DIGITAL ECONOMY: THE INFLUENCE OF GENERATION Z'S EXPERIENCE ON E-COMMERCE PLATFORM

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DECLARATION

We hereby declare that:

(1) This undergraduate FYP is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of informationbe they printed, electronic, or personal.

(2) No portion of this FYP has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

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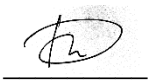
3. Dhivyashini A/P Raman	2107115	

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LIST OF ABBREVIATIONS

UI	User Interface
UX	User Experience
TAM	Technology Acceptance Model
IV	Independent Variable
DV	Dependent Variable
VR	Virtual Reality
AR	Augmented Reality
H0	Null Hypothesis
H1	Alternative Hypothesis
SSPS	Statistical Package of Social Science

Preface

This research study is conducted by final year's students from Bachelor of Business Adimnistration (Honours) in University Tunku Abdul Rahman (UTAR). The researchers are Wong Kah Kit, Wong Wai Hong and Dhivyashini A/P Raman, whose topic is titled "Digital Economy: The Influence Of Generation Z's Experience on E-Commerce Platform".

A total of 5 chapters will be covered in this study. Chapter 1 is the introduction of the topic, covering the background, objectives, questions and significance of study. Chapter 2 will cover the literature review, while Chapter 3 covers the research methodology used. Chapter 4 focuses on the data analysis and Chapter 5 focuses on the findings and limitations with future recommendations.

There are 5 variables in this study. The dependent variable is User Experience (UX), while the independent variables are User Interface (UI), Technological Innovation, Communication Infrastructures, and Privacy. Lastly, we are beyond grateful to have Dr Charles Ramendran a/l SPR Subramaniam as our supervisor, who provides insightful feedback and support during the course of this research.

Abstract

E-commerce is becoming more significant due to its convenience in this era of rapid digitalization. One of its largest consumers in Southeast Asia, especially in Malaysia, is Generation Z who are tech savvy and favor convenience. Because of this, user retention among Generation Z is very important for the survival and success of an e-commerce platform. One of its major factors contributing to its success is the degree of user experience of the e-commerce platform. Hence, this research intends to study the significance of factors influencing the user experience of e-commerce platforms. This research is carried out with a quantitative approach, using online surveys as a data collection method. Our findings indicate the significance between user experience and the relevant variables: i) user interface, ii) technological innovations, iii) communications infrastructure, iv) privacy. This research provides insights for future research and e-commerce platform developers to better understand the preferences of Gen Z users.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

This research will focus on how Generation Z interacts with things to make it a vibrant experience for users of an e-commerce platform. The former included elements like user interface, tech innovation and comms infrastructure; the latter is quite technical but I will mention one: privacy. These factors should not depend on the vendors or sellers, but only from the implementation of this e-commerce platform. Using the above analysis, this study will be analyzing how an independent variable is relating to a dependent variable. This study seeks to explore the determinants and attribute the e-commerce platform user experience of Generation Z in Malaysia. The next chapter will contain an introduction which gives a broad overview of the research that we do. This study will involve important elements of the significance, research question or questions, background context on your topic area and problem statement as well some need for a new investigation. The format of the chapters will be centered around the core motif.

1.1 Research Background

Digital economy is a sector of the has to do with people interactions using technology and also a part that ensures series, what is useful suits well. An e-business infrastructure consists of software applications, technical resources, and gadgets that use technology such as computer telecommunications to perform all business activities. Social commerce requires skill by marketers interacting with communities to sell items, versus the transactional nature of e-commerce enabling online shopping experiences on platforms such as Shopee, Lazada, and Amazon. E-commerce, which the World Trade Organization emphasizes the most, keeps them

safe over other nations in the present crisis of COVID-19, continuing some basic supply for homes and society. Online shopping has increased due to the availability of Internet at affordable rates and with a large amount of ease. This shows how the internet penetration has grown compared to previous years, which is an increase of 1.6%, and it goes on to have more relevance in our lives this year than ever before (The Star, 2021). Generation Z, with 98% of smartphones and spending nearly four hours a day on apps, significantly impacts the e-commerce market. They value personalized, entertaining, and engaging communication methods, with an infinite online world. Social media has transformed e-commerce into a discovery and buying process (Kastenholz, 2022). Personal and social values influence Gen Z's behavior on tourism websites, promoting e-loyalty. Brands targeting Gen Z need real content, not polished content designed for millennials. Although they are more likely to discover new products through direct-to-brand website visits, they also report lower discovery rates on third-party retail sites and apps. They are less reckless when it comes to shopping (Feger, 2024).

1.2 Research Problem

In today's world of rapid digitalization, it is common to believe that everything will be digitalized in the future, especially the marketplace with the e-commerce platforms. As a result, the society's lifestyle also changes rapidly with emphasis on timesaving and convenience. Nowadays, people tend to shop online in e-commerce platforms as time is becoming more valuable to people in fast-paced environment, causing people to multitask to maintain their lifestyle (Wassan, et al., 2022). In addition, ever since the COVID-19 outbreak, there was a surge of users in e-commerce platforms all around the world due to people staying and quarantining at home from the restricted movement imposed by government, and out of the fear of getting infected by the virus outside (Bhatti et al., 2020).

Generation Z represents 29% of the total Malaysian population in 2020 which is among the biggest age cohorts and will continue to grow as the years goes on (Tjiptono et al., 2020). This generation have high knowledge on technology and more well-versed with Internet and its application (Vasudevan & Arokiasamy, 2021). However, generation Z may be tech savvy, but they have a much lesser attention span compared to older generations. This generation has been exposed and overwhelmed by social media such as Youtube ever since they're young. Most have access to smartphones which may have caused shorter attention span among the group (Nicholas, 2020). Because of that, the time-saving and convenience aspects became one of the e-commerce shopping trends for Generation Z consumers. (Ngah et al., 2021; Tiwari & Joshi, 2020).

Overall, there is a relevant difference between Generation Z compared to other generations. Besides, we focus on studying Generation Z as our target population because the group is one of the main e-commerce platform consumers around the world as they're much tech savvy and prefer quick solutions (Wassan, et al., 2022). However, there is a lack of study on factors that would influence Generation Z's user experience on E-commerce platforms in Malaysia or if any of the variables is applicable to Malaysian Gen Zs. Hence, we have interest in doing this research to identify and to better understand the key factors influencing users experience in any e-commerce platform among Generation Z in Malaysia.

1.3 Research Objectives and Questions

1.3.1 General Objective

The main goal of this study is to identify predictors about user interface design, technological innovation in E-commerce, communication infrastructures and privacy on e-commerce experience among Generation Z Malaysia.

1.3.2 Specific Objectives

i) To determine whether user interface design, technological innovations, communication infrastructures and privacy can positively influence the e-commerce platform user experience of Generation Z in Malaysia.

ii) To examine the relationship between the relevant variables and the user experience of Generation Z in Malaysia.

1.4 Research Question

The data collected in Malaysia will be utilized to address pertinent research inquiries:

1. Is there a significant relationship between user interface design with the user experience of e-commerce platforms?

2. Is there a significant relationship between technological innovations with the user experience of e-commerce platforms?

3. Is there a significant relationship between the communication infrastructures with the user experience of e-commerce platforms?

4. Is there a significant relationship between privacy with the user experience of e-commerce platforms?

1.5 Hypothesis of Study

Hypothesis 1:

H0: There is no significant relationship between user interface design and user experience of e-commerce platforms.

H1: There is a significant relationship between user interface design and user experience of e-commerce platforms.

Hypothesis 2:

H0: There is no significant relationship between technological innovations and user experience of the e-commerce platform.

H1: There is a significant relationship between technological innovations and user experience of the e-commerce platform.

Hypothesis 3:

H0: There is no significant between the communications infrastructures and user experience of the e-commerce platform.

H1: There is a significant relationship between the communications infrastructures and user experience of the e-commerce platform.

Hypothesis 4:

H0: There is no significant between privacy and user experience of the e-commerce platform.

H1: There is a significant relationship between privacy and user experience of the e-commerce platform.

1.6 Significance of the Study

This research holds significant importance for various e-commerce players such as online sellers, online entrepreneurs, e-commerce platform developers, and SMEs. In this era of digitalization, Generation Z is one of the highest consumers of online shopping, particularly in any relevant e-commerce platform. This demographic group may have a different level of tolerance and preference compared to older generations. They value convenience and timeliness (Dimock, 2019). Understanding the preference of Generation Z towards aspects of e-commerce in Malaysia can help attract them to the platform.

This research also holds relevance for top e-commerce platforms such as Shopee and Lazada as both are the most influential platforms in Malaysia. According to a news article by MalayMail in 2024, Shopee maintains being the top e-commerce company in Malaysia with full focus on Generation Z. A commissioned study conducted by Shopee and Kantar revealed that consumers with the age of 32 years and below (Gen Z), are among 70% of the platform's buyers in Southeast Asia (Shopee Malaysia, 2024). This shows that top e-commerce platforms are focusing on Generation Z consumers as they're the top consumers of the digital market; hence, understanding the factors of e-commerce platforms that can influence Generation Z's user experience is essential for e-commerce players. Multimedia contents would be impacted especially in online advertising as Gen Zs are visual communicators, meaning they spend a lot of time browsing on social media. Multimedia contents such as videos and images now ought to be designed to grab Gen Z's attention in a simple and direct way (Bílková et al., 2023).

The outcome of this research enables the e-commerce players to understand more about the significant factors that influence the Generation Z's user experience on any e-commerce platform.

1.7 Chapter Layout

Chapter 1 Introduction:

The chapter begins with a general introduction of the research problem and background. The commissions include general and specific objectives as well each set having research questions. The hypotheses of the study were formulated in order to provide a context with which to further explore the relationship among these constructs. The purpose of study was included to know the result and importance of study.

Chapter 2: Literature Review

The literature review is a brief introduction on theories, variables, theoretical framework and the construction of hypotheses for my study. Theoretical Backgrounds The theoretical frameworks validate the association of UI, technological advancement, communication handler and privacy in over-all with that of UX for E-commerce platform amongst Generation Z users in Malaysia.

Chapter 3: Research Methodology

This chapter will also describe the research methodology and method of study, population sample and data collection methods. A questionnaire is developed according to the data provided by a scholarly article.

Chapter 4: Data Analysis

This chapter will analyze the observations and interpretations were regarding to results attached with hypotheses and questions that we investigated in the proposed research. This section will conduct descriptive analysis on the demographic profile of respondents and inferential analysis which explores out associations between IVs with DV.

Chapter 5: Discussion, Conclusion, and Implications

The subsequent chapter, Chapter 5 summarizes the research findings along with those same analysis and conclusion presented in detail within Chapter IV. The following is a brief graphic literature review of the findings, consequences and conclusions arrived at in this study followed by recommendations for further research.

