although 384 responses were targeted, only 366 were received. Secondary data were obtained from articles, websites, and textbooks. The target population was Generation X individuals in Sri Lanka who are potential and actual users of e-government services. Due to access limitations, the sample was limited to Generation X individuals in the Colombo District. Convenience sampling was used to collect data from easily accessible locations using five-point Likert scale questions. Regression analysis and structural equation modeling were performed using SPSS and SmartPLS to achieve the objectives of study. Conceptual Framework of the study can be seen as follows.

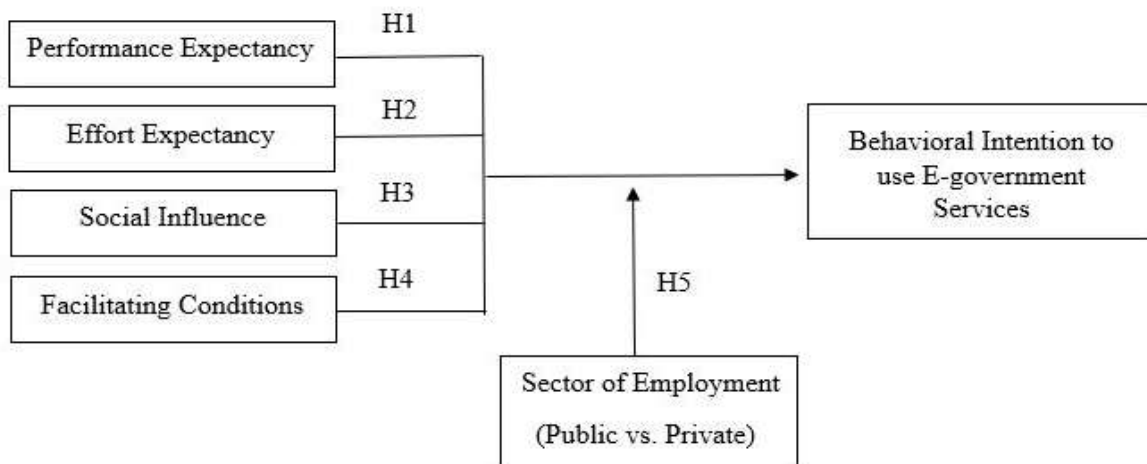


Figure 2: Conceptual Framework

FINDINGS AND DISCUSSION

Validity and reliability were initially tested, and the results met the required threshold levels. Normality testing using the Shapiro–Wilk test showed a significance value of 0.000 for all variables, indicating not normal data distribution. Accordingly, Spearman’s rank correlation was used and revealed linear relationships between all independent variables with the dependent variable. Multiple regression analysis confirmed the adequacy of the fitted model and showed that all independent variables significantly influenced behavioral intention (BI) to use E-government services. Furthermore, moderation analysis indicated that these relationships were significantly moderated by the sector of employment.

According to the data analysis, all proposed hypotheses were having strong empirical support, meaning perceived usefulness, ease-of-use, social context and availability of support and infrastructure were influenced E-government adoption among Generation X. These findings were consistent with existing studies in Sri Lanka as well as other countries. However, present study contributed novel insights to the existing body of knowledge by founding the sector of employment has moderating effect on E-government adoption.

IMPLICATIONS

Based on the findings, policymakers can accelerate E-government adoption among Generation X individuals by taking actions to enhance ease of use in online applications, strengthen technological support through the strong implementation of customer support systems, and create sector-specific strategies for public and private sector employees according to the nature of workplace because middle-aged individuals took more concern on EE and FC factors. Further, focusing on PE and SI factors can contribute positively for adoption but have a weaker influence.

Keywords: *E-government services, UTAUT, Generation X, Sector of employment, Sri Lanka*

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THE IMPACT OF THE DETERMINANTS OF TECHNOLOGY ACCEPTANCE AND KNOWLEDGE ON THE INTENTION TO ADOPT TECHNOLOGY FOR TEACHING: A STUDY OF SCHOOL TEACHERS IN COLOMBO DISTRICT, SRI LANKA

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INTRODUCTION

The smart classrooms concept was introduced as one path of integrating modern technology into the education system. While developed countries have successfully leveraged digital technologies in their educational systems, their implementation in developing countries still has some barriers, such as a Lack of resources, Insufficient funds, Political factors, and Teachers' attitudes and beliefs (Khan et al., 2012). Among all these factors, teachers' attitudes toward modern digital technologies have become critical, and many scholars across the globe have begun to study teacher technology adoption by leveraging different frameworks (Joo et al., 2018; Al-Adwan et al., 2024; Vijayabaskar, 2020). Therefore, the purpose of this study was to examine teachers' intentions to adopt technology-based instruction using an integrated approach of the Technology Acceptance Model (TAM), the Technological Pedagogical Content Knowledge (TPACK), and teacher self-efficacy. This study provides both contextual and theoretical significance to educational technology research.

