Perception of University M Undergraduate Students in Off-Campus Residential Area towards Online Scamming: A Case Study

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Abstract

Perception of online scamming is crucial for university students. At University M, undergraduate students are encountering online scams. This study investigates the opinions of University M undergraduates living in off-campus student housing. Multistage sampling is employed to create clusters and sub-clusters within the sample, and statistical methods such as frequency analysis, factor analysis, and descriptive statistics are utilized. Data analysis is conducted using the Statistical Package for Social Science (SPSS) and Excel. The sample comprises University M undergraduates residing in off-campus housing who completed a questionnaire, serving as the data source for this research. The study examines the awareness of online scamming among University M undergraduates in off-campus housing, identifies major factors contributing to online scamming, and explores effective ways to prevent it. The results indicate that the primary factors influencing students' experiences with scams are technological tools, lack of awareness, and human factors. Findings reveal that the majority of students have encountered scams before and that students living in off-campus housing exhibit high awareness of online scamming. The preferred method for avoiding scams among these students is exercising caution with personal information.

Keywords: perception, online scamming, undergraduate students

INTRODUCTION

Being conscious and aware of oneself and the environment is the state of being in the word "awareness." Recognising ideas, feelings, sensations, and outside inputs is necessary. The ability to understand one's own ideas, feelings, and behaviours promotes self-reflection and personal development, which is why awareness is so important. It also makes it possible to be understanding and empathetic towards others, which improves interactions and communication. By developing awareness, people can live more purposefully in the present moment, make better decisions, and connect with themselves and their surroundings on a deeper level, all of which contribute to a more rewarding and meaningful life. Raising awareness about online scams is critical for equipping people to protect themselves and make informed decisions while navigating the online world.

University M undergraduate students living in off-campus housing are increasingly vulnerable to online scams, posing a significant challenge to their financial security and personal information safety. Despite the prevalence of these scams, there is limited research on the specific factors that contribute to the susceptibility of these students to online fraud. This study seeks to address this gap

by exploring the awareness levels, major contributing factors, and preferred preventative measures among University M undergraduates residing off-campus. Understanding these elements is crucial to developing effective strategies to enhance students' protection against online scams and to educate them on safeguarding their personal information.

Inspector-General of Police Tan Sri Acryl Sani Abdullah Sani claims that 13,703 scam cases totalling RM539 million were reported in 2019. The next year, it rises to 17,227 instances, and losses of RM511.2 million are reported in 2020. Twenty,701 fraud instances totalling RM560.8 million in losses were reported in 2021. (M. Basyir, 2022) With the increasing of online scamming cases, there are some actions that should be done by University M management team or Student Representative Council (MPP). For example, awareness talk should be conducted to give the information to University M Students to avoid the problem continuing to occur in the future.

The lack of internet users' knowledge and comprehension of the different scams and fraudulent practices that take place online is known as awareness of online scamming. Because they are unaware of the tricks used by con artists, many people fall for online scams including phishing, identity theft, phony websites, fraudulent emails, and others. People are less likely to provide sensitive information or fall for fraudulent schemes since they are less aware of warning indications and red flags. This ignorance poses serious threats to one's personal and financial security, necessitating initiatives and educational efforts to equip users with the information and abilities to defend themselves against online scams. Although AI technology and internet have improved our daily life, there some people use this technology to conduct criminal case which is online scamming.

According to Ademolawa Ibrahim Ajibade an ex-Banker & Defi Research Analyst (Ajibade, 2023), the online scams can have a number of negative impacts on young people which is financial loss, difficulty in recovering lost funds, loss of trust, impact on credit score and impact on mental health. Being scammed has several detrimental effects, including losses in money and, occasionally, psychological effects. This study therefore aims to investigate University M undergraduate students' awareness of online scamming in the off-campus student residential area. Thus, the objectives of this study are;

a) To identify the major factor that effect University M undergraduate student in off-campus student residential area experience scam.
b) To examine the awareness University M undergraduate student in off-campus student residential area toward online scamming.
c) To identify the effective way to avoid online scamming among University M undergraduate student in off-campus student residential area.