1.8 Chapter Summary

Such overarching themes were something this chapter set out to explore, in terms of the many factors that bear upon Generation Z for whom UX is key when it comes to e-commerce. The researchers stated the purposes of this study, research question and its importance in the introduction part. Chapter 2 will describe the literature study associated with prior research studies, enriching and elaborating on the review.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The chapter covered Generation Z user experience's independent variables together with mediating and control elements. Examined are these independent variables: User Interface (UI) Design, technological innovation, communication infrastructure and privacy. It also provides a synopsis of fundamental theory, a review of current research, theoretical framework as hypotheses evolves, and a quick chapter summary.

2.1 Underlying theories

2.1.1 Technology Accepted Model (TAM)

The Technology Acceptance Model (TAM) is a popular theoretical model that aims to explain and predict user acceptance of new information technologies. It was introduced by Fred Davis in the late 1980s, and since then it has been extended and enhanced many times by different scholars. Technology acceptance model (TAM): It describes how a person accepts the technology. The model suggests consumers' attitudes towards adopting a new technology is influenced by perceptions of the utility, and ease of use (De Camargo Fiorini et al., 2018). On the other hand, perceived usefulness describes how much a person believes that using (specific) technology would increase their performance or helps them to achieve what they intend/want. The more people feel that technology is beneficial for their reasons, the greater chance they

will use it. It focuses on how much an individual is convinced that using a specific technology would require minimum effort. So it is for when the technology becomes user-friendly then only people will not resist but use them to overcome the barrier. When the usability is not simple and features are complex, it does not hold a nice place in their hearts. Predisposing condition (attitude toward technology) (technology acceptance model) perceived usefulness and perceived ease of use. This leads to its consequences over behavioral intention to use the technology. The behavioral intention is a primary motivator by itself that compels people to use the technology, and system actual usage denotes the final stage of individual interaction with the technology. Which emphasizes the importance of individual attitudes, perceptions and intentions to explain technology acceptance (Kotilainen et al., 2021).

Perceived utility is the perception that using a technology would improve performance or fulfill certain functions The ease, efficiency, and product/service range of e-commerce platforms may shape their impression in the eyes of Generation Z users. Perceived ease of use: the belief that using a particular system is effortless (Chayomchai, 2020). The perception of Generation Z about the usability of e-commerce platforms can also depend on features like interfaces that are more intuitive, load times faster and checkout processes smoother. These characteristics affect the intention to use technology, and this has an influence on the real utilization of that system. The Technology Adoption patterns have been extend from fundamental model, like — the technology must be used in a similar way of TAM (Technology Acceptance Model) which has an advantage because it can be extended to other fields. Indeed, it has to be described as a valuable paradigm in terms of the explanation for different generations in adopting e-commerce platforms where Generation Z is investigated (Rosli et al., 2022)

2.1.2 Diffusion of Innovations theory

The Diffusion of Innovations theory, introduced by Everett Rogers in 1962, explains how new ideas, products, or services spread across a population or social structure over time. Generation Z, being digital natives, is likely to be early adopters of e-commerce platforms and practices. Their experiences and behaviors influence the spread of these innovations among peers and

different age groups (Nordin et al., 2021). The adoption process is highly influenced by factors such as relative advantage, compatibility, complexity, trialability, and observability of the invention. Understanding Generation Z consumers' perception and engagement with new e-commerce platforms and technology is dependent on these factors. The diffusion of new ideas and technologies is a crucial catalyst for the advancement of the digital economy. E-commerce platforms' attributes, such as user-friendliness, convenience, and availability, can significantly impact the adoption process. Social media and mobile phones play a crucial role in acquiring knowledge and interaction with e-commerce platforms (Li et al., 2022).

2.2 Reviews of Variables

2.2.1 Dependent Variable: User Experience (UX)

User Experience (UX) is described as the feeling one experienced after interacting with the system. That system could include a website, software, or any other computer or mobile applications and programs which normally represented human-computer interaction (HCI) (Hardianto, 2019). Many factors are to be considered when designing a system with good user experience. This includes the functionality of the site, the usability, desirability, limitations, and adaptability, especially for first time users. These factors are important to create a sense of engagement to the users, ultimately providing the ideal user experience which may cause them to be permanent users after a comparison has been made to best suit their interests (Malik, 2024). The possibilities of a user returning to a system or platform are very low, once the user have chosen a specific option of sticking with the other competitors that matches their interests.

2.2.2 Independent Variable I: User Interface (UI) Design

The definition of User Interface (UI) is referred to as the graphical layout of an application. It is comprised of elements that users interact with such as the buttons, texts, images, text entry fields and more. Any elements related to visual, interaction, and animation are neccessities, including screen layouts, interface and transition animations (Perlman, 2021).

In this modern world, e-Commerce has become part of the daily lives in the forms of web applications and mobile applications. In the context of e-commerce, the UI design of the platform is one of the determinants of success or failure of the business. It is tremendously crucial to understand the process behind an effective design and deployment of an e-commerce platform to enhance the experience of the user that is beneficial for the platform (Perlman, 2021).

One of the principles to be considered is consistency of every design element to foster comfort and familiarity in user experience during interaction on the platform. Visual appearance such as color schemes, typefaces, photography and others are also a significant consideration for a captivating user experience. Colours play an essential role in users' learning process as their brain receives information visually with the right combination of colour (Nordin et al., 2021; Malik, 2024).

2.2.3 Independent Variable II: Technological Innovation

In recent years, technology is advancing rapidly evoking prominence of artificial intelligence (AI), virtual reality (VR) and augmented reality, allowing them to be applied in various aspects including e-commerce (Junsawang & Chaveesuk, 2019; Song et al., 2019; Su et al., 2020). In the context of AI usage in e-commerce, it has become a crucial element in developing e-commerce. It has a profound impact on the platform with applications such as chatbots and virtual assistant, providing a great customer support with minimal human-to-human interaction. Other applications including AI personalization that provides product suggestions or recommendations based on user's collected data and information (Nimbalkar & Berad, 2021).

Based on the current state of virtual reality (VR) technology, it is bound to be implemented into e-commerce in the future. VR can provide immersive experience to the user as it can simulate real-world environments. Users can interact with the products virtually which may give accurate visualization of the product (Su et al., 2020).

Augmented reality (AR), however, is a technology that overlays physical objects with generated images virtually in real time. In other words, it allows users to interact with the virtually generated images using real object. In e-commerce, AR is an excellent tool as it can display products virtually in image format to the real world features (Junsawang & Chaveesuk, 2019).

2.2.4 Independent Variable III: Communication Infrastructure

During this era of digital transformation is rapidly involved in many business environmental sectors, e-Commerce also flourishes nowadays. In order to guarantee the continued growth of e-commerce, improve user experience while receiving services from e-commerce platforms, and streamline e-commerce business systems such as producer-consumer relationship management. As a result, communication infrastructure is crucial to e-Commerce, which is a collection of techniques, face-to-face interaction, strategies and principles to guarantee the message delivery process between individuals. (Melović et al., 2020)

For the operators of e-Commerce, the effectiveness in implementation of marketing strategies is the dynamic capabilities that impact the performance of an organization. The widely recognised definition of marketing as a collection of actions involving the facilitation of trade serves as the theoretical foundation for the study of communication efficiency. An increasingly important aspect of trade as goods and services go up the value-added chain from supplier to company to customer is the sharing of information. An effective communication infrastructure can be a method to focus on specialized marketing capabilities can build important marketing efficiencies in the export markets and enhance firm performance.This concept is well suited to the use of e-commerce in exporting, since many of the resources and competencies in this field are closely related to strategic decisions made in electronic marketing and service/product delivery. Businesses that can create specialised e-commerce marketing skills in communications and promotions, for instance, may communicate more effectively and better the expectations of their customers.(Gregory et al., 2019) According to Al-Khayyal et al. (2020), customer service/communication is a courteous, quick-to-respond service that answers questions, returns, and complaints from customers while in the sales process or after sales servicing. Providing excellent customer service increases the likelihood of establishing a lasting rapport with clients. Additionally, providing outstanding services to clients may help you build lasting connections via the usage of an efficient communication infrastructure.

2.2.5 Independent Variable IV: Privacy

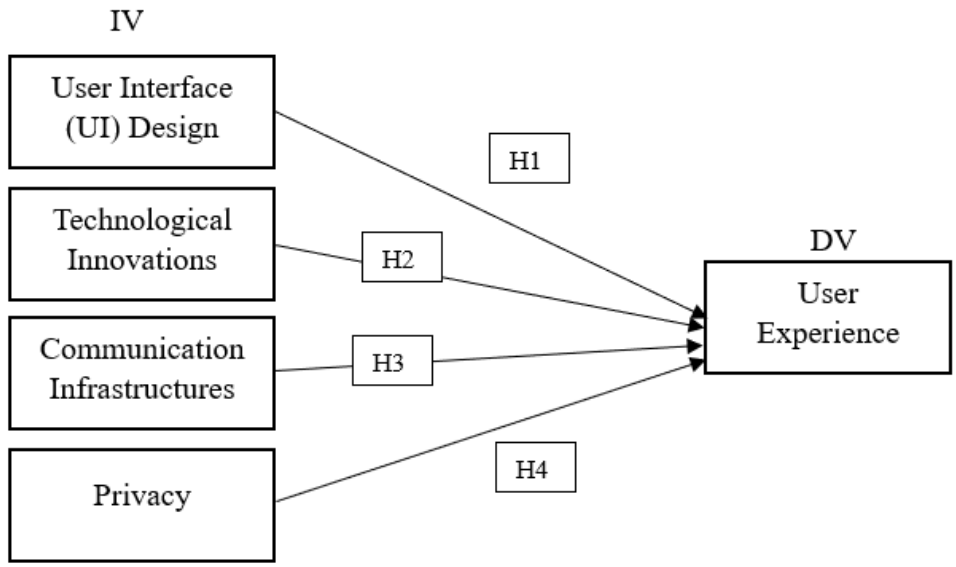
Technology nowadays allows people to carry out complex tasks in their daily lives, however these tasks mostly may influence user's privacy (Distler et al., 2020). The e-commerce platform ensures complete protection against cyber threats that could potentially compromise the user's data and transactions, as stated by privacy experts (Baqai et al., 2021). This is why global firms always address on cybersecurity issues as it keeps evolving with new vulnerabilities in the system. There are many forms of cyberthreats, particularly attacks on personal data and information (Liu et al., 2022). This results in a need for privacy and security of user's data, causing user privacy to be one of the main challenges in building an e-commerce platform as user sensitive information is stored in the platform's server. Hence, cybersecurity plays an essential role in protecting information and data from cyber threats.

With the prevalance of artificial intelligence (AI) in e-commerce, privacy concern emerges as the AI collects and utilizes user's data for a personalized shopping experience. AI driven systems would collect information from user's interaction with chatbots and virtual assistants which is increasingly common. This causes concerns regarding the store data being potentially misused or accessed illegally (Youssef & Hossam, 2023).

