

Vol. 15 No. 2 ISSN 2220-3796

Editorial

Information Management and Business Review (IMBR) provides a unique platform for scholars around the world to share their knowledge and publish research work in the fields of information management, business, management and related disciplines. The work submitted for publication consideration in IMBR should address empirical and theoretical developments in the subjects related to the scope of the journal in particular and allied theories and practices in general. Scope of IMBR includes: subjects of finance, accounting, auditing, cost & management accounting, financial psychology, financial literacy, marketing, information management, human resource management, knowledge management, innovation, change management, enterprise management, e-commerce and information system. Author(s) should declare that work submitted to the journal is original, not under consideration for publication by another journal and that all listed authors approve its submission to IMBR. It is IMBR policy to welcome submissions for consideration, which are original, and not under consideration for publication by another journal at the same time. Author (s) can submit: Research Paper, Conceptual Paper, Case Studies and Book Review. The current issue of IMBR comprises papers of scholars from Malaysia and Tunis. Effectiveness of Microfinance Program on Women's Empowerment, Job Satisfaction and Turnover Intention among Employees in Educity, Does Internal Audit Quality Improve Firm Performance, Examining the Relationship of Customer Satisfaction and Brand Loyalty in Sports Products, A Review of the Critical Gaps in the Food Security Literature, The Effect of HRM Practices on Organizational Performance and Modelling Online Shopping Behaviour Patterns among Higher Education Consumers are some of the major practices and concepts examined in these studies. Journal received research submission related to all aspects of major themes and tracks. All the submitted papers were first assessed by the editorial team for relevance and originality of the work and blindly peer-reviewed by the external reviewers depending on the subject matter of the paper. After the rigorous peer-review process, the submitted papers were selected based on originality, significance, and clarity of the purpose. The current issue will therefore be a unique offer, where scholars will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other relevant fields.

Editor In Chief

Ijaz Ur Rehman PhD

Editorial Board

- Lew Tek Yew PhD, Curtin University Sarawak, Malaysia
- Mohammad Kazemi Reza PhD, University of Tehran, Iran
- Chandana Prasad Withana PhD, Charles Sturt University, Sydney, Australia
- KOH Noi Keng PhD, National Institute of Education, Nanyang Technological University, Singapore
- Boubker Sbihi PhD, I-school ESI, Rabat, Morocco
- Ayhan Kapusuzoglu PhD, Yildirim Beyazit University, Turkey
- Elias Randjbaran PhD, University Putra Malaysia, Malaysia
- Dong Hwa Kim PhD, Hanbat National University, Daejeon, Republic of Korea
- Teodoro A. Macaraeg Jr PhD, University of Caloocan City, Manila, Philippines
- Benedict Valentine Arulanandam PhD, University Putra Malaysia, Malaysia
- Yousef Daradkeh PhD, Prince Sattam bin Abdulaziz University, KSA
- Nurhuda Haji Nizar PhD, Universiti Teknologi MARA, Puncak Alam, Malaysia

TABLE OF CONTENTS

Description	Pages
Title	I
Editorial	II
Editorial Board	III
Table of Contents	IV
Papers	V
The Effectiveness of Microfinance Program on Women's Empowerment: Location as Moderator Maryam Jameelah Hashim, Mohammad Izzat Naqib Yusof, Nur Dina Athia Ramley	1
Job Satisfaction and Turnover Intention among Employees in Educity, Johor Nur Dalilah Dahlan, Mohamad Firdaus Ahmad, Nur Syazwani Zulaikha Safwan, Nur Hani Syazwani Bakri & Ummi Kalthum Mohd Mokhtar	14
Does Internal Audit Quality Improve Firm Performance? The Moderating Effect of Chief Audit Executive Gender Hella Dellai	19
Examining the Relationship of Customer Satisfaction and Brand Loyalty in Sports Products among University Students Nur Hani Syazwani Bakri, Mohamad Firdaus Ahmad, Nur Syazwani Zulaikha Safwan, Nur Dalilah Dahlan, Norsyazlin Elfira Mohd Azli, Mohd Huzaimie Ahmad Kafrawi	29
A Review of the Critical Gaps in the Food Security Literature: Addressing Key Issues for Sustainable Development Fadhlur Rahim Azmi, Suhaiza Zailani, Mastura Roni	35
The Effect of HRM Practices on Organizational Performance: A Survey of Malaysian State Sports Councils' Employees Nur Syazwani Zulaikha Safwan, Mohamad Firdaus Ahmad, Muhammad Syukri Abdullah	47
Modelling Online Shopping Behaviour Patterns among Higher Education Consumers: A Structural Equation Modelling (SEM-AMOS) Approach Siti Hasma Hajar Mat Zin, Siti Haslini Binti Zakaria, Balkiah Moktar, Rumaizah Binti Che Md Nor	54

PAPERS

Information Management and Business Review (IMBR)
Vol. 15, No. 2, June 2023 (ISSN 2220-3796)

The Effectiveness of Microfinance Program on Women's Empowerment: Location as Moderator

Maryam Jameelah Hashim[1*], Mohammad Izzat Naqib Yusof[2] & Nur Dina Athia Ramley[3]
[1]Universiti Teknologi MARA, Faculty of Business and Management, Puncak Alam Campus, Selangor Branch
[2,3]Arshad Ayub Graduate Business School, Universiti Teknologi MARA, Shah Alam, Selangor
jamieniz@uitm.edu.my*

Abstract: Women are an engine for economic growth and a value creator for businesses. Though women contribute roughly 40-50% of all small business related in developing countries, they represent fewer than 20% of the world's landholders, and often their access and control of resources, particularly income, is comparatively lower than that of men. This prevents them from actively driving economic growth and productivity in the business chain. With the help of Amanah Ikhtiar Malaysia (AIM), this study will reach out to the participant of AIM to understand the issue of women's empowerment. This research focuses on 3 main components: the involvement of microfinance programs, social capital, and training. A survey designed for the participants of AIM was used to gather data from over 375 participants to study the effectiveness of Islamic microfinance in improving women's empowerment in business. A partial least square-structural equation (PLS-SEM) was used to analyze the research model. Subsequently, the research model was validated using Smart PLS 4 and proposed the study hypothesis. The findings confirmed that involvement in microfinance programs, and social capital, except training, positively influenced women's empowerment in business. Geographical location as moderator was also found to be non-significant towards women's empowerment.

Keywords: *Involvement in Microfinance Program, Social Capital, Training, Location, Women's Empowerment*

1. Introduction and Background

Women make significant contributions to economic growth, innovation, and job creation (Brush, De Bruin, & Welter, 2009). There were over 163 million women who founded or managed new businesses in 74 different economies worldwide (Kelley, et al., 2017). We can observe the effects of women in business when 111 million additional women who already own their firms are included. These women are well-respected members of the business sector, occasionally employ members of their community, and provide for their families financially. However, there are considerable regional differences in the number of women who start their businesses. (Basaffar, Niehm, & Bosselman, 2018) Claim that the proportion of female business owners in Islamic nations ranges from 23% in Kuwait to 12% in Bahrain to 9% in Oman and further drops to a low of 7% in Qatar and Saudi Arabia. Women hold many administrative roles (Islam, Shrabani , & Mahfuzur , 2023), however, men outnumber them due to the emergence of new businesses. Only 20% of Malaysia's business visionaries are women (Basit, Hassan, & Sethu, 2020). Potential causes of this low number of female entrepreneurs are thought to be related to cultural norms and the preferences of financial experts.

Furthermore, despite the advancements made by Malaysia and the changing societal roles of women, there continue to be significant disparities in various areas such as business, informal communities, education, and access to capital, which disproportionately affect Malaysian women. One organization established in accordance with the law to address these issues is Amanah Ikhtiar Malaysia (AIM). Registered under Act 258 of the Trust Act of 1952, with amendments made in 1981, The Ikhtiar Malaysia Trust Agreement Instrument was established on 17 September 1987. This trust entity, which is 24 years old, was founded through collaboration between the Malaysian Islamic Economic Development Foundation (YaPEIM), the Selangor state government, and Universiti Sains Malaysia (USM). It receives significant support from the Asia Pacific Development Centre. AIM plays a crucial role in reducing poverty in Malaysia by providing financial assistance to disadvantaged communities in rural areas, enabling them to engage in various income-generating activities. In doing so, AIM enables these individuals to start small-scale businesses. According to a report from 2019, Malaysia has a considerable number of households living below the poverty line, amounting to 8.9% (World Bank, 2019). The government aims to assist this segment of the population to mitigate the severe impact of economic instability. To date, numerous studies have focused on women living

in poverty, revealing that many of them are heads of households due to widowhood, the death or separation from a spouse (Ali & Aziz, 2014), or having an incompetent wedded partner.

The husband's lack of responsibility or failure to take responsibility for his obligations is evident (Nurasyiah, Miyasto, Mariyanti, & Beik, 2020). Moreover, the factors mentioned above still contribute to women's reliance solely on their spouses for income generation (Aktaruzzaman & Farooq, 2020). Additionally, older women are particularly susceptible to poverty due to a decline in their ability to earn income. In both Bangladesh (Aktaruzzaman & Farooq, 2020) and Indonesia (Nurasyiah, Miyasto, Mariyanti, & Beik, 2020), cultural beliefs play a significant role in perpetuating women's poverty. These beliefs assign women the responsibility of running household chores while denying them access to social rights such as education and financial literacy. The studies conducted identified various independent variables, including engagement in small-scale entrepreneurship and securing financial resources (Tammili, Mohamed, & Terano, 2017), implementation of educational programs (Misnan, Abdul, & Othman, 2015), and leveraging social connections and networks (Ado & Mata, 2020). These factors collectively affect the opportunity for women to have their independent source of income.

