

: A Guide for Beginners

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Research

The use of existing knowledge in a creative way to generate new concepts, methodologies & understandings. It could include synthesis and analysis of previous research to leads to new and creative outcomes.





A process of systematic inquiry that entails collecting data, documenting critical information, and analyzing and interpreting that data/information according to suitable methodologies set by specific professional fields and academic disciplines.

Research is conducted

- To evaluate the validity of a hypothesis (conceptual framework)
- To find substantive knowledge and share them appropriately.
- To help generate questions for further inquiries.



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"What is the relationship between strategic planning and research methodology?

Topics - Sector

Research (Data Analytics)











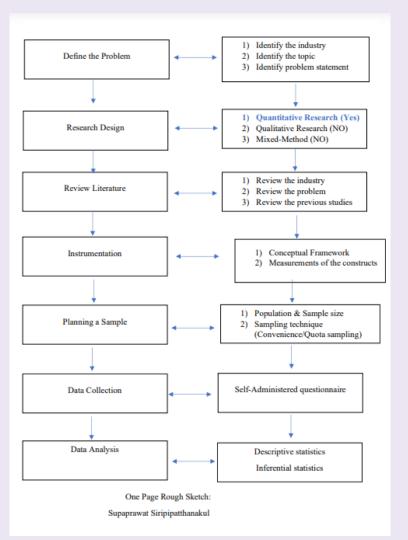


Business

Humanities & Social Sciences

Computing Sciences





One Page Rough Sketch

Research Topics

Qualitative Research (Interviews)

Marketing Mix (4Cs) Affecting Decision to be an Online Degree Student: A Qualitative Case Study of an Online Master's Degree in Thailand

1.3. Research Objective

This study explains the influence of marketing mix (4Cs) on the decision to be an online master's degree student in Thai people.

1.4. Research Question

What are the main factors of the marketing mix (4Cs) that influence Thai people in an individual's decision to be online master's degree students?

Siripipattanakul, S., Siripipatthanakul, S., Limna, P., & Auttawechasakoon, P. (2022). Marketing Mix (4Cs) Affecting Decision to be an Online Degree Student: A Qualitative Case Study of an Online Master's Degree in Thailand. *International Journal on Integrated Education*, *5*(4), 31-41.

3.2. Population and Sample

Purposive sampling involves the researchers selecting the most useful sample based on their expertise. It is frequently employed in qualitative research. The goal is to learn everything there is to know about a specific phenomenon or population (Etikan et al., 2016). The population in this study was Thai online master's degree students in Thailand. The study's sample was master's degree students over 18 years old, and all were Thai in a university in Thailand.

3.3. Data Collection

The researchers reviewed the secondary data by adopting the documentary method for appropriate key survey questions through in-depth interviews to accomplish the primary data results. The survey interview questions are shown as follows.

Main Questions

Q1: What is your source of information about your online degree program?

Q2: What factors do you consider before enrolling in an online degree program?

Q3: What do you expect to gain from your online degree program?

Q4: What are your thoughts on your online learning environment?

Q5: What factors of your online degree program satisfy you?

Q6: How would you rate the overall quality of your online education?

Q7: Could you describe your program's learning style and relationship management?

Q8: Would you advise others to enrol in an online degree program, and why?

Table 1. Respondents' Demographics and Priority of the 4Cs-Marketing Mix

Respondent	Age - Gender	Cost	Convenience	Communication	Student Centre
Respondent 1 March 08th, 2022	29 - Female	3	1	2	4
Respondent 2 March 09th, 2022	34 - Female	1	2	3	4
Respondent 3 March 10th, 2022	32 - Female	1	2	3	4
Respondent 4 March 11th, 2022	31 - Male	2	1	3	4
Respondent 5 March 12th, 2022	28 - Male	1	2	3	4
Respondent 6 March 13th, 2022	42 - Male	2	1	3	4
Total	Age 28 - 42	1 = 3	1 = 3	1 = 0	1 = 0

4.2. Content Analysis

4.2.1. The Influence of Cost on the Decision to be an Online Master's Degree Student Referring to the interviews, financial considerations and other costs influence students' decisions to enrol in an online master's degree programme. Most of the respondents would choose an online master's degree programme if the programme were affordable. Therefore, an online master's degree program institution must consider an effective cost strategy.

"I also considered the price or university fee. It is a master's degree program, so it is not that expensive. I mean, it is affordable." – Respondent 1: a 29-year-old female, interviewed at 10:30 a.m. on March 08th, 2022.

"Well, the factors I have considered studying in this program are the course fees, course flexibility, course quality, and perceived usefulness." – Respondent 3: a 32-year-old female, interviewed at 07:00 p.m. on March 10th, 2022.

"The cost of this programme is good, and it is affordable for an online master's degree program in the business. I have also got support from my family, so I am fine." – Respondent 5: a 28-year-old male, interviewed at 07:00 p.m. on March 12th, 2022.

Siripipattanakul, S., Siripipatthanakul, S., Limna, P., & Auttawechasakoon, P. (2022). Marketing Mix (4Cs) Affecting Decision to be an Online Degree Student: A Qualitative Case Study of an Online Master's Degree in Thailand. *International Journal on Integrated Education*, *5*(4), 31-41.

5.1. Discussion

The 4Cs-marketing mix (communication, cost, convenience, and customer or student centre) impacts the decision to be an online master's degree student in this qualitative study. The finding supported the previous research of Aguinis et al. (2019) and Shaik (2005) that the 4Cs-marketing mix (communication, cost, convenience, and customer or student centre) can influence individuals' decision to be an online master's degree student. The finding supported the previous research of McKinney et al. (2022) that financial considerations and other educational costs influence students' decisions to enrol in online courses. The finding supported the previous research of Kumar (2010), Muthuprasad et al. (2021), and Watts (2017) that convenience and flexibility influence students' decisions to enrol in online learning. The finding supported the previous research of Edmiston (2008), Shao-Chang (2013), and Tham& Werner (2005) that communication, such as recommendation, word of mouth, and review, about an institution's excellence can influence a person's decision to pursue an online degree program. Also, the finding supported the previous research of Azhar&Sikumbang (2018) and Gallo (2012) that communication about an institution's alumni success can inspire and influence people to enrol in a course. The finding supported the previous research of Hays (2020) and Shaik (2005) that a student centre can influence students' decisions to enrol in online courses.

5.2. Conclusions

The 4Cs-marketing mix or customer relationship management (communication, cost, convenience, and customer or student centre) influences individuals' decisions to be an online master's degree student. Therefore, programme directors, educational leaders, and teachers should pay attention to cost the most, followed by convenience, communication and customer (student) centre. These factors influence people to decide to be online master's degree students. Program directors and educational leaders could manage their strategies for the appropriate educational expenses and course fees. Communication could be enhanced through positive word of mouth about the institution's success. Furthermore, program directors and educational leaders can increase convenience by, for example, managing coursework schedules in a way that is convenient for both teachers and students, flexible and efficient learning methods. Finally, customer or student centres can be improved by having an online student centre where students can get help from institution members online. As a result, students will purchase an online master's degree programme.

Siripipattanakul, S., Siripipatthanakul, S., Limna, P., & Auttawechasakoon, P. (2022). Marketing Mix (4Cs) Affecting Decision to be an Online Degree Student: A Qualitative Case Study of an Online Master's Degree in Thailand. *International Journal on Integrated Education*, *5*(4), 31-41.

5.3. Research Implication

This research may benefit educational leaders, institution principles, program directors, and teachers to implement appropriate strategies to meet the needs and expectations of students interested in an online master's degree programme or any online degree program and beyond. Furthermore, the findings indicate that the 4Cs-marketing mix (communication, cost, convenience, and customer or student centre) influences individuals' decision to pursue an online degree. Hence, the findings could be applied to all online degree institutions to develop strategic management based on the 4Cs-marketing mix.

5.4. Limitations and Recommendations

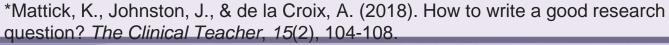
The limitation throughout the study is the respondents were online master's degree students in Thailand. Only one country may not be a good representation to explain online degrees in other countries and may not be appropriate to explain in doctoral degrees. The recommendation is to expand more areas and sample further. Moreover, a quantitative study should be considered in a future study to explain the relationship phenomenon in a large group in general.

Siripipattanakul, S., Siripipatthanakul, S., Limna, P., & Auttawechasakoon, P. (2022). Marketing Mix (4Cs) Affecting Decision to be an Online Degree Student: A Qualitative Case Study of an Online Master's Degree in Thailand. *International Journal on Integrated Education*, *5*(4), 31-41.

What is a good research question?

A good question can make readers see things differently or can motivate them to learn more through discussion, an internet search or a literature review.

Words such as 'do', 'does', 'is' or 'are' should be avoided as they invite 'yes'/'no' responses.



^{*}Doody, O., & Bailey, M. E. (2016). Setting a research question, aim and objective. *Nurse researcher*, 23(4).



Independent Variables, Mediator, Dependent Variable, Study Setting

Quantitative Research
Descriptive & Inferential Statistics

The Relationship Between Website Quality, University Image, e-WOM and Intention to Follow the University Website

1.3. Research Objective

This study examines the relationship between website quality, university image, electronic word-of-mouth (e-WOM) and intention to follow the university's websites in Thailand.

