

The Development of E-sports and Intercultural Communication towards Thailand's Digital Learning Society

Porntiva Niparin

e-mail: porntivaniparinku@gmail.com

Graduate School of Service Innovation and Intercultural Communication, Faculty of Hospitality Industry, Kasetsart University, Thailand.

Anamai Damnet*

e-mail: anamai.d@ku.th

Graduate School of Service Innovation and Intercultural Communication, Faculty of Hospitality Industry, Kasetsart University, Thailand.

Abstract: The study aimed to investigate the influence of government support, technology acceptance, management innovation, and intercultural communication on the development of E-sports as a mechanism for promoting Thailand's digital learning society. The study used a mixed-methods research approach integrating quantitative and qualitative approaches. The quantitative sample consisted of 360 professional E-sports athletes registered with the Thailand E-sports Association, selected through stratified sampling using a Likert-scale questionnaire. The qualitative component involved semi-structured in-depth interviews with 11 key informants, including representatives from government agencies. Quantitative data were analyzed using descriptive statistics and Structural Equation Modeling (SEM), while qualitative data were analyzed through content analysis. The findings revealed that government support significantly influenced technology acceptance, management innovation, and intercultural communication. Technology acceptance positively affected management innovation, intercultural communication, and E-sports development within the digital learning society. Furthermore, management innovation positively influenced intercultural communication and the development of E-sports in Thailand. Intercultural communication emerged as a particularly influential factor in promoting collaborative learning, global digital interaction, and participation within multicultural digital environments. The qualitative findings supported the quantitative results, indicating that the government plays an important role in policy formulation, digital infrastructure development, financial support, and the promotion of digital competencies necessary for sustainable E-sports development. Informants also emphasized that E-sports platforms support experiential learning, teamwork, problem-solving, digital literacy, and intercultural communication among youth in online environments. In addition, management innovation and technology acceptance were identified as important mechanisms for developing digital learning platforms, enhancing audience engagement, and creating new forms of collaborative learning within digital society. The study highlights that E-sports should not be viewed solely as a form of entertainment or commercial activity, but also as an important platform for lifelong learning, intercultural collaboration, and the development of 21st-century skills in the digital era.

Keywords: E-sports, Intercultural Communication, Digital Learning Society, Digital Learning, Educational Development, Thailand.

Received: 15-01-2026

Accepted: 09-06-2026

1. Introduction

Digital learning society is important component of socio-economic and educational development, that is driven by fast advancement in information and communication technology (Rahman & Hossain, 2025). Digital technologies are referred as societies that integrate digital technologies into learning process, enabling students to apply, share, and create knowledge in both informal and formal settings. The concept of digital learning society is extended beyond technological infrastructure and is based on collaborative knowledge creation, innovation, and lifelong learning (Ngongpah & Oni, 2025). In Thailand, transition regarding digital learning society is regarded as priority under different initiatives including Thailand 4.0, that focuses on technology based economic growth, human capital development, and digital transformation. Thailand government is spending significantly to integrate technology, promote digital skills, and expand digital infrastructure into educational institutions so citizens can be prepared for digital economy (Gerdsri et al., 2025). As a result, education plays very important role to support social inclusion, enhance learning opportunities, and foster digital competencies. Therefore, a robust learning society provides an environment that is suitable for educational practices, sustainable national development, and knowledge exchange.

E-Sports is a digital phenomenon that contributes for the development of digital learning society. Studies have defined e-sports as competitive and organized video gaming that is facilitated through digital platforms. E-sports is extended beyond entertainment by enhancing a wide range of social competencies, technological competencies, and cognitive competencies (Dašić et al., 2024). Participation of citizens in e-sports encourages the development of communication skills, teamwork, strategic thinking, problem solving abilities, and digital literacy, all of which are important to be successful in technology driven environment. The popularity of e-sports is growing at the global level as a number of private organizations, government agencies, and educational institutions are supporting this initiative (Gray Jr, 2025). The integration of e-sports in the context of education has created a number of opportunities for skill development, digital engagement, and experiential learning. Furthermore, e-sports environment expose participants to virtual communities, online collaboration, and advanced digital tools.

Government support is considered as important catalyst to enhance transition towards digital learning society. Through educational reforms, infrastructure investments, and strategic policies, government can create different conditions that are important for knowledge development and digital participation (Mehmood et al., 2025). Globally, a number of universities give priority to innovation, digital literacy, and technological capabilities in a number of sectors. Programs that are associated with digital development of country are expanded towards digital technology, promoted the acquisition of skills among learners, encouraged the integration of technology within the classrooms and access to digital technology (Wang et al., 2025). Government supported educational initiatives play a key role to prepare students for demands of society that is technology driven. These initiatives of government improve access to sources of learning and also foster digital competence, creativity, collaboration, and critical thinking (Daima et al., 2023).

Technology acceptance in present age of digitalization is important for advancement of digital learning society and enhancement of education within a country. Technology acceptance shows the effective usage and adoption of technological system to

accomplish certain tasks. This concept also suggests that perception of users regarding ease of use and technology usefulness impacts their intention to adopt technology (Schorr, 2023). Organizations and educational institutions are increasing investments that encourage acceptance of technology in education. As training institutions, universities, and schools regularly integrate different digital platforms into learning and teaching processes, the effectiveness of these initiatives is dependent on utilization of such technologies (Mhlanga, 2024).

Management innovation is important for institutions and organization to adapt changing societal and technological environment. Management innovation is the implementation of new strategies, structures, processes, and practices, that enhances effectiveness of organization and create value (Khosravi et al., 2019). Management innovation is based on adoption of different approaches that facilitate knowledge sharing, collaboration and learning. At the global level, digital transformation is taking place that encourages educational institutions to adopt practices of innovation management so they can remain responsive to evolving stakeholder needs and emerging technological trends. In context of educational sector, management innovation contributes towards the development of environment that support learning (Wordu et al., 2024). It also encourages continuous improvement in delivery of education.