Any incidents that relate to personal information being compromised or leaked is considered as privacy breach. These incidents comprised of several factors such as technical issues of the platform's cybersecurity or the misuse of information by an insider. (Tripathi & Mukhopadhyay, 2020). Leakage of personal information from an e-commerce platform will negatively impact online transactions; thus, any e-commerce platforms need to strengthen its cybersecurity to protect user's privacy and to prevent fradulent activities (Thuy Tran, 2021). The degree to which users trust an e-commerce platform's cybersecurity and data protection measures has a significant impact on the quality of user interactions and emotions. (Dalbehera, 2020).

2.3 Conceptual Framework

Figure 2: Proposed conceptual model on E-commerce platform factors that influence the User Experience.



From the literature review above, it has been proposed that the following factors can influence UX of an e-commerce platform. The factors, which represents the IVs include UI design, technological innovations, communication infrastructures, and privacy while dependent variable is the UX of e-commerce platform. Hypotheses H1, H2, H3, and H4 represent the relationship between each independent variable and the dependent variable. The four hypotheses ascertain the presence or absence of a substantial correlation between the independent and dependent variables.

2.4 Hypotheses Development

2.4.1 User Interface Design

User Interface (UI) design is critical in providing a desirable user-friendly experience as users always want the platform to be practical when using it. Other than the need for practicality, eye-catching layout designs that capture user's attention would provide an ease of use as the design would not look random and out of place, consequently not disappointing and frustrating the user. An efficient platform that is easy to use will improve UX as they begin to trust, accept, and eventually be satisfied with platforms that provide easy way of usage (Yu & Huang, 2020). UI designs that cause users to feel uncomfortable when using the e-commerce platform needs to be redesigned; thus, users' feedback is crucial in improving the quality of UI design (Gunawan et al., 2021).

In the context of Generation Z, today's fast paced environment may contribute to the decline of their attention span. Marketers faced challenges in retaining their attention for their products as Gen Zs become more disengaged with traditional marketing messages. As a response, an approach to minimalism design can be a possible solution to this. Minimalism in interface design refers to the reduction of all irrelevant elements. For example, removing designs that hinder user's perception and only highlights important elements to pass the message clearer (Carlsson, 2019). This approach can influence several relevant marketing channels including web and UI design (Fraculj et al., 2023). According to a survey conducted by Kunigonyte & Kolev (2021), 4 of 5 Gen Zs respondents compliment layout that is quick and direct, and 2 of 5 Gen Zs criticized interface with inconsistent colour schemes and prefer website interface that is not overcrowded. The respondents in the survey may have supported the approach to minimalism in UI design.

In addition, according to research by Gunawan et al., (2021), the result shows that the UI design will generally affect the user experience when using e-commerce platforms. Therefore, the following hypothesis is concluded:

H1: There is a significant relationship between user interface design and user experience of e-commerce platforms.

2.4.2 Technological Innovation

Artifical intelligence (AI) in e-commerce platforms enables personalized shopping experience to users after analyzing their data to evaluate their online interactions. This allows the e-commerce platform to give appropriate product recommendations to the users, resulting in a consistent user experience in any applicable devices (Nimbalkar & Berad, 2021). According to Necula & Păvăloaia (2023), AI is crucial in enhancing user experience which signifcantly improved the e-commerce platform performance.

Virtual reality (VR) and augmented reality (AR) can provide an immersive shopping experience to the user virtually. For example, with AR/VR technology, the platform can provide an accurate visualization of products such as clothing. This enables customers to evaluate how good the product will look on them by using their device camera. Providing an immersive shopping experience can enhance user experience. (Su et al., 2020; Syed et al., 2021).

Technology innovations such as AI, VR, AR has shown to influence user experience of e-commerce platforms in recent literatures. Hence, the following hypothesis is concluded:

H1: There is a significant relationship between technological innovation and user experience of e-commerce platform.

2.4.3 Communication Infrastructure

Communication Infrastructure plays a crucial role that affects Generation Z user experience in the E-Commerce platform (Jain et al., 2021). According to (Aslam et al., 2020), E-commerce websites assist end customers as well as corporate organisations by offering substantial prospects. Businesses are realising more and more how crucial it is to have a strong e-commerce communication infrastructure in order to provide extensive footprints and efficient consumer engagement. Based on Al-Tit (2020), although e-commerce may be used to benefit organisations in a number of ways, According to studies, there is an obstacle that might prevent the adoption and use of e-commerce, including insufficient infrastructure and a lack of national information and communication technology strategy. E-commerce refers to the use of information and communication infrastructure and associated applications to facilitate business operations, decision-making, and management functions. Consequently, the efficiency of e-commerce communication may either convey messages to clients instead to improve their e-commerce platform user experience. Good customer experiences are essential to achieving desired results for organisations, such strong brand attachment and higher customer satisfaction that results in customer loyalty. Extending the user experience on e-commerce platforms, the customer service and communication infrastructure is the component that should be considered by every business to customers (B2C) marketers to create a memorable experience for customers to keep company brand image and motivate customers to have trust on online purchasing. (Gulfraz et al, 2022) Thus, there exist the following hypothesis.

H1: There is a significant relationship between communication infrastructure and user experience of e-commerce platform.

2.4.4 Privacy

Personal information that has been acquired and misused by an e-commerce platform without consent will raise privacy concerns among the customers which will influence their interaction

with the platform (Quach et al., 2019). This concern will cause users to lose their trust and faith towards the platform to handle their personal information correctly, resulting in decrease of consumer or user experience. Privacy plays a key role influencing the company, or in this case, the platform's reputation and overall consumer or user experience (Anic et al., 2019). User experience is guided by the user's perceptions and feedback from using any services, which in this case is the platform. In short, user experience is the result of the platform's performance that had been experienced by the user during, before or after using it. A diminished trust among the users will influence the user experience negatively (Casare et al., 2020). Hence, the following hypothesis is advanced:

H1: There is a significant relationship between privacy and user experience of e-commerce platform.

2.5 Chapter Summary

In the end, the aim of this chapter was to present and define the basic ideas fundamental to our present research, namely the Theory of Innovations (TAM) and the Diffusion of Innovations theory. This chapter presents a literature review looking at the dependent variable, user experience, as well as the independent variables relevant to this study question. Independent variables in communications infrastructure, technological innovation, privacy, and user interface design are those variables. Moreover, the conceptual framework helped to create verifiable hypotheses. The hypotheses of the next chapter will be tested scientifically using suitable statistical techniques to confirm the validity of the produced theories.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

Research Methodology that refers to the particular describes the techniques and procedures to identify and analyze the information on this topic. This chapter will define the explanation of the steps of the methodology to find out, gather, and analyze the data. This chapter will cover the following topics: study design, data collection procedures, sample plan, research instrument, constructs measurement, data processing, data analysis, and chapter summary.

3.1 Research Design

Research design is defined as the framework or strategy for carrying out research in this topic. It establishes the quantity, kinds, and connections between the variables that will be looked at, making it an essential component of every methodical scientific inquiry. Human bias is eliminated and solutions are improved when scientific procedures are used rather than informed judgements or gut feeling. In order to guide the investigation through the phases of variable selection, relationship determination, data collection, measurements, and analysis for the purpose of answering the research question, research design offers a methodical and logical strategy or plan. (Sidharth,2023)

Based on the article from Kotronoulas et al., (2023), a prerequisite for quantitative research is the ability to measure the constructs being studied. Thus, processing numerical data to spot patterns and connections as well as validate the measurements taken to provide answers is the goal of quantitative research. In this context, the procedures used to assist researchers and

research consumers in deriving meaning from numerical data constitute the processing of numbers. Quantitative research, in contrast to the qualitative method's descriptive representations, focus on numerical or quantifiable data and frequently produce statistics examinations. Two types of quantitative investigations can be distinguished. Research encompasses the collection of data through subjective replies, coding, and frequency queries, as well as research that are free from subjectivity. (Han et al., 2022) Quantitative research is adopted in this study which gathers the statistics to test the hypothesis and it is supported by grounded theories. Causal research is being used to examine the cause and effect links among user interface design, technical innovation, communication infrastructure, privacy, and user experience.

3.2 Data Collection Methods

Quantitative data collection is the process that is collected, aggregated, encoded, and statistically analyzed in order to analyse and estimate the interaction of hypotheses through a deductive process. (C Moises Jr., 2020) The most crucial component of data collecting is ensuring that reliable and accurate data is acquired for statistical analysis so that research conclusions are informed by data. In this study, data collection methods consist of primary and secondary data.

3.2.1 Primary Data

Primary data is original, first-hand data that have not been previously available. When making decisions, the primary data is more dependable and offers a higher degree of confidence since it is based on a credible analysis that is directly linked to the events that occurred.

3.2.2 Secondary Data

Secondary data is information that has previously been gathered by another party and is easily accessible from several sources. It's also known as secondhand information.This study's secondary data was collected via the internet and online databases. It is straightforward to get all of the secondary data required for this research topic from internet websites and journal articles utilising online databases available on the UTAR library website, such as Elsevier, Emerald, Science Direct, and Google Scholar.

3.3 Sampling Design

3.3.1 Target Population

The population is defined as the whole of people, things, or events that display the behaviours and/or have the qualities that the researcher is interested in (Berndt, A. E., 2020). This study's primary goal is to identify the variables (user interface, technical innovation, communication infrastructure, and privacy) that influence the e-commerce platform user experiences among Generation Z in Malaysia.

3.3.2 Sampling Frame and Sampling Location

The sample frame is interpreted as a list that contains every member of the population. Due to financial and schedule constraints, researchers are unable to gather target respondents from all Malaysian states. According to Tjiptono et al. (2020), Generation Z is currently the largest age group, accounting for 29% of Malaysia's overall population. As a result, it makes sense for the researchers to focus on Malaysian Gen Z ecommerce platform users.

3.3.3 Sampling Element

The technique to sampling known as the sampling element gives every unit an equal chance of being chosen for the research sample. In addition to being the main topic of our study, Malaysia's generation Z will be the responders to our survey. Every devastated Gen Z online shopper will have the opportunity to complete the surveys; they might be of all ages, ethnicities, job situations, and so on.

3.3.4 Sampling Techniques

Probability sampling and non-probability sampling are the two subcategories of sampling technique. The first method is probability sampling, in which there is an equal chance of selection for every member of the target population to become a research participant. In contrast, non-probability sampling methods are less objective than probability techniques. Non-probability sampling methods do not allow for the participation of every member of the target population. (Stratton, 2021).

3.3.5 Sampling Size

For these kinds of investigations, the main objective of a sampling size is to clarify how the researcher inferential objectives are expected to be met by the data that is gathered (Lakens, 2022) . With a total population of 8.476 million targeted GenZers at the beginning of the country, Gen Z is a sizable target demographic in Malaysia. Due to time and cost restrictions, in addition to the enormous population, it is challenging for the researchers to measure and collect all the data from the target group. Therefore, in order to accurately represent the entire population, researchers must determine the minimum sample size. Based on the table shown in Table 3.1 by Krejcie and Morgan (1970), the sample size required to encompass the complete population is 384, given that the population under investigation exceeds 1,000,000 individuals.