It has been demonstrated that participation in microfinance significantly enhances women's negotiating power and contributes to their empowerment (Mosley & Mayoux, 1999). The availability of training programs is extensively discussed as a valuable form of support, specifically for individuals who borrow (Geta & Tilahun, 2017). Another form of support, social capital, takes the shape of self-help groups or strong network connections, allowing individuals to assist and support one another through group formation and resource pooling, such as providing moral support (Hameed, 2019). Regarding the dependent variables, the present study centers on women's empowerment as a result of microfinance. This encompasses financial outcomes such as asset acquisition and nonfinancial outcomes like children's education (Al-Shami, et al., 2015), decision-making abilities, independent financial management, and participation in social activities (Misnan, Abdul, & Othman, 2015). The main objective of this study is to examine the impact of the microfinance program, including involvement in microfinance, training, and social capital, on the empowerment of women among AIM clients.

2. Literature Review

The purposeful model of the Theory of Change explores how an initiative program can lead to the desired outcome. The approach centers on achieving desired outcomes by aligning various initiatives such as policies, programs, strategies, or projects to assess the intended transformation. The utilization of the Theory of Change is motivated by several reasons: (1) it helps entities or groups to systematically understand the root causes or underlying reasons behind development challenges within the community and determine the focal points for effecting change; (2) it empowers users to express the underlying causes of development obstacles, such as poverty and gender-related social problems, and devise plans of action to accomplish the intended outcomes; (3) stakeholders have the ability to utilize it to standardize and optimize their strategic collaborations, guaranteeing that these partnerships are in line with overarching goals and desired results by unifying diverse viewpoints of the Theory of Change regarding specific issues (UNDAF, 2015).

Women's Empowerment: Women's empowerment is the process of enabling women to be self-sufficient, monetarily independent, and have a positive self-image (Kapila, Singla, & Gupta, 2016). This empowers them to deal with any challenging situations and to take part in various development projects. This process results in women having more control and power over a variety of resources, including human resources, intellectual resources (information, knowledge, and ideas), financial resources (money), and decision-making authority at the local, state, and federal levels (Jamal, Raihana, & Sultana, 2016). Female empowerment can be defined as an increase in women's capacity to decide for themselves about their own lives in situations where this was previously largely predetermined for them. They can actively contribute to their well-being since it improves their ability for decision-making (Bhumeeka, Kumari, Pallavi , Ahmed, & Pandey , 2023). Giving women the resources, they require to be in charge of and have control over their own life is a key component of empowering them. Women who are empowered enjoy freedom, equal opportunity, and the power to make decisions in all aspects of their lives. It is a process by which women experience independence but are unable to take on any jobs because of their fears, shyness, the social norm of male supremacy, and social ills like the

purdah system. But the contemporary period has arrived, and powerful modern women now have the same chances as males. Women in Malaysia have taken on a pivotal role in driving the economic growth of the nation, with a significant number of women emerging as business founders.

Nonetheless, on a global scale, women still lack representation, particularly in business and management positions. In addressing this, efforts are being made by government and social organizations at the federal, state, and local levels to enhance the status of women in various domains. Furthermore, policies focusing on empowering women, such as promoting their political participation, addressing issues of domestic violence and gender-based violence, and creating economic opportunities, have been implemented and will continue to be developed (Selvi, 2018). The economic component of empowering women has several advantages. For instance, economies expand when more women work. For instance, the US gross domestic product would increase by about 9%, the EURO zones by 13%, and Japan's by 16% if women's paid employment rates were elevated to the same level as men. By 2020 and 2030, per capita income in 15 significant developing economies would increase by 14% and 2%, respectively. Additionally, data from a number of nations demonstrates that shifting household expenditure in favor of children occurs when women control a larger percentage of household income, whether through their work or monetary transfers (Acosta, 2013). In addition, women's wages are typically between 70 and 90 percent of men's; with significantly lower ratios in various Asian and Latin American nations (Acosta, 2013).

Involvement in Microfinance Program: Microfinance is thought of as a way of giving the underprivileged and those without assets for collateral, financial records, or credit histories access to tiny sums of credit. Microfinance can be used to reduce poverty and promote the creation of livelihoods. As a result, people's health improves, and children have access to education, gain skills and assets, and engage in social activities. Women make up 95% of MFI borrowers, thus it's crucial to understand how credit is empowering these underprivileged women. It is claimed that MFIs and participants viewed the microfinance program as a handout and viewed their rights and what the government ought to give to the impoverished as the program's intended beneficiaries (Koveos, 2004). Such a notion has a detrimental influence on the microenterprise performance of the participant and the efficiency of the MFI's operations. As a result, MFIs have been passive and non-aggressive in their monitoring and have no desire to find out how participants are using microfinancing. Hence, it is concluded that the selection processes, participant screening, and funds that did not reach the target group were to blame for the failure of the government microfinance programs (Koveos, 2004). In this instance, the money was directed toward a group of struggling small businesses with ties to the borrowers' political party. In addition, (Chowdhury, 2007) noted that bureaucracy, opaque administration, uneven enforcement, a lack of accountability, experiences, and bribery were to blame for the program's weaknesses in administration and policy, which rendered the microfinance program unproductive.

In light of this claim, the study suggests that AIM is successful in raising participants' income and lifting them beyond the poverty line. Over the past three decades, microfinance initiatives have been seen as a crucial technique for solving development concerns in various countries. In the field of promoting economic development, microfinance has grown significantly in popularity across the globe. The goal of microfinance systems is to help the majority of the world's poor people escape poverty and become active participants in the social and economic development of their nations (Rhyne & Otero, 2006). Microcredit, an effective socioeconomic financial tool, helps a variety of organizations, both governmental and non-governmental, achieve their goals, including the Millennium Development Goals (Hossain & Knight, 2008). To help low-income households and their microbusinesses escape poverty, microfinance is the provision of a wide range of financial services such as deposits, loans, payments, money transfers, and insurance (Lazer, 2008). Microfinance has grown to be a crucial tool for economic growth in Malaysia (Tiwari & Thakkur, 2007). Empowering women has become a crucial requirement for any community's socioeconomic growth. Fostering women's involvement in nation-building has been a top priority for many governments worldwide. Therefore, it is hypothesized that:
H1: There is a significant relationship between involvement in microfinance and women's empowerment.

Social Capital: AIM has employed the analysis of social capital as a determining factor to assess the impact of the microfinance program on its participants (AIM, 2008). According to Kumar et al. (2018), social capital refers to a mechanism that enhances the effectiveness of microfinance programs by leveraging trust and

reciprocity norms, thereby bolstering women's empowerment through social group activities. This definition aligns with Nicholas (2021), who emphasizes the significance of trust and reciprocity as norms within regular social groups engaging in socioeconomic activities. Mayoux (2001) also examined social capital as a variable to understand its relationship with women's empowerment, and the findings indicated a positive impact. The primary objective of the microfinancing program is to assist individuals living below the poverty line in overcoming their circumstances. Therefore, AIM's role extends beyond merely providing financial assistance to borrowers.

They also offer crucial support such as training, motivation, and the establishment of social groups among participants to enhance the effectiveness of the program (Noor, Che Mat, & Abdul Hakim, 2013). This approach aligns with the positive findings on the correlation between social capital and business performance, as highlighted by Ado and Mata (2020). In the realm of Islamic microfinance, social capital is recognized as a significant element, encompassing trust, networking, and interpersonal relationships (Kamaluddin, Hadi, Alam, & Adil, 2015). Consequently, it provides individuals with a platform for learning and benefiting from the knowledge and experiences of others (Nugroho, 2010). Social capital encompasses various aspects, including networking, shared standards, trust, and reciprocity among individuals, and can extend to interactions between groups, communities, organizations, and business entities (Yusuff, Bakar, & Ahmad, 2018). Their study analyzed the impact of social capital based on four factors: norms and groups, trust and networking, economic equality, and volunteerism. Subsequently, it is hypothesized that:
H2: There is a significant relationship between social capital and women's empowerment.

Training: The microfinance institution (MFI) offers training to its borrowers, which has been found to have a positive impact on their business performance (Samer et al., 2015). These borrowers have received various types of training, such as financial literacy and business training, leading to more competitive income and successful business operations (Hansen, Huis, & Lensink, 2020). Research has supported these findings by showing that the MFI's business training program results in increased sales, income, assets, and rates of employment for borrowers (Haider et al., 2017). Additionally, other studies emphasize the significance of training in business in helping borrowers succeed in their businesses, particularly for women entrepreneurs (Misnan, Abdul, & Othman, 2015). AIM, as a component of the microfinance approval prerequisites, consistently provides a sequence of training initiatives to its participants. AIM's study in Kajian Impak 7 found that participants who joined the program organized by AIM tended to achieve greater production increases for their products (AIM, 2015). Type of training programs provided by AIM inclusive of entrepreneur character development; entrepreneurship basic knowledge; basic business skills; technical business skills and skills for business enhancement (Misnan, Abdul, & Othman, 2015). Thus, it is hypothesized that:
H3: There is a significant relationship between training and women's empowerment.