Different societies are increasingly interconnected through digital technologies that has transformed the way individuals collaborate, learn and interact across cultural boundaries. As people of a society get engage more frequently with online communities, their ability to communicate and understand with individuals having diverse cultural backgrounds is considered as important competency (Yao, 2025). Intercultural communication provide facility for exchange of experience, perspectives, and knowledge among people who differs in social practices, beliefs, values, and language. Different activities such as e-sports, social networking, and online learning for interaction with mutual understanding, and fostering cultural awareness from different countries (Dinu et al., 2025). Therefore, The research objective is to investigate the influence of government support, technology acceptance, management innovation, and intercultural communication on the development of E-sports as a mechanism for promoting Thailand's digital learning society.

2. Literature Review

2.1. Digital Learning Societies

Scholars have given considerable importance to the concept of digital technologies as this concept has regularly transformed the way individuals utilize, share, create, and access knowledge. Literature has referred digital learning society as environment where learning facilitates through adoption of technologies, innovation, collaboration, and knowledge acquisition across all informal and formal settings (Jiao et al., 2025). Digital learning society extends the traditional notion regarding learning society by focusing on the role of information and communication technologies in supporting knowledge exchange, digital literacy, and lifelong learning. In these societies, learning take place with the help of different interconnected digital networks that improves collective intelligence, creativity, and participation (Sutadarat & Niyomves, 2026).

The vitality of digital learning societies is dependent on its ability to equip individuals

with competencies that are needed in knowledge driven and increasingly digital world. By providing access to information, promoting innovation, and enhancing collaboration, digital learning societies contribute to human capital formation, social inclusion, and economic development (Parveen & Ramzan, 2024). Additionally, they provide support to the development of important digital skills, adaptability, and problem solving capabilities, that are important for global society and participation in digital economy. For education, digital learning societies develop opportunities for continuous professional development, interactive engagement, and personalized learning. Therefore, increasing accessibility and overall quality of education.

Scholars examined a number of factors that contribute for the improvement of digital learning society. Different technological factors such as technology acceptance, internet accessibility, and digital infrastructures are identified by Celestin et al. (2025) as important enabler of digital learning environment. On the other hand, different organizational factors such as institutional support and management innovation are discussed as important facilitator to integrate learning systems and digital technologies (Ziraba et al., 2020). Furthermore, cultural and social factors such as digital participation, collaborative networks, and intercultural communication play key role to engage and promote knowledge sharing withing digitally interlinked communities.

2.2. E-Sports Development

E-Sports is mentioned in studies as one of fastest growing sectors because of rapid expansion of digital technologies. Development of E-sports embodies the advancement of competitive gaming through improved institutional support, professionalization, and technological infrastructure at the global level (Yasmeen et al., 2025). In past, e-sports development was once considered as leisure activity. Because of structured digital ecosystem, e-sports facilitates collaboration, competition, and interaction. The enhanced relevance of e-sports is in its ability to foster and digital engagement support the acquisition of skills that are important in learning environments. Individuals develop communication competencies, strategic thinking, teamwork, and problem solving abilities by participating in e-sports. These capabilities are closely linked to the objectives of digital learning societies that focuses on continuous learning, digital participation, and knowledge sharing (Ningning & Wenguang, 2023).

Studies have identified a number of factors that contribute to the enhancement and development of e-sports development (Kwan, 2025). Technology acceptance and technological readiness encourage participation in digital gaming environment (Akpe et al., 2023). Moreover, organizational initiatives, digital infrastructure, and government support facilitate the growth of e-sports ecosystems (Esiri, 2023). Additionally, research by Dašić et al. (2024) mentioned that intercultural communication is one of the important enablers of e-sports development, because e-sports communities frequently bring together individuals from diverse backgrounds, promoting knowledge exchange and collaboration at the global level.

2.3. Intercultural Communication and E-Sports Development

Studies have referred intercultural communication as exchange of meanings, ideas, and information among individuals from different cultural backgrounds (Dinu et al., 2025). It is based on navigating and understanding differences in social norms, languages, beliefs, and values to facilitate mutual understanding and effective interaction. In an

environment that is digitally connected, intercultural communication plays vital role in enabling individuals to collaborate across cultural and geographical boundaries. It also fosters global engagement, knowledge exchange, and cultural awareness (Sharipova, 2025).

With the expansion of online communities and digital platforms, the vital role of intercultural communication has increases substantially. Effective intercultural communication improves collaboration, facilitates sharing of diverse perspectives, reduces cultural misunderstandings, and promote collaboration (Guo, 2025). All these factors lead to the enhancement of innovation and learning. Players of e-sports interact frequently with audience, opponents, and teammates from different cultural backgrounds and countries. This interaction needs individuals to communicate effectively across cultures, develop mutual understanding, and coordinate strategies, in highly competitive digital environment. As a result, intercultural communication contributes to enhanced collaboration, stronger teamwork, and broader participation at the global level in context of e-sports (Mushaathoni, 2025).

Different studies have provided empirical evidence to establish linkage between intercultural communication and e-sports development. Scholars reported that social interaction and communication are important factors of successful e-sports development (Yingji, 2021). Likewise, research also reported that social collaboration and connectivity is supported by online gaming communities among culturally diverse participants (Freeman & Wohn, 2017). Scholars have further mentioned that different e-sports platforms at the global level create opportunities for knowledge exchange and cross-cultural interaction, that strengthen engagement of community and development of e-sports ecosystem.