OBJECTIVES

The primary objective of this research is to measure the impact of the TAM and TPACK framework on the intention to adopt technology-enhanced teaching practices among Sri Lankan school teachers. The specific objectives are to examine the relationships between teachers' TPACK determinants and perceived usefulness (PU), perceived ease of use (PEU) and self-efficacy in using smart classroom technologies, to examine the relationships between PU, PEU and self-efficacy and teachers' intention to use smart classroom technologies, to measure the impact of PU, PEU and self-efficacy on teachers' intention to use smart classroom technologies, and to test the mediating impact of PU on the relationships of PEU and self-efficacy with teachers' intention to use smart classroom technologies.

LITERATURE REVIEW

TAM states that individuals' intentions to utilise technology are based on their perceptions of how useful and easy it is to use the technology (Davis, 1989). A number of studies have shown that teachers who perceive technology as useful tend to have a stronger impact on intention to use rather than PEU (Joo et al., 2018).

TPACK framework shows that a teacher's ability to integrate knowledge of technology, pedagogy and content is a significant determinant of successful technology integration (Mishra & Koehler, 2006). Studies indicate that when teachers possess high levels of TPACK, they develop more positive attitudes toward technology and increase their confidence in utilising digital tools (Al-Adwan et al., 2024).

Teacher self-efficacy also builds on these relationships by fostering confidence in teachers' ability to use digital tools for instructional purposes. Teachers with high self-efficacy would feel competent when faced with a technical challenge, whether using the curriculum tool or trying out any new processes (Joo et al., 2018).

METHODOLOGY

This study follows a deductive approach and uses a quantitative research methodology. The study population comprises in-service school teachers working in government schools within the Colombo District, and the sample was drawn from the study population. This study employed convenience sampling with quotas, considering all possible differences to select participants from the population. This study's conceptual framework, which brings together the TAM and TPACK theories, provides a summary of this study, which explores teachers' intentions to adopt technology.

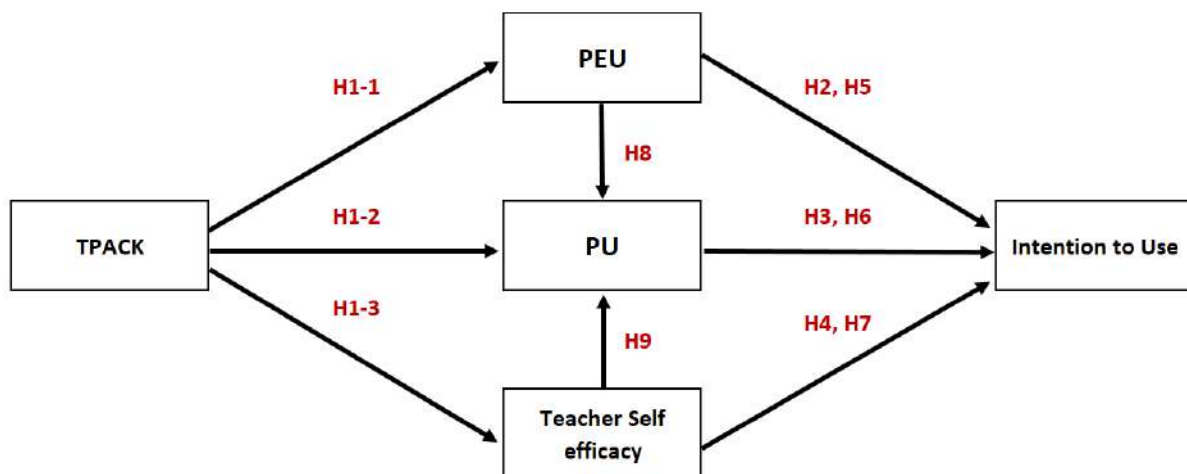


Figure 3. Conceptual framework

After confirming the dataset's validity and reliability, the data were analysed using descriptive statistics, correlation analysis, multiple linear regression, and mediation analysis.

RESULTS / FINDINGS

The results show a positive relationship between teachers' TPACK and their perceptions of the ease of use and usefulness of technology, as well as their self-efficacy. A positive relationship also existed between teachers' perceptions of the ease of use and usefulness of technology, their self-efficacy and their intentions to use technology. Additionally, regression analysis showed that all three predictor variables, PEU, PU and self-efficacy, made a statistically significant contribution to teachers' intentions to use technology (Table 1).

Table 3: Regression analysis

Hypothesis	Model	B	Result
H5	Perceived ease of use	.263*	Supported
H6	Perceived usefulness	.326*	Supported
H7	Teacher self-efficacy	.428*	Supported

*Beta Coefficient is significant at the 0.05 level (2-tailed).