LITERATURE REVIEW

Online scamming has become a severe problem that face by Malaysia citizen. Not only involve which public or adult people, in university students also experience scam. So, awareness of online scamming is very important to help all of us to avoid experience scam as specially for university students. Through this awareness of online scamming, it may help each of us to reduce the rate of experience scamming. Therefore, this study on awareness of online scamming will be conduct among University M undergraduate students.

2.2 Factor of Online Scamming

2.2.1 Awareness of Online Scamming

The CEO of Touch N Go (TNG) Digital says Malaysians should be aware of their rights as customers to prevent becoming victims of online scams. He claimed that phoney websites, internet scams, and e-wallet applications were to blame for the majority of individuals falling prey to frauds and scams. Other than that, there is not enough emphasis on promoting consumer education and awareness in order to reduce the frequency of frauds and scams in the marketplace. According to him, a person has a lower probability of being scammed the more informed they are. TNG produced the instructional series "Cashless Confidential" to educate people about online safety and security in an effort to increase public awareness.

Reduced awareness among internet users is attributed to a number of issues, including the inadequacies of current educational initiatives, the convoluted public policy response to cybercrime, and inadequate online safety measures that may fail to alert end users to new cybersecurity dangers and attacks. (Australia Parliament House of Representatives Standing Committee on Communications, 2010).

2.2.2 Scamming as an Undergraduate Service Learning Topic Involving Older Adults

A lot of college students clearly like people who are younger than them. It is hard to explain to these kids that the idea of becoming an adult applies to everyone over the age of thirteen, regardless of age. Many college students in healthcare programmes have skewed ideas about getting older and may not fully understand that all people may have things in common with each other. Qualitative analyses of comments from older adult students who were taking a college psychology course with a service-learning component.

The service learning lessons were mostly about how theft and scams hurt people. The classroom was set up like a round table, where college students, older adults, and neighbourhood police officers could talk to each other directly. The course material (developing as an adult) was incorporated into this service learning project through reflective practices (Getz, 2021).

2.2.3 Two Form of Internet Crime

Phishing, as seen from the victims' perspective, and Internet cheating, as seen from the criminals' perspective, are two prominent types of criminal conduct on the internet. The Internet has developed into a sophisticated, dynamic, global network of connected computers and data.

People utilise the Internet for reading, shopping, communicating with each other (via social media, email, and instant messaging), and other purposes because it's so widespread. It upholds many facets of society and facilitates communication and personal development, but it has also turned into a haven for crimes committed worldwide (Lee & Hovorka, 2015).

2.2.4 Spamming and Scamming

People on the Internet now use the word "spam" to refer to business or bulk e-mail that was not asked for. The word itself is not very clear, though. A single definition is a scam email that makes a false business offer. Another meaning that most people agree on includes all spam emails. Spam refers to "huge volumes of unsolicited messages, irrespective of content" (Mulligan, 1999).

There are some other details that need to be considered. Some people might not consider unsolicited emails from groups asking for money for relief projects to be spam. Also, information that someone finds useful from a source like the authors of an e-zine might not be seen as spam. It's clear that what one-person thinks is spam might not be considered spam for someone else.

2.2.5 Online Romance Scams

Physical, social, and psychological obstacles to forming romantic connections can be surmounted with the help of digital communication tools. With the rise of social networking sites and dating applications, online romance scams have become a common modern deception in Western nations. The con artist uses a false online persona to lure the victim into a love connection that lasts for six to eight months. Through manipulation, the scammer forges a strong emotional bond with the victim in order to extract financial resources. A possible underestimating of the number of incidents could result from the victim's guilt upon learning of the scam, which is one of the two noteworthy traits. The other is the twin trauma of loss money and a relationship (Coluccia et al., 2020).

2.3 Effect of Online Scamming and Effective Ways to Avoid Online Scamming

2.3.1 Effects of Online Scamming

In the example of phishing scam, it will bring negative impacts towards an individual, the entire community or even the nation. The obvious effects faced by them will be the financial loss. Meanwhile the financial loss is not limited to monetary loss but also non-monetary such as privacy data and personal information. This will further affect the reputation of a company who faced a phishing attack negatively and risk their customers' data safety (Mohd Zaharon et el., 2021).