2.4. Technology Acceptance, Management Innovation, Intercultural Communication and E-Sports Development

Literature has referred technology acceptance as level to which individuals are willing to utilize and adopt a certain technology for accomplishment of desired tasks (Martin, 2022). This concept is basically rooted from Technology acceptance model (TAM), which states that perceived ease of use and perceived usefulness are important determinants of intention of users for adoption of technology. Different studies extended the perspective of TAM by focusing on roles of behavioral intentions, facilitating conditions, and social influence to shape adoption of technology (Lee et al., 2025).

On the other hand, management innovations are referred as implementation of novel managerial techniques, structures, processes, and practices that enhances adaptability and effectiveness of organizations (Lin et al., 2017). It helps organizations to respond to different technological alteration, foster collaborative environment, and improve knowledge management that provide support to learning and innovation. The importance of technology acceptance is evident in different digital environments where participants participate to determine the success of different platforms of technology. In context of e-sports, acceptance of player's gaming technologies, communication tools, and streaming platforms influence growth, engagement, and participation of e-sports communities. Studies mentioned on regular basis that social influence, ease of use and perceived usefulness have positive effect on individuals online gaming technologies (Yin et al., 2023).

Technology acceptance plays important role in terms of intercultural communication

by facilitating ease of digital platforms so interaction can be enabled between individuals from diverse cultural backgrounds. Digital technologies minimize geographical barriers and provide a number of opportunities for social interaction, knowledge exchange, and cross-cultural collaboration. Studies regarding communication environments and technology based learning show that greater acceptance of digital technologies improves collaborative engagement, cultural understanding, and communication effectiveness among different cultures of users (Judijanto et al., 2025).

Likewise, management innovation plays important role in development of e-sports by enabling organizations to create supportive ecosystem, improve governance structures, and adopt new digital strategies for competitive gaming. Innovative management practices provide strength to intercultural communication by promoting knowledge sharing mechanisms, collaborative decision making, and inclusive organizational cultures that encourages interaction among individuals who belong to diverse cultures (Hammerschmidt et al., 2024). Studies from past suggest that organizations characterized through innovative management practices can successfully integrate new technologies and foster environments that are conducive to innovation, learning, and cross-cultural communication.

2.5. Management Innovation, Intercultural Communication and E-Sports Development

Management innovation plays important role to enhance value creation, adaptability, and effectiveness (Azra, 2023). In increasingly technology driven and diverse environment, different approaches of innovative management play key role to facilitate communication and collaboration among individuals having diverse cultural backgrounds. By promoting system of knowledge sharing, inclusive organizational cultures, and participative decision making, management innovation improves intercultural communication and provide support to the exchange of ideas through different cultural boundaries (Routray et al., 2025). Studies have shown empirically that innovative management practices influence communication effectiveness positively.

Management innovation is important for substantiality and growth of e-sports ecosystems. As e-sports organizations works in a dynamic digital environment, innovative practices of management enable strategic adaptation, knowledge management, and effective coordination (Hölzle et al., 2022). Organizations are helped by these practices to respond to evolving technological demands, foster innovation, and improve team performance. empirical studies revealed that knowledge management practices contribute significantly to success of organization.

2.6. Government Support, Technology Acceptance, Management Innovation, and Intercultural Communication

Government support plays an important role to facilitate digital transformation by creating favorable conditions for communication development, organizational innovation, and technology adoption. By investing in educational initiatives, financial incentives, policy frameworks, and digital infrastructure, governments can encourage organizations and individuals to adopt emerging technologies (Matsieli & Mutula, 2025). Literature have mentioned that government support has positive influence on acceptance of technology by enhancing access to technological resources, increase users' confidence, and reduce adopting barriers in digital systems. As a result, supportive policies of government contribute to greater utilization and acceptance of digital technologies (Chen et al., 2021).

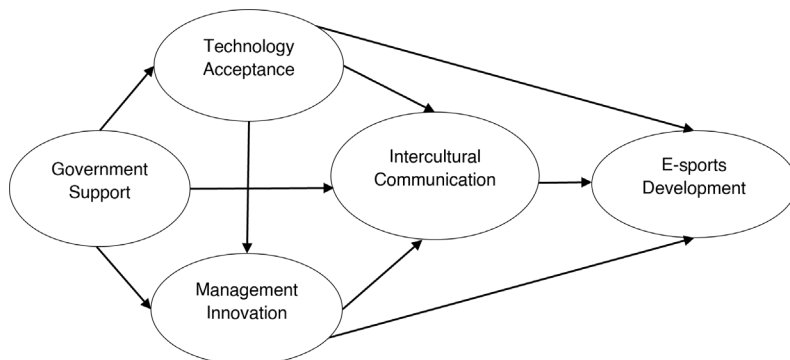
Government support is also discussed as important catalyst for management

innovation. Through promotion of digital transformation strategies, funding programs, and innovative friendly regulations, government encourages organizations to adopt operational processes and novel managerial practices (Matsieli & Mutula, 2025). Studies indicate that government support along with institutional support enhances innovation capabilities of organization. Moreover, government support is an important contributor of the development of intellectual communication by facilitating knowledge sharing platforms, supporting educational initiatives, and expanding digital connectivity (Tao et al., 2025). This intervention creates opportunities for interaction, collaborative learning, and information exchange among different groups. empirical studies show that educational programs and government led digital programs enhance knowledge sharing behaviors and communication networks.

A total of nine research hypotheses (Figure 1) were proposed as follows:

- H1: Government support has a positive direct influence on technology acceptance.
- H2: Technology acceptance has a positive direct influence on management innovation.
- H3: Government support has a positive direct influence on management innovation.
- H4: Technology acceptance has a positive direct influence on E-sports development towards creating a revenue-generating industry in Thailand.
- H5: Technology acceptance has a positive direct influence on intercultural communication.
- H6: Government support has a positive direct influence on intercultural communication.
- H7: Management innovation has a positive direct influence on intercultural communication.
- H8: Management innovation has a positive direct influence on E-sports development toward creating a revenue-generating industry in Thailand.
- H9: Intercultural communication has a positive direct influence on E-sports development towards creating a revenue-generating industry in Thailand.