1.4. Research Question

Is there any relationship between website quality, university image, electronic word-of-mouth (e-WOM), and intention to follow the university's website in Thailand, and how?

ABSTRACT

This study examines the relationship between website quality, university image, electronic word-of-mouth (e-WOM) and intention to follow the university's website in Thailand. The online questionnaires of 214 were employed for the quantitative study through convenience sampling. The complete collected data were analysed using the PLS-SEM program for hypothesis testing. The results show that website quality significantly impacts the university's image and turns it into the intention to follow the university's website. University image significantly influences e-WOM and turns it into the intention to follow the university's website. The implication could be applied to explain the relationship between website quality, brand image, e-WOM and intention to follow the website of companies or organisations in any sector. The recommendation is to expand more sampling to other countries to understand the relationship. Also, qualitative research could give insight results for further study.

Keywords: Website Quality; Electronic Word of Mouth (e-WOM); University Image; Intentions to Follow; Digitalisation

1. INTRODUCTION

1.1. Background of the Study

The use of digital technologies has evolved into a critical cultural technique that increasingly determines educational opportunities, the possibility of upward social mobility, social participation, and good job prospects (Janschitz & Penker, 2022; Tohara, 2021). As a result, digitalisation impacts almost every aspect of life in this technological and social phenomenon. It is also accurate for educational institutions under increasing pressure to keep up with digitalisation and

provide students with relevant and up-todate educational offerings (Janschitz & Penker, 2022). A university's website, one critical digitalisation, is the primary medium for disseminating information (Alexander & Ishak, 2018). The use of websites in educational contexts is rising by the day. Technology has a significant impact on the educational system. The World Wide Web (www) allows for content delivery via websites. It serves as a foundation for quickly making content available to beneficiaries (Rosliana et al., 2021). Thus, the quality of the website is



2021). Therefore, the antecedents of the quality of the university's website, e-WOM, and university image affecting intentions to follow the university's websites are vital to study.

1.2. Problem Statement

Websites are a system of related resources, such as multimedia content or web pages, typically identified by a common domain name and published on at least one web server. A university website is one example of how universities use technology to help disseminate information to the academic community and promote events outside of the university (Kaur & Sharma, 2018; Sukmasetya et al., 2020). Therefore, webbased public services play an essential role in a university's success (Sukmasetya et al., 2020). Furthermore, brand image, electronic word-of-mouth (e-WOM), and product or service quality are crucial attributes of behavioural intention. They can influence an individual's willingness or behavioural intention (Yunus et al., 2016; Zhang et al., 2019). Several studies confirmed the relationship between website quality, e-WOM, and brand image on customers' intention to buy healthcare products (Tajuddin et al., 2020), tourists'

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1.4. Research Question

Is there any relationship between website quality, university image, electronic word-of-mouth (e-WOM), and intention to follow the university's website in Thailand, and how?

2. LITERATURE REVIEW

2.1. Digitalisation and University

Digitalisation has an impact on our daily routines. Its goal is to increase the number of opportunities for positive learning. The rise of digital structures affects access to learning materials, communication, and cooperation among various interest groups. Digitalisation is a trend that many universities are adopting (Brink et al., 2020). Digitalisation was recognised as a massive opportunity (Sørensen, 2018). Furthermore, today's technologies provide powerful tools for developing high-quality learning resources, such as learning

DVA I

A good research question:

The question is important and relevant.

It is interesting to the researchers and others

It is simple

It is feasible, *i.e.* answerable within a set timeframe

It is clear and succinct

It is original, setting out to discover something new

The answer will be of benefit and has implication to clinical practice or advancement in science



H1: The university's website quality significantly influences the university's image.

2.4. University Image

University image was defined as the sum or quantity of an individual's beliefs about the university (Lafuente Ruiz de Sabando et al., 2018). In education marketing, university brand image has been identified as a competitive advantage (Panda et al., 2019). The higher the university's reputation, the better its brand image. Therefore, university chancellors have begun to recognise the strategic value of having a solid brand and have set aside increasing resources to improve the image of the universities they manage (Foroudi et al., 2019; Lafuente Ruiz de Sabando et al., 2018). Mun et al. (2018) investigated the factors of international students' intentions to pursue their tertiary education in countries (destination) and universities. The students' intentions to recommend the university were influenced by the university's image. Furthermore, Saleh et al. (2012) confirmed that university image significantly influenced international students' intention to study. Darmawanto et al. (2019) also demonstrated a significant

H2: University image significantly influences electronic word-of-mouth (e-WOM).

H3: University image significantly influences individuals' intentions to follow the university's website.

2.5. Electronic Word of Mouth (e-WOM)

Electronic word-of-mouth (e-WOM) was defined as communication that has evolved from face-to-face communication to electronic word-of-mouth enabled by the Internet. It has evolved into a powerful communication tool in the virtual environment (Al-Ja'afreh & Al-Adaileh, 2020; Sosanuy et al., 2021). e-WOM is a typical customer practice with undeniable effects on profits. It remains an overlabelled and under-theorised concept (Babić Rosario et al., 2020). Delafrooz et al. (2019) investigated the influence of e-WOM on Instagram users. There was a significant effect of e-WOM on users' intentions to use Instagram. Furthermore, Mensah (2020) examined the moderating effect of e-WOM communications on the relationship between the perceived usefulness and perceived ease of use of mobile government services and the

2.6. Conceptual Framework

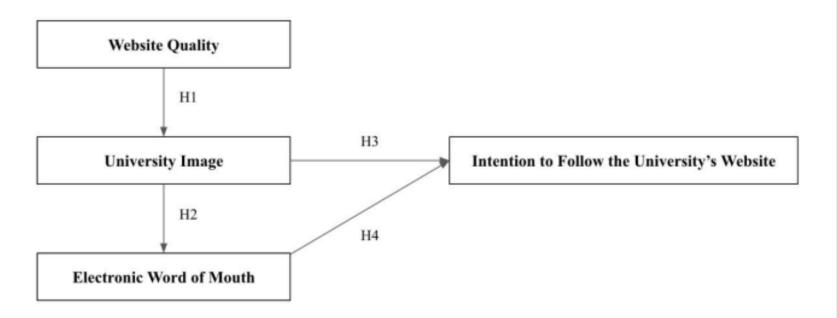


Figure 1. Conceptual Framework

3. RESEARCH METHODOLOGY

3.1. Research Method

The instrument for data collection in this study was a closed-end questionnaire (Likert's Rating Scale). The researchers developed the questionnaire items based on previous research. The data collection instrument closed-ended was questionnaire. The reliability and validity of the measuring instruments were determined. The validity of a tool is determined by its ability to accurately the researcher's concept measure (Kaewnaknaew et al., 2022). The main variables in this study were evaluated using a five-point Likert Scale ranging from 5 (strongly agree) to 1 (strongly disagree). The demographics of those who responded to the survey questions were derived from a study conducted by Napawut et al. (2022) Sitthipon et al. (2022). The and questionnaire items in website quality and electronic word of mouth were based on Septiari (2018). The questionnaire items in

the university image were based on Hou & Wonglorsaichon (2011). Finally, the questionnaire items for intention to follow the website construct were based on Casaló et al. (2017).

3.2. Population and Sample

The population of the study's target population is unknown. A typical survey has a 95% confidence level. Accordingly, collecting data using a sample error of 5% and a precision level of 95% (Si Dah et al., 2022). The sample size determination for an infinite population was over a minimum of 100 as required for inferential statistics following the recommendation of Kock & Hadaya (2018). The total number of participants in the study was 214, over the minimum required sample size of 100. The population was Thai people who had the experience of visiting a university's website. The study's samples included Thai people over 18 years old who had

experience visiting a university's website in Thailand.

3.3. Data Collection

Data was collected between February 20th and March 30th, 2022, adopting convenience sampling and a self-administered online survey. Before distributing online questionnaires, the researchers explained the study's objective to the respondents and solicited their participation.

3.4. Data Analysis

The respondents' demographics were analysed using SPSS Version 27 for

descriptive statistical analysis (frequency and percentage). Mean analysis and standard deviation were used to calculate each variable's results and questionnaire items. The Cronbach's Alpha was used to determine the reliability of the data set at 0.7. The validity test was carried out using the factor loadings and was set at 0.7, SRMR was set at lesser than 0.08 following the study of Napawut et al. (2022). The completed data was analysed using a partial least square structural equation model (PLS-SEM: ADANCO 2.3) to test the hypotheses.