Table 3.1: Krejcie & Morgan Table

Table 1: Krejcie and Morgan Table

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Source:

https://www.researchgate.net/profile/Syed-Abdul-Bukhari/publication/349118299_Sample_Size_Determination_Using_Krejcie_and_Morgan_Table/links/60215fb492851c4ed55b6bd8/Sample-Size-Determination-Using-Krejcie-and-Morgan-Table.pdf

3.4 Research Instrument

Research instruments indicate to any method used to collect, measure, and analyse data on a research topic that data gathered from respondents who are part of the study (Mashuri, et al., 2022). The online survey questionnaire was employed as the research instrument in this study because it offers a quick, easy, and affordable means of gathering a lot of data from a big number of samples. All of the questions in this survey are closed-ended, meaning that participants must choose the response that most closely matches their point of view from a list of specified, restricted alternatives. Because respondents are not compelled to give lengthy responses as they are in open-ended questions, closed-ended questions will yield a high response rate from respondents who are more inclined to complete the questionnaire. The responders find it simpler and take less time to react. As a result, the researchers are able to collect sufficient and correct data for this study. (Ball,H. L, 2019)

3.4.1 Questionnaire Design

This questionnaire's design is divided into different sections: Section A deals with demographics, while Sections B and F address every variable included in the report. Seven questions involving the respondents' demographic profile are included in Section A. These questions include name, email address, gender, age, ethnicity, work status, and frequency of use of e-commerce platforms. In Section B until Section E will cover the four independent variables, they respectively are user interface design, technological innovation, privacy and security, and communication infrastructure, total 21 questions have been designed. Lastly, the dependent variable regarding the GenZ user experience in the E-commerce platform is chosen as Section F, it consists of 5 questions.

In addition, the initial step in the process is for the researchers to compile the questions from several earlier studies and create a questionnaire. After that, the researchers will use Google

Forms to disseminate the questionnaires via email, Microsoft Teams, and social media. Because there are a lot of samples in this survey, it will take a few months to obtain necessary information and data from target respondents. In conclusion, email and social media are the best ways for the researchers to get in touch with the intended respondents and collect the data and information for this study.

3.4.2 Pilot Study

In order to assess the questionnaires' reliability, the researchers will first administer a pilot test before distributing them to participants in the complete study.

3.5 Constructs Measurement

The questionnaire design makes use of a number of measuring scales that are relevant and useful for eliciting replies from respondents.

3.5.1 Origins of Construct Measurement

Variables	Questions	Original Sources	Amendment
User Interface Design	The User Interface (UI) design is important to catch my attention.		

	I prefer simplistic UI web design with less words than a complex design with more words.	Adapted from https://doi.org/10.3390/ijerph17196967 http://doi.org/10.3837/tiis.2021.09.005	
	I prefer bright vibrant colours than darker toned colours in a UI design.		
	I prefer UI with consistent colour schemes.		
	UI with overcrowded designs and images will lose my interest.		

Technological Innovations	Technology such as Augmented Reality (AR), Artificial Intelligence (AI), or Virtual Reality (VR) can affect my experience.	Adapted from: https://link.springer.com/article/10.1007/s10055-019-00394-w https://iopscience.iop.org/article/10.1088/1742-6596/1302/3/032030/meta	
	I would enjoy Augmented Reality (AR), Artificial Intelligence (AI), or Virtual Reality (VR) being incorporated into e-commerce platforms.		
	Augmented Reality (AR) and Virtual Reality (VR) allows me to visualize the products better.		
	I appreciate personalized recommendations from AI based on your purchase behaviour.		
	I would appreciate AI chatbot assistant for help on enquiries.		

Communication Infrastructure	There is almost little delay between what I do and the website's response when I enter the e-commerce website	Adapted from https://www.sciencedirect.com/science/article/pii/S2405844019363509 https://www.researchgate.net/publication/345993632_The_Impact_of_Electronic_Service_Quality_Dimensions_on_Customers'_E-_Shopping_and_E-Loyalty_via_the_Impact_of_E-satisfaction_and_E-Trust_A_Qualitative_Approach	
	The e-commerce website is prepared and eager to address the demands of users		
	Customer service representatives of the e-commerce platform are always happy to assist you		
	Queries are immediately addressed to customer service in e-commerce platform		
	The customer service representatives can provide me with accurate service information		
	I feel the customer service can rapidly respond and resolve my issues		
Privacy	I value my personal data and privacy.	Adapted from: https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.927398/full	
	I will keep using platforms that have strong security towards privacy.		
	I do not worry about e-commerce platforms sharing my personal data to third parties.		
	You are not willing to use AI assistant due to security and privacy reasons.		
	I worry about information data breaches of the E-commerce platform.		

	My web shopping behaviour information must be protected by the platform.		
	Securities on financial information such as credit card is my top most priority.		
User Experience	I prioritize my experience when using an E-commerce platform.		
	User engagement of the E-commerce platform is important to me.		
	User experience is not my main determinant in evaluating an E-commerce platform		
	User experience is not my main determinant in evaluating an E-commerce platform.		
	I will continue using E-commerce platforms that provide good experience.		

3.5.2 Scale of Measurement

The variables in the study are defined and categorised using the measurement scale. Non-metric and metric are two categories for scale measurement levels. The nominal and ordinal scales were included in the non-metric scales, while the interval and ratio scales were included in the metric scales.

3.5.2.1 Nominal Scale

Nominal scale is the characteristics that belong to categories to differ between each respondent to recognize and collocate the respondents while doing analysis; they do not naturally rank or sort in any way. Question 3, 5, and 6 in Section A fall in the nominal scale category.

Example of nominal scale questionnaire:

5. Ethnicity:

o Malay

o Chinese

o Indian

o Others:

3.5.2.2 Ordinal Scale

An ordinal scale uses a natural ordering or order of elements to show where they are in relation to one another on the scale. It is used to symbolise unique circumstances, including degrees of discomfort, customer pleasure, or benevolence, where things can be arranged in a certain manner. (Shukla, 2023) Questions 4, 6 in Section A are answered using the ordinal scale. In simple word, while the ordinal scale may be used to rank things, the ordinal scale is unable to quantify the difference in ranks.

4. Age:

o 12-17

o 18-22

- 23-27
- 28 and above (Ends survey)

3.5.2.3 Interval Scale

Numerical data are those on an interval scale. Measurements on an interval scale have a distinct degree and sequence. Interval scale measurements, which show the difference or separation between two values, can be used to conduct mathematical operations like addition and subtraction. A 5-point Likert scale is used, with each of the five levels of agreement being represented by a separate number in the correct sequence. From 5 which indicates strongly agree to 1 which is strongly disagree, each number denotes a distinct meaning. The respondents are asked to mark the option on the questionnaire that most accurately represents how much they agree with the assertions in Sections B through F. (Shukla, 2023)

Example of question applying interval scale:

Section B: User Interface Design

i. The User Interface (UI) design is important to catch my attention.

- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

3.6 Data Processing

Data processing refers to the sequence of actions carried out on data in order to transform it, study, and arrange it into a practical structure for subsequent utilisation. Data processing encompasses the meticulous curation, arrangement, and conversion of unprocessed data into enlightening and practical information. Data processing is a multi-stage procedure that involves activities including checking, revising, coding, and transcribing (Collaborators, 2023). Initially, it is necessary to thoroughly examine all the questionnaires collected in order to identify any instances of incomplete, irrational, or inconsistent responses. During the editing phase, surveys containing unfinished, illogical, or contradictory responses should be either discarded or modified in order to maintain data accuracy. During the coding process, numerical codes are assigned to each potential response for every inquiry. Finally, during the transcription process, all the encoded data is inputted into the SPSS software for the purpose of ensuring accuracy and doing data analysis (Duggal, 2023).

3.7 Data Analysis

The data collected from the respondents in the questionnaires is analysed using SPSS software in this study. Various statistical techniques are utilised in data analysis, including descriptive analysis, reliability analysis, and inferential analysis.

3.7.1 Descriptive Analysis

Descriptive analysis is an essential stage in data analysis that entails the concise and precise summarization and depiction of the fundamental attributes of a dataset. It is commonly employed as the initial stage in statistical data analysis and aids in the detection of anomalies and errors, as well as the comprehension of the associations between variables (Villegas, 2023). The bar chart is used to graph frequency distributions for either nominal or ordinal variables. Since there are two questions on an ordinal scale and four on a nominal scale in Section A, the bar chart can be used for all of the questions in this instance. Nominal variables can also be represented using a pie chart. Since that Questions 3, 5, and 7 in Section A of the questionnaire are on a nominal scale, it can therefore be utilized to represent those questions (Turney, 2023).3

3.7.2 Reliability Analysis

Reliability analysis is a systematic procedure employed to assess the consistency and dependability of a measurement scale or system. Cronbach's alpha is a statistical measure used to assess the internal consistency of a group of items or measures (Thompson, 2024). Cronbach's alpha is computed by assessing the covariance of items and the variance of both the items and the total score. The scale spans from alpha to 1, with higher values indicating more reliability (Frost, 2022). Consequently, the researchers employ reliability analysis to assess and evaluate the dependability of the questionnaire.

3.7.3 Inferential Analysis

Inferential analysis is a statistical discipline that entails generating predictions and drawing inferences about a population by analysing a sample of data. Inferential statistics is employed to extrapolate general conclusions about a bigger population using data obtained from a smaller sample. The categorization of inferential statistics can be divided into two primary categories: hypothesis testing and regression analysis (Masud, 2024). Hypothesis testing is a statistical technique employed to evaluate assumptions and make inferences about a population using data collected from a sample. The process entails establishing a null hypothesis and an alternative hypothesis, and then performing a statistical test of significance to see whether the null hypothesis should be rejected or retained (Jansen, 2024). The Pearson Correlation Coefficient test is suitable for this research as it is used to ascertain the link between the IVs and DVs (Bougie & Sekaran, 2019). In this study, relationship between UI design, technological innovations, communications infrastructures, privacy and UX of the e-commerce platform among Gen Zs is examined. The hypotheses, including Hypothesis 1, 2, 3, and 4, explicitly declare this information. In addition, every question regarding the IV and DV is formatted using a Likert scale. For the purpose of examining the hypotheses, it is appropriate for the researchers to utilize the Pearson Correlation Coefficient (Da Costa Vieira, 2016).

3.8 Chapter Summary

To sum it up, this chapter has looked at the sampling, and questionnaire's design, and scale measurement. Furthermore, a number of procedures, including verifying, editing, coding, and transcription, are involved in turning collected data into insightful information. Then, in order to assess the hypotheses, inferential analysis, reliability analysis, and descriptive analysis are performed using SPSS software.