Location: The influence of the location of residential areas on women's empowerment through microfinance has been acknowledged (Norma & Jarita, 2010). However, existing studies do not clearly ascertain the relationship between the location of residential areas and the impact of microfinance on women's empowerment. Other studies primarily focus on assessing rural areas rather than urban areas (Al-Shami et al., 2015). Regarding women's accessibility to microfinance, the geographical location of microfinance institutions has been discovered to play a pivotal role. More specifically, longer distances to the institution cause more challenges for households in seeking microfinance, thus impeding the process of improving their livelihoods (Alimukhamedova, Filer & Hanousek, 2017). Furthermore, location also has an impact on the entrepreneurial activities carried out by business owners. Proximity to urban areas increases the chances of improving the quality of life by creating increased job prospects and improved household earnings, compared to locations that are farther away (Akingunola, Olowofela, & Yunusa, 2018). Based on these observations, the following hypotheses are proposed:
H4a: Location moderates the relationship between microfinance involvement and women's empowerment.
H4b: Location moderates the relationship between social capital and women's empowerment.
H4c: Location moderates the relationship between training and women's empowerment.

3. Research Methodology

The current study focused on Amanah Ikhtiar Malaysia (AIM)'s female clients. A standardized questionnaire that was given to participants in the study was used to gather data. The questionnaire is divided into three sections, the first of which inquiries about the effectiveness of the microfinance program (including participation in microfinance, social capital, and training). The second section of the questionnaire includes questions about the empowerment of women. The third segment contains items that delve into the respondent profiles. The Likert scale has five possible responses for the first and second sections of the questionnaire. Great disagreement is indicated by a score of 1, whereas great agreement is indicated by a score of 5. 15 items were used to quantify the exogenous variables, which stand for participation in microfinance, education, and social capital. The endogenous variable, women's empowerment, was assessed using 5 items, on the other hand. 375 AIM consumers who identified as women received the questionnaire. The sample for this study was chosen based on purposeful sampling. The choice of appropriate responders to represent the companies is still up to the researcher (Awang, Afthanorhan, & Asri, 2015). June through August 2022 served as the study's data collection period. Female AIM users made up the target demographic for this study. The G-power software was used to establish the necessary minimum sample size.

The required power was set at 0.80, and the effect size was assessed to be modest (0.15). The performance of MFIs was predicted by up to seven different factors in the study model. Previous researcher asserts that social science needs to reach a minimum acceptable score of 80% (Gefen, Rigdon, & Straub, 2011). The acquired results were slightly greater than what was required because the sample size that was needed was 103. Only 236 of the 375 eligible respondents replied to the survey. This sample size represents a 62.9% response rate, which is considered satisfactory (Sekaran & Bougie, 2016). The model in Figure 1 was computed using Smart PLS 4, which focuses on modeling and bootstrapping (Sarstedt, et al., 2022). The structural model and the measurement model are the two phases of the partial lease square (PLS) analysis. The validity and reliability of the measurement model must be evaluated. The measurement model's validity is evaluated using convergent and discriminant validity, while the model's reliability is evaluated using the Composite Reliability Index (CR). After the measuring model was created, 500 resamples were used in a structural model test to investigate the relationship between the success of the microfinance program and women's empowerment.

4. Results

Data for the present study was exclusively gathered from participants affiliated with AIM in the southern region of Malaysia, specifically from the states of Johor, Melaka, and Negeri Sembilan. The data collection process, outlined in Table 1, involved the creation of 15 WhatsApp groups, each representing a branch of AIM in the aforementioned states. Additionally, each group comprised 25 participants who were carefully selected in collaboration with AIM officers. Before data collection, a meeting was conducted with those officers to provide them with an overview of the study's background, purpose, methodology, and expectations. The officers showed great cooperation, facilitating the data collection process. To comply with the required procedures, the university issued a supporting letter to request approval from the company to collect the data. Subsequently, the participants were provided with a link to an online questionnaire, which they completed within a specified timeframe.

Table 1: Data Collection According to States

State	Branch	Number of Questionnaire Distributed	Returned
JOHOR	Johor Bahru	25	19
	Kulai Jaya	25	9
	Kota Tinggi	25	17
	Batu Pahat	25	15
	Pontian	25	17
	Kluang	25	18
	Muar	25	16
	Segamat	25	24

Melaka	Melaka Tengah	25	15
	Jasin	25	15
	Alor Gajah	25	22
Negeri Sembilan	Senawang	25	17
	Seremban	25	8
	Kuala Pilah	25	12
	Rembau	25	12
TOTAL		375	236
PERCENTAGE		110%	62.9%

Profile of Respondents: A summary of the characteristics of all the clients who took part in the present study is depicted in Table 2. A total of 375 participants, primarily focusing on women clients, were targeted to complete the distributed questionnaires. Out of the 375 participants, only 236 questionnaires were answered, representing a response rate of 62.9%. Regarding the three regions examined in this study, the majority of participants were from Johor (135; 57.2%), covering eight areas. This was followed by participants from Melaka (52; 22%), covering three areas, and Negeri Sembilan (49; 20.8%), covering four areas. The specific areas can be found in Table 4.2. In terms of age distribution, the respondents were categorized as 25-30 years old (2.1%), 31-40 years old (32.2%), 41-50 years old (46.6%), 51-60 years old (17.4%), and 60 years old and above (1.7%). Among the total of 235 respondents, the majority were Malays with 234 respondents (99.2%), while one participant each was Chinese and Indian, accounting for 0.4% each. In terms of highest educational qualifications, most participants held an SPM certificate (164; 69.5%), followed by STPM/Diploma holders (37; 15.7%), secondary school graduates (19; 8.1%), degree holders (10; 4.2%), certificate holders from skills programs and polytechnic institutes (4; 1.7%), and primary school graduates (2; 0.8%). In terms of marital status, the respondents were mainly married (209; 88.6%), with 25 respondents being divorced (10.6%) and 2 respondents being single (0.8%). Regarding the residential area of the participants, the majority resided in rural areas (130; 55.1%), while 44.9% lived in urban areas.

Table 2: Demographic Profile

Variable	Frequency	Percentage
REGION		
Johor	135	57.2
Melaka	52	22.0
Negeri Sembilan	49	20.8
Total	**236**	**100%**
AGE		
25 - 30 years old	5	2.1
31 – 40 years old	76	32.2
41- 50 years old	110	46.6
51 - 60 years old	41	17.4
Above 60 years old/	4	1.7
Total	**236**	**100%**
EDUCATION		
Primary	2	0.8
Secondary	19	8.1
SPM	164	69.5
Certificate	4	1.7
STPM/Diploma	37	15.7
Degree	10	4.2
Total	**236**	**100%**
RACE		
Malay	234	99.2
Chinese	1	0.4
Indian	1	0.4
Others	0	0
Total	**236**	**100%**

MARITAL STATUS		
Married	209	88.6
Divorce	25	10.6
Single	2	0.8
Total	**236**	**100%**
GEOGRAPHICAL LOCATION		
Rural	130	55.1
Urban	106	44.9
Total	**236**	**100%**

Partial Least Square – Structural Equation Modeling (Measurement Model): Confirmatory factor analysis (CFA) was used to establish reliability, discriminant validity, and convergent validity measures. Factor loadings should be taken into consideration while evaluating convergent validity (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). However, composite reliability (CR) and average variance extracted (AVE) could be applied to measure convergent validity. The majority of item loadings are greater than 0.5 (significant at $p<0.01$), and all average extracted variances (AVE) are greater than 0.5, as shown in Table 3. Additionally, the composite reliability (CR) for all variables is greater than 0.7 (Ramayah, Cheah, Chuah, Ting, & Memon, 2018).

Table 3: Discriminant Validity

Construct	Items	Loading	CR	AVE
Involvement in Microfinance	INV1	0.786	0.866	0.565
	INV2	0.784		
	INV3	0.724		
	INV4	0.743		
	INV5	0.718		
Social Capital	SC3	0.883	0.894	0.737
	SC4	0.806		
	SC5	0.884		
Training	TR1	0.904	0.955	0.810
	TR2	0.897		
	TR3	0.944		
	TR4	0.868		
	TR5	0.884		
Women Empowerment	WE1	0.768	0.909	0.666
	WE2	0.838		
	WE3	0.829		
	WE4	0.856		
	WE5	0.785		

Note: SC1 and SC2 were deleted due to low loading.