4. RESULTS

Table 1. Demographic Characteristics of the Respondents (n=214)

Demographics		Frequency	Percentage
Gender	Female	167	78.0%
	Male	47	22.0%
Age	18 - 25 years old	158	73.8%
	26 - 30 years old	23	10.7%
	31 - 35 years old	13	6.1%
	36 - 40 years old	7	3.3%
	41 years old or over	13	6.1%
Status	Single	206	96.3%
	Married	8	3.7%
University	Public University	167	78.0%
•	Private University	47	22.0%
University's Setting	Thailand	179	83.6%
	Other Countries in Asia	27	12.7%
	Other Countries outside Asia	8	3.7%
Education	Bachelor's Degree	164	76.6%
	Master's Degree	32	15.0%
	Doctorate Degree or Higher	18	8.4%

Field of Education	Business Management Science / Health Science Education Languages / Arts Humanities and Social Sciences Others	56 24 36 73 20 5	26.2% 11.2% 16.8% 34.1% 9.4% 2.3%
Occupation	Student Civil Servant Private Company Employee Personal Business Unemployed	157 6 30 19 2	73.4% 2.8% 14.0% 8.9% 0.9%
Monthly Income Less than 10,000 THB 10,001 - 20,000 THB 20,001 - 30,000 THB 30,001 - 40,000 THB 40,001 - 50,000 THB More than 50,000 THB		117 38 8 18 8 25	54.7% 17.8% 3.7% 8.4% 3.7% 11.7%
	Total	214	100%

4.1. PLS-SEM Results

 $Table\ 2.\ Item\ Loadings,\ Cronbach's\ Alpha\ and\ Average\ Variance\ Extracted\ (n=214)$

Items	Factor Loadings	Mean	SD.
Website Quality (WQ) Cronbach's Alpha = 0.9279, AVE = 0.7359			I
The university's website content meets my needs.	0.872	4.64	0.567
2. The university's website is easy to use.	0.871	4.62	0.652
3. The university's website content can be loaded quickly.	0.858	4.58	0.679
 The internal search capabilities of the university's website meet my needs. 	0.883	4.57	0.707
			525
			535
	_	_	_

5. Little search effort is needed to find information.6. The university's staff support me promptly if required.	0.780	4.57	0.752
	0.879	4.47	0.897
University Image Cronbach's Alpha = 0.8968, AVE = 0.7645			ı
 University image is presented through the website. The university is an attractive institute and reliable. The university provides various educational services. The university is a reputable one. 	0.837	4.71	0.652
	0.899	4.72	0.551
	0.917	4.64	0.675
	0.843	4.75	0.512

Table 6. Summary of Hypothesis Testing

Hypotheses	Results	Actions	
H1: Website Quality → University Image	β=0.792 at p<0.001 (R ² =0.627)	Accepted	
H2: University Image → Electronic Word of Mouth	β=0.767 at p<0.001 (R ² =0.589)	Accepted	
H3: University Image → Intention to Follow University's Websites	β=0.352 at p<0.001	Accepted	
H4: Electronic Word of Mouth → Intention to Follow University's Websites	β=0.559 at p<0.001	Accepted	
		Overall, the relationship phenomenon can be explained by 74.0% (R ² =0.740).	

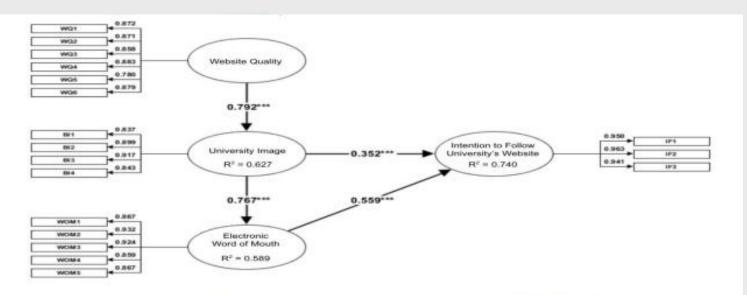


Figure 2. PLS-Structural Equation Model of the Study (SRMR=0.0547)



significantly influences e-WOM. The findings supported the previous research of Darmawanto et al. (2019), Mun et al. (2018), and Saleh et al. (2012) that there was a relationship between university image and individuals' intentions. Therefore, the university image significantly influences individuals' intentions to follow the university's website. The findings supported the previous research of Delafrooz et al. (2019), Mensah (2020), and Zoghlami et al. (2018) that e-WOM significantly influenced individuals' intentions. Therefore, e-WOM significantly influences individuals' intentions to follow the university's website.

5.2. Conclusions

The results show that website quality significantly impacts a university's image. The university's image significantly influences the intention to follow its website. University image significantly influences e-WOM, and e-WOM impacts the intention to follow the university's website. The educators should pay attention to website quality about the university's website content that meets the university websites' visitors' needs and is easy to use. The university's image is from the university's reputation. Also, the university image is presented through the website's attractiveness and its reliability. The respondents perceived e-WOM as an essential factor because alumni and students' online positive comments make them more confident in the university. Moreover, the intention to follow the university's website could be measured using the visitors who have the intention to visit the university's website, follow the university's website and usually look for new content published on the university's website. Therefore, the intention to follow the university's website could be gotten more attractive through these measurements.

5.3. Research Implication

The relationship phenomenon can be explained with high predicting power. The implication could be applied to explain the relationship between website quality, brand image, e-WOM and intention to follow the website of companies or organisations in any sector. The marketers and strategic planners should pay attention to the variables in the assumption model.

5.4. Limitations and Recommendations

The sample is mainly explained for Thailand. The recommendation is to expand more sampling to other countries to understand the relationship. Also, this study employed a quantitative study, it may not explain insight details of the relationship. Therefore, qualitative research could give insight results for further study.



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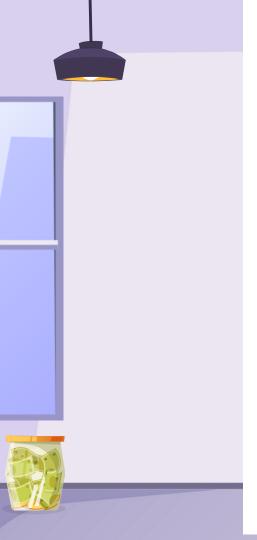
Received: September, 11, 2022 Revised: October, 20, 2022 Accepted: November, 5, 2022

Abstract. This study aims to predict the intention to use smart education technology during the COVID-19 pandemic among higher education students in Thailand. The determinants of intention to use smart education technology adopt the technology acceptance model (TAM) through the mediating effect of student satisfaction. The online convenience sampling collected data from 238 higher education students in Thailand to confirm the theoretical framework. The data were analysed using SPSS Version 27 and the partial least square structural equation model (PLS-SEM). The findings support that the TAM model comprises perceived ease of use and perceived usefulness. Student satisfaction is a significant mediator between the TAM model and the intention to use smart education technology. However, the TAM model has no significant direct effect on the intention to use smart education technology. This study may benefit educators and instructors in improving the intention to use smart education technology by adopting the TAM model and student satisfaction. Moreover, the results could apply in any sector to improve the intention to use smart technology through predictors of the TAM model and mediating role of users' satisfaction.

Keywords: Technology Acceptance Model (Perceived Usefulness and Perceived Ease of Use), Student Satisfaction, Intention to Use, Smart Education Technology, Higher Education

Siripipatthanakul, S., Limna, P., Kraiwanit, T., & Siripipattanakul, S. (2022, December). Predicting Intention to Use Smart Education Technology during the COVID-19 Pandemic: The Case of Higher Education Students in Thailand. In *International Conference On Research And Development (ICORAD)* (Vol. 1, No. 2, pp. 8-22).





anxieties are associated with two crucial TAM theory factors: perceived ease of use (PEOU) and perceived usefulness (PU). It was demonstrated that data analysis techniques supported all of the hypothesised relationships of the conceptual model (Al-Maroof et al., 2020). During the COVID-19 pandemic, such applications were used to support distance learning, and smart mobile learning (M-learning) applications demonstrated several new benefits for higher education institutions (Almaiah et al., 2022). The emergency remote education context resulted in inconsistent educational outcomes. The utilisation of educational technology was predominantly positive, while personal adaptation was predominantly negative. It provides new insights for higher education institutions regarding potential actions, such as curating the learning experience with standard, institution-wide platforms, appropriate training for students and teachers, and appropriate remote evaluation practices (Oliveira et al., 2021). The Technology Acceptance Model (TAM) served as the primary framework for analysis, with system quality and e-learning experience added as external constructs to find a better model for enhancing the comprehension of students' intention to adopt technology in learning (Mailizar, Burg & Maulina, 2021). Learners' satisfaction with educational technology systems in higher education and a model combining multiple factors to explain learners' satisfaction with e-learning systems better. The technology acceptance model enhances learner satisfaction. Institutions and practitioners of educational technology adoption will find the research relating to the TAM model, student satisfaction, and intention to use technology to be beneficial (Safsouf, Mansouri & Poirier, 2020). Thus, this study investigates the relationship between the TAM model, student satisfaction and intention to use smart education technology among higher education students in Thailand adopting PLS-SEM to explain the model.