Figure 1: Conceptual Framework.



3. Methodology

3.1. Research Design and Ethical Considerations

The Mixed Methods Research approach was employed by integrating quantitative research and qualitative research methods to provide a comprehensive explanation of E-sports development within the context of a digital learning society, both statistically and in-depth. The quantitative research aimed to examine the levels of opinions and the

causal relationships among factors related to E-sports development and intercultural communication (Plano Clark, 2017). Meanwhile, the qualitative research focused on explaining contextual factors, perspectives, and recommendations from stakeholders involved in Thailand's E-sports industry.

Regarding research ethics, the researchers strictly adhered to ethical principles for human subject research. This study received ethical approval from the Kasetsart University Research Ethics Committee (KUREC) under research project approval number COE68/111 for the project entitled "The Development of E-sports to Create a Revenue-Generating Industry for Thailand." The researchers complied with the three fundamental principles of human research ethics; Respect for Persons – Research participants were provided with complete information regarding the objectives, procedures, and details of the study and were able to voluntarily decide whether to participate in the research, Beneficence and Non-maleficence – The researchers prioritized confidentiality and the protection of participants' personal information, ensuring that no identifiable information of participants would be disclosed, and Justice – Participant selection criteria were established clearly and fairly to ensure that all participants were treated equally and fairly throughout the research process.

3.2. Sample

The population for the quantitative research consisted of 1,362 E-sports athletes who were officially registered as professional athletes with the Thailand E-sports Association. The sample size was calculated using the G*Power software (Kang, 2021), which indicated that a minimum sample of 320 participants was required. In addition, to comply with the criterion of having a sample size at least 20 times the observed variables, a Stratified Sampling technique was employed (Singh & Mangat, 1996). For the qualitative research component, the researchers applied Purposive Sampling to select 11 key informants, including representatives from government agencies, the Thailand E-sports Association, and professional E-sports athletes with extensive experience in the E-sports industry.

3.3. Instruments

The instrument used for the quantitative research was a Likert Scale questionnaire, developed based on a review of literature, theoretical concepts, and previous studies related to government support, technology acceptance, management innovation, intercultural communication, and E-sports development (McLeod, 2023). The questionnaire was assessed for content validity by five experts and tested for reliability using Cronbach's Alpha Coefficient (Kilic, 2016) before implementation. For the qualitative research, the research instrument consisted of a semi-structured in-depth interview guide, which was examined for content appropriateness and data credibility through the Triangulation method.

3.4. Data Analysis

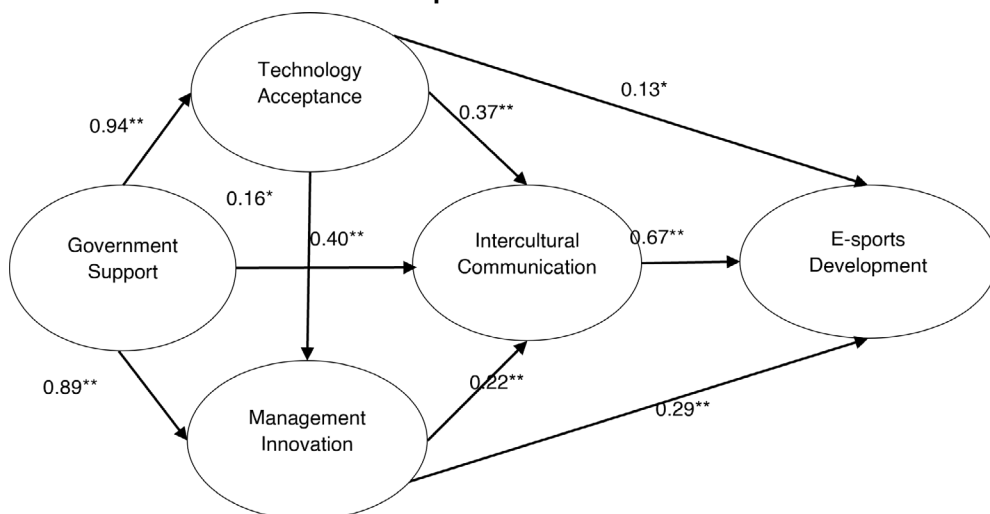
Quantitative data were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation, along with Structural Equation Modeling (SEM) to examine the relationships among variables according to the proposed research framework (Teo et al., 2015). Qualitative data were analyzed using Content Analysis, whereby interview findings were integrated with quantitative results to

explain and support the research findings in a comprehensive and integrated manner.

4. Results

The research was able to collect demographic data from a larger number of E-sports athlete participants than initially calculated. A total of 360 respondents were included after undergoing an in-depth data screening process. The preliminary characteristics of the sample revealed that the majority of respondents were female (53.89%), with most participants aged 20–30 years (35.56%). Most respondents held a bachelor's degree (70.00%) and had an average monthly income between 20,001–30,000 Thai Baht (44.72%). These findings indicate that the majority of the sample belonged to the working-age population and possessed relatively high educational backgrounds, representing a group that is well-prepared for digital technology adoption and active participation in Thailand's E-sports industry.

Figure 2: The Results of Hypothesis Testing Based on the Research Conceptual Framework.