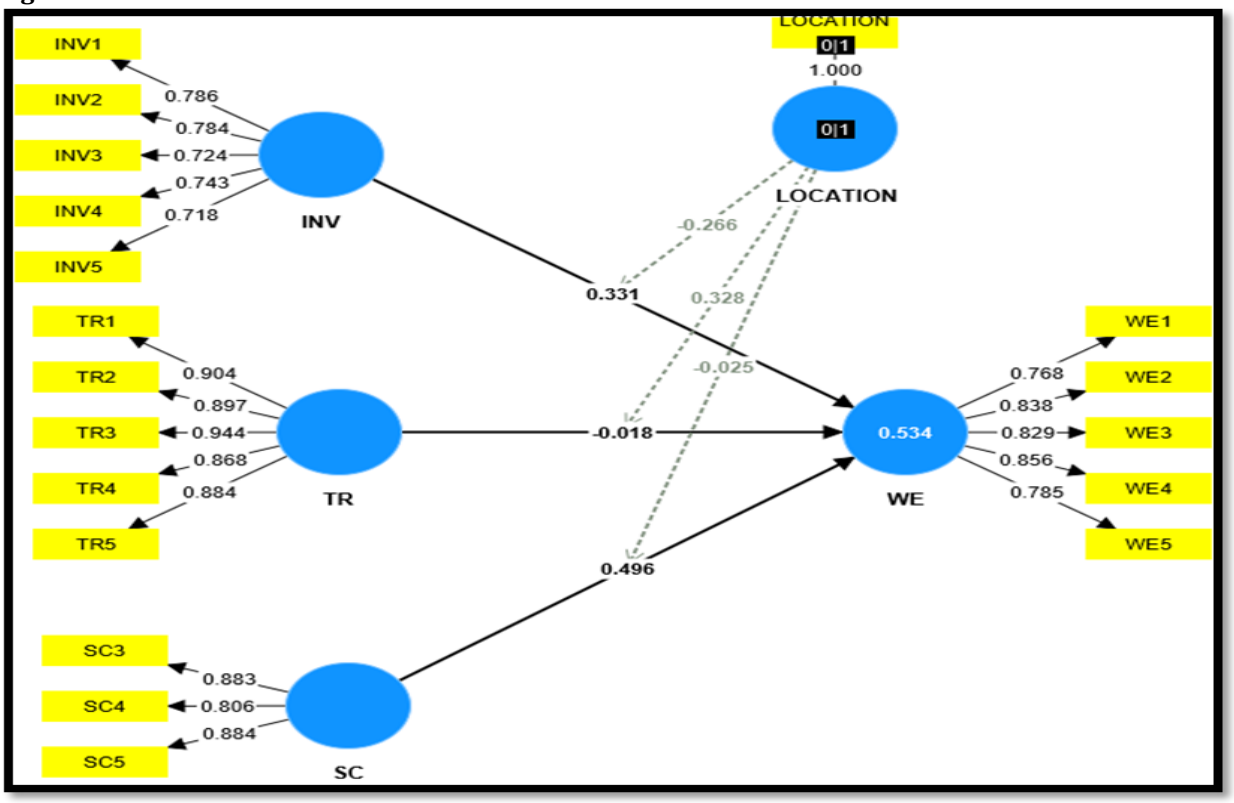
Additionally, the Heterotrait Monotrait (HTMT) was employed in the current investigation as the discriminant criterion for establishing discriminant validity (Henseler, Ringle, & Sarstedt, 2015). They claim that discriminant validity is achieved when there is a correlation value between constructs of less than one. However, a more conservative criterion of 0.85 implies a significantly sharper contrast between the ideas (Kline, 2016). Table 4 displays correlation estimates for HTMT evaluations. Less than 0.85 was the correlation coefficient between the tested constructs. As a result, this finding demonstrates that the requisite degree of discriminant validity was attained through the evaluation of HTMT.

Table 4: Heterotrait Monotrait (HTMT)

CONSTRUCT	INV	LOC	SC	TR	WE
INVOLVEMENT (INV)					
LOCATION (LOC)	0.127				
SOCIAL CAPITAL (SC)	0.636	0.056			
TRAINING (TR)	0.730	0.038	0.784		
WOMEN'S EMPOWERMENT (WE)	0.627	0.114	0.791	0.643	

Partial Least Square – Structural Equation Modeling (Structural Model): The endogenous variable's R^2 score is utilized to compute the explained variance. An R^2 value greater than 0.60 suggests a high value, 0.30 to 0.60 shows a moderate value, and less than 0.30 indicates a low value (Sandin, Sanchez-Arribas, Chorot, & Valiente, 2015). According to Figure 1, the R^2 value for all exogenous factors (INV, SC, TR, and LOC) might be responsible for 53.4% of women's empowerment.

Figure 1: Measurement Model



A hypothesis is represented by each connection between two constructs in the structural model. The researcher was able to test or refute each hypothesis and gauge the strength of the association between the independent and dependent variables through the structural model analysis. By contrasting the beta (β) values within the route model, the path coefficients of all the variables were evaluated. Based on the conclusion that high values indicated the strongest relationship between the exogenous constructs and the endogenous construct. The relationship between the independent and dependent variables was examined using the output of the Smart PLS to determine the strength of the relationships. To evaluate the significance level in partial least square structural equation modeling (PLS-SEM), however, t-statistics for each path were produced using the PLS-SEM bootstrapping method. Based on the t-statistics result, the significance level of each association has been established. Table 5 lists all of the predicted pathways' path coefficients, observed t-statistics, and significance levels.

According to recommendations made by (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014), the acceptable t-values for calculating the significance level for the one-tailed test were 1.28 (10% significance level at $p<0.10$), 1.645 (5% significance level at $p<0.05$), and 2.33 (1% significance level at $p<0.01$). Two of the paths did not support the hypotheses, according to the study of the path coefficients in Table 5, which indicates mixed results. The majority of the t-values were higher than the 0.05 or 5% cut-off for significance, which is the minimum value required (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). In terms of the endogenous construct of women's empowerment, INV (=0.331, t=3.705, $p<0.01$) and SC (=0.496, t=5.224, $p<0.01$) exhibit favorable and significant associations with it. In light of this, both hypotheses (H1: INV has a positive significant effect on women's empowerment and H2: SC has a positive significant influence on women's empowerment) are validated. However, neither LOC (=-0.111, t=1.107, not significant) nor TR (=-0.018, t=0.190, not significant) significantly affect the empowerment of women. H3 (TR and women's empowerment have a significant relationship) and H4 (LOC and women's empowerment have a significant relationship) are therefore not supported.

Table 5: Result of Hypotheses Tests Based on the Path Coefficients, T-Statistics, P Values, and Confidence Interval

Hypotheses	Relationship	Std Beta	Std Error	T-Values	P-Values	LL	UL
H1	INV -> WE	0.331	0.089	3.705	0.000**	0.185	0.470
H2	SC -> WE	0.496	0.095	5.224	0.000**	0.350	0.649
H3	TR -> WE	-0.018	0.096	0.190	0.425	-0.207	0.129
H4	LOC -> WE	-0.111	0.100	1.107	0.135	-0.267	0.074
H4a	LOC x INV -> WE	-0.266	0.138	1.921	0.028*	-0.476	-0.025
H4b	LOC x SC -> WE	-0.025	0.141	0.176	0.430	-0.252	0.197
H4c	LOC x TR -> WE	0.328	0.158	2.079	0.019*	0.054	0.579

Note: one-tailed: *p <0.05 (t ≥ 1.645), **p <0.01 (t ≥ 2.33). INV=Involvement in Microfinance, SC=Social Capital, TR=Training, LOC= Location, WE=Women Empowerment.

In addition, the analysis of moderating the effectiveness of microfinance also found that LOCa (β=-0.266, t=1.921, $p<0.05$) and LOCc (β= 0.328, t=2.079, $p<0.05$) have the ability to influence INV and TR respectively, thus supporting H4a (Location moderates the relationship between INV and WE) and H4c (Location moderates the relationship between TR and WE). However, H4b (Location moderates the relationship between SC and WE) is not supported.

Findings: The findings of the study align with H1, which states that there is a significant relationship between involvement in microfinance and women's empowerment. These findings are consistent with previous research that has demonstrated the positive impact of microfinance on women's empowerment, including indicators such as increased income, improved gender equality, expanded access to financial capital, and enhanced entrepreneurial success (Al-Shami et al., 2016; Faridi et al., 2022). Additionally, the data indicates a significant result ($p<0.05$) of 0.000, in line with previous studies emphasizing the importance of social capital in enhancing women's empowerment (Hameed, 2019). Social capital, characterized by trust and reciprocity, acts as an element to strengthen women's empowerment through microfinance programs, particularly through social group activities (Kumar et al., 2018). Previous research has also confirmed the positive and significant influence of social capital on women's empowerment (Widiyanti et al., 2018). However, the data reveals a negative relationship ($p<0.05$) of 0.429 between training and women's empowerment, which aligns with previous research suggesting that training programs have either a limited or insignificant impact on women's empowerment (Khan et al., 2017).

Previous studies have presented varying conclusions based on the collected data regarding the relationship between training and women's empowerment (Ul-Hameed, Mohammad, & Shahar, 2018). Some researchers have consistently found a positive association between training and women's empowerment, including studies by Samer et al. (2015) and Tammili, Mohamed, and Terano (2017). Besides, the outcomes of training programs have been shown to transform individuals' perception of opportunities and challenges, leading to increased motivation levels among entrepreneurs (Bembenutty, White, & DiBenedetto, 2016; Haider, Asad,

Fatima, & Zain, 2017). These programs also help women improve their ability to effectively utilize loans by educating themselves (Ul-Hameed, Mohammad, & Shahar, 2018). However, the data collected in the present study does not indicate a significant relationship between the location of microfinance borrowers and women's empowerment. Specifically, the focus is on urban areas. The p-value of 0.430 contradicts previous research suggesting that long distances to access microfinance or locating business activities far from urban areas may hinder the process of women's empowerment (Alimukhamedova, Filer, & Hanousek, 2017; Akingunola, Olowofela, & Yunusa, 2018).

According to a similar study conducted by Alimukhamedova, Filer, and Hanousek (2017), it is suggested that individuals residing in urban areas are not necessarily more empowered compared to those in rural areas. Urban residents face their own set of challenges, such as dealing with traffic congestion and the need to travel long distances to access microfinance services. On the other hand, accessing microfinance facilities in rural areas is more difficult due to the significant distances between locations, which hampers the optimal utilization of these services (Hussaini & Chibuzo, 2018). The participation rate in microfinance programs was also found to be lower in rural areas due to the vast geographical distances (Joshi, 2019). Furthermore, a study indicates that urban residents, who are typically in closer proximity to one another, have stronger social connections and are more likely to leverage the available social capital (Postelnicu & Hermes, 2018). Another argument put forth is that urban residents are generally more receptive to training programs due to their access to basic knowledge and education (Adhariani, 2022).