While apart from the financial and personal information losses, the online scamming victims also faced several issues that affecting their life. For instance, the scam alike content is more likely to be appeared among four in ten victim's internet surfing experiences. Moreover, some of the victims also reported that their mental health was badly affected after fell into the scam especially those who have really losses their money, and the higher the amount loss, the worse the mental health.

2.3.2 Ways to Overcome Online Scamming

In the online shopping context, several strategies have been made by large e-commerce company such as Shopee. For instance, they introduced a guarantee system, where the Shopee will play as the middle person who holds the payment from consumers and release it to sellers only if the parcels were received. In addition, the merit point system has also been introduced where the sellers who received bad reviews that contain certain keywords such as "spam" will be demerited. Immediate response towards the scam report is also an initiative by the Shopee to investigate the scam report and close the seller account as soon as possible (Arumugan et al., 2022).

2.3.3 Losses Due to Online Scams in Sarawak Almost Doubled

According to Datuk Mohd Azman Sapri a Sarawak Police Commissioner, the number of online fraud cases in Sarawak keeps going up for the first seven months in 2023 where 1,306 cases were recorded. Compared to the year 2022, the number of online scamming cases recorded was 1,161 cases and with the increase of 145 cases in 2023. In year 2023, RM49.3 million was lost to online scams during the same time period as 2022, compared to RM24.7 million. That's a 99.56% rise which almost double up from year 2022.

Three hundred and fifty e-commerce scams cost RM2.8 million, 186 job scams cost RM6.1 million, one hundred and seventy-five loan scams cost RM1.2 million, one hundred and forty-five phone scams cost RM10.1 million, and one hundred and thirteen business scams cost RM15.1 million (Chua, 2023).

2.3.4 Malaysians Likely to Lose RM120mil To Online Scams This Year

According to the Communications and Digital Ministry (KKD), Facebook scams cost Malaysians a total of RM80 million and RM92 million in 2021 and 2022, respectively. The total losses as of June 2023 were RM60 million. By the end of the year, they will exceed RM120 million if current trends continue. Conversely, victims from Malaysia lost RM20 million and RM25 million on Instagram in 2021 and 2022, accordingly.

According Teo Nie Ching, the Deputy Minister, it will be less common for people to use Meta to run scams if it strictly enforces its rules. In a roundabout way, this cuts Meta's earnings. In addition to Facebook, the tech giant also runs Instagram and WhatsApp. In her speech she asked them to make sure that users stay safe on their platform (Lee, 2023).

METHODOLOGY

This section discusses the data collection procedure. The instrument for data collection is questionnaire. The sampling technique used is multistage sampling. The population in the study is A231 University M undergraduate students in off-campus student residential area. Frequency analysis was used in the analysis. For example, Pareto charts and bar charts were used to identify the awareness of University M undergraduate students toward online scamming while boxplots displayed on social media and online shopping towards the University M undergraduate student experience scam. Furthermore, factor analysis was conducted to identify the major factor that effect University M undergraduate students experience scam and the effective way to avoid online scamming among University M undergraduate students. Moreover, simple descriptive statistics analysis was used to investigate whether the social media and online shopping affected the University M undergraduate student experience scamming. Statistical Package for Social Science (SPSS) and Excel software are the statistical tools used in data analysis for this study.

3.1 Data Collection

This research is an exploratory research in nature. An exploratory study is a type of research that involves gathering information via direct observation or experience. It's used to answer empirical inquiries that need to be well-stated and supported by facts. Primary data will be used and collected through an online platform. The respondents are semester A231 University M undergraduate students in off-campus student residential area. Online survey was done by distributing questionnaires which are in the google form and shared between University M undergraduate students in off-campus student residential area. At the same time as the responses are gathered, the data will be collected and updated via google form. Using questionnaires allows for direct insights from University M students living off-campus, capturing their experiences and awareness of online scams. Additionally, questionnaires enable quick data collection from many students, facilitating robust analysis with tools like SPSS and Excel for reliable and generalizable findings.