CHAPTER 4: DATA ANALYSIS

4.0 Overview

Chapter 4 will give a thorough explanation of the data analysis and a summary of the results using 300 questionnaire data gathered from participants. With version 28.0 of the Statistical Package of Social Science (SPSS) software, the gathered data will be evaluated and examined. Regression analysis, descriptive analysis, and Pearson correlation coefficient analysis will all be included in the study.

4.1 Descriptive Analysis: Demographic Profile of Respondents

The primary objective of descriptive statistics is to summarize and organize data in order to describe its primary characteristics. This may encompass visual representations (charts and diagrams), measures of variability (range, variance, standard deviation), and measures of central tendency (mean, median, mode). Smith et al. emphasize the importance of descriptive statistics in social research in a 2020 article published in the Journal of Social Research Methods. They observe that descriptive statistics offer fundamental insights that serve as the basis for subsequent analyses, including inferential statistics. This is consistent with your methodology of employing descriptive statistics to summarize demographic data prior to conducting more intricate analyses.

4.1.1 Gender

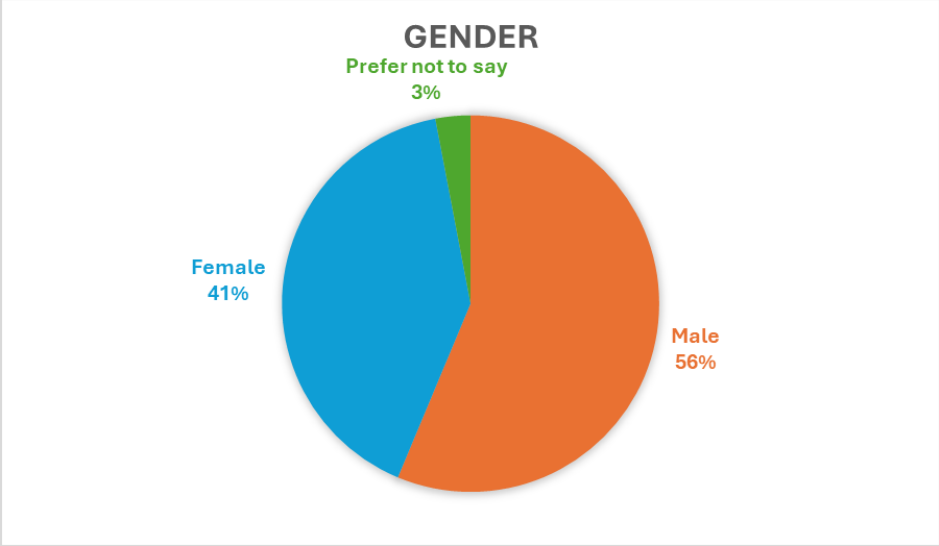
Table 4.1: Gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	122	40.7	40.7	40.7
	Female	169	56.3	56.3	97.0
	Prefer not to say	9	3.0	3.0	100.0
	Total	300	100.0	100.0	

Source: from Research Data

Figure 4.1



Source: from SPSS system

Based on the provided table, the research gathered a total of 300 replies. Out of these, 122 (40%) were from males, 169 (56.3%) were from females, and 9 (3%) chose not to declare their gender.

4.1.2 Ethnicity

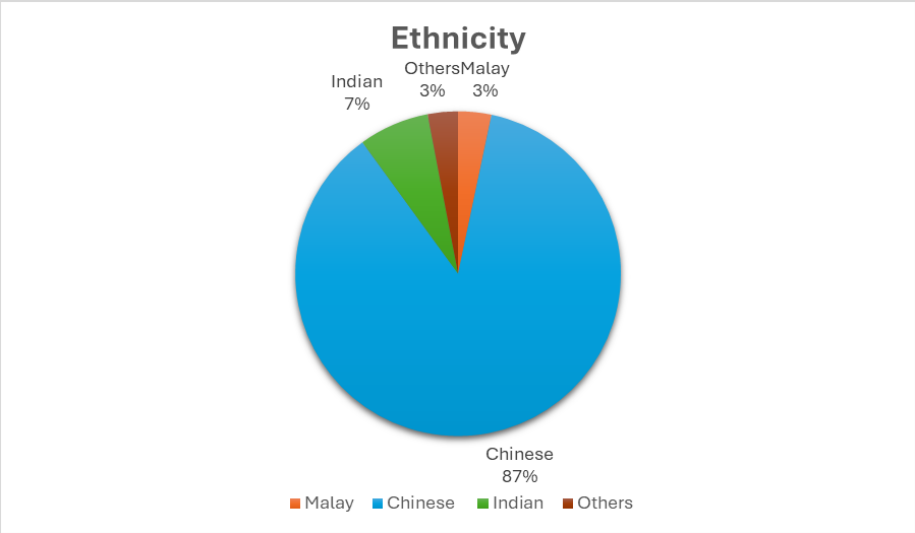
Table 4.2: Ethnic

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	10	3.3	3.3	3.3
	Chinese	260	86.7	86.7	90.0
	Indian	21	7.0	7.0	97.0
	Others	9	3.0	3.0	100.0
	Total	300	100.0	100.0	

Source: Research Data

Figure 4.2: Ethnic



Source: SPSS system

The online questionnaires were completed by percentages of respondents from a variety of ethnic backgrounds, as illustrated in Table 4.2 and Figure 4.2. Based on the data presented above, 300 of the 260 respondents (88.7%) are Chinese, while 10 are Malay (3.3%), 21 are Indian (7.0%), and 9 are Bumiputera Sarawak, Siam, Indonesian. (3.9%). Based on the aforementioned findings, Chinese is the majority among respondents.

4.1.3 Employment Status

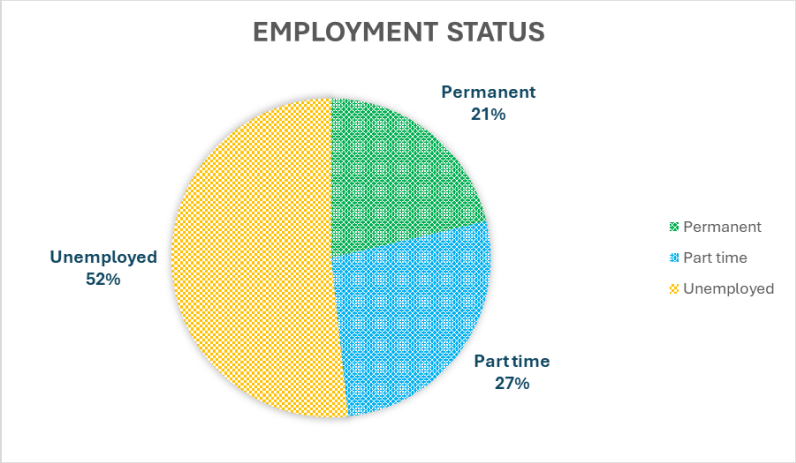
Table 4.3: Employment Status

Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permanent	64	21.3	21.3	21.3
	Part time	81	27.0	27.0	48.3
	Unemployed	155	51.7	51.7	100.0
	Total	300	100.0	100.0	

Source: SPSS system

Figure 4.3: Employment status



Source: SPSS system

The employment status of those who completed the surveys is displayed in Table 4.3 and Figure 4.3. The findings show that 155 respondents (51.7%) are unemployed, 64 respondents (21.3%) are employed, and 81 respondents (27%), work part-time.

4.1.4 Time visit in E-commerce websites

Table 4.4: Time visit e-commerce websites

Time visit

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Once every few months	57	19.0	19.0	19.0
	At least once a month	82	27.3	27.3	46.3
	More than twice a month	79	26.3	26.3	72.7
	More than four times a month	82	27.3	27.3	100.0
	Total	300	100.0	100.0	

Source: SPSS system

Figure 4.4: Time visit e-commerce websites

Source: SPSS system

The frequency of respondents' internet shopping is displayed above. 82 respondents shop online more than four times a month (27.3%), 82 respondents shop online once a month (27.3%), 79 respondents shop online more than twice a month (26.3%), and 57 respondents shop online once every few months (19.0%) according to the data.

4.1.5 Central Tendecies Measurement of Constructs

This section will cover the mean and standard deviation of the independent (IV) and dependent (DV) variables. The result will be examined by SPSS software.

4.1.5.1 User Interface Design

Table 4.5: *Central Tendecies Measurement of Constructs of User Interface Design*

No		Mean	Standard Deviation
UI1	The User Interface (UI) design is important to catch my attention.	4.1933	0.88236
UI2	I prefer simplistic UI web design with less words than a complex design with more words.	4.2067	0.92021
UI3	I prefer bright vibrant colours than darker toned colours in a UI design.	2.5133	1.34257
UI4	I prefer UI with consistent colour schemes.	4.1633	0.89405
UI5	UI with overcrowded designs and images will lose my interest.	3.9233	1.19815

Table 4.5 shows UI2 has the highest mean value of 4.2067, followed by UI1 (4.1933), UI4 (4.1633), UI5 (3.9233), and UI3 (2.5133). At the same time, UI3 has the highest standard deviation value (1.34257), followed by UI3 (0.1.34257), UI2 (0.92021), UI4 (0.89405), and UI1 (0.88326).

4.1.5.2 Technological Innovation

Table 4.6: *Central Tendecies Measurement of Constructs of Technological Innovation*

No		Mean	Standard Deviation
Tech1	Technology such as Augmented Reality (AR), Artificial Intelligence (AI), or Virtual Reality (VR) can affect my experience.	4.0567	1.02157
Tech2	I would enjoy Augmented Reality (AR), Artificial Intelligence (AI), or Virtual Reality (VR) being incorporated into e-commerce platforms.	4.0233	1.03910
Tech3	Augmented Reality (AR) and Virtual Reality (VR) allows me to visualize the products better.	4.2067	0.88311
Tech4	I appreciate personalized recommendations from AI based on your purchase behaviour.	4.0833	0.96236
Tech5	I would appreciate AI chatbot assistant for help on enquiries.	4.097	1.05087

In Table 4.6, Tech3 (4.2067) has the highest mean value, while Tech2 (4.0233) has the lowest. SI1 has the highest standard deviation value of 1.05087, while Tech3 has the lowest at 0.88311.

4.1.5.3 Communication Infrastructure

Table 4.7: *Central Tendecies Measurement of Constructs of Communication Infrastructure*

No		Mean	Standard Deviation
Com1	There is almost little delay between what I do and the website's response when I enter the e-commerce website	4.1500	0.88512
Com2	The e-commerce website is prepared and eager to address the demands of users	4.2633	0.85816
Com3	Customer service representatives of the e-commerce platform are always happy to assist you	4.2767	0.85002
Com4	Queries are immediately addressed to customer service in e-commerce platform	4.2233	0.89599
Com5	The customer service representatives can provide me with accurate service information	4.3600	0.89801

In Table 4.7, Com5 has the highest mean value (4.3600) and Com1 has the lowest (4.1500). Com1 has the highest standard deviation value of 0.89599 and Com3 with the lowest (0.85002).