5. Managerial Implications and Recommendations

It is recommended to conduct further studies to investigate the relationship between variables, with a focus on geographical location as the moderator, among participants of AIM in the remaining states. This will help determine the level of women's empowerment in Malaysia and ensure the effectiveness of microfinance programs across different areas of residence. Considering that women's empowerment currently stands at 71.4% with a modest improvement of 0.5% (DOSM, 2022), it is crucial to sustain microfinance initiatives and bridge the gender equality gap. Besides, the content of training programs should be thoroughly analyzed to ensure their quality and effectiveness, enabling trainees to derive maximum benefits. Making participation in AIM's training programs mandatory for borrowers can contribute to enhancing their entrepreneurship skills. Maintaining equal opportunities to access microfinance under AIM is essential, ensuring that it is easily accessible to empower impoverished women in both rural and urban areas. A proposed collaboration between AIM and the Zakat institution aims to address issues of poverty. Given the limited availability of Zakat funds, AIM can assist by identifying potential borrowers from Zakat's ASNAF database, supporting them in becoming entrepreneurs and improving their economic status.

Conclusion: In assessing the relationship between participation in microfinance, social capital, and training in women's empowerment, the study has succeeded in achieving its research goals. The statistics demonstrate that microfinance was consistent with earlier research to increase women's empowerment, hence reducing poverty (Maulidia & Nur, 2022). The results of our research on this subject are therefore presented in this chapter. The variables used to assess the effectiveness of women's empowerment have been continuously employed in past research. For instance, the involvement in microfinance has been evaluated by researchers such as Joshi (2019) and Duvendack and Mader (2019). Meanwhile, the impact of social capital has been examined by Yusuff, Bakar, and Ahmad (2018) and Ado and Mata (2020). The role of training programs in enhancing entrepreneurship skills has been investigated by Ul-Hameed, Mohammad, and Shahar (2018) and Hameed (2019), while the importance of organizing these programs actively has been emphasized by relevant stakeholders, as noted by Norma and Jarita (2010). The geographic location and residential areas between urban and rural areas were also studied by (Omar, Supian, Noor, & Dahalan, 2012), and (Misnan, Abdul, & Othman, 2015). This study emphasizes how microfinance has a good impact on women's empowerment as one of the key goals of eradicating poverty.

AIM, TEKUN, and the financial inclusions provided by Islamic banking today have all served as markers of the dedication and commitment of the government and stakeholders to advance the United Nations' goals. AIM, the pioneering microfinance institution, consistently expands its scope and showcases exceptional achievements, as demonstrated by its consecutive recognition with the prestigious "Best Islamic Microfinance

Institution" international award for both 2020 and 2021. The AIM borrowers' track record of payback was emphasized as being above 99%, demonstrating their ability to be financially stable and raise their family's economic standing (Awani, 2022). Social capital was also discovered during the program to be a crucial aspect to increase microfinance's effectiveness. But contrary to the bulk of previous findings, this study indicated that the training was not significant. By examining the geographic location and comparing urban and rural locations, it was discovered that the location of microfinance borrowers had little bearing on the empowerment of women. Although it has been said that urban dwellers tend to be more educated and advanced (Hussaini & Chibuzo, 2018), this does not necessarily translate to a good impact on women's empowerment due to difficulties like difficult access and lengthy wait times in traffic (Alimukhamedova, Filer, & Hanousek, 2017).

References

Acosta, L. (2013). Economic Empowerment Of Women. Retrieved from UN Women: https://www.unwomen.org/sites/default/files/Headquarters/Attachments/Sections/Library/Publications/2013/12/UN%20Women_EE-Thematic-Brief_US-web%20pdf.pdf

Adhariani, D. (2022). Microfinance and the Role of Accounting in Supporting Family-Resilience-Based Women's Empowerment. *Qualitative Report.*, 27(2), 366–384.

Ado, B. & Mata, K. (2020). The Effect of Social Capital on the Performance of Women Entrepreneurs. European Journal of Business and Management, 82–90.

AIM. (2008). Pembangunan Lestari Keluarga Miskin Melalui Kewangan Mikro-Penemuan Kajian Impak 6. Amanah Ikhtiar Malaysia.

AIM. (2015). Kajian Impak Skim Pembiayaan Amanah Ikhtiar Terhadap Peningkatan Taraf Hidup Sahabat (Kajian Impak 7). Amanah Ikhtiar Malaysia.

Akingunola, R. O., Olowofela, E. O. & Yunusa, L. (2018). Impact of Microfinance Banks on Micro and Small Enterprises in Ogun State, Nigeria. *Binus Business Review*, 9(2), 163–169.

Aktaruzzaman, K. & Farooq, O. (2020). Microfinance and Domestic Violence. The Journal of Adult Protection, 333-351.

Ali, A. M. & Aziz, M. A. (2014). Zakat Poverty Line Index and Gender Poverty in Malaysia: Some Issues and Practices. International Journal of Business and Social Science, 286-293.

Alimukhamedova, N., Filer, R. & Hanousek, J. (2017). The importance of geographic access for the impact of microfinance. *Development Policy Review*, 35(5), 645–657.

Al-Shami, S. S., Majid, I., Rizal, S., Muhamad, M. R., Sarah, H. & Rashid, N. (2015). The Impact of Malaysian Microfinance on Women's Livelihood. Advanced Science Letters, 2046–2049.

Al-Shami, S., Razali, M., Majid, I., Rozelan, A. & Rashid, N. (2016). The effect of microfinance on women's empowerment: Evidence from Malaysia. *Asian Journal of Women's Studies*, 22(3), 318-337.

Awang, Z., Afthanorhan, A. & Asri, M. M. (2015). Parametric and Non Parametric Approach in Structural Equation Modeling (SEM): The Application of Bootstrapping. *Modern Applied Science*, 9, 58-67.

Awani, A. (2022). AIM Terima Pengiktirafan Antarbangsa Institusi Mikrokredit Terbaik. Retrieved from Astro Awani: https://www.astroawani.com/berita-bisnes/aim-terima-pengiktirafan-antarabangsa-institusi-mikrokredit-terbaik-354818?amp=1

Basaffar, A., Niehm, L. & Bosselman, R. (2018). Saudi Arabian Women In Entrepreneurship: Challenges, Opportunities And Potential. Journal of Developmental Entrepreneurship., 23.

Basit, A., Hassan, Z. & Sethu, S. (2020). Entrepreneurial Success: Key Challenges Faced by Malaysian Women Entrepreneurs in the 21st Century. International Journal of Business and Management, 122-138.

Bembenutty, H., White, M. & DiBenedetto, M. (2016). Applying social cognitive theory in the development of self-regulated competencies throughout K-12 grades. Psychosocial skills and school systems in the 21st century. Theory, Research, and Practice., 215-239.

Bhumeeka, B., Kumari, N., Pallavi, Ahmed, A. & Pandey, S. M. (2023). Empowering The Women Through Microfinance In India. European Journal of Molecular & Clinical Medicine, 617-620.

Brush, C., De Bruin, A. & Welter, F. (2009). A Gender-Aware Framework for Women's Entrepreneurship. International Journal of Gender and Entrepreneurship, 8-24.

Chowdhury, M. (2007). Overcoming entrepreneurship development constraints: the case of Bangladesh. Journal of Enterprising Communities: People and Places in the Global Economy.

DOSM. (2022). Department of Statistics (DOSM). Retrieved from "Salaries & Wages Survey Report, Malaysia, 2020.

Duvendack, M. & Mader, P. (2019). Impact of financial inclusion in low- and middle-income countries: A systematic review of reviews. *Campbell Systematic Reviews.*, 15(1–2).

Faridi, M., Nawaz, S. & Bibi, S. (2022). Islamic Microfinance and Women Entrepreneurial Success: Mediating Role of Human Capital. *Journal of Accounting and Finance in Emerging Economies*, 8(1), 1–12.

Gefen, D., Rigdon, E. & Straub, D. (2011). An Update and Extension to SEM Guidelines for Administrative and Social Science Research. *MIS Quarterly*, 35, III–XII.

Geta, E. & Tilahun, H. (2017). Access to Microcredit and its Effect on Crop Productivity and Household Income in Hawassa Zuria District of Sidama Zone Southern Ethiopia. Global Journal of Current Research, 128–134.

Haider, S., Asad, M., Fatima, M. & Zain, U. R. (2017). Microfinance and Performance of Micro and Small Enterprises: Does Training Have an Impact? *Journal of Entrepreneurship and Business Innovation*, 4(1), 1.

Hair, F. J., Sarstedt, M., Hopkins, L. & Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121.

Hameed, W. U. (2019). The Effects Of Microfinance Factors, Social Capital And Vulnerability On Women-Empowerment In Southern Punjab, Pakistan. Sintok: UUM.

Hansen, N., Huis, M. A. & Lensink, R. (2020). Microfinance Services and Women's Empowerment. San-Jose, L., Retolaza, J., van Liedekerke, L.: Handbook on Ethics in Finance. International Handbooks in Business Ethics. Springer, Cham.

Henseler, J., Ringle, C. & Sarstedt, M. (2015). A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. *Journal of the Academy of Marketing Science*, 43, 115–135.

Hossain, F. & Knight, T. (2008). Can micro-credit improve the livelihoods of the poor and disadvantaged? *International Development Planning Review*, 30(2).

Hussaini, U. & Chibuzo, I. (2018). The effects of financial inclusion on poverty reduction: The moderating effects of microfinance. *International Journal of Multidisciplinary Research and Development*, 5(12), 188–198.

Islam, M. T., Shrabani, S. & Mahfuzur, R. (2023). Diversity–performance nexus in an emerging economy: an investigation of family and non-family firms. International Journal of Emerging Markets.

Jamal, M. A., Raihana, A. A. & Sultana, Y. H. (2016). Empowerment of Muslim women through microfinance and self-help groups: A case study of Chennai City. Asian Business Review, 117-124.

Joshi, G. (2019). An analysis of women's self-help groups' involvement in microfinance programs in India. *Rajagiri Management Journal*, 13(2), 2–11.