In the questionnaire, there are 5-points scale, close-ended and open-ended questions. The 5-point scale is in the arrangement of agreement from (1) Strongly disagree to (5) Strongly agree. There are five sections in the questionnaire which are respondent's demographic, the awareness University M undergraduate students in off-campus student residential area toward online scamming, factor that effect University M undergraduate students in off-campus student residential area, effective way to avoid online scamming and the social media and online shopping affect. The purpose and process of online survey will be explained to the respondents, along with the instructions of filling questionnaire and the confidential and anonymity of the data gathered. Besides that, the questionnaire will keep short and simple. This will allow participants to answer it within five minutes and be able to get the response at a higher rate.

3.1.1 Sample Size and Sampling Method

Multistage sampling is the chosen sampling method. Multistage sampling is a sampling strategy that divides the population into groups (or clusters) for the purpose of conducting research. This sophisticated kind of cluster sampling is also known as multistage cluster sampling. In order to facilitate the collection of primary data, significant clusters of the selected individuals are separated into sub-groups throughout this sampling approach (Bhat, 2023). Therefore, University M undergraduate students in off-campus student residential area will be the population of the study. Off-campus student residential area which is the student residential area out from the University M campus area.

First of all, in off-campus student residential area having a total about 15 street. For the first step, in each street 8 houses where chose with the odd house number for the data collection. In each street it is about 16 houses. Next, the selection of the respondent, every student who stay in the second room of the house will be needed to fill up the google form for the research or data collection. There are two type of room which is 2 students stay in one room and 3 students stay in one room. As the result, in off-campus student residential area each house having 5 to 6 students and one street has about 25 houses. It about 1,056 students stay in off-campus student residential area. For multistage sampling, some of the students that stay in off-campus student residential area is selected to carried out research.

To calculate the ideal sample size, the margin error and confidence interval are required to be determined. The margin of error tells us how many percentage points will result from the population's actual value. It is also the amount of error that we can tolerate. The confidence interval measures how definite or uncertain a sampling technique is. The range of numbers that we are fairly confident our real value falls in is known as the confidence interval.

Therefore, we assume there is a 5% error and the confidence interval are 95%. Thus, the sample size is calculated by using Cochran formula with finite population correction (Stephanie Glen, 2021) as follows:

$$\approx 270.2234 = 271$$

Thus, two hundred seventy-one (n=271) samples who fill in the questionnaire will be selected and used as sources of data in the research.

3.3 Method of Data Analysis

In this study, a few tests will be used to analyze the data that have been obtains from this research. At first, pilot test analysis has done to check the reliability and validity of questionnaire. After all variables are reliable, descriptive analysis will be done which to show the frequency and percentage of respondents based on their demographic characteristic. Besides, frequency analysis, factor analysis and logistics regression analysis will be used to analyses to achieve the objectives.

3.3.1 Pilot Test Analysis

Pilot test analysis is important to test the survey questionnaire before using it to collect data. Pretesting and piloting can be used to identify questionnaire issues that could produce biased results, such as questions that participants don't understand. According to Tavakol and Dennick (2011), Alpha was developed by Lee Cronbach in 1951. The scale measurement of alpha is expressed as a number between 0 and 1. 12 respondents will participate in the pilot test, which is expected to be completed within a week. Respondents are initially greeted with an introduction outlining the purpose of the research project before the questionnaires are given to them. This pilot study is significant since it shows the applicability and reliability of the present research findings.

3.3.2 Frequency Analysis

In order to measure the major factor that effect University M undergraduate students in off-campus student residential area experience scam and the effective way to avoid way to avoid online scamming, frequency analysis was used.

The major factor that effect University M undergraduate students in off-campus student residential area experience scam will be present clearly by Pareto charts whereas the effective way to avoid online scamming will be show by bar charts. By using boxplots, it will provide visual summary of the awareness University M undergraduate students in off-campus student residential area toward online scamming.

3.3.3 Factor Analysis

Factor analysis is used as statistical method to identify the major factor that effect University M undergraduate students in off-campus student residential area experience scam and the effective way to avoid online scamming. Factor analysis is a method for breaking down a large number of variables into a smaller number of factors. The largest common variance of all the variables is combined in this method to get a common score (Statistics Solutions, 2021). Before conducting factor analysis, the correlation matrix, Bartlett's Test and Kaiser-Meyer-Olkin (KMO) will be done first to test whether the data are appropriate for factor analysis. When the tests are satisfactory, then the factor analysis will be conducted. By using factor analysis, it will help in identify the underlying factor that effect students experience scam and the effective way to help student avoid experience scam.