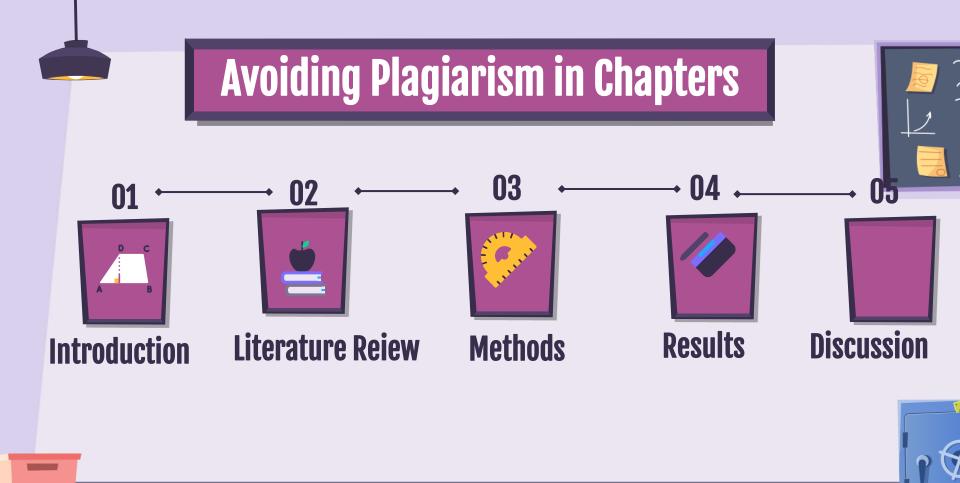
LITERATURE REVIEW

Partial Least Square Structural Equation Model (PLS-SEM)

The development of multivariate analysis techniques has transformed the empirical validation of theoretical concepts in social science and business studies. In structural equation modelling (SEM), a potent instrument for estimating conceptual models connecting two or more latent constructs has emerged. The applicability of partial least square structural equation modelling (PLS-SEM) in estimating a complex model is demonstrated using the philosophy of authenticity and the modelling assumptions methodology. The results validate PLS-SEM as a promising method for estimating complex hierarchical models in data analytics quality (Akter et al., 2017). Consequently, PLS-SEM permits the combination of explanation and prediction perspectives to model estimation, the primary concern in most of business and social science research in general and in many other disciplines (Hair et al., 2019; Kaewnaknaew et al., 2022).

Technology Acceptance Model (TAM)

Higher education students' learning habits have changed dramatically over the past two decades, due in part to the characteristics of the information and digital society, widespread broadband internet access, the proliferation of smart devices, and consequently, the availability of online mobile applications. In the 21st century, using eLearning systems in higher education is necessary. Hardware and software advancements periodically stimulate each other's development (Tick, 2019). Several theoretical models





have emerged to investigate and explain the factors that lead people to accept, reject, or continue using new technology. The Technology Acceptance Model (TAM) receives empirical support for its ability to predict technology acceptance and adoption robustly and economically. Moreover, the TAM explains that a person's behavioural intention to perform specific tasks determines his or her performance of specified behaviour. Two specific variables are hypothesised to be the fundamental determinants of a user's acceptance: perceived usefulness and perceived ease of use (Wong et al., 2013), Components of the theory of acceptance model include the definitions of perceived usefulness and perceived ease of use (TAM). Perceived usefulness is the extent to which a student teacher believes that computer technology will improve his or her job performance in the classroom. There is evidence that teachers utilise technology when they believe it will improve their job performance, such as assisting students in achieving learning objectives, performing administrative duties, and managing students. Perceived ease of use is the extent to which the student teacher believes utilising computer technology will be effortless. Despite believing that technology is beneficial, they perceive its use to be too difficult, and its performance benefits are outweighed by the effort required to use it (Luan & Teo, 2009).

Student Satisfaction

Satisfaction is defined as the feelings of disappointment or pleasure that a person experiences after comparing the perceived outcome (or performance) of a product or service to their expectations. Student satisfaction is the favorability of a student's subjective evaluation of various educational outcomes. Student satisfaction occurs when actual performance meets or exceeds students' expectations (Limna et al., 2021). The learning experience, as a performance variable, should be directly related to satisfaction. It is debatable whether satisfaction and learning are synonymous. One typical contingency outcome assumed from a successful learning experience, and it can be argued, is that the student is satisfied with the experience. Satisfaction with course activities has frequently been included as a dependent variable in studies of distance education, computer-mediated communication, and Web-based courses (Marks et al., 2005). The COVID-19 outbreak has spawned a pandemic in every region of the globe. From one end of the globe to the other, the lifestyle of the human race has undergone a drastic and unpredictable transformation. The major unavoidable change in our lives is the shift from physical to online activities, particularly in the educational system. Transitioning from physical to online education cannot be simple for everyone (Haleem, Asim & Manzoor, 2021). Therefore, student satisfaction with educational technology is crucial. Student satisfaction in this study refers to the feelings of disappointment or pleasure of the students that reflect the experiences of using Smart Education Technology among higher education students.

Intentions to Use Smart Education Technology

The use of innovative teaching technologies in the modern education system is required to effectively organise students' educational processes. Smart Education is a type of education that is becoming more popular and accepted by young people in today's digital age. It reflects that education based on modern technology allows students to transfer knowledge and skills more efficiently and conveniently (Norbutaevich, 2020). Smart applications are regarded as an adequate solution for promoting student learning



sustainability due to their useful and unique characteristics. The use of smart applications for educational purposes is acknowledged as smart educational applications (Al Amri & Almaiah, 2021).

Several factors influence individuals' intentions to use Smart Education. Attitude, subjective norms, teacher efficacy, class resistance, and organisational citizenship behaviour all influence intent to use Smart Education. Furthermore, educational value and teacher efficacy affect attitude; additionally, the burden on class and organisational citizenship behaviour affects teacher efficacy (Kim & Kim, 2013). In South Korea, technological pedagogical content knowledge (TPACK) and school support significantly impact technostress. Furthermore, technostress significantly influences teachers' intentions to use technology. Finally, technostress significantly mediates TPACK, school support, and intention to use technology (Joo, Lim & Kim, 2016). Moreover, performance expectancy, effort expectancy, social influence, work-life quality, hedonic motivation, internet experience, and facilitating conditions all have a significant impact on and play an important role in state university students' behavioural intention to use and use behaviour of an eLearning system in Sri Lanka (Samsudeen & Mohamed, 2019).

Research Hypotheses

Massive Open Online Course has gained widespread popularity among universities and plays an important role in the most recent e-learning initiative. Perceived usefulness and satisfaction have significant effects on the continuation intent of students, whereas perceived usefulness has no significant effect on students' satisfaction (Daneji, Ayub & Khambari, 2019). In numerous acceptance studies, perceived usefulness serves as an independent variable within a model (technology acceptance model) or theory (theory of planned behaviour) (Teo, 2011). Student satisfaction, perceived usefulness, and interactive learning environments were all found to be statistically significant predictors of perceived self-regulation in e-learning environments (Liaw & Huang, 2013). Interactive learning and perceived utility significantly impact the perceived satisfaction with e-learning (Amsal et al., 2021). Perceived usefulness has a significant impact on attitudes and intentions regarding computer use. Perceived ease of use significantly influences perceived usefulness, and finally, attitude toward computer use influences behavioural intention (OSMAN, CHOO & Rahmat, 2013). Significant relationships exist between perceived usefulness, perceived ease of use, openness to experience and e-purchase intention. The perceived ease of use has the greatest influence on e-purchase intent. Additionally, perceived usefulness, perceived ease of use, and openness to experience mediate between consciousness and e-purchase intention (Moslehpour et al., 2018). The intention of teachers to use technology was influenced by self-efficacy, perceived ease of use, and perceived utility of technology use. However, Technology pedagogy and content knowledge did not directly affect their intent to use technology. Based on the findings, the TAM model may result in the intention of preservice teachers to use technology (Joo, Park & Lim, 2018). Therefore, the hypotheses could be summarised as follows.

- H1: Perceived usefulness significantly influences student satisfaction.
- H2: Perceived usefulness significantly influences intention to use Smart Education Technology.
- H3: Perceived ease of use significantly influences student satisfaction.
- H4: Perceived ease of use significantly influences intention to use Smart Education Technology.

Hypothesis/ Hypotheses

"A hypothesis is a statement temporarily accepted as true in the light of what is, at the time, known about a phenomenon, and it is employed as a basis for action in the search for new, truth, when the hypothesis is fully established, it may take the form of facts, principles and theories."

Barr and Scates

"Hypothesis is an assumption whose testability is to be tested on the basis of the compatibility of its implications with empirical evidence and previous knowledge."

Gorge J. Mouly

Research Methodolgy



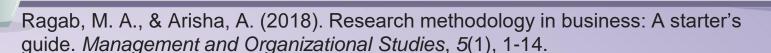
Mixed-Method



Quantitative Research



Qualitative Research



H5: Student satisfaction significantly influences intention to use Smart Education Technology.

H6: Student satisfaction is a significant mediator between perceived usefulness, perceived ease of use, and intention to use Smart Education Technology.

Conceptual Framework

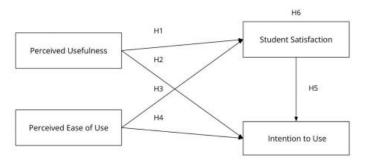


FIGURE 1. Conceptual Framework, Based on Gros (2016) and Limna et al. (2022)

METHOD

Research Method

The data were collected using closed-ended questionnaires (Likert's Rating Scale). It was determined whether measuring instruments were reliable and accurate through testing. It is crucial to recognise that the validity of an instrument refers to how well it measures the researcher's conceptual framework or hypothesis (Siripipattanakul et al., 2022). Using a five-point Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree), the primary variables in this study were rated (strongly disagree). According to Jandawapee et al. (2022), Napawut et al. (2022), and Sitthipon et al. (2022), the demographics of those who responded to the survey questions were determined. The questionnaire items about perceived usefulness, perceived ease of use, student satisfaction, and intention to use Smart Education technology were derived from Gros (2016) and Limna et al. (2022).