Kamaluddin, A., Hadi, N. A., Alam, M. M. & Adil, M. M. (2015). Social collateral model for Islamic microfinance. *The Journal of Developing Areas*, 49(5), 353-363.

Kapila, M., Singla, A. & Gupta, M. L. (2016). Impact of microcredit on women empowerment in India: An empirical study of Punjab state. Proceedings of the World Congress on Engineering (p. Vol 2). London: Newswood Limited.

Kelley, D., Baumer, B., Brush, C., Greene, P., Mahdavi, M., Majbouri, M. & Heavlow, R. (2017). Women's Entrepreneurship 2016/2017 report. Kelley, Donna J., Benjamin S. Baumer, Candida Brush, Patrica G. Greene, Mahnaz Mahdavi, Mahdi Majbouri, Marcia Cole, Monica Dean, and René Heavlow.: Global Entrepreneurship Research Association.

Khan, I., Bibi, S. & Javaid, A. (2017). Solving Poverty through Management: Experience in Pakistan. *European Online Journal of Natural and Social Sciences*, 6(4), 637–645.

Kline, R. B. (2016). Principles and Practice of Structural Equation Modeling (4th ed.). New York: The Guilford Press.

Koveos, P. (2004). Financial services for the poor: Assessing microfinance institutions. *Managerial Finance.*, 30(9), 70-95.

Kumar, N., Scott, S., Menon, P., Kannan, S., Cunningham, K., Tyagi, P. & Quisumbing, A. (2018). Pathways from women's group-based programs to nutrition change in South Asia: A conceptual framework and literature review. Global Food Security, 172-185.

Lazer. (2008). Microfinance and poverty eradication-Indian and global experience. New Delhi: New Century.

Lazer, D. (2004). DNA and the criminal justice system: The technology of justice. MIT Press.

Maulidia, S. & Nur, M. (2022). Islamic Microfinance Institutions and Empowering Women-Based MSMEs in an Effort to Reduce Poverty: Study at KSPPS Baytul Ikhtiar Bogor. *Focus*, 3(1), 27–47.

Mayoux, L. (2001). Tackling the Down Side: Social Capital, Women's Empowerment and Micro-Finance in Cameroon. Development and Change, 435–464.

Misnan, N. S., Abdul, M. H. & Othman, F. (2015). The Role of Microcredit in Promoting Women's Entrepreneurship Skills: Lesson from Amanah Ikhtiar Malaysia (AIM), Malaysia. Special Issue on Social Entrepreneurship, 39–51.

Mosley, P. & Mayoux, L. (1999). Questioning virtuous spirals: micro-finance and women's empowerment in Africa. Journal of International Development, 957–984.

Nicholas, C. (2021). Self-help Groups as Platforms for Development: The Role of Social Capital. World Development, 146.

Noor, M. Z., Che Mat, S. H. & Abdul Hakim, R. (2013). Impak kredit mikro ke atas ketaksamarataan pendapatan di kalangan sahabat amanah ikhtiar. *Jurnal Ekonomi Malaysia*, 47(1), 75–86.

Norma, M. S. & Jarita, D. (2010). Determinants of Economic Performance of Micro-Credit Clients and Prospect of Islamic Microfinance in Malaysia. *ISRA International Journal of Islamic Finance*, 2(1), 113–130.

Nugroho, A. E. (2010). Market Segmentation, Social Capital and Welfare – Outreach in Microfinance: A Case Study of Indonesia. Curtin University: Doctoral dissertation.

Nurasyiah, A., Miyasto, M., Mariyanti, T. & Beik, I. S. (2020). Women's Empowerment and Family Poverty in the Tawhidi Epistemological Approach. International Journal of Ethics and Systems, 4.

Omar, M., Supian, C., Noor, M. & Dahalan, N. (2012). The Economic Performance of the Amanah Ikhtiar Malaysia Rural Microcredit Programme : A Case Study in Kedah. *World Journal of Social Sciences*, 2(5), 286–302.

Postelnicu, L. & Hermes, N. (2018). Microfinance Performance and Social Capital: A Cross-Country Analysis. *Journal of Business Ethics*, 153(2), 427–445.

Ramayah, T. J., Cheah, J., Chuah, F., Ting, H. & Memon, M. A. (2018). Partial least squares structural equation modeling (PLS-SEM) using smartPLS 3.0. An updated guide and practical guide to statistical analysis. Kuala Lumpur, Malaysia: Pearson.

Rhyne, E. & Otero, M. (2006). Microfinance through the next decade: Visioning the who, what, where, when and how. Boston, MA:: Accion International.

Samer, S., Majid, I., Rizal, S., Muhamad, M. R., Halim, S. & Rashid, N. (2015). The Impact of Microfinance on Poverty Reduction: Empirical Evidence from Malaysian Perspective. *Procedia - Social and Behavioral Sciences*, 195, 721–728.

Sandin, B., Sanchez-Arribas, C., Chorot, P. & Valiente, R. M. (2015). Anxiety sensitivity, catastrophic misinterpretations and panic self-efficacy in the prediction of panic disorder severity: Towards a tripartite cognitive model of panic disorder. *Behavior Research and Therapy*, 67, 30-40.

Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L. & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology & Marketing*, 39(5), 1035-1064.

Sekaran, U. & Bougie, R. (2016). Research methods for business: A skill building approach. John Wiley & Sons.

Selvi, D. V. (2018). Opportunities and Challenges of Women Empowerment in India. Bonfring International Journal of Industrial Engineering and Management Science, 158-168.

Tammili, F. N., Mohamed, Z. & Terano, R. (2017). Effectiveness of the Microcredit Program in Enhancing Micro-Enterprise Entrepreneurs' Income in Selangor. Asian Social Science, 71.

Tiwari, A. & Thakkur, S. (2007). SHG-based Microfinance programs –Can they remove poverty. London and New York: Routledge.

Ul-Hameed, W., Mohammad, H. & Shahar, H. (2018). Microfinance institute's non-financial services and women-empowerment: The role of vulnerability. *Management Science Letters*, 8(10), 1103–1116.

UNDAF. (2015). Theory of Change: UNDAF Companion Guidance. In United Nations Development Group.

Widiyanti, E., Pudjihardjo, P. & Saputra, P. (2018). Tackling Poverty through Women Empowerment: The Role of Social Capital in Indonesian Women's Cooperative. *Jurnal Ekonomi Dan Studi Pembangunan*, 10(1), 44–55.

World Bank. (2019). Ending Poverty, Investing in Opportunity. The World Bank Annual Report 2019.

Yusuff, Y. Z., Bakar, A. A. & Ahmad, S. (2018). Relationship Between Financial Capital, Social Capital and Women Entrepreneurs' Business Performance. *Advanced Science Letters*, 24(1), 202–204.

Information Management and Business Review (IMBR)
Vol. 15, No. 2, June 2022 (ISSN 2220-3796)

Job Satisfaction and Turnover Intention among Employees in Educity, Johor

Nur Dalilah Dahlan, Mohamad Firdaus Ahmad*, Nur Syazwani Zulaikha Safwan, Nur Hani Syazwani Bakri & Ummi Kalthum Mohd Mokhtar
Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Cawangan Negeri Sembilan, Kampus Seremban, Malaysia
dalilahdahlan90@uitm.edu.my, firdaus466@uitm.edu.my*, syazwanisafwan@gmail.com, hanisyazwani@uitm.edu.my, ummikalthum@uitm.edu.my

Abstract: Turnover among employees is a major issue that significantly has an impact on human resource management and organizational success. One of the key aspects of turnover is the loss of valuable knowledge and technical skills, which is particularly prominent in sports organizations. Thus, this study explored the relationship between job satisfaction and turnover intention in Educity, Johor. The research employed a quantitative design and involved distributing a questionnaire containing 40 items that assessed job satisfaction and turnover intention to 40 employees in Educity, Johor. The findings revealed a clear and negative association between job satisfaction and turnover intention. In other words, employees who are satisfied with their job are less likely to leave the organization. Consequently, the results of this study can be utilized to enhance employee well-being, guide future research, and inform human resource planning and development. It is recommended that policies be improved based on these findings, and further surveys should be conducted with a new sample.

Keywords: *Job Satisfaction, Turnover Intention, Sports Organization, Educity, Employees.*

1. Introduction

Employees are a valuable asset to the organization in carrying out its activities. The organization must keep its finest employees, so they do not leave or move to work for another company. The fact is that there are still a significant number of employees that choose to quit and work for another organization. Turnover puts the organization in danger of losing potential employees, particularly turnover caused by the employee's desire (voluntary turnover) (Safwan et al., 2023). Employee turnover from an organization is a critical occurrence for an organization's long-term viability. If turnover is significant, the organization will hire to fill or replace people who leave (Ahmad et al., 2022). Job satisfaction is a subject of extensive research and holds significant importance. For organizations to be successful, they must continuously ensure employee satisfaction. Ali and Anwar (2021) defined job satisfaction as the emotional state and overall sentiment of individuals toward their current employment. It is widely acknowledged that contented employees tend to exhibit enhanced effectiveness and productivity within their organizations. According to Aburumman et al. (2020), focusing on job satisfaction enables organizations to foster positive outcomes, such as employee contentment, while reducing employee turnover. Employee turnover represents a substantial challenge for human resource management practices and organizational achievements. Particularly within sports organizations, high turnover rates can have a considerable effect on profitability.