3.3.4 Descriptive Statistics Analysis

Descriptive statistics, which might represent the entire population or a subset of a population, are brief informative coefficients that summarise a specific data collection. Two categories of descriptive statistics are measurements of central tendency and measurements of variability (spread). Measures of central tendency include the mean, median, and mode, whereas measures of variability include the standard deviation, variance, minimum and maximum variables, kurtosis, and skewness. In this study, data of social media and online shopping will be used to examine its effect on students experience scam. Descriptive statistics will be conducted to determine mean, median, mode, standard deviation, variance, minimum and maximum variables and skewness for the data collected.

FINDINGS AND DISCUSSION

4.1 Pilot Test Analysis

There were 12 respondents participated in the pilot study. Following are the measure to check for the reliability of the questionnaire.

Table 4.1: Reliability Statistics from SPSS

Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Awareness	0.758	0.762	5
Major factors	0.767	0.765	7
Effective ways	0.763	0.733	7

After completed with pilot test, reliability test also been done to the real respondents response which involved 320 respondents. The reliability value is recorded in Table 4.2.

Table 4.2: Reliability Statistics After Data Collection

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.740	0.716	19

To test the reliability of questionnaire, Cronbach's Alpha test by using SPSS software. A Cronbach's Alpha value that higher than 0.7 indicate that the data is reliable (George & Mallery, 2003). Table 4.1 have shown the result of reliability statistics of questionnaire. The result above is based on 12 respondent's answer and indicate that is a good result for the questionnaire design because all the Cronbach Alpha is higher than 0.7. Therefore, the questionnaire is reliable. After running the reliability test for real data, the result also showed that the answers are reliable.

4.2 Descriptive Analysis

4.2.1 Demographic Profile

Table 4.3 below shows the frequency distributions of the respondents based on their gender, age, race, and current semester. Based on this table, the frequency of females is more than the frequency of males with 48 respondents (15%). Age of 21-23 are the highest respondents which is 190 (59.38%), followed by age of 24-26 (32.50%), age 27-29 (7.19%), age 18-20 (0.93) and 0% for age of 30 and above. Most of the respondents are Malay which is 135 (42.19%) and followed by Chinese 92 (28.75%), 73 (22.81%) for India and 20 (6.25%) from others race. Most of the respondents are currently studying semester 5-6 (45.94%), followed by 43.75% in semester 7-8, 10.31% in semester 3-4 and o respondent in semester 1-2.

Table 4.3: Frequency Distributions of Respondents (n=320)

DEMOGRAPHIC	*FREQUENCY (RESPONDENTS)*	*PERCENTAGE (%)*
GENDER		
MALE	136	42.5
FEMALE	184	57.5
TOTAL	**320**	**100**
AGE		
18-20	3	0.93
21-23	190	59.38
24-26	104	32.50
27-29	23	7.19
30 AND ABOVE	0	0
TOTAL	**320**	**100**
RACE		
MALAY	135	42.19
CHINESE	92	28.75
INDIA	73	22.81
OTHERS	20	6.25
TOTAL	**320**	**100**
CURRENT SEMESTER		
1-2	0	0
3-4	33	10.31
5-6	147	45.94
7-8	140	43.75
TOTAL	**320**	**100**

4.3 The Awareness University M Student in Off-Campus Student residential Area Toward Online Scamming

The respondents rated the situation or platform through the survey form. (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree).

4.3.1 Have You/Your Parent/Friend/People Around You Experience Online Scam Before?

Table 4.4: Frequency Distributions of Respondents (n=320) for experience scam before

	Yes		**No**		**Total**	
Male	84	61.76%	52	38.24%	136	100%
Female	128	69.57%	56	30.43%	184	100%
Total	212	66.25%	108	33.75%	**320**	**100%**

Table 4.4 show the frequency of University M undergraduate student who stay in off-campus student residential area having an experience online scamming before. As the result, 66.25%, 212 of the respondents having an experience experience scam before and 84 of them are male students, 128 of them are female students.