Also, PU was shown to be a partial mediator in the relationship between PEU and intention to use and between self-efficacy and intention to use (Table 2).

Table 4: Mediation analysis

Hypothesis	Variable	Coefficient	Result
H8	Perceived ease of use	0.446*	Supported
	Perceived usefulness	0.474*	
H9	Teacher self-efficacy	0.569*	Supported
	Perceived usefulness	0.415*	

*Beta Coefficient is significant at the 0.05 level (2-tailed).

Therefore, all hypothesised relationships were confirmed, providing evidence for the validity of the comprehensive theoretical model in the Sri Lankan context. This finding emphasises that ease of use alone can create an intention to use; perceived usefulness provides additional support for this intention. Further, though self-efficacy alone can create an intention to use, perceived usefulness provides additional support for the intent to use. Therefore, the perception of the technology's usefulness encourages teachers to use it in their teaching.

DISCUSSION

The findings of this study support the findings of Joo et al. (2018), which stated that a teacher's intent to use technology is influenced by the teacher's perception of usefulness and ease of use, and confidence, while TPACK has an influence on TAM constructs and confidence. The results of this study also support the findings of Al-Adwan et al. (2024), who found that perceived usefulness and self-efficacy are among the strongest predictors of a teacher's sustained utilisation of technology. The results of the mediation analysis confirm findings from Joo et al. (2018); which found that perceived usefulness was the primary mechanism by which perceived ease of use and self-efficacy influenced intention. In general, the results from this study indicate that greater priority should be given to enhancing TPACK competencies as it will improve teachers' perception of usefulness, ease of use and self-efficacy, which in turn improve their intention to use technology.

IMPLICATIONS ON RESEARCH / POLICY

This research provides evidence for an integrated TAM-TPACK-Self Efficacy model within the developing-country context of educational technology; as such, it will contribute to the literature on integrating technology in education. Furthermore, from a policy perspective, the results indicate that teachers need to be trained in TPACK and Self-efficacy; however, to utilise smart classroom technologies, there needs to be an explicit demonstration of how these technologies support the learning process.

Keywords: *Technology Acceptance Model, TPACK, Teacher Self-efficacy, Intention to use, Smart Classrooms*

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THE IMPACT OF QUALITY AND PERCEPTION OF INFORMATION SYSTEM ON THE CUSTOMER PURCHASE INTENTION VIA MOBILE APPS: A STUDY IN WESTERN PROVINCE SRI LANKA

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INTRODUCTION

The rapid spread of smartphone technology and mobile apps around the world has dramatically changed how consumers shop globally (Hanjaya et al., 2019). Mobile apps for food delivery, transportation, retail, and digital payment are now very popular in the urban region of the Western Province in Sri Lanka.

Previous studies have generally used one of two models, the Technology Acceptance Model (TAM) or the Information Systems Success Model (ISSM). Although there is little evidence that prior researchers have combined both models in their research, they have not adequately addressed the issue of generational differences (Hanjaya et al., 2019).

The purpose of this research was to provide insight into the effects of technological perception and system quality on the decision to purchase and to evaluate if generation will act as a moderating factor for the quality and perception of information systems on mobile apps through purchases. This provides an understanding of how different generational cohorts view technology and systems. Additionally, this research is intended to provide insight into the applicability of such a model within the context of Sri Lanka.

OBJECTIVES

The primary objective of this study was to measure the impact of the quality and perception of information systems on the purchase intention of consumers who are purchasing via mobile apps.

Specifically, the study aimed to: examine the relationships between quality and perception of information systems and purchase intention, measure the impact of these determinants on purchase intention and test the moderating effect of generation on the relationships between perception on information systems and purchase intention as well as between the quality of the information systems and purchase intention.

LITERATURE REVIEW

Purchase intention is widely recognized as a significant indicator of what consumers actually do and it is supported by the Theory of Planned Behavior (Ajzen, 1991). Intention for use of mobile commerce is influenced by the users' perception of the quality of the product and the usability of the technology (Pavlou, 2003).

Technology Acceptance Model identifies both perceived usefulness and perceived ease of use as the main factors that influence a customer's decision to engage with purchasing (Davis, 1989). ISSM, which was developed by DeLone and McLean (1992) states that system quality, information quality, and service quality are the three key elements that determine a customer's overall satisfaction as well as the purchase intention in online purchasing. Many prior studies demonstrate the importance of information accuracy and service responsiveness in influencing customers' purchasing decisions in mobile commerce environments (Hanjaya et al., 2019).

Recent researchers suggest a combination of both TAM and ISSM will help explain psychological acceptance and technical performance for mobile technology platforms (Barry et al., 2024). Researchers have also indicated that as per generational cohort theory, the experience level with technology differs among age cohorts, thus moderating the relationship of TAM- ISSM (Lissitsa & Kol, 2019).