4.1.5.4 Privacy

Table 4.8: *Central Tendecies Measurement of Constructs of Privacy*

No		Mean	Standard Deviation
Sec1	I value my personal data and privacy.	4.3400	0.92407
Sec2	I will keep using platforms that have strong security towards privacy.	4.3467	0.95017
Sec3	I do not worry about e-commerce platforms sharing my personal data to third parties.	3.0367	1.45455
Sec4	You are not willing to use AI assistant due to security and privacy reasons.	3.3267	1.22131
Sec5	I worry about information data breaches of the E-commerce platform.	3.9567	1.13979
Sec6	My web shopping behaviour information must be protected by the platform.	4.3267	0.90703
Sec7	Securities on financial information such as credit card is my top most priority.	4.3267	0.92166

According to Table 4.8, Sec2 (4.3467) has the highest mean value and Sec3 (3.0367) the lowest. Sec3 has the highest standard deviation number (1.45455), followed by Sec6 with the lowest (0.90703).

4.1.5.5 User Experience

Table 4.9: *Central Tendecies Measurement of Constructs of User Experience*

No		Mean	Standard Deviation
UX1	I prioritize my experience when using an E-commerce platform.	4.2133	0.85063
UX2	User engagement of the E-commerce platform is important to me.	4.1900	0.90367
UX3	User experience is not my main determinant in evaluating an E-commerce platform	2.7667	1.35832
UX4	User experience is not my main determinant in evaluating an E-commerce platform.	4.3167	0.87116
UX5	I will continue using E-commerce platforms that provide good experience.	4.3533	0.86273

In Table 4.1.4.5, UX5 (4.3533) has the highest mean value, while UX3 (2.7667) has the lowest. UX3 has the highest standard deviation value of 1.35832, while UX1 has the lowest at 0.85063.

4.2 Reliability of Study

Table 4.10: (Main Study)

Result of Reliability

Variable	Cronbach's Alpha	No. of items	Results of Reliability
Technological Innovations	.635	5	Good
Communication Infrastructures	.859	5	Excellent
Privacy	.843	5	Excellent
User Interface (UI) Design	.739	7	Good
User Experience Good	.718	5	Good

Table 4.10 shows that the Cronbach Alpha values for Privacy (IV) at 0.843 and Communication Infrastructures (IV) at 0.859 are reliable with excellence. Reliability is deemed good for User Interface (UI) Design (IV) at 0.739 and Technological Innovations (IV) at 0.635 (Glen, 2021).

4.3 Inferential Analysis

4.3.1 Pearson Correlation Coefficient

Pearson Correlation coefficient will be incurred in inferential analysis. It is used to identify the correlation between the variables. Because both variables (IV and DV) are on a Likert scale, this approach is best suited for measuring their connection.

4.3.1.1 Correlation between User Interface Design and User Experience

Table 4.11: Correlation between User Interface Design and User Experience

Correlations

		UIAVE	UXAVE
UIAVE	Pearson Correlation	1	.745**
	Sig. (2-tailed)		.000
	N	300	300
UXAVE	Pearson Correlation	.745**	1
	Sig. (2-tailed)	.000	
	N	300	300

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

Table 4.9 shows a positive bivariate correlation of 0.745 between user interface design and user experience. This value falls within the coefficient range of ±0.60 to ±0.80, indicating a strong

relationship. Furthermore, there is a substantial relationship between user interface design and user experience (p-value <0.001, alpha = 0.01).

4.3.1.2 Correlation between Technological Innovation and User Experience

Table 4.12: Correlation between Technological Innovation and User Experience

Correlations

		TechAVE	UXAVE
TechAVE	Pearson Correlation	1	.599**
	Sig. (2-tailed)		.000
	N	300	300
UXAVE	Pearson Correlation	.599**	1
	Sig. (2-tailed)	.000	
	N	300	300

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

Table 4.12 shows a positive bivariate correlation of 0.599 between technological innovation and user experience, indicating a moderate association. Moreover, The p-value of <0.001 indicates a significant association.

4.3.1.3 Correlation between Communication Infrastructure and User Experience

Table 4.13: Statistics of Correlation between Communication Infrastructure and User Experience

Correlations

		ComAVE	UXAVE
ComAVE	Pearson Correlation	1	.744**
	Sig. (2-tailed)		.000
	N	300	300
UXAVE	Pearson Correlation	.744**	1
	Sig. (2-tailed)	.000	
	N	300	300

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

Table 4.13 shows a positive correlation (0.744) between communication infrastructure and user experience, considering strong correlation with a range of ±0.60 to ±0.80. There is a substantial association between them, with a p-value of <0.001 (less than 0.01).

4.3.1.4 Correlation between Privacy and User Experience

Table 4.14: Statistics of Correlation between Privacy and User Experience

Correlations

		SecAVE	UXAVE
SecAVE	Pearson Correlation	1	.739**
	Sig. (2-tailed)		.000
	N	300	300
UXAVE	Pearson Correlation	.739**	1
	Sig. (2-tailed)	.000	
	N	300	300

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

Table 4.14 proves a strong positive digit with 0.739 between privacy and user experience. The substantial relationship between privacy and user experience is supported by a p-value of <0.001, which is lower than the alpha value of 0.01.

4.3.2 Multiple Regression Analysis

Table 4.15:

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.831[a]	.691	.687	.37923	.691	165.054	4

1 Predictors: (Constant), UIAVE, TechAVE, ComAVE, SecAVE

2. UXAVE, Dependant Variable

Table 4.15 reveals a correlation coefficient (R value) of 0.831, indicating a high positive association between the dependent and independent variables. Furthermore, the Rsqaure value of 0.691 indicates that the independent variables account for 69.1 percent of the variation in the target variable. In linear regression models, a Rsquare value greater than 0.691 implies a strong goodness-of-fit, indicating that the model is explaining a significant fraction of the data variation.

4.4 Chapter Summary

This chapter summarises the results of a descriptive study using SPSS software to analyse respondents' demographics. The study findings back up the investigations and demonstrate a link with the theories. The mean and standard deviation numbers were also shown above. Additionally, variables with alpha values greater than 0.60 are deemed reliable, while those with alpha values greater than 0.70 are considered excellent. Thus, the variable results are acceptable. The variables' significant correlations were then examined using Pearson Correlation Analysis.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

According to summary of statistical analysis from chapter 4, this topic discusses major findings, study implications and limits, makes recommendations for future research, and concludes the project.

5.1 Discussion of Major Findings

5.1.1 User Interface (UI) and User Experience (UX)

After conducting an analysis, our study showed there is a significant relationship between user interface (UI) and user experience (UX) with the reliability test showing that the p-value is <0.001. This is supported by Gunawan et al. (2021), who stated that user interface will directly affect user experience. According to the team's journal reviews, users of various e-commerce sites who review the designs stated that good user experience comes from a good design due to the ease of use which is one of desired UI elements, and user friendliness. Muslim et al. (2019), mentioned UX is frequently correlated with UI as both are part of each other. UX emphasized on elements that influence the users' path to problem solving regardless of in or out of device, while UI is focused on functionality and appeal of the visual. To sum it up, the

hypothesis H1 is accepted due to the significant relationship between user interface (UI and user experience (UX).

H1: There is a significant relationship between user interface and user experience of e-commerce platforms.

5.1.2 Technological Innovation and User Experience (UX)

In regards to this study, it is found that there is a significant relationship between technological innovation and user experience (UX) due to the p-value of <0.001 in reliability test. The technologies in question are VR and AR that some are yet to gain popularity in the e-commerce scene. However, to support our study, Vusic et al., (2024) provided valuable insights that AR and VR can indeed significantly influence the UX in e-commerce. The respondents of their study displayed high level support in the statement mostly by high average ratings. In addition, 73.1% of their respondents agree that AR usage can help enhance practicality during online shopping.

Furthermore, Nimbalkar & Berad (2021), AI tool such as AI personalization can provide consistency in UX on all device due to AI's ability to generate product recommendations to users. In terms of customer service, Song et al., (2019) mentioned AI chatbots' ability to optimize UX by solving repeated consultation issues. Overall, hypothesis H1 is accepted.

H1: There is a significant relationship between technological innovation and user experience of e-commerce platforms

5.1.3 Communication Infrastructure and User Experience (UX)

The study outcome shows the significant relationship between communication infrastructure and user experience. As mentioned by Abdillah (2020), the communication infrastructure is the component that improves the internet users in surfing the ecommerce website. It embodies in the ecommerce platforms constitutes advanced communication infrastructure to efficiently operate and follow the trend of electronic payment for the users. Besides, the reliability of communication infrastructure may improve the antecedent's customer service and information quality, increasing customer satisfaction (Miao et al., 2021).The importance of the effective communication infrastructure encompasses the network operations used to operate e-commerce businesses and optimize user experience.In short, H1 is accepted.

H1: There is a significant relationship between communication infrastructure and user experience of e-commerce platforms.

5.1.4 Privacy and User Experience (UX)

There is a significant relationship between privacy and user experience (UX) in our analysis with p-value of <0.001 in the reliability test. This can be supported by Tao et al. (2024), who mentioned a rise of privacy and security issues in e-commerce which is becoming more significant as online shopping soars in popularity. Security on user's privacy is essential as it instills trust and confidence in customers. Strong security practices indicate the platform's upheld integrity in protecting users' data from various cyber threats and not misusing them which increases the overall trustworthiness among users (Oguta, 2024). The trustworthiness can influence users' emotion which is a dimension of UX. In short, H1 is accepted.

H1: There is a significant relationship between privacy and user experience of e-commerce platforms.

5.2 Implication of the Study

5.2.1 Theoretical Implication

The TAM is used in this study to investigate the variables toward UX. This model's objective is to understand the user acceptance process towards a technology. With these insights, implementing an information system can be done successfully. TAM theory set out a necessary attention to this study pertaining UX that contributes to the researchers' motive to understand the level of technological acceptance displayed by respondents (Perlman, 2021). UX is one of the important factors affecting consumer expectations during online purchases, so e-commerce players need to considerate about it. By designing a secured updated platform with seamless shopping experience, users would be satisfied and in acceptance (Kalia et al., 2022).

5.2.2 Practical Implication

5.2.2.1 User Interface (UI)

In our study, we've found there is a significant relationship between user interface (UI) and user experience (UX). A research by Muslim et al., (2019), suggested a need to redesign UI to increase attraction and performance for applications with low user engagement, user satisfaction, and outdated UI designs. The designs of an UI include the color choice, font, layout, and structure. UI is the face of a platform which will be the first thing experienced by

users. Fonts should be easy to read with appropriate fonts, (eg. Roboto font, font size 12 for body, 14 for title) A well designed UI can retain users as all the needs of users are achieved (Vlasenko, et al., 2022).