Population and Sample

Unknown was the target population of the study. The samples were Thai students enrolled in higher education in Thailand. The researchers conducted a conventional survey with a 95% level of assurance. Convenience sampling should be used to collect at least 200 cases (Taherdoost, 2016). Consequently, 238 respondents from Thailand's five distinct



geographic regions were included in the data collection (over the Minimum requirement of 200 respondents).

Data Collection

The researchers collected data from five regions in Thailand (Northern, Eastern, Northeastern, Central and Southern-Western). In addition, self-administered surveys and convenience sampling were used. Before distributing online questionnaires, the researchers clarified the study's purpose and solicited the respondents' participation. The data was collected between August 1 and September 5, 2022.

Data Analysis

For descriptive statistical analysis (frequency and percentage), SPSS Version 27 was used to analyse the demographic characteristics of the respondents. The values for each variable and questionnaire item were computed using the mean and standard deviation. Following the recommendations of Phetnoi et al. (2021) and Jandawapee et al. (2022), Cronbach's Alpha was set at 0.6 to determine the main variables set's reliability (2022), following Bootsumran et al. (2022). The validity test was conducted using the factor loadings and set to 0.7. (2021). The researchers used a partial least square structural equation model (ADANCO 2.3) to validate the conceptual model and analysed the completed data to test the hypotheses, following the research of Jaipong et al. (2022), Limsangpetch et al. (2022), and Siripipattanakul et al. (2022).

RESULTS

TABLE 1. Characteristics of the Respondents' Demographics (n=238)

Demograph	nic	Frequency	Percentage
Region	Northern	9	3.8%
	Central	67	28.2%
	Eastern	88	37.0%
	North Eastern	27	11.3%
	Southern-Western	47	19.7%
Education Diploma		22	9.2%
	Bachelor's degree	145	60.9%
	Master's degree	45	18.9%
	Doctoral degree or higher	26	10.9%
Gender	Male	135	56.7%
	Female	103	43.3%



	Total	238	100%
	> 50,000 THB	49	20.6%
	40,001 - 50,000 THB	16	6.7%
	30,001 - 40,000 THB	52	21.8%
	20,001 - 30,000 THB	10	4.2%
	10,001 - 20,000 THB	66	27.7%
Monthly Income	< 10,000 THB	45	18.9%
	Married	71	29.8%
Status	Single	167	70.2%
	41 years old or over	57	23.9%
	36 - 40 years old	11	4.6%
	31 - 35 years old	43	18.1%
	26 - 30 years old	28	11.8%
Age	18 - 25 years old	99	41.6%

Table 1 shows the demographic characteristics of the respondents. The findings revealed that the majority of respondents were male (56.7%), from the Central and Eastern part of Thailand (65.2%), single (70.2%), aged between 18 and 30 years old (53.4%), and had a bachelor's degree (60.9%). In addition, 50.8% of the respondents had a monthly income of less than 30,000 baht. Therefore, the demographic profile represented higher education students' profiles as the sample of this study.

TABLE 2. Item Loadings, Cronbach's Alpha, and Average Variance Extracted (n=238)

TABLE 2. Item Loadings, Crombach's Alpha, and Average variance Extracted (n=230)						
Items	Factor Loadings	Mean	SD.			
Perceived Usefulness (PU) Cronbach's Alpha = 0.7251, AVE = 0.6440						
During the COVID-19 Pandemic: PU1. Using Smart Education Technology enhances my learning motivation.	0.810	4.73	0.444			
PU2. Using Smart Education Technology increases my	0.829	4.68	0.589			
learning proficiency performance. PU3. Using Smart Education Technology is helpful in my study and daily life.	0.767	4.68	0.535			



Perceived Ease of Use (PEU) Cronbach's Alpha = 0.8068, AVE = 0.6364 During the COVID-19 Pandemic: PEU1. Smart Education Technology is easy to use. PEU2. 0.700 0.874 Smart Education Technology makes it easy for me to become a skillful learner. 0.740 PEU3. I would become a proficient learner after using Smart Education Technology. 0.864 PEU4. Smart Education Technology is clear and understandable. Student Satisfaction (SS) Cronbach's Alpha = 0.8395, AVE = 0.6785 During the COVID-19 Pandemic: SS1. I am satisfied that using Smart Education Technology 0.717 could improve my learning proficiency. SS2. Smart Education Technology is better than I expected. 0.829 SS3. Using Smart Education Technology is a good decision 0.913 in learning.

SS4. I enjoy spending more time using Smart Education

Intention to Use Smart Education Technology (IU)
Cronbach's Alpha = 0.8730, AVE = 0.7981

During the COVID-19 Pandemic:
IU1.1 intend to continue using Smart Education

Technology in my learning

IU2. I would use Smart Education Technology to improve my learning.
IU3. I plan to use Smart Education Technology frequently.

0.857

4.56

Table 2 shows the factor loadings, mean, standard deviation (SD), Cronbach's Alpha, and average variance (AVE). Cronbach's Alpha was set to 0.7 to determine the reliability of the set of primary variables. Following the research of Si Dah et al. (2022), Limsangpetch et al. (2022), and Jaipong et al. (2022), the item loadings were used for the validity test, which was set to 0.7, and the average variance extracted (AVE) was set to 0.5. (2022).

4.81

4.64

4.72

4.61

4.74

4.74

4.69

4.63

4.72

0.824

0.918

0.396

0.523

0.476

0.553

0.461

0.440

0.464

0.621

0.504

0.596

0.658

TABLE 3. R-Squared (n=238)

Construct	Coefficient of Determination (R ²)	Adjusted R ²	
Student Satisfaction	0.8208	0.8192	
Intention to Use	0.8444	0.8424	

Table 3 shows the coefficient of determination and adjusted R-square. The coefficient of determination to predict student satisfaction equals 0.8208 or can be explained by predictors of about 82.08%. The coefficient of determination to predict

intention to use equals 0.8444 or can be explained by predictors by about 84.44%. The adjusted R^2 to explain perceived usefulness, learning motivation, and student satisfaction equals 0.8192 and 0.8424, respectively.

TABLE 4. Effect Overview (n=238)

Effect	Beta	Indirect Effect	Total Effect	Cohen's f ²
$PU \rightarrow SS$	0.4017		0.4017	0.3202
$PU \to IU$	0.0740	0.3133	0.3873	0.0095
PEU → SS	0.5512		0.5512	0.6030
PEU → IU	0.0850	0.4300	0.5149	0.0103
SS → IU	0.7800		0.7800	0.7008

Table 4 shows the effect overview, including effects, Beta, indirect effect, total effect, and Cohen's f^2 . The high beta values mean a higher predictive power.

TABLE 5. Total Effects Inference (n=238)

Effect	Original Coefficient		Standard Bootstrap Results					entile Boot Quantiles	-
		Mean Value	Standard error	t- Value	P- Value (2-tailed)	P-Value (1-Sided)	0.5%	2.5%	97.5%
$PU \rightarrow SS$	0.4017	0.4119	0.0658	6.1023	0.0000	0.0000	0.2607	0.2933	0.5534
$PU \to IU$	0.3873	0.4013	0.0779	4.9696	0.0000	0.0000	0.2335	0.2784	0.5820
$PEU \to SS$	0.5512	0.5414	0.0730	7.5561	0.0000	0.0000	0.3212	0.3869	0.6701
$\text{PEU} \rightarrow \text{IU}$	0.5149	0.5067	0.0802	6.4177	0.0000	0.0000	0.2659	0.3277	0.6451
$SS \to IU$	0.7800	0.7738	0.0606	12.864	0.0000	0.0000	0.6087	0.6438	0.8839

PU = Perceived Usefulness, PEU = Perceived Ease of Use, SS = Student Satisfaction, IU = Intentions to Use



Table 5 shows the total effect influence. The relationship between factors and outcomes is shown in the effects. The greater the original coefficients, the greater the predictive power. The standard bootstrap outcomes include the mean, standard error, T value, p-value (2-tailed), and p-value (1-tailed). The Bootstrap percentile Quartiles consist of 0.5%, 2.5%, and 97.5%, respectively. At p-values, less than 0.05, the 95% significance level is accepted. The significance level of 99% is accepted when the p-value is less than 0.01 and the significance level of 99.9% is accepted when the p-value is less than 0.001.

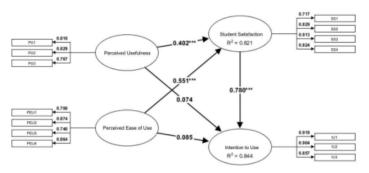


FIGURE 2. Partial Least Square Structural Equation Model

According to figure 2, the PLS-SEM Model of the study is shown as follows. Perceived usefulness can predict student satisfaction at β =0.402, p<0.001 (two tails at 0.0000 and one tail at 0.0000). Perceived ease of use can predict student satisfaction at β =0.551, p<0.001 (two tails at 0.0000 and one tail at 0.0000). Perceived usefulness does not significantly influence intention to use smart education technology at β =0.074, p>0.05. Perceived ease of use does not significantly influence intention to use smart education technology at β =0.085, p>0.05. Student satisfaction can predict intention to use at β =0.780, p<0.001 (two tails at 0.0000 and one tail at 0.0000). Additionally, student satisfaction is a significant mediator between the TAM model (perceived usefulness and perceived ease of use) and intention to use smart education technology at R-square=0.821 (which can be explained by about 82.1%). Finally, the relationship to predict the intention to use smart education technology can be explained by about 84.4% (R-square=0.844).