The quantitative data analysis using Structural Equation Modeling (SEM) revealed that the variables of government support, technology acceptance, management innovation, and intercultural communication all had significant relationships and influences on the E-sports development as a revenue-generating industry in Thailand. These findings reflect the important roles of policy-related factors, technology, and management practices within the digital economy in driving the development of Thailand's E-sports industry. Furthermore, the hypothesis testing results demonstrated that the E-sports development in Thailand does not depend solely on technological factors. Instead, it also requires the establishment of a supportive ecosystem encompassing governance mechanisms, government support, management innovation development, and intercultural understanding. These factors can contribute to enhancing competitiveness, generating economic value, and promoting the sustainable growth of Thailand's E-sports industry (Figure 2, Table 1 and Table 2).

Table 1: Summary of Hypothesis Testing.

	Hypotheses	Path Coefficient	t-value	Test Result
H1	Government support has a positive direct influence on technology acceptance.	0.94	20.91	Hypothesis accepted
H2	Technology acceptance has a positive direct influence on management innovation.	0.16	2.26	Hypothesis accepted
H3	Government support has a positive direct influence on management innovation.	0.89	10.81	Hypothesis accepted
H4	Technology acceptance has a positive direct influence on E-sports development towards creating a revenue-generating industry in Thailand.	0.13	2.10	Hypothesis accepted
H5	Technology acceptance has a positive direct influence on intercultural communication.	0.37	5.05	Hypothesis accepted
H6	Government support has a positive direct influence on intercultural communication.	0.40	3.83	Hypothesis accepted
H7	Management innovation has a positive direct influence on intercultural communication.	0.22	2.74	Hypothesis accepted
H8	Management innovation has a positive direct influence on E-sports development toward creating a revenue-generating industry in Thailand.	0.29	4.32	Hypothesis accepted
H9	Intercultural communication has a positive direct influence on E-sports development towards creating a revenue-generating industry in Thailand.	0.67	6.69	Hypothesis accepted

Note: t-value ≥ 1.96 : $p < 0.05$, t-value ≥ 2.58 : $p < 0.01$

Table 2: Results of the Analysis on Direct Influence, Indirect Influence, and Total Influence within the Model.

Outcome Variables	REAC			MAIN			INES			DECR		
Causal Variables	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE
GOPR	0.94**	-	0.94**	0.89**	0.06	0.95**	0.40**	0.55**	0.96**	-	0.93**	0.93**
REAC	-	-	-	0.16*	-	0.16*	0.37**	0.21**	0.58**	0.13*	0.27**	0.40**
MAIN	-	-	-	-	-	-	0.22**	-	0.22**	0.29**	0.15*	0.44**
INES	-	-	-	-	-	-	-	-	-	0.67**	-	0.67**
Variables	ASE	ASB	ATS	PSI	PRI	BEI	ORI	IDE	FEE	AFF	VIG	STS
Reliability	0.86	0.84	0.93	0.88	0.78	0.88	0.89	0.90	0.85	0.92	0.90	0.89
Variables	IMP	LAD	IIR	BUS	LAW	REO						
Reliability	0.93	0.90	0.66	0.88	0.91	0.90						
Structural Equation Model Variables	REAC	MAIN	INES	DECR								
R-Square Values	0.88	0.91	0.94	0.93								

Correlation Matrix among Latent Variables

Latent Variables	REAC	MAIN	INES	DECR	GOPR
REAC	1				
MAIN	0.90	1			
INES	0.94	0.93	1		
DECR	0.91	0.93	0.96	1	
GOPR	0.94	0.95	0.96	0.93	1

Note: Statistical values $\chi^2=80.52$, $df = 67$, $\chi^2/df = 1.20$, $P = 0.12$, $GFI = 0.98$, $AGFI = 0.94$, $RMSEA = 0.024$, $RMR = 0.003$

For the qualitative research findings obtained through in-depth interviews with 11 key informants, including experts, public sector executives, E-sports industry entrepreneurs, E-sports athletes, and stakeholders involved in digital industry development, the findings indicated that the development of Thailand's E-sports industry towards

becoming a sustainable digital economic sector and generating long-term income requires several important factors. These include government support, technology acceptance, management innovation, and intercultural communication.

5. Conclusion and Discussion

The results of the study provide key insights into different factors that contribute to the development of E-sports industry of Thailand and the way it is transitioned towards digital learning society. The findings revealed that intercultural communication, management innovation, technology acceptance and government support have significant effect on e-sports development. These results suggests that e-sports development is not only dependent on gaming participation and technological advancement. Infact, it is shaped through the combination of socio cultural, managerial, technological and institutional factors. Moreover, results demonstrate that e-sports can be a function of digital ecosystem for learning orientation where individuals develop competencies, skills, and knowledge that is important for digital societies.

The positive effect of government support on intercultural communication, management innovation, and technological acceptance show the important role of public institutions to create environment that provide support to the innovation and digital learning. Digital transformation needs technological infrastructure along with initiatives and policies that facilitate knowledge exchange, connectivity, and participation. In context of Thailand, government investment in digital literacy programs, educational technology, and digital infrastructure create opportunities for individuals so they can have access to the digital resources. The results indicate that supportive policies of government encourage adoption of digital technologies, create conditions that improve communication among different groups, and stimulate innovative organizational practices. From the perspective of education, these initiatives contribute to the development of culture that promote active participation and enhance competencies in digitally mediated activities.

The findings of the study are also supported through TAM presented by Davis (1989), stating that individuals are likely to adopt technologies based upon ease of use and usefulness. Results found technology acceptance having positive effect on e-sports development and intercultural communication. These findings indicate that users are willing to accept digital technologies play key role to shape participation in digital ecosystems. From the perspective of e-sports, acceptance of digital applications, communication platforms, and gaming technologies encourages engagement in collaborative activities and online communities. From the lens of education, this result shows that technology acceptance is more beyond technology contribution and usage to process of learning that occur within digital environments. With rise in integration of digital tools by the educational institutions into learning practices and teaching practices, technology acceptance become important factor to influence knowledge acquisition, digital literacy, and student engagement. Thus, developing positive attitude regarding technology can improve participation in e-sports participation within a digital learning society (Hammerschmidt et al., 2024).