It is clear that UI is influential to UX; however, there are generational preferences on how UI is designed. In the context of Gen Zs, it is argued that minimalism is appreciated, that includes reduction of unnecessary details, elements arrangement to show only ones with importance, monochromatic color palettes and other restricted elements that offers the least distraction (Carlsson, 2019; Vlasenko, et al., 2022).

5.2.2.2 Technological Innovation

In this study, a significant relationship between technological innovation and user experience (UX) is found. Big players of e-commerce are currently integrating AI to increase competitiveness such as Alibaba and Amazon. In the wake of AI becoming a driving force in e-commerce, platforms can utilize customer-oriented AI tools such as AI assistant, deep personalization, automated data tracking, AI recommendation system, and automated purchase handling system that can further establish a better customer relationship management. These AI functions may be beneficial for the platforms but with the cost of protecting users' data to retain their trusts. (Xia Song et al., 2019; Singh, 2021).

According to Syed et al., (2021), designing an immersive AR/VR feature (eg. virtual dressing room) is important to increase engagement and interaction which is the main purpose. Designers should ensure system is safe and comfortable for users such as reducing dizziness which can offer a good physiological experience. The usage of AI, AR and VR is expected to be the mainstream in the not-so-distant future, with the rapid progress of technological research (Xia Song et al., 2019).

5.2.2.3 Communication Infrastructure

Communication Infrastructure and user experience are interactive based on the result. According to Gulfraz et al. (2022), E-commerce platforms should consider advancing communication networks when designing and implementing customer experience and management strategies. This includes increasing information transparency and using marketing communications to inform customers rather than manipulate them. Since technology arises, the Internet and e-commerce have created several opportunities for both businesses and consumers globally. Meanwhile, acceptance of mobile apps improves customer service delivery. Positive consumer impressions of service quality have emerged as mobile business applications become more widely used. Organisations that prioritise innovation foster good consumer perceptions of their brand and services (Khrais & Alghamdi, 2021).

5.2.2.4 Privacy

The results demonstrate a significant relationship between privacy and user experience (UX), indicating the importance of privacy and security of users' data. To reduce users' concerns on privacy, e-commerce managers should put more effort in providing effective privacy safeguards when collecting, storing and processing sensitive personal data than non-sensitive data. Platforms should also consider adding features that promotes perceived privacy control (Tao et al., 2024). Transparency provides relief to users, so app developers should disclose how they handle data and their data protection policies. In policy maker's perspective, there ought to be a need to increase user awareness for both consumer users and institutions regarding privacy such as disclosing how some information may not be protected if there is a threat (Jozani et al., 2020).

5.3 Limitations of Study

In the course of our research, there were some limitations discovered. First, this research is subject to time constraints. This may affect our ability to achieve the larger desired number of respondents for this study.

Apart from that, our data collection method may also be a limitation due to its potential data inaccuracies. There is only one data collection method used in this study which is by distributing questionnaires or surveys to target participants via Google Form. This method may be very quick and efficient in collecting data from our Gen Z respondents throughout Malaysia; however, all of our questions are close ended that may lead to some data inaccuracies. This is because some respondents may subject to response bias which signifies respondents' tendency to inaccurately answer the questionnaires for the sake of getting it done. The lack of face-to-face interactions with respondents may cause some scepticism regarding the genuinity of the response.

The next limitation is in the respondent demographics of the study. There is an imbalance in terms of ethnicity among the respondents with Chinese being the largest portion of the sample, representing 86.7% of the total respondents. While Indian at 7%, Malay at 3.3% and others at 3%. This high disparity is mostly due to the convenience sampling methods used by researchers. The research is conducted on an education institution that is predominantly Chinese students and questionnaires are also distributed in Chinese online forums.

5.4 Recommendations for Future Research

There are few recommendations to be discussed in this research to further expand the topic regarding Gen Zs on E-commerce and to rectify the limitations found in this research. The first recommendation is balancing the demographics including ethnicity among the Gen Z respondents to avoid bias. Each demographic may have different culture and view towards aspects of e-commerce, so diversified respondents is recommended.

Moreover, researchers are ought to conduct the data collection with mixed methods with both qualitative and quantitative questions that allow accurate results to be obtained. For example, online focus group. This way, researchers can interact with the respondents clearly to gauge a genuine response to increase accuracy of data.

Future research may delve deeper as separated research on each variable to better understand them such as aspects on minimalism UI designs (preference on colours, fonts, layouts etc.) and what features of AR/VR Gen Z seeks. With this, researchers can identify the preferences of Gen Z deeper.

5.5 Chapter summary

In summary, the objective of this investigation was to find the attributes that significantly influence the UX on e-commerce platforms. This would result in a more comprehensive understanding of UX among Malaysian Gen Z. The results underscore the importance of privacy, communication infrastructures, technological advancements, and user interface design in the process of influencing the online purchasing experience of Generation Z individuals. This research serves as a helpful reference for academics and practitioners in Malaysia who are working towards the goal of improving the UX and security of e-commerce platforms. Its purpose is to address and resolve the study's limitations with our recommendations for future research.

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APPENDICES

Appendix I: Ethical Clearance Form

UNIVERSITI TUNKU ABDUL RAHMAN *DU012(A)*
Wholly owned by UTAR Education Foundation *(200201010564(578227-M))*
Faculty of Business and Finance
Jalan Universiti, Bandar Barat, 31900 Kampar, Perak
Phone: 05-468-8888
https://fbf.utar.edu.my/

18th June 2024

To Whom It May Concern

Dear Sir/Madam,

Permission to Conduct Survey

This is to confirm that the following students are currently pursuing their Bachelor of Business Administration (Honours) program at the Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR) Perak Campus.

I would be most grateful if you could assist them by allowing them to conduct their research at your institution. All information collected will be kept confidential and used only for academic purposes.

The students are as follows:

Name of Student	Student ID
Wong Kah Kit	20ABB02722
Wong Wai Hong	21ABB03921
Dhivyashini A/P P. Raman	21ABB07115

If you need further verification, please do not hesitate to contact me.

Thank you.

Yours sincerely,

.....

Dr Siti Fazilah Binti Abdul Shukor
Head of Department
Faculty of Business and Finance
Email: sitifazilah@utar.edu.my

Administrative Address: Jalan Sg. Long, Bandar Sg. Long, Cheras, 43000 Kajang, Selangor D.E.
Tel: (603) 9086 0288 **Homepage: https://utar.edu.my/**

Appendix II: SSPS Outputs

```
FREQUENCIES VARIABLES=Gender Ethnicity EmploymentStatus Timesvisit
 /PIECHART FREQ
 /ORDER=ANALYSIS.
```

Frequencies

Statistics

		Gender	Ethnicity	Employment Status	Time visit
N	Valid	300	300	300	300
	Missing	0	0	0	0

Frequency Table

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	122	40.7	40.7	40.7
	Female	169	56.3	56.3	97.0
	Prefer not to say	9	3.0	3.0	100.0
	Total	300	100.0	100.0	

Ethnicity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	10	3.3	3.3	3.3
	Chinese	260	86.7		
	Indian	21	7.0	7.0	97.0
	Others	9	3.0	3.0	100.0
	Total	300	100.0	100.0	

Employment Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Permanent	64	21.3	21.3	21.3
	Part time	81	27.0	27.0	48.3
	Unemployed	155	51.7	51.7	100.0
	Total	300	100.0	100.0	

Reliability

```
[DataSet1] C:\Users\Wong Kah Kit\Downloads\FYP analysis latest_v2.sav
```

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.635	5

```
RELIABILITY
  /VARIABLES=Tech1 Tech2 Tech3 Tech4 Tech5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.859	5

```
RELIABILITY
  /VARIABLES=Com1 Com2 Com3 Com4 Com5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.843	5

```
RELIABILITY
  /VARIABLES=Sec1 Sec2 Sec3 Sec4 Sec5 Sec6 Sec7
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.739	7