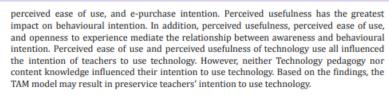
TABLE 6. Summary of Hypothesis Testing

Hypotheses	Results	Actions
H1: Perceived usefulness significantly influences student satisfaction.	β=0.402, p<0.001	Supported



H2: Perceived usefulness significantly influences the intention to use Smart Education Technology.	β=0.074, p>0.05	Rejected
H3: Perceived ease of use significantly influences student satisfaction.	β=0.551, p<0.001	Supported
H4: Perceived ease of use significantly influences intention to use Smart Education Technology.	β=0.085, p>0.05	Rejected
H5: Student satisfaction significantly influences intention to use Smart Education Technology.	β=0.780, p<0.001	Supported
H6: Student satisfaction is a significant mediator between perceived usefulness, perceived ease of use, and intention to use Smart Education Technology.	R-square=0.821	Supported
The relationship phenomenon can be expla	nined by 84.4% (R ² =0.8	44).
Table 6 shows the summary of hypothesi perceived ease of use significantly influence student perceived ease of use significantly influence the technology through the mediating effect of student st. H6 in this study are supported, but H2 and H4 are re can be explained by 84.4% (R ^z =0.844), and the media explained by 82.1% (R ^z =0.821),	satisfaction. Perceived intention to use sn atisfaction. Therefore, I ejected. The relationshi	usefulness and nart education H1, H3, H5, and p phenomenon
DISCUSSION The results confirmed the study of Daneji, Ayul Open Online Course has gained widespread populari component of the most recent e-learning initiat significantly affected by perceived usefulness and stu of perceived usefulness significantly affect student s different results because this study did not support usefulness and student satisfaction. The finding su numerous acceptance studies use the perceived us within a model (technology acceptance model behaviour)(Teo, 2011). It also supports Liaw & Huang (2013) that studing interactive learning environments were statistical self-regulation in e-learning environments by adop Moreover, this study confirmed by Amsal et al. (e-learning is significantly influenced by interactive leafinding supports the study of OSMAN, CHOO & Rahr	ty among universities a ive. Students' continu- dent satisfaction. Howe satisfaction, which is th the relationship betw pports the study of To sefulness as an independation of the or- continuous and the or- lent satisfaction, perceically significant predictors string smart technology 2021) that student satarning and perceived to	and is a crucial nation intentis ever, the results he argument in ween perceived to (2011) that mudent variable by of planned eved usefulness, rs of perceived in education. tisfaction with usefulness. The

substantially influences intentions concerning computer use. Perceived ease of use significantly influences perceived usefulness, and attitude toward computer use influences behavioural intention. The results support the study of Moslehpour et al. (2018) and Joo, Park & Lim (2018) that significant associations exist between perceived usefulness,



CONCLUSION

This study could be concluded that perceived usefulness and perceived ease of use significantly influence student satisfaction with smart education technology during the COVID-19 pandemic among higher education students in Thailand. Perceived usefulness and perceived ease of use significantly influence the intention to use smart education technology through the mediating effect of student satisfaction. The relationship phenomenon can be explained by high predictive power. Educators and teachers could improve the perceived usefulness of using smart education technology by enhancing students' learning motivation. Students perceive smart education technology that is easy to use. The students are satisfied with using Smart Education Technology because it could improve their learning proficiency. Finally, Thai students intend to use Smart Education Technology because Smart Education Technology improves students in learning. However, the TAM model could be applied to enhance the intention to use smart technology in any sector during the COVID-19 pandemic.

LIMITATIONS AND RECOMMENDATIONS

This study investigated the relationship between perceived usefulness and perceived ease of use of the TAM, student satisfaction, and intention to use Smart Education Technology among higher education students in Thailand. The recommendation is for the researchers to conduct additional sampling in additional countries. The findings may provide a general explanation. Moreover, the nature of this study is a self-administered questionnaire. Thus, qualitative studies, such as interviews or focus group discussions, could give insight into results for further study.

REFERENCES

- Akter, S., Fosso Wamba, S., & Dewan, S. (2017). Why PLS-SEM is suitable for complex modelling? An empirical illustration in big data analytics quality. Production Planning & Control, 28(11-12), 1011-1021.
- Al Amri, M., & Almaiah, M. A. (2021). Sustainability Model for Predicting Smart Education Technology Adoption Based on Student Perspectives. *International Journal of Advances in Soft Computing & Its Applications*, 13(2), 60-77.
- Almaiah, M. A., Ayouni, S., Hajjej, F., Lutfi, A., Almomani, O., & Awad, A. B. (2022). Smart Mobile Learning Success Model for Higher Educational Institutions in the Context of the COVID-19 Pandemic. *Electronics*, 11(8), 1278.

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Ragab, M. A., & Arisha, A. (2018). Research methodology in business: A starter's guide. Management and Organizational Studies, 5(1), 1-14.

Ragab, M. A., and Amr Arisha. "Research methodology in Chicago business: A starter's guide." Management and Organizational Studies 5, no. 1 (2018): 1-14.

Ragab, M.A. and Arisha, A., 2018. Research methodology in Harvard business: A starter's guide. Management and Organizational Studies, 5(1), pp.1-14.

> Ragab MA, Arisha A. Research methodology in business: A starter's guide, Management and Organizational Studies. 2018:5(1):1-4.

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Research Methodology in Business: A Starter's Guide

Mohamed AF Ragab & Amr Arisha

3S Group College of Business, Dublin Institute of Technology (DIT) Ireland

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Abstract

A cardinal requisite of successful research lies in the proper selection of the research methodology applied to achieve research objectives using the available resources. In

References

Ragab, M. A, & Arisha A (2018) Research methodology in business: A starter's guide. *Management and Organizational Studies*, *5*(1), 1-14.

In-text Citation

Research could be defined as the "systematic investigation into and study of materials and sources in order to establish facts and reach new conclusions" (Oxford Dictionary, 2010). Research methodology determines how such investigation will take place and has been defined as "a way to systematically solve the research problem" (Kothari, 2004). Research of all types is predominantly based on certain underpinning assumptions about what constitutes valid research, and hence the use of appropriate methodology to achieve research objectives is vital to ensure credibility of the findings (Myers and Avison, 1997). There is no standard methodology that applies to all research cases, but rather the methodology has to be selected based on the nature and scope of the topic at hand and the type of data available (Bell, 2005). It is essential for research conducted with rigour to define its methodological choices and their underlying philosophical assumptions before engaging with data collection and analysis work (Brown and Sice, 2003). Thus, when planning their







- Al-Maroof, R. S., Salloum, S. A., Hassanien, A. E., & Shaalan, K. (2020). Fear from COVID-19 and technology adoption: the impact of Google Meet during Coronavirus pandemic. *Interactive Learning Environments*, 1-16.
- Amsal, A. A., Putri, S. L., Rahadi, F., & Fitri, M. E. Y. (2021, February). Perceived Satisfaction and Perceived Usefulness of E-Learning: The Role of Interactive Learning and Social Influence. In The 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020) (pp. 535-541). Atlantis Press.
- Bootsumran, L., Siripipatthanakul, S., & Phayaphrom, B. (2021). Factors Influencing Consumers' Purchase Intention at Pharmacies in Thailand. *Journal of Management in Business, Healthcare and Education*, 1(1), 1-16.
- Daneji, A. A., Ayub, A. F. M., & Khambari, M. N. M. (2019). The effects of perceived usefulness, confirmation and satisfaction on continuance intention in using massive open online course (MOOC). Knowledge Management & E-Learning, 11(2), 201-214.
- Gros, B. (2016). The Design of Smart Educational Environments. Smart Learning Environments, 3(1), 1-11. DOI: doi.org/10.1186/s40561-016-0039-x.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European business review.
- Haleem, U., Asim, M., & Manzoor, S. (2021). Impact of Online Education's Compatibility on Student's Satisfaction in Universities of Pakistan by Using TAM Model. *Pakistan Journal of Educational Research*, 4(2), 72-86. DOI: doi.org/10.52337/pjer.v4i2.133.
- Jaipong, P., Siripipatthanakul, S., Sitthipon, T., Kaewpuang, P., & Sriboonruang, P. (2022). An Association Between Brand Trust, Brand Affection and Brand Loyalty: The Case of a Coffee Brand in Bangkok Thailand. Advance Knowledge for Executives, 1(1), 1-14.
- Jandawapee, S., Siripipatthanakul, S., Phayaphrom, B., & Limna, P. (2022). Factors Influencing Intention to Follow the Preventive COVID-19 Protocols Among Thai People. International Journal of Behavioral Analytics, 2(1), 1-15.
- Joo, Y. J., Lim, K. Y., & Kim, N. H. (2016). The Effects of Secondary Teachers' Technostress on the Intention to Use Technology in South Korea. Computers & Education, 95, 114122.
- Joo, Y. J., Park, S., & Lim, E. (2018). Factors influencing preservice teachers' intention to use technology: TPACK, teacher self-efficacy, and technology acceptance model. *Journal of Educational Technology & Society*, 21(3), 48-59.
- Kaewnaknaew, C., Siripipatthanakul, S., Phayaphrom, B., & Limna, P. (2022). Modelling of Talent Management on Construction Companies' Performance: A Model of Business Analytics in Bangkok. *International Journal of Behavioral Analytics*, 2(1).
- Kim, S. Y., & Kim, M. R. (2013). Comparison of Perception toward the Adoption and Intention to Use Smart Education between Elementary and Secondary School Teachers. Turkish Online Journal of Educational Technology-TOJET, 12(2), 63-76.
- Liaw, S. S., & Huang, H. M. (2013). Perceived Satisfaction, Perceived Usefulness and Interactive Learning Environments as Predictors to Self-Regulation in e-Learning Environments. Computers & Education, 60(1), 14-24.
- Limna, P., Siripipatthanakul, S., & Siripipattanakul, S. (2021). A Conceptual Review on the Mediating Role of Student Satisfaction Between Twenty-First Century Learning Style and Student Performance-Effectiveness. Journal of Management in Business, Healthcare, and Education, 1(1), 1-16. Available at SSRN: 3992227.