METHODOLOGY

The conceptual framework shows how the independent variables impact on the dependent variable and as well as the moderating impact from the generation.

This research used a structured questionnaire which is distributed to mobile app users in Sri Lanka's Western Province. Data were collected through convenience sampling and collected 197 valid responses.

Statistical methods were used for data analysis. Descriptive statistics conducted to get an overview of the study's respondents. Correlations (Pearson) identified associations among the variables. A multiple regression model was applied to test the predictive influence of both TAM and ISSM dimensions on a respondent's purchase intentions. Further, moderation analysis evaluated the extent to which a respondent's generation cohort affected the behavior of the TAM, ISSM and Purchase Intention relationship.

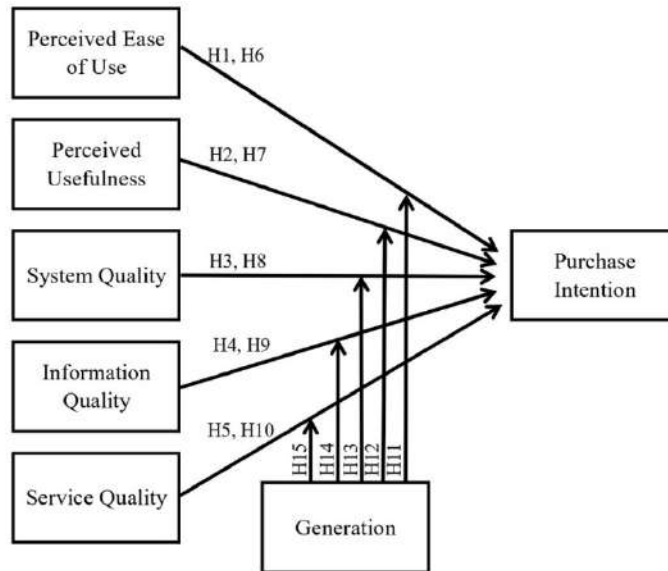


Figure 1: Conceptual Framework

RESULTS/FINDINGS

Descriptive analysis showed 51.24% of female responses and 48.76% of male responses. Majority of the respondents represented Generation Z (32.34%) and more over responses were reported by the respondents from millennials, Generation X and baby boomers.

Correlation analysis found that, perceived usefulness, perceived ease of use, system quality, information quality, and service quality, were all significantly and positively correlated to purchase intention.

Table 1: Regression analysis results

Variable	β value	Sig.	Result
Perceived usefulness	0.44	0.513*	Not supported
Perceived ease of use	0.268	0.000*	Supported
System quality	-0.016	0.815*	Not supported
Information quality	0.390	0.000*	Supported
Service quality	0.191	0.012*	Supported

*Beta Coefficient is significant at the 0.05 level (2-tailed).

Regression analysis found that, in relation to purchase intention, information quality, and service quality had a statistically significant positive relationship, while, perceived usefulness, and system quality did not have a statistically significant positive relationship.

Table 2: Moderation analysis results

Variable	Result
Perceived usefulness	Supported
Perceived ease of use	Supported
System quality	Supported
Information quality	Supported
Service quality	Supported

Moderating effect analysis determined that generation had a moderating effect on relationships between all TAM and ISSM determinants (PU, PEU, SQ, IQ, SVQ) and purchase intention. It showed that in all variables

DISCUSSION

The study found, although all determinants are associated with the purchase intentions, only perceived ease of use, information quality and service quality are significant predictors when assessing each factor together. As such, this indicates that in the mobile commerce context of Sri Lanka, consumers see perceived usefulness and system quality as basic expectation requirements, instead of being key motivators.

As a result, the high levels of importance placed upon both the information quality and service quality, as identified in the study, correspond with previous research conducted in Southeast Asia (Hanjaya et al., 2019) which highlighted the importance of providing consumers with accurate content, and responsive customer support within environments where consumers perceive higher levels of risk.

In addition, the significance of perceived ease of use provides additional evidence to support the TAM based argument that usability is a critical component in regard to the adoption of mobile technology, especially for a broad range of consumer demographics.

The moderating results also provide empirical evidence to support the generational cohort theory of digital commerce (Lissitsa & Kol, 2019). In doing so, they demonstrate how younger consumers are more likely to be influenced by usability and experiential factors, while older consumers are more likely to rely on information credibility and service assurance.

IMPLICATIONS ON RESEARCH/POLICY

The study adds knowledge to the mobile commerce industry by showing that in a Sri Lanka context there is empirical evidence, supporting an integrated framework for TAM and ISSM and also that

Generation is a key boundary condition in Mobile Commerce. It provides evidence based recommendations to prioritize usability, information transparency and customer service standards in designing mobile commerce platforms and in developing mobile commerce regulations.

Keywords: Mobile commerce, Purchase intention, Technology Acceptance Model, Information System Success Model, Generation

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