4.3.2 Online Banking

Table 4.5: Frequency Distributions of Respondents (n=320) Online Banking

	Frequency	Percentage (%)
Strongly Disagree	0	0
Disagree	0	0
Neutral	7	2.19
Agree	46	14.38
Strongly Agree	267	83.43
Total	320	100

Table 4.5 shows the frequency of the rating and the percentage contribute to each rating of the online banking that can lead people experience online scam. Most of the respondents choose strongly agree which 267 (83.43%) and followed by agree 46 (14.38%), Neutral 7 (2.19%) and frequency for disagree and strongly disagree are 0.

4.3.3 Online Shopping

Table 4.6: Frequency Distributions of Respondents (n=320) Online Shopping

	Frequency	Percentage (%)
Strongly Disagree	0	0
Disagree	1	0.31
Neutral	4	1.25
Agree	229	71.56
Strongly Agree	86	26.88
Total	320	100

Most of the respondents agree with online shopping lead people experience scam with the frequency of 229 (71.56%). The second highest which is strongly agree with the frequency of 86 (26.88%). For neutral there are 4 respondents choose which 1.25%. for disagree and strongly disagree with the frequency of 1 (0.31%) and 0.

4.3.4 Phone Call

Table 4.7: Frequency Distributions of Respondents (n=320) Phone Call

	Frequency	Percentage (%)
Strongly Disagree	0	0
Disagree	0	0
Neutral	2	0.63
Agree	172	53.75
Strongly Agree	146	45.62
Total	320	100

Table 4.7 shows the frequency of the rating and the percentage contribute to each rating of the phone call that can lead people experience online scam. Most of the respondents choose agree which 172 (53.75%) and followed by strongly agree 146 (45.62%), Neutral 2 (0.63%) and frequency for disagree and strongly disagree are 0.

4.3.5 Social Media (Whatsapp, Facebook, etc)

Table 4.8: Frequency Distributions of Respondents (n=320) Social Media

	Frequency	Percentage (%)
Strongly Disagree	0	0
Disagree	0	0
Neutral	20	6.25
Agree	163	50.94
Strongly Agree	137	42.81
Total	320	100

Table 4.8 displays the frequency of the rating and the percentage contribute to each rating of the social media that can lead people experience online scam. In figure 4.4, most of the respondents choose agree which 163 (50.94%) and followed by strongly agree 137 (42.81%), Neutral 20 (6.25%) and frequency for disagree and strongly disagree are 0.

4.3.6 Online Advertisement

Table 4.9: Frequency Distributions of Respondents (n=320) Online Advertisement

	Frequency	Percentage (%)
Strongly Disagree	0	0
Disagree	2	0.62
Neutral	39	12.19
Agree	155	48.44
Strongly Agree	124	38.75
Total	320	100

Most of the respondents agree with online advertisement lead people experience scam with the frequency of 155 (48.44%). The second highest which is strongly agree with the frequency of 124 (38.75%). For neutral there are 39 respondents choose which 12.19%. for disagree and strongly disagree with the frequency of 2 (0.62%) and 0.

4.4 Major factor that effect University M Undergraduate student in off-campus student residential area experience scam

To identify the major factor that effect University M undergraduate student in off-campus student residential area experience scam, factor analysis is used by using SPSS software. The appropriateness of the data for factor analysis must be determined before moving further with the investigation. Kaiser-Meyer-Olkin (KMO), the correlation matrix, and Bartlett's Test will therefore be conducted. The factor analysis will be carried out if the tests yield good results.

Table 4.10: KMO and Bartlett's Test for major factors

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.556
Bartlett's Test of Sphericity	Approx. Chi-Square	67.545
	df	21
	Sig.	<.001

The Bartlett's Test and the Kaiser-Meyer-Olkin Test are displayed in table 4.10. The purpose of the Kaiser-Meyer-Olkin (KMO) test is to determine how well each variable in the model is sampled. Given that the KMO value is higher than 0.5, factor analysis can proceed at a level that is deemed satisfactory. The results of the Bartlett's test indicate that there are no extreme or perfect correlations and that the correlation matrix is not identity matrix (about 67.545 and Sig. = <.001).