RESEARCH METHODS



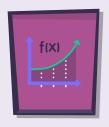
DESCRIPTIVE

Mars is actually a very cold place



CORRELATIONAL

Neptune is very far from the Sun



CAUSAL

Jupiter is the biggest planet of them all



EXPERIMENTAL

Saturn is a gas giant and has rings



PROBABILITY THEORY



PROBABILITY

Sampling



Non-PROBABILITY

Sampling



Significance Level

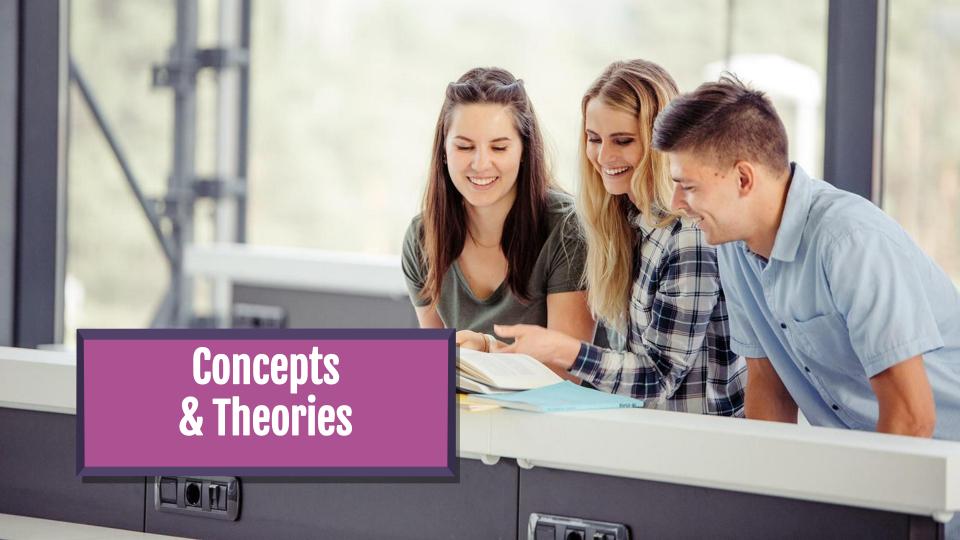
Error 1% or 5% (p-value<0.01; p-value<0.05)





KEYWORDS Constructs, Variables, Sector, Theories





DATA & STATISTICAL METHODS

Nominal Data



Gender

Descriptive Statistics
Frequency &
Percentage
Chi-square

Nominal-Ordinal Data



Educational Level

Income

Descriptive Analysis
Inferential Statistics
t-test, ANOVA

Interval Data



Likert's Rating Scale

5=Strongly Agree 1=Strongly Disagree

Descriptive Analysis Inferential Statistics MRA; Pearson; SEM



Quantitative Research

Validity: Factor Loadings
: the measurements could be measured what
the researchers want to measure

Reliability: Cronbach's Alpha: the consistency of the measurements





RESEARCH METHODS: Citations

Population & Sample

Sampling Technique



Data Collection

Study Setting & Duration
Online Self-Administered Questionnaire



ANALYSIS

Descriptive Analysis Inferial Statistical Analysis



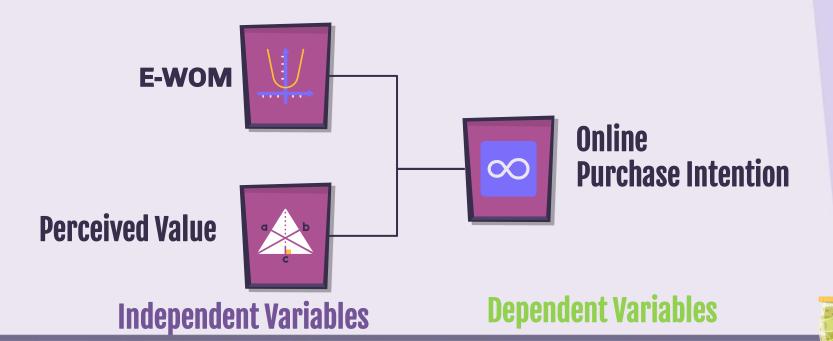








Conceptual Framework





Software Tools & Research

Grammarly (grammar & plagiarism < 10-15%)



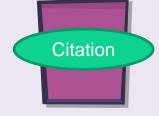




PLS-SEM (ADANCO)



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Paraphrasing

Statistics



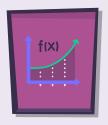
DESCRIPTIVE

Frequency, Mean, SD. SPSS; PSPP



CORRELATION REGRESSION

SPSS; PSPP



Cronbach's Alpha

Factor Analysis
SPSS



SEM

ADANCO Smart PLS-SEM AMOS



My interests include administration and management

(Education, Healthcare, and Business). Furthermore, I have

always been active in learning. All can follow my research

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Synonyms: O Expand Shorten

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Rephrase

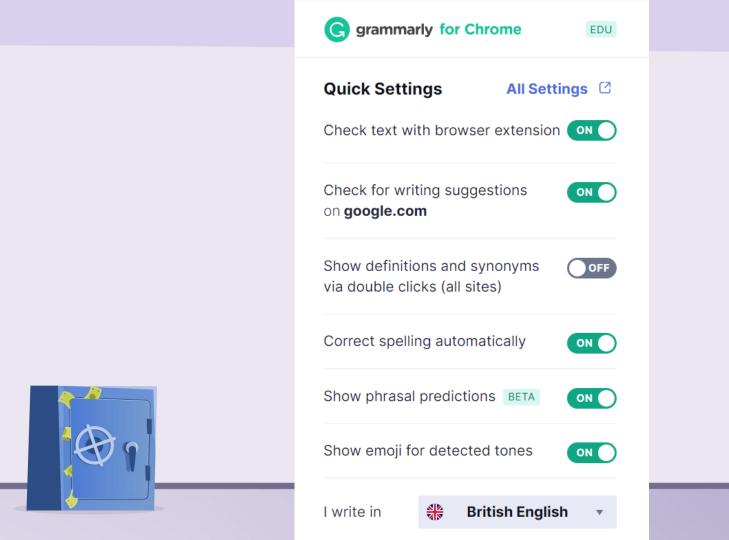
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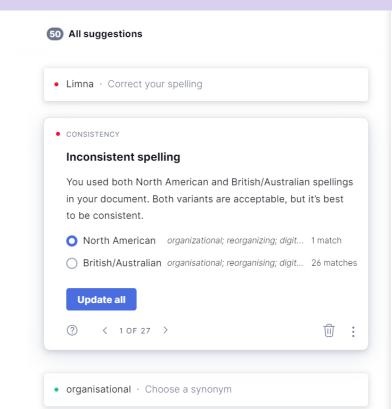


ABSTRACT

Objective: As the COVID-19 pandemic expands its influence across the globe, businesses are continuously adopting techniques for developing the business model that incorporates organisational change due to digital economy as its core principles, inducing response to the triggered strong need for reorganising management processes, marketing and communication, and organisational strategies. This paper aims to digital marketing and service marketing during the COVID-19 pandemic and the digital economy.

Method: In this article, a systematic literature review was conducted. In addition, the literature and data were gathered from various books and scholarly articles retrieved from EBSCO, Google

Scholar, Scopus, Web of Science, and ScienceDirect. The studies that were published in English and were peer-reviewed were included. Five independent reviewers evaluated search results, extracted data, and determined the quality of the studies to summarise and report the



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See performance

Goals

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All suggestions

Correctness

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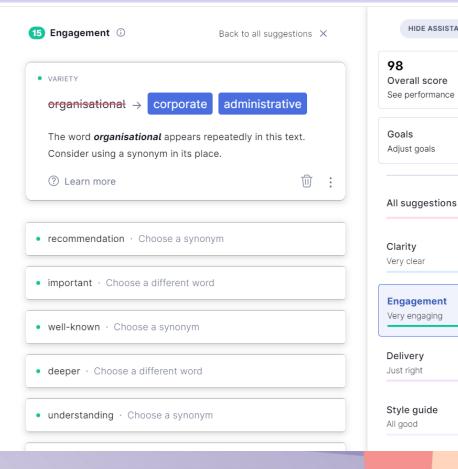
Very engaging

DeliveryJust right

economy as its core principles, inducing response to the triggered strong need for reorganising management processes, marketing and communication, and organisational strategies. This paper aims to digital marketing and service marketing during the COVID-19 pandemic and the digital economy.