Productivity, and quality due to the loss of valuable technical skills and knowledge (Scholtz et al., 2019). The turnover rate of any business directly affects operating costs, including expenses associated with training new employees, and ultimately impacts the organization's overall profitability. Past studies have identified various factors that influence job satisfaction and lead employees to leave their organizations, with low salaries being one of them. According to Azlan (2021), dissatisfaction with salaries was reported as the primary reason for attrition by 57% of employers. Limited opportunities for career advancement (41%) and more attractive benefits offered by other companies (32%) were also significant factors. As the turnover of mid-career professionals continues to increase, organizations face difficulties in attracting suitable talent within their budgetary limitations. This proved that the turnover among employees can be influenced by their level of satisfaction with their current job. Previous research highlights the significance of organizations having a comprehensive understanding of job satisfaction and employee turnover intentions. By prioritizing these aspects, organizations can ensure the smooth functioning of their management systems and enhance the likelihood of achieving organizational goals. Maintaining high levels of job satisfaction and minimizing

employee turnover intentions become crucial in this regard. Thus, this study aims to examine the relationship between job satisfaction and turnover intention among employees in Educity, Johor.

2. Literature Review

According to Ali and Anwar (2021), job satisfaction can be described as an individual's attitude towards their current job, reflecting their level of contentment or discontentment. It is influenced by several factors, including satisfaction with promotion opportunities, relationships with colleagues, salary, and equal employment opportunities. Bulińska-Stangrecka and Bagieńska (2021) defined job satisfaction as a positive emotional state that arises when one's expectations are met and one 0derive value from their current employment position. Other than that, according to Asegid (2014) cited in Ramadhani (2014), employee job satisfaction refers to the feeling of contentment, pleasure, and pride that one derives from one's work. It is not the pay or perks that keep people at their jobs; it is the benefit they get from their work. Employee job satisfaction can be defined as how workers feel about their jobs. One of the many positive outcomes that can result from satisfied workers is a more amicable relationship between the business and its staff.

Ramadhani (2014) defined turnover as the opposite of retention, representing the percentage of employees who leave a business for various reasons. It encompasses the movement of individuals from one job to another within the labor market, including transitions between jobs, careers, or even between unemployment and employment. Employee turnover poses a significant challenge for many companies, as it leads to increased costs, particularly in minimum-wage jobs (Ahmad et al., 2022). Saeed et al. (2014) highlight that turnover rates in an organization are influenced by multiple factors, which can originate from both employees and employers. According to Asrar-ul-Haq et al. (2019), these considerations might include things like wages, benefits, and overall compensation, as well as an analysis of the job. According to Mobley (2011), cited in Dewi and Nurhayati (2021), the effects of the current turnover rate will be felt by the company and its employees alike. Workload, recruitment costs, training expenses, decreased work quality, imprudence, and increased stress among employees are some ways a high turnover rate can negatively impact an organization.

Pinglim et al. (2017) discovered an interesting correlation between job satisfaction and turnover intention, revealing that higher levels of job satisfaction among employees are associated with a decreased desire to leave their current positions. This finding aligns with what Skelton et al. (2019) mentioned which identified promotion, the job itself, and supervision (excluding coworkers) as key factors that negatively impact turnover intention. In other words, when employees experience satisfaction in these areas, they are less likely to consider leaving their jobs. The research by Mahdi et al. (2019) further supports these findings by emphasizing the significant negative effect of job satisfaction on turnover intentions. Similarly, Noviantoro et al. (2018) and Turgut et al. (2017) have also corroborated the negative relationship between job satisfaction and turnover intention. Overall, these studies collectively demonstrate that high levels of job satisfaction are linked to a reduced likelihood of employees seeking alternative employment opportunities.

3. Methodology

A correlational design was used in measuring the relationship between job satisfaction and turnover intention. In this study, 40 employees in Educity Johor participated in answering the questionnaire. The job satisfaction survey was adapted from Spector (1994) consisting of 36 items, and 4 items from the Michigan Organizational Assessment Questionnaire by Lawler et al. (1975) were used. All items in the questionnaire were based on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Before an actual study was conducted, a pilot study was done to ensure the questionnaire used was reliable. A total of 30 samples were used to represent the respondents. Table 1 shows the result of the Cronbach alpha value for Job Satisfaction and Turnover Intention.

Table 1: Cronbach Alpha Values for Job Satisfaction and Turnover Intention

Construct	Number of Items	Cronbach Alpha
Job Satisfaction	36	0.934
Turnover Intention	4	0.946

4. Results and Discussion

Through Pearson's analysis, a relationship between job satisfaction and turnover intention among Educity employees was examined. The analysis revealed a significant and negative correlation between job satisfaction and turnover intention ($r = -0.744$, $p < 0.05$). This finding suggests that when employees experience higher levels of job satisfaction, their intention to leave the organization diminishes. In other words, a positive and fulfilling work environment may contribute to reduced turnover intentions among employees.

Table 2: Relationship between Job Satisfaction and Turnover Intention

		Turnover Intention
Job Satisfaction	Pearson Correlation	-.744**
	Sig. (2-tailed)	.000
	N	40

The research conducted on Educity employees revealed a significant and negative relationship between job satisfaction and turnover intention. This finding aligns with a previous study conducted by Mawardi (2022) among lecturers in Indonesia, which also demonstrated a significant correlation between job satisfaction and turnover intention. These results indicate that employees at Educity generally experience higher levels of job satisfaction, leading to a reduced likelihood of considering leaving their current positions. However, it's important to acknowledge that contrasting viewpoints may exist. When employees feel content and satisfied with their work, they tend to exhibit stronger dedication, loyalty, and connection to the company, which diminishes their desire to explore other job prospects. This notion is supported by Ahakwa et al. (2021), who emphasize that dedicated workers often exhibit loyalty towards organizations that provide a safe and happy working environment.

When an employee's job satisfaction is met and they feel content with their work, it can be inferred that they are less likely to leave the organization. Conversely, if an employee's job satisfaction remains low, their intention to leave the organization is more likely to increase. These findings align with previous studies conducted by Thakre and Shroff (2016) and Kalidass and Bahron (2015), which also found a negative relationship between organizational commitment and turnover intention. To address this issue, organizations should strive to reduce this disparity by focusing on increasing employee satisfaction and decreasing turnover. Wu and Chi (2020) further emphasized that satisfied employees tend to perceive other job opportunities as less appealing, resulting in reduced motivation to actively seek alternative employment.

5. Conclusion and Recommendations

In conclusion, a significant and moderate negative relationship exists between job satisfaction and turnover intention among Educity employees. This study has provided valuable insights into the significant connection between job satisfaction and turnover intention among employees. The results unequivocally demonstrate that job satisfaction plays a pivotal role in shaping employees' inclination to leave an organization. When employees experience high levels of job satisfaction, their likelihood of considering resignation decreases. Consequently, organizations must prioritize initiatives to improve job satisfaction to mitigate turnover rates. By comprehending the factors contributing to job satisfaction, organizations can formulate effective strategies and policies that cultivate a positive work environment conducive to satisfaction and retention. Hence, this study recommends future studies using interview sessions to determine employees' job satisfaction in expanding the study's findings. It can give highly beneficial results as the researcher can

interpret the emotion and feelings of respondents. As a result, this research closed a research gap in the literature review regarding job satisfaction and intention to leave an organization.

References

Aburumman, O., Salleh, A., Omar, K. & Abadi, M. (2020). The impact of human resource management practices and career satisfaction on employee's turnover intention. *Management Science Letters*, 10(3), 641-652.

Ahakwa, I., Yang, J., Tackie, E. A. & Atingabili, S. (2021). The influence of employee engagement, work environment and job satisfaction on organizational commitment and performance of employees: a sampling weight in PLS path modeling. *SEISENSE Journal of Management*, 4(3), 34-62.

Ahmad, M. F., Safwan, N. S. Z., Dahlan, N. D., Bakri, N. H. S., Tumijan, W. & Aznan, E. A. M. (2022). Exploring Human Resource Management Practices and Employability: A Study on Sports Graduates in Malaysia. Hong Kong Journal of Social Sciences.

Ahmad, M. F., Salamuddin, N. & Surat, S. (2022). Comparing Public and Private Sectors in Malaysia: A Study of Human Resource Management Practices among Sports Graduates. *Journal of Academic Research in Business and Social Sciences*, 12(1), 1033-1046.

Ali, B. J. & Anwar, G. (2021). Employee Turnover Intention and Job Satisfaction. Ali, B. J. & Anwar, G. (2021). Employee Turnover Intention and Job Satisfaction. *International Journal of Advanced Engineering, Management and Science*, 7(6), 22-30.

Asrar-ul-Haq, M., Ali, H. Y., Anwar, S., Iqbal, A., Iqbal, M. B., Suleman, N., Sadiq, I. & Haris-ul-Mahasbi, M. (2019). Impact of organizational politics on employee work outcomes in higher education institutions of Pakistan: The moderating role of social capital. South Asian Journal of Business Studies.

Azlan, A. (2021). Employees resign on salary dissatisfaction, lack of career progression, says Mercer. https://themalaysianreserve.com/2021/10/15/employees-resign-on-salary-dissatisfaction-lack-of-career-progression-says-mercer/

Bulińska-Stangrecka, H. & Bagieńska, A. (2021). The role of employee relations in shaping job satisfaction as an element promoting positive mental health at work in the era of COVID-19. *International journal of environmental research and public health*, 18(4), 1903.

Ramadhani, S. (2014). Factors influencing job satisfaction and turnover intentions in commercial Banks (Doctoral dissertation, The Open University of Tanzania).

Dewi, R. S. & Nurhayati, M. (2021). The effect of career development on the turnover intention with job satisfaction and organizational commitment as mediators, study at PT Control Systems Arena Para Nusa. *European Journal of Business and Management Research*, 6(4), 11-18.