Table 4.11: Correlation Matrix for major factor

Correlation Matrix[a]

		C1	C2	C3	C4	C5	C6	C7
Correlation	C1	1.000	-.116	.074	.064	.046	.020	.064
	C2	-.116	1.000	.081	.096	.126	.094	.188
	C3	.074	.081	1.000	.105	.063	.212	.155
	C4	.064	.096	.105	1.000	.098	.035	.005
	C5	.046	.126	.063	.098	1.000	.153	.062
	C6	.020	.094	.212	.035	.153	1.000	.066
	C7	.064	.188	.155	.005	.062	.066	1.000
Sig. (1-tailed)	C1		.019	.093	.129	.205	.364	.126
	C2	.019		.075	.044	.012	.048	.000
	C3	.093	.075		.030	.132	.000	.003
	C4	.129	.044	.030		.040	.264	.466
	C5	.205	.012	.132	.040		.003	.133
	C6	.364	.048	.000	.264	.003		.120
	C7	.126	.000	.003	.466	.133	.120	

a. Determinant = .807

Figure 4.1 depicts the scree plot of the eigenvalues of factors. The plot is used to decide the number of factors to consider in an exploratory factor analysis. According to the scree plot graph, to the left of the "elbow" of the graph, where the eigenvalues seem to level out, the main elements or components should be kept. From the plot, the curve is seen to start flattening between factor 3 and factor 4. Factor 4 has a low eigenvalue. Thus, only 3 factors have been retained. This is because the eigenvalue starts from factor 4 is lower than 1.

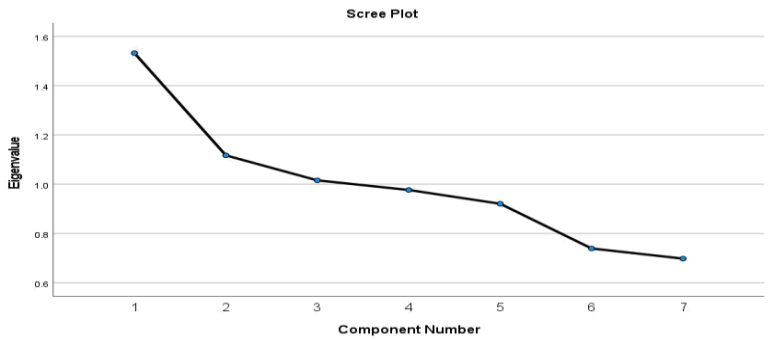

Figure 4.1: Scree Plot

As the result shown from Component Matrix table, we can conclude there are 3 factors extracted which is Technological Tool, Lack of Awareness and Human Being.

Component Matrix[a]

	Component		
	1	2	3
C1	.136	.795	-.131
C2	.509	-.600	.052
C3	.588	.247	-.260
C4	.355	.190	.627
C5	.483	.007	.449
C6	.552	.090	-.017
C7	.495	-.137	-.577

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Figure 4.2: Component Matrix

Table 4.12: Major Factor Affect Student Experience Scam

Factor	Question
Technological Tools	C3 - Online system collapse (Online Shopping Platforms).
	C5 - Technological tools (fake websites, phishing email, malware and etc).
	C6 - Lack of regulation such as double verification on application users.
Lack of Awareness	C1 - Personal identity has been shared.
	C2 - Lack of awareness of online scamming.
Human Being	C4 - Attractive rewards that promote by scammer.
	C7 - Accessibility of internet (scammer use potential tools such as virus to access global pool of potential victims).

Table 4.12 shown the final factor for this survey. First factor which is Technological tolls can be having an error from online system. Second factor which is lack of awareness, this can be human carelessness. The last one which is human being. Human being can be personal attitude or other side attitude such as attractive reward promotes by scammer, scammer provide and special tools for victim to click in.

4.5 Effective Way to avoid Online scamming

Utilising SPSS software, factor analysis is performed to determine the most efficient means of preventing internet scams. The appropriateness of the data for factor analysis must be determined before moving further with the investigation. Kaiser-Meyer-Olkin (KMO), the correlation matrix, and Bartlett's Test will therefore be conducted. The factor analysis will be carried out if the tests yield good results.

Effective Way to avoid Online Scamming

D1	Be cautions with personal information.
D2	Verify the source of messages, emails, calls and etc.
D3	Enable two-factor authentication on online banking applications.
D4	Keep application software updated.
D5	Verify website URLs before entering.