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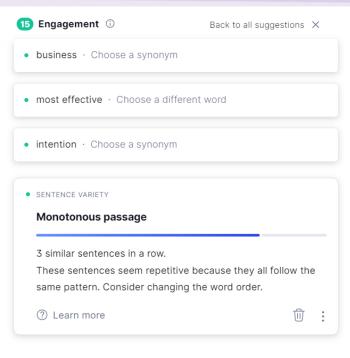
Result: The results reveal that the digitalisation in marketing communication channels in businesses highlights the significance of discovering a proper method for developing business practices centred on fostering technological change in organisations and the creation of adapted communication strategies. The dynamic nature of current

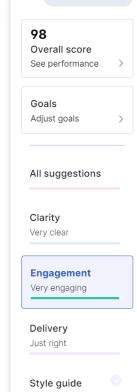


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IMPLICATIONS

Modern interactive marketing requires marketers and business planners to understand customers, their behaviour, how they prefer to interact with the products or services, and the ability to provide them with relevant and engaging personalised experiences. The logistical, operational, marketing, sales, and service data indicate whether the customer has been served satisfactorily. Marketers face the challenges and opportunities in the current digital era and amid the COVID-19 pandemic. Digital marketing activities could enhance customers' purchase intention through customer satisfaction with market products or services. Marketers and consumers acknowledge digital marketing activities' impact on a company's sales and need further study for the digital economy era.





All good

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REFERENCES

Finance Metaverse. Journal of Metaverse, Preprint, 1-6.

Kraus, S., Kanbach, D. K., Krysta, P. M., Steinhoff, M. M., & Tomini, N.

(2022). Facebook

and the Creation of the Metaverse: Radical Business Model Innovation or

Incremental Transformation? International Journal of Entrepreneurial

Behavior &

Research, 28 (9), 52-77. doi.org/10.1108/IJEBR-12-2021-0984.

Lee, U. K., & Kim, H. (2022). UTAUT in Metaverse: An "Ifland" Case.

Journal of Theoretical

and Applied Electronic Commerce Research, 17(2), 613-635.

Limna, P. (2022). Artificial Intelligence (AI) in the Hospitality Industry: A

Review Article.

International Journal of Computing Sciences Research, 6, 1-12.

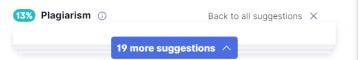
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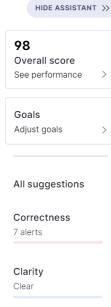
Customer Satisfaction

and Customer Loyalty: A Qualitative Study of Muang Thai Insurance

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13% Plagiarism

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This study evaluates the literature on metaverse digital era.

Method - A narrative synthesis was used in this

literature and information were reviewed system metaverse and cybersecurity in the digital era formsearch articles on EBSCO, Google Scholar, Schola

Results – The results reveal that the metaverse innovation of digital technology in the digital era may multiply cybersecurity risks. Furthermore, t cybercrime in the metaverse for authorities, cor to address has grown, necessitating new regula

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SERVICE QUALITY, PATIENT SATISFACTION AND PATIENT LOYALTY IN PRIVATE DENTAL CARE SECTOR.: A CASE STUDY OF SMILE FAMILY DENTAL CLINIC.

by Supaprawat Siripipatthanakul



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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Established in 2016, Smile Family Dental Clinic is a private dental care service provider in Lamchabung, Thailand. Dental clinics have increased rapidly in this area due to many industries' growth, resulting in high demand for dental care services. Lamchabung is a part of the Eastern Economic Corridor (EEC) and a Thailand 4.0 economic policy component. Smile Family Dental Clinic offers dental care services including intra-oral diagnosis, radiology, tooth filling, tooth extraction, the dental prosthesis (denture), root canal treatment, and tooth cleaning (scaling). The indicators used to measure dental care service performance, and the patients are essential for dental clinics.

According to Parasuraman et al. (1985 as cited in Jandavath & Byram, 2016), service quality's dimensions and items represent core measurement criteria that transcend specific companies and industries. It is a generic instrument with high reliability, validity, and applicability to serve as a diagnostic methodology for uncovering broad areas of a company's service quality shortfalls and strengths. (Jandavath & Byram, 2016) Measuring dental clinic service quality is the first and most important factor in improving care.

The quality provided plays an essential role in patient satisfaction. To improve dental service quality, paying attention to everyone's needs and demands plays a significant role. Patient preferences should be considered fundamental to providing high-quality dental care. Therefore, given the positive effects on dental

service quality, service delivery processes should carefully be considered in all

quality dimensions. (Bahadori et al., 2015)

Patient satisfaction is an interactive process that reflects the patient's quality assessment on the medical service experience. Patient satisfaction is crucial for healthcare service providers in the following three areas; maintaining their relationships with the patients-satisfied patients are returned-customers, identifying areas of strength and weakness in the organization, and association with their financial benefits. (Aldagal, Alghamdi, Alturki, Eldeek, & Kensarah, 2012 as cited in Cham et al., 2014) The importance of patient satisfaction has continued to grow, such that patient satisfaction is now as a virtual component of healthcare services. (Jandavath & Byram, 2016) The positive customer experience with the product leads to customer loyalty with the service offering. (Srinivasa et al., 2002, as cited in Kashif et al., 2016). Patient loyalty is a strategic service plan to retain the customer in the long term by providing better service quality. (Anbori et al., 2010 as cited in Ahmed

et al., 2017)

Several studies have been conducted in the healthcare industry to identify the link between service quality, patient satisfaction, and patient loyalty. Many studies found that service quality influences patient satisfaction. (Cham et al., 2016; Kashif et al., 2016; Jandavath & Byram, 2016; Ahmed et al., 2017; Moreira & Silva, 2015; Amin & Zahora Nasharuddin, 2013; Li et al., 2010; Murti et al., 2013; Elleuch, 2008;

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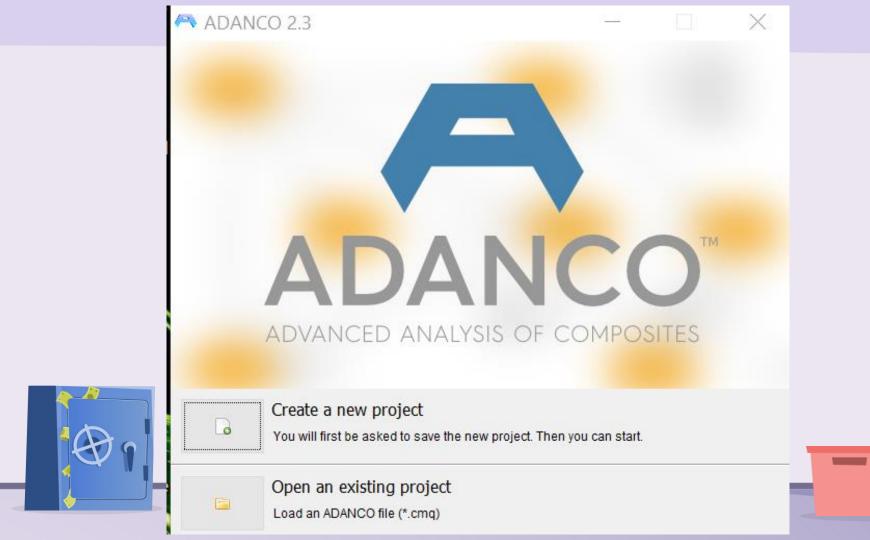




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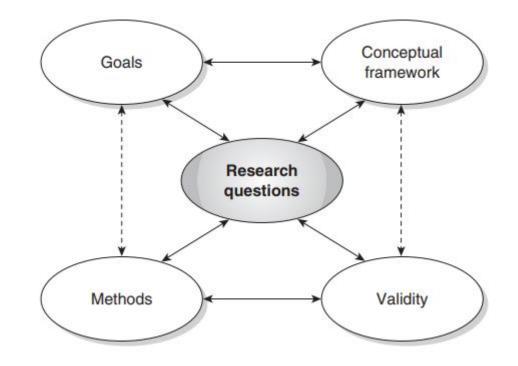


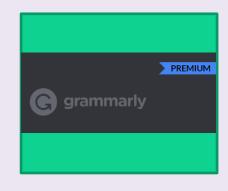
Figure 7.1 An Interactive Model of Research Design

SOURCE: From *Qualitative Research Design: An Interactive Approach*, by J. A. Maxwell, 2005. Copyright by SAGE.

Maxwell, J. A. (2008). Designing a qualitative study. *The SAGE handbook of applied social research methods*, 2, 214-253.

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Artificial Intelligence (AI) for Qualitative Research







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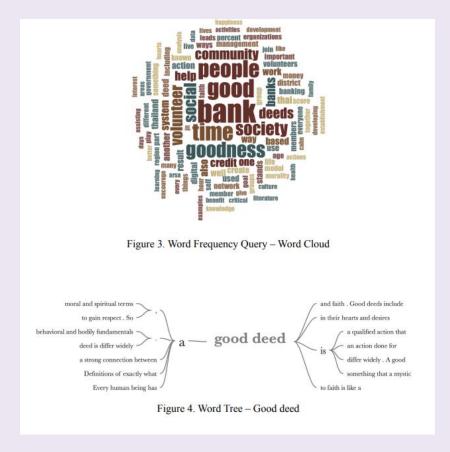
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