Another vital contribution of the present research is regarding the role of management innovation, showing positive effect on e-sports development and intercultural communication. This finding shows that organizations that are capable of adopting innovative managerial practices are in better position to respond to changing environmental

and technological conditions. Within ecosystems of e-sports, management innovation provide support to the development of collaborative organizational cultures, knowledge sharing mechanisms, strategic planning processes and effective governance structures. Such practices helps in efficient management of competitive gaming environments and digital platforms. Whereas, it also creates innovation and learning opportunities. These results show that innovation management practices contribute to the creation of learning oriented environments where participants have chance to engage in collaborative problem solving techniques, develop new skills, and exchange knowledge. As a result, management innovation must be viewed as key enabler of both digital learning and organizational performance (Hölzle et al., 2022).

Another important result of the present study is strong effect of intercultural communication on the development of e-sports. Among different determinants examined, intercultural communication is one of the vital predictor of e-sports development. The results highlight that participation in e-sports interact frequently from diverse geographical, linguistic, and cultural backgrounds. These interactions create opportunities for exchange of experiences, perspectives, and ideas that enrich understanding of participants of different cultures. The results also provide support to the argument that intercultural communication competence is important for the individuals operating for the connectivity of global environment. From the perspective of education, intercultural communication provide support to collaborative learning, teamwork, empathy, and cultural awareness. Learners are exposed toward diverse communication style and view point through participation in e-sports communities. It also enables participants to develop competencies that are needed for gaming skills.

The strong relationship between e-sports development and intercultural communication also shows the significance of e-sports in context of education as platform of experiential and informal learning. Opposite to traditional classroom environments, communities of e-sports provide authentic context where participants get engage in problem solving, collaborative decision making, and real time communication with individuals from different cultural backgrounds. These interactions contribute towards the development of intercultural competence, critical thinking abilities, and communication skills (Mushaathoni, 2025)..

The qualitative results also provide support to the quantitative findings by showing importance of collaboration between digital communities, private organizations, educational institutions, and government agencies. Respondents of study shed light on the need of coordinated efforts for the development of management systems, human resources, technology, and infrastructures that provide support to the growth of e-sports. Studies also stressed the important role of intercultural communication and language proficiency skills for successful participation in communities of international e-sports. These results show that educational institutions can play key role for the preparation of learners so they can participate in digital societies through integration of technology related competencies, collaborative learning, intercultural communication, and digital literacy into educational programs.

5.1. Limitations and Future Direction

Although this study provides valuable insights into development of digital learning society and Thailand E-sports industry. But there are few limitations of this study. Firstly, research was conducted in context of Thailand, thus, results may not be generalized

fully to other countries with institutional environment, technological environment, and cultural environments. Secondly, the research used cross-sectional research design that limits the ability to explore changes in behavior and perception with passage of time. Upcoming studies may use longitudinal design with purpose to better understand the relationship between intercultural communication, management innovation, technology acceptance, government support and e-sports development.

Thirdly, present research did not explore the role of educational engagement, collaborative learning, motivation and digital literacy. Future research must examine the vital role of e-sports in informal and formal learning environments and report its contribution in present era for lifelong learning, digital competency and other latest skills. Comparative studies across different countries and educational contexts may also provide a broader understanding of how E-sports contributes to the formation of digital learning societies in diverse settings.

5.2. Acknowledgements

This research article is part of the research project entitled “The Development of E-sports to Create a Revenue-Generating Industry in Thailand.” The researchers would like to express sincere gratitude to the academic advisor for providing valuable guidance, recommendations, and constructive suggestions throughout the research process. The researchers would also like to extend appreciation to all questionnaire respondents and informants for generously dedicating their time and providing valuable information and cooperation, which played a significant role in the successful completion of this research study.

References

- Akpe, O. E. E., Mgbame, A. C., Ogbuefi, E., Abayomi, A. A., & Adeyelu, O. O. (2023). Technology Acceptance and Digital Readiness in Underserved Small Business Sectors. *Journal of Frontiers in Multidisciplinary Research*, 4(1), 252–268. <https://doi.org/10.54660/IJFMR.2023.4.1.252-268>
- Azra, A. (2023). Role of Innovation Management Practices in Enhancing Firm Agility and Adaptability during Times of Crisis in Turkey. *International Journal of Strategic Management*, 2(2), 12–22. <https://doi.org/10.47604/ijsm.2185>
- Celestin, M., Pal, T., Mungekar, P. R., Parmar, H., & Asamoah, P. J. (2025). The Future of Online Learning: Innovations, Accessibility and the Digital Divide. *International Journal of Advanced Trends in Engineering and Technology (IJATET)*, 10(1), 33–42. <https://doi.org/10.2139/ssrn.5212095>
- Chen, C.-L., Lin, Y.-C., Chen, W.-H., Chao, C.-F., & Pandia, H. (2021). Role of Government to Enhance Digital Transformation in Small Service Business. *Sustainability*, 13(3), 1028. <https://doi.org/10.3390/su13031028>
- Daima, M., Singh, H., & Poojari, L. (2023). Government Initiatives to Support E-Learning: A Specific Study On Government Digital Platforms. *Anvesak*, 53(4(I)), 1169–1177. <https://www.researchgate.net/publication/377064035>