D6 Protect the device by installing antivirus software.
D7 Monitor bank account by keep updating the bank statement and password.

Table 4.13: Ranking of The Highest Number of Choosing Strongly Agree for Effective Way

Question	Frequency
D1 - Be cautions with personal information.	188
D3 - Enable two-factor authentication on online banking applications.	128
D5 - Verify website URLs before entering.	116
D7 - Monitor bank account by keep updating the bank statement and password.	114
D6 - Protect the device by installing antivirus software.	107
D2 - Lack of awareness of online scamming.	100
D4 - Keep application software updated.	95

In Table 4.13, D1 having the highest frequency of respondents (188) choosing the strongly agree and continue with D3 with the frequency of 128 respondents, D5 with the frequency of 116 respondents, D7 with the frequency of 114 respondents, D6 with the frequency of 107 respondents, D2 with the frequency of 100 respondents and lastly D4 with the frequency of 95 respondents.

Table 4.14: Statistic Table for effective way

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Statistics

		D1	D2	D3	D4	D5	D6	D7
N	Valid	320	320	320	320	320	320	320
	Missing	0	0	0	0	0	0	0
Mean		4.53	4.22	4.28	4.10	4.18	4.20	4.24
Std. Error of Mean		.034	.033	.037	.039	.040	.037	.036
Median		5.00	4.00	4.00	4.00	4.00	4.00	4.00
Mode		5	4	4	4	4	4	4
Std. Deviation		.608	.592	.664	.697	.722	.659	.649
Variance		.369	.350	.441	.485	.521	.434	.422
Skewness		-.910	-.108	-.386	-.138	-.277	-.235	-.352
Std. Error of Skewness		.136	.136	.136	.136	.136	.136	.136
Kurtosis		-.175	-.438	-.770	-.932	-1.049	-.743	-.393
Std. Error of Kurtosis		.272	.272	.272	.272	.272	.272	.272
Range		2	2	2	2	2	2	3
Minimum		3	3	3	3	3	3	2
Maximum		5	5	5	5	5	5	5
Sum		1449	1352	1370	1312	1336	1343	1357
Percentiles	25	4.00	4.00	4.00	4.00	4.00	4.00	4.00
	50	5.00	4.00	4.00	4.00	4.00	4.00	4.00
	75	5.00	5.00	5.00	5.00	5.00	5.00	5.00

Table 4.14 shown the statistics table for effective ways to avoid experience scam. D1 has the highest mean (4.53). It can conclude that D1 has many respondents choosing the strongly agree. The second highest mean which is D3 (4.28) and continue with D7 (4.24). D4 is the lowest mean which is 4.10.

This study is motivated by the increasing vulnerability of University M undergraduate students living off-campus to online scams, which pose significant risks to their financial security and personal information. By investigating their awareness, identifying major contributing factors, and exploring effective preventative measures, this research aims to fill a critical gap in the current literature. The findings will contribute to developing targeted educational programs and protective strategies, enhancing students' ability to safeguard themselves against online fraud. This study not only provides valuable insights for University M but also offers a framework that can be adapted by other institutions facing similar challenges.

CONCLUSION

The study identifies major factors affecting University M undergraduate students living in off-campus housing who have experienced online scams. Factor analysis reveals three main categories: technological tools, lack of awareness, and human factors, with technological tools being the most significant contributor to students' scam experiences. Many University M undergraduates in off-campus housing have encountered online scams, either personally or through their parents, friends, or acquaintances. Despite this, these students exhibit high awareness of online scams. The study also highlights effective ways to avoid scams, highly recommended by the participating students. The top three methods are: being cautious with personal information, enabling two-factor authentication on online banking applications, and verifying website URLs before entering them.

The purpose of this study is to understand the perception of University M undergraduates living off-campus toward online scamming. The findings can serve as a reference for the University M management team and student representatives (MPP), helping them develop guidelines to support students before they fall victim to scams. For instance, they could organize awareness talks and campaigns for undergraduates. Additionally, the IT department can strengthen WiFi internet security by banning suspicious website URLs to prevent access. The management team and MPP should also be prepared to assist students who have been scammed, such as providing financial support and other necessary aid.

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