```
RELIABILITY
  /VARIABLES=UX1 UX2 UX3 UX4 UX5
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA.
```

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	300	100.0
	Excluded[a]	0	.0
	Total	300	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.718	5

Descriptive Statistics

	Mean	Std. Deviation	N
UXAVE	3.9680	.67782	300
UIAVE	3.8000	.67878	300
TechAVE	4.0933	.79401	300
ComAVE	4.2547	.68774	300
SecAVE	3.9514	.68114	300

Correlations

		UXAVE	UIAVE	TechAVE	ComAVE	SecAVE
Pearson Correlation	UXAVE	1.000	.745	.599	.744	.739
	UIAVE	.745	1.000	.654	.691	.708
	TechAVE	.599	.654	1.000	.671	.570
	ComAVE	.744	.691	.671	1.000	.693
	SecAVE	.739	.708	.570	.693	1.000
Sig. (1-tailed)	UXAVE	.	.000	.000	.000	.000
	UIAVE	.000	.	.000	.000	.000
	TechAVE	.000	.000	.	.000	.000
	ComAVE	.000	.000	.000	.	.000
	SecAVE	.000	.000	.000	.000	.
N	UXAVE	300	300	300	300	300
	UIAVE	300	300	300	300	300
	TechAVE	300	300	300	300	300
	ComAVE	300	300	300	300	300
	SecAVE	300	300	300	300	300

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	SecAVE, TechAVE, ComAVE, UIAVE[b]	.	Enter

a. Dependent Variable: UXAVE

b. All requested variables entered.

Model Summary[b]

					Change Statistics		
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1
1	.831[a]	.691	.687	.37923	.691	165.054	4

Model Summary[b]

Model	Change Statistics	
	df2	Sig. F Change
1	295	.000

a. Predictors: (Constant), SecAVE, TechAVE, ComAVE, UIAVE

b. Dependent Variable: UXAVE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	94.948	4	23.737	165.054	.000[b]
	Residual	42.425	295	.144		
	Total	137.373	299			

a. Dependent Variable: UXAVE

b. Predictors: (Constant), SecAVE, TechAVE, ComAVE, UIAVE

Coefficients[a]

Model		95.0% Confidence Interval for B	
		Lower Bound	Upper Bound
1	(Constant)	-.028	.552
	UIAVE	.205	.410
	TechAVE	-.062	.095
	ComAVE	.211	.414
	SecAVE	.191	.387

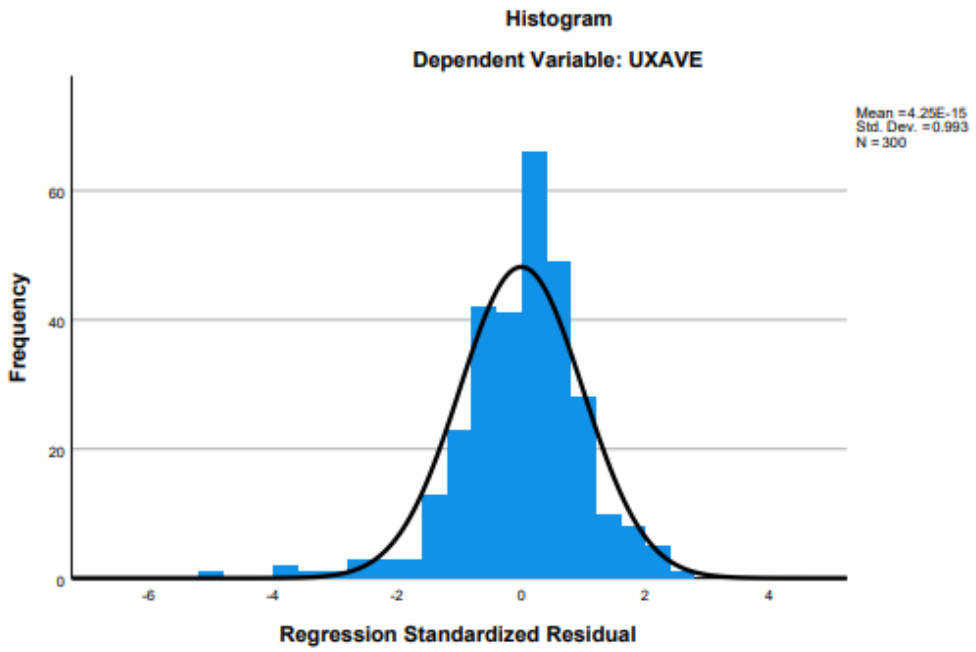
a. Dependent Variable: UXAVE

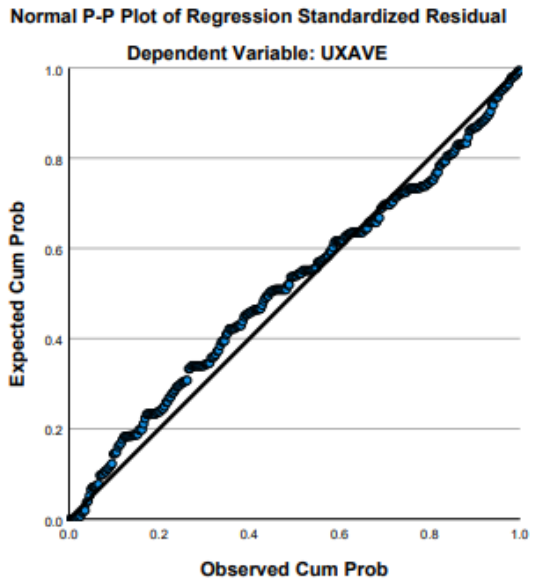
Residuals Statistics[a]

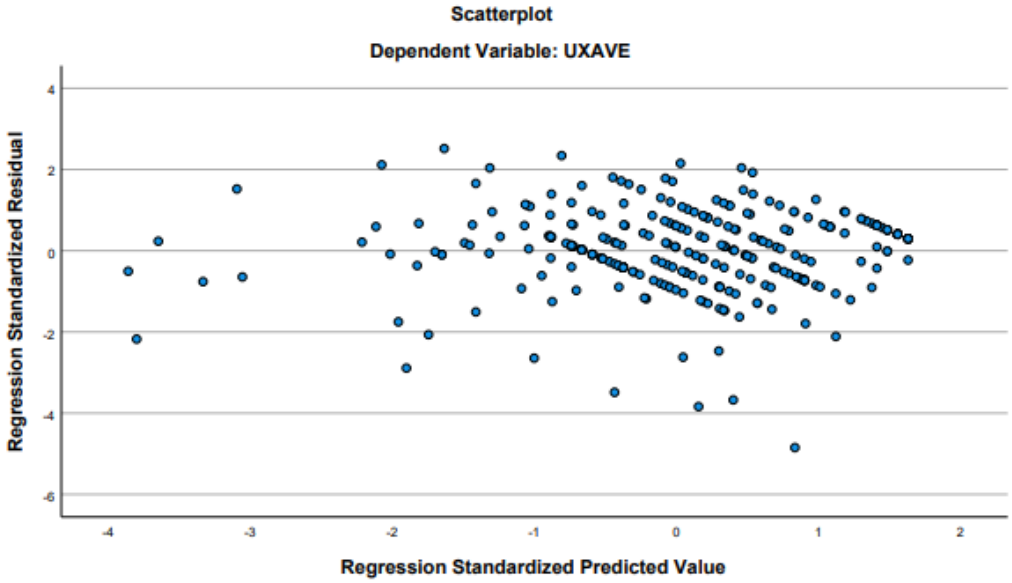
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.7919	4.8875	3.9680	.56352	300
Std. Predicted Value	-3.862	1.632	.000	1.000	300
Standard Error of Predicted Value	.022	.136	.045	.018	300
Adjusted Predicted Value	1.8115	4.8888	3.9680	.56327	300
Residual	-1.83846	.95371	.00000	.37668	300
Std. Residual	-4.848	2.515	.000	.993	300
Stud. Residual	-4.992	2.546	.000	1.006	300
Deleted Residual	-1.94955	.97754	.00002	.38673	300
Stud. Deleted Residual	-5.209	2.570	-.002	1.016	300
Mahal. Distance	.053	37.347	3.987	4.931	300
Cook's Distance	.000	.301	.005	.022	300
Centered Leverage Value	.000	.125	.013	.016	300

a. Dependent Variable: UXAVE

Charts




Normal P-P Plot of Regression Standardized Residual
Dependent Variable: UXAVE
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Scatterplot
Dependent Variable: UXAVE
Regression Standardized Residual
Regression Standardized Predicted Value
4
2
0
-2
-4
-6
-4
-3
-2
-1
0
1
2

Appendix III: Questionnaires

Digital Economy: The Influence of Generation Z's Experience on E-Commerce Platform

Dear respondents, we are students of UBMZ3016 Final Year Project BA-Batch29 – FYP I students in 202401 from Universiti Tunku Abdul Rahman (UTAR). The purpose of this study is to investigate the factors that may influence E-Commerce platform user experience among Generation Z in Malaysia.

There are FOUR (5) sections in this questionnaire. Section A is on demographics. Section B, C, D, E and F will cover all the variables in this study.

Please read the instructions carefully before answering the questions. Please answer ALL questions in ALL sections. Completion of this questionnaire will take you approximately 5 to 10 minutes. Your participation in this study is entirely voluntary; however, you may withdraw any time without any consequences. The information collected from you will be kept strictly private and confidential. All responses and findings will be used solely for academic and research purpose.

Your assistance in completing this questionnaire is very much appreciated. Thank you for your participation.

If you have any question regarding this questionnaire, you may contact at 011-101 42180 (Wong Kah Kit). If you decided to complete this attached questionnaire, this will be taken as a voluntary agreement and formal consent of participation in the study. Thank you very much for your cooperation and willingness to contribute to our study.

Yours sincerely,
Wong Kah Kit
Wong Wai Hong
Dhivyashini A/P Raman

PERSONAL DATA PROTECTION NOTICE

Please be informed that in accordance with Personal Data Protection Act 2010 ("PDPA") which came into force on 15 November 2013, Universiti Tunku Abdul Rahman ("UTAR") is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes:

   a) Name
   b) Identity card
   c) Place of Birth
   d) Address
   e) Education History
   f) Employment History
   g) Medical History
   h) Blood type
   i) Race
   j) Religion
   k) Photo
   l) Personal Information and Associated Research Data

2. The purposes for which your personal data may be used are inclusive but not limited to:

   a) For assessment of any application to UTAR
   b) For processing any benefits and services
   c) For communication purposes
   d) For advertorial and news
   e) For general administration and record purposes
   f) For enhancing the value of education
   g) For educational and related purposes consequential to UTAR
   h) For replying any responds to complaints and enquiries
   i) For the purpose of our corporate governance
   j) For the purposes of conducting research/ collaboration

3. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

4. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

5. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated.

Section A: Demographic Profile

1. Name:

2. Email Address:

3.Gender:
- Male
- Female

4. Age:
- 12-17
- 18-22
- 23-27
- 28

5. Ethnicity:
- Malay
- Chinese
- Indian
- Others:

6. Employment status
- Permanent
- Part time
- Unemployed

7. How often do you visit/use E-commerce platforms?
- Once every few months
- At least once a month
- More than twice a month
- More than four times a month

Section B: User Interface Design

Based on your experience in e-commerce platforms, please choose the most appropriate option that best indicate your agreement level about the following statement.

Level of agreements:

1- Highly Disagree
2- Disagree
3- Neutral
4- Agree
5- Highly Agree

i. The User Interface (UI) design is important to catch my attention.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

ii. I prefer simplistic UI web design with less words than a complex design with more words.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iii. I prefer bright vibrant colours than darker toned colours in a UI design.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iv. I prefer UI with consistent colour schemes.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

v. UI with overcrowded designs and images will lose my interest.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

Section C: Technological Innovation

Based on your experience in e-commerce platforms, please choose the most appropriate option that best indicate your agreement level about the following statement.

Level of agreements:

1- Highly Disagree

2- Disagree

3- Neutral

4- Agree

5- Highly Agree

i. Technology such as Augmented Reality (AR), Artificial Intelligence (AI), or Virtual Reality (VR) can affect my experience.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

ii. I would enjoy Augmented Reality (AR), Artificial Intelligence (AI), or Virtual Reality (VR) being incorporated into e-commerce platforms.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iii. Augmented Reality (AR) and Virtual Reality (VR) allows me to visualize the products better.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iv. I appreciate personalized recommendations from AI based on your purchase behaviour.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

v. I would appreciate AI chatbot assistant for help on enquiries.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

Section D: Communication Infrastructure

i. There must be little to no delay between what I do and the website's response when entering the e-commerce website.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

ii. The e-commerce platform should be prepared and eager to address any demands of users.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iii. I do not worry about e-commerce platforms sharing my personal data to third parties.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iv. You are not willing to use AI assistant due to security and privacy reasons.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

v. I worry about information data breaches of the E-commerce platform.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

vi. My web shopping behaviour information must be protected by the platform.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

vii. Securities on financial information such as credit card is my top most priority.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

Section F: User Experience

Based on your experience in e-commerce platforms, please choose the most appropriate option that best indicate your agreement level about the following statement.

Level of agreements:

1- Highly Disagree
2- Disagree
3- Neutral
4- Agree
5- Highly Agree

i. I prioritize my experience when using an E-commerce platform.
- Highly Disagree
- Disagree
- Neutral

- Agree
- Highly Agree

ii. User engagement of the E-commerce platform is important to me.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iii. User experience is not my main determinant in evaluating an E-commerce platform.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

iv. I will continue using E-commerce platforms that provide good experience.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree

v. I will be loyal to platforms that provide good experience to me consistently.
- Highly Disagree
- Disagree
- Neutral
- Agree
- Highly Agree