- Dašić, D., Vitković, B., & Kostadinović, M. I. (2024). The Influence of E-Sports on Economy Education and Cultural Communication. *International Journal of Cognitive Research in Science, Engineering and Education*, 12(3), 647–655. <https://doi.org/10.23947/2334-8496-2024-12-3-647-655>
- Dinu, E., Cocoşatu, M., Palăr, V., & Neamţu, F. (2025). Exploring the Role of Intercultural Communication and Cultural Intelligence in Enhancing Stakeholder Engagement and ESG Practices in International Organisations: Insights from the UN. *Sustainability*, 17(22), 10388. <https://doi.org/10.3390/su172210388>
- Esiri, S. (2023). A Sustainable Development Model for Esports Ecosystem Growth in Underrepresented Regions. *International Journal of Multidisciplinary Research and Growth Evaluation*, 4(1), 892–900. <https://doi.org/10.54660/IJMRGE.2023.4.1.892-900>
- Freeman, G., & Wohn, D. Y. (2017). eSports as An Emerging Research Context at CHI: Diverse Perspectives on Definitions. In *Proceedings of the 2017 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (pp. 1601–1608). Association for Computing Machinery. <https://doi.org/10.1145/3027063.3053158>
- Gerd Sri, N., Lewwongcharoen, B., & Chalarak, N. (2025). Thailand National Technology Roadmap on Digital Industry. In *ISPIM Innovation Symposium* (pp. 1–9). The International Society for Professional Innovation Management (ISPIM). <https://www.proquest.com/openview/1ab7564bab77d3e7d992dbc219568878>
- Gray Jr, A. M. (2025). *From Gamers to Professionals: A Case Study on the Role of Esports in Developing Employability Skills* [Doctoral dissertation, Old Dominion University]. <https://doi.org/10.25777/xfza-4739>
- Guo, W. (2025). Conflict resolution in intercultural communication: strategies for managing cultural conflicts. *Humanities and Social Sciences Communications*, 12(1), 73. <https://doi.org/10.1057/s41599-025-04391-0>
- Hammerschmidt, J., González-Serrano, M. H., Puumalainen, K., & Calabuig, F. (2024). Sport entrepreneurship: the role of innovation and creativity in sport management. *Review of Managerial Science*, 18(11), 3173–3202. <https://doi.org/10.1007/s11846-023-00711-3>
- Hölzle, K., Kullik, O., Rose, R., & Teichert, M. (2022). The digital innovation ecosystem of eSports: A structural perspective. In S. Baumann (Ed.), *Handbook on digital business ecosystems* (pp. 582–595). Edward Elgar Publishing. <https://doi.org/10.4337/9781839107191.00046>
- Jiao, H., Wang, T., Libaers, D., Yang, J., & Hu, L. (2025). The relationship between digital technologies and innovation: A review, critique, and research agenda. *Journal of Innovation & Knowledge*, 10(1), 100638. <https://doi.org/10.1016/j.jik.2024.100638>
- Judijanto, L., Aryani, V., & Nastiar, M. F. (2025). Intercultural Communication Challenges in Digital Communication: A Global Perspective. *International Journal of Society Reviews (INJOSER)*, 2(8), 141–147. <https://injoqast.net/index.php/INJOSER/article/view/1085>

- Kang, H. (2021). Sample size determination and power analysis using the G* Power software. *Journal of Educational Evaluation for Health Professions*, 18, 17. <https://doi.org/10.3352/jeehp.2021.18.17>
- Khosravi, P., Newton, C., & Rezvani, A. (2019). Management innovation: A systematic review and meta-analysis of past decades of research. *European Management Journal*, 37(6), 694–707. <https://doi.org/10.1016/j.emj.2019.03.003>
- Kilic, S. (2016). Cronbach's alpha reliability coefficient. *Psychiatry and Behavioral Sciences*, 6(1), 47–48. <https://doi.org/10.5455/jmood.20160307122823>
- Kwan, J. (2025). The Impact of Esports on the Development of 21st Century Skills and Academic Performance for Youths. *Biomedical Journal of Scientific & Technical Research*, 62(1), 54291–54309. <https://doi.org/10.26717/BJSTR.2025.62.009694>
- Lee, A. T., Ramasamy, R. K., & Subbarao, A. (2025). Understanding Psychosocial Barriers to Healthcare Technology Adoption: A Review of TAM Technology Acceptance Model and Unified Theory of Acceptance and Use of Technology and UTAUT Frameworks. *Healthcare*, 13(3), 250. <https://doi.org/10.3390/healthcare13030250>
- Lin, H., Chen, M., & Su, J. (2017). How management innovations are successfully implemented? An organizational routines' perspective. *Journal of Organizational Change Management*, 30(4), 456–486. <https://doi.org/10.1108/jocm-07-2016-0124>
- Martin, T. (2022). A Literature Review on The Technology Acceptance Model. *International Journal of Academic Research in Business and Social Sciences*, 12(11), 2702–2727. <https://doi.org/10.6007/IJARBS/v12-i11/14115>
- Matsieli, M., & Mutula, S. (2025). The role of government in facilitating digital transformation of SMMEs for economic growth. *Development Southern Africa*, 42(4-5), 630–648. <https://doi.org/10.1080/0376835X.2025.2568855>
- McLeod, S. (2023). Likert Scale Questionnaire: Examples & Analysis. *Simply Psychology*, 31. <https://www.simplypsychology.org/likert-scale.html>
- Mehmood, M. U., Iftikhar, N., & Bhatti, A. U. R. (2025). Digital transformation in Pakistan's public schools: Opportunities and challenges for SDG-4. *Journal of Applied Linguistics and TESOL (JALT)*, 8(3), 1669–1687. <https://doi.org/10.63878/jalt1162>
- Mhlanga, D. (2024). Digital transformation of education, the limitations and prospects of introducing the fourth industrial revolution asynchronous online learning in emerging markets. *Discover Education*, 3(1), 32. <https://doi.org/10.1007/s44217-024-00115-9>
- Mushaathoni, M. (2025). An Intercultural Communication Management Framework For Culturally Diverse Organisations. *Journal of Intercultural Communication*, 25(4), 23–33. <https://doi.org/10.36923/jicc.v25i4.1227>
- Ngongpah, G., & Oni, O. Y. (2025). Exploring the Impact of Digital Technologies in Education: A Comprehensive Review. *Asian Journal of Education and Social Studies*, 51(6),

1254–1264. <https://doi.org/10.9734/ajess/2025/v5i1i62071>

- Ningning, W., & Wenguang, C. (2023). The effect of playing e-sports games on young people's desire to engage in physical activity: Mediating effects of social presence perception and virtual sports experience. *PloS One*, 18(7), e0288608. <https://doi.org/10.1371/journal.pone.0288608>
- Parveen, S., & Ramzan, S. I. (2024). The Role of Digital Technologies in Education: Benefits and Challenges. *International Research Journal on Advanced Engineering and Management*, 2(6), 2029–2037. <https://doi.org/10.47392/IRJAEM.2024.0299>
- Plano Clark, V. L. (2017). Mixed methods research. *The Journal of Positive Psychology*, 12(3), 305–306. <https://doi.org/10.1080/17439760.2016.1262619>
- Rahman, M. M., & Hossain, M. E. (2025). Digital dynamics in technology adoption: Exploring socio-economic development through technology and education. *Technology in Society*, 82, 102906. <https://doi.org/10.1016/j.techsoc.2025.102906>
- Routray, C., Gautam, B. K., Raghvendra, Dron, S., & Saxena, R. (2025). Innovation Management: Nurturing Creativity and Driving Growth in Technology Firms. *Journal of Information Systems Engineering and Management*, 10(2), 335–346. <https://doi.org/10.52783/jisem.v10i2.1915>
- Schorr, A. (2023). The Technology Acceptance Model (TAM) and its Importance for Digitalization Research: A Review. In *International Symposium on Technikpsychologie (TecPsy) 2023* (pp. 55–65). Sciendo. <https://doi.org/10.2478/9788366675896-005>
- Sharipova, M. (2025). Overcoming Linguistic and Cultural Barriers Through Intercultural Communication. *International Journal on Culture, History, and Religion*, 7(S11), 814–844. <https://doi.org/10.63931/ijchr.v7iS11.343>
- Singh, R., & Mangat, N. S. (1996). Stratified Sampling. In R. Singh & N. S. Mangat (Eds.), *Elements of Survey Sampling* (pp. 102–144). Springer Netherlands. https://doi.org/10.1007/978-94-017-1404-4_5
- Sutadarat, S., & Niyomves, B. (2026). Digital Lifelong Learning in the 21st Century: Access, Equity, and Emerging Gaps. *International Journal of Sociologies and Anthropologies Science Reviews*, 6(1), 225–238. <https://doi.org/10.60027/ijssar.2026.7954>
- Tao, C., Li, X., & Xu, Y. (2025). Government digital subsidies and corporate digital technology innovation: Evidence from Chinese listed companies. *Journal of Innovation & Knowledge*, 10(5), 100797. <https://doi.org/10.1016/j.jik.2025.100797>
- Teo, A.-C., Tan, G. W.-H., Ooi, K.-B., & Lin, B. (2015). Why consumers adopt mobile payment? A partial least squares structural equation modelling (PLS-SEM) approach. *International Journal of Mobile Communications*, 13(5), 478–497. <https://doi.org/10.1504/IJMC.2015.070961>
- Wang, T., Dai, T., Yang, L., Osmanova, L., & Hwarari, D. (2025). Digital innovation in

- higher education: comparing approaches in developed and developing countries. *Frontiers in Education*, 10, 1723087. <https://doi.org/10.3389/feduc.2025.1723087>
- Wordu, J. A., Barango-Tariah, H., & Dike, C. (2024). Managing innovation in educational institutions for global relevance. *Journal of Health, Applied Sciences and Management*, 7(2), 19–29. <https://doi.org/10.4314/johasam.v7i2.2>
- Yao, M. (2025). The study of the effects of digital media applications in cross-cultural communication in the construction of cultural identity. *Acta Psychologica*, 258, 105247. <https://doi.org/10.1016/j.actpsy.2025.105247>
- Yasmeen, S., Bangash, D. I. U., Ashfaq, N., Zaman, R.-U., & Bhatti, M. A. (2025). The Growth of E-Sports: Examining Students' Perceptions of Technological and Financial Factors Affecting Motivation in E-Sports. *ACADEMIA International Journal for Social Sciences*, 4(4), 5483–5492. <https://doi.org/10.63056/ACAD.004.04.1369>
- Yin, C., Huang, Y., Kim, D., & Kim, K. (2023). The Effect of Esports Content Attributes on Viewing Flow and Well-Being: A Focus on the Moderating Effect of Esports Involvement. *Sustainability*, 15(16), 12207. <https://doi.org/10.3390/su151612207>
- Yingji, L. (2021). Research on E-sports Promotion in Terms of Cross-cultural Communication : —Case Study of Honor of Kings' Silk Road E-sports Tournament (SRET). In *2021 International Conference on Information Technology and Contemporary Sports (TCS)* (pp. 133–136). IEEE. <https://doi.org/10.1109/TCS52929.2021.00036>
- Ziraba, A., Akwene, G. C., & Lwanga, S. C. (2020). The Adoption and Use of Moodle Learning Management System in Higher Institutions of Learning: A Systematic Literature Review. *American Journal of Online and Distance Learning*, 2(1), 1–21. <https://doi.org/10.47672/ajodl.489>