Kalidass, A. & Bahron, A. (2015). The Relationship between Perceived Supervisor Support, Perceived Organizational Support, Organizational Commitment and Employee Turnover Intention. *International Journal of Business Administration,* 6(5), 1–12. https://doi.org/10.5430/ijba.v6n5p82

Konting, M. M., Kamaruddin, N. & Man, N. A. (2009). Quality assurance in higher education institutions: Exit survey among Universiti Putra Malaysia graduating students. *International Education Studies,* 2(1).

Lawler, E., Cammann, C., Nadler, D. & Jenkins, D. (1975). Michigan Organizational Assessment Questionnaire (MOAQ) [Database record]. APA PsycTests.

Mahdi, A. F., Zin, M. Z. M., Nor, M. R. M., Sakat, A. A. & Naim, A. S. A. (2019). The relationship between job satisfaction and turnover intention. *American Journal of Applied Sciences,* 9(9), 1518–1526. https://doi.org/10.5296/ijhrs.v9i2.14618

Mawardi, M. C. (2022). Alternative Work Arrangements, Work Environment, and Job Stress on Job Satisfaction and Turnover Intention. *Golden Ratio of Human Resource Management*, 2(1), 27-39.

Noviantoro, D., Moeins, A. & Madiistriyatno, H. (2018). Antecedent of Work Satisfaction, and Implications to Turnover Intention Salesman Dealer Official Automobile. *Academy of Strategic Management Journal,* 17(6), 1–12.

Pinglim, A. J., Loo, J. T. K. & Lee, P. H. (2017). The Impact of Leadership on Turnover Intention The mediating role of Organizational Commitment and Job Satisfaction. *Journal of Applied Structural Equation Modeling,* 1(1), 24–41.

Saeed, I., Waseem, M., Sikander, S. & Rizwan, M. (2014). The relationship of turnover intention with job satisfaction, job performance, leader-member exchange, emotional intelligence and organizational commitment. *International journal of learning and development*, 4(2), 242-256.

Safwan, N. S. Z., Ahmad, M. F., Bakri, N. H. S., Ahmad Tajri, A., Meor Ab. Rahim, M. D., Abu Bakar, A. H. & Surat, S. (2023). The Level of Human Resource Management Practices in Malaysia: A Study on Sports Graduates' Perceptions. *International Journal of Academic Research in Economics and Management Sciences,* 12(1), 157–168.

Scholtz, B. M., Van Belle, J. P., Njenga, K., Serenko, A. & Palvia, P. (2019). The role of job satisfaction in turnover and turn-away intention of IT staff in South Africa. *Interdisciplinary Journal of Information, Knowledge, and Management*, 14, 77-97.

Skelton, A. R., Nattress, D. & Dwyer, R. J. (2019). Predicting manufacturing employee turnover intentions. *Journal of Economics, Finance and Administrative Science*, 1(1), 1–20.

Spector Paul, E. (1994). Job Satisfaction Survey. Tampa, FL: Department of Psychology, University of South Florida.

Thakre, N. & Shroff, N. (2016). Organizational Climate, Organizational Role Stress and Job Satisfaction Among Employees. *Journal of Psychosocial Research*, 11(2), 469–478.

Turgut, H., Bekmezci, M. & Ates, M. F. (2017). The Moderating Role of Job Satisfaction on the Relationship between Servant Leadership and Turnover Intention. *Journal of Business Research Turk*, 9(2), 300–314.

Wu, I. H. & Chi, N. W. (2020). The journey to leave: Understanding the roles of perceived ease of movement, proactive personality, and person-organization fit in overqualified employees' job searching process. *Journal of Organizational Behavior*, 41(9), 851-870.

Information Management and Business Review (IMBR)
Vol. 15, No. 2, June 2022 (ISSN 2220-3796)

Does Internal Audit Quality Improve Firm Performance? The Moderating Effect of Chief Audit Executive Gender

Hella Dellai
Gouvernance de l'Entreprise, Finance, Appliquée et Audit (GEF2A), Institut Supérieur de Gestion de Tunis, Université de Tunis, Tunis, Tunisia
helladell@gmail.com

Abstract: This study aims to investigate the association between the quality of the Internal Audit Function (IAF) and firm performance, and to examine whether the gender of the Chief Audit Executive (CAE) affects this relationship. Based on a sample of 75 Tunisian-listed companies from 2015 to 2019, the authors use GLS regression methods to analyze the data. The results show that internal audit quality has a positive and significant relationship with firm performance proxied by Tobin's Q. There is also evidence that the presence of a female CAE positively moderates the relationship between internal audit quality and firm performance. This study provides useful insights to regulatory authorities concerning the role of women in the internal audit function in improving the firm's financial performance. Our study is the first to examine the moderating effect of CAE gender on the relationship between internal audit quality and firm performance in the Tunisian context.

Keywords: *Gender, Internal audit, Firm performance, Tunisia.*

1. Introduction

Internal audit (IA) is an indispensable key in assisting organizations to reach their objectives. It is an independent, objective assurance and consulting activity designed to add value and improve the effectiveness of an organization's processes such as internal control, risk management, and governance (Gramling et al., 2004). Therefore, the quality of internal auditing is directly linked to the improvement of an organization's financial performance, playing a crucial role in protecting organizations from risks, combating corruption, safeguarding assets, checking compliance with organizational policy and instructions, and enhancing the reliability of financial reports (Subhi & Stanisic, 2016; Postula et al., 2020). In recent years, gender diversity has gained increased attention in the business environment. According to Eagly et al. (1995), most gender differences arise from the adoption of gender roles, which specify what the appropriate attitude is for men and women. Gender roles reflect social behavior and natural differences in skills and abilities between the sexes. In fact, women auditors are more inclined towards risk aversion and are more likely to critically evaluate information.

Further, women auditors use a cooperative decision-making approach to stimulate group collaboration (Ittonen et al., 2013; Post & Byron, 2015; Hardies & Khalifa, 2018). Numerous researchers have studied the impact of having women on the board of directors or in top management positions (Carter et al., 2003; Farrell & Hersch, 2005; Adams & Ferreira, 2009; Seierstad, 2016). However, the relationship between the chief audits executive's gender and firm performance has not yet been explored. The lack of research on internal audit gender and the importance of the internal audit function in corporate governance motivate the current study. Hence, the study's objectives are to explore the effect of the quality of IA on the financial performance of companies listed in Tunisia and to investigate the moderating role of heads of IA gender in this relationship. Based on a sample of 75 Tunisian-listed companies from 2015 to 2019, the current study uses GLS regression methods to analyze the data. Data were collected from two sources: a survey of 75 CAEs from Tunisian listed companies and financial information contained in the annual reports of the companies responding to the survey.

Our findings show that internal audit quality has a positive and significant relationship with firm performance proxied by Tobin's Q. Also, the presence of a female CAE positively moderates the relationship between internal audit quality and firm performance. Our research makes two notable contributions to the auditing literature. Firstly, it provides new insights that the presence of females in internal auditing seems to strengthen IAF quality. Secondly, findings emphasize the significance of female Chief Audit Executives (CAEs) in internal auditing and shed light on the positive outcomes they bring to the firm. Our findings also highlight

to regulatory authorities the importance of having women in the top positions in internal auditing to enhance the quality of their practices. Therefore, the gender difference in internal auditing should be more strongly emphasized in audit standards. The remainder of this paper is structured as follows: Section 2 presents the status and role of women in Tunisia. Section 3 presents the literature review and develops the hypotheses. Section 4 outlines the research methodology. Section 5 discusses the results, and finally, Section 6 concludes the paper.

Status and Role of Women in Tunisia: Tunisia is a pioneer for women in the Arab-Muslim world. From 1868, thinkers such as Kheireddine Pasha, Abdelaziz Thaalbi, and Tahar Haddad had begun to reflect on the reforms of the social policy in force, some oriented toward the valorization of women. On August 13, 1956, a few months after independence, the first president, Habib Bourguiba, promulgated the Personal Status Code (PSC), where equality between men and women, in all areas, was legally established. He abolishes polygamy, prohibits repudiation, institutes judicial divorce, and sets the minimum age of marriage at 17 for women. Since then, Tunisia has celebrated August 13 as National Women's Day. As a result, women invaded all areas and acceded to all positions, including those believed to be reserved for men only, such as security, the army, the air force, and the navy, to the point that the first Arabic pilot line is Tunisian. Bourguiba's successor, Zine El Abidine Ben Ali, has reinforced women's rights and political participation in municipal councils and Parliament.

He gave women the right to transmit her patronymic and her nationality to her children in the same way as her husband, even if she is married to a foreigner, on the sole condition that the father has given his approval. After the Tunisian revolution, the new Constitution of 2014 enshrined equality between men and women and introduced a goal of parity in elected assemblies. President Beji Caied Essebsi announced new measures on August 13, 2015, including equal pay for men and women in the industrial and agricultural sectors. In addition, it was decided to grant women legal guardianship of their minor children, and as of September 14, 2017, the ban against a Muslim woman from Tunisia marrying a non-Muslim was completely lifted. Since September 2021, Mrs. Najla Bouden has been the first woman to lead a government in Tunisia and the Arab world. Tunisian women occupy a distinguished place among the national priorities to develop their roles and empower them economically, politically, and socially.

2. Background and Hypotheses Development

Internal Audit Quality and Firm Performance: The Institute of Internal Auditors (IIA, 1999) defines internal audit as "an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes." According to the above definition, an internal audit provides a large variety of services and consultations to contribute to the achievement of company goals and increase financial and administrative performance. It is considered a useful tool aimed at examining the reliability and integrity of financial and operating information that comes from different organizational units, reviewing the regulatory policies employed to safeguard assets, and providing recommendations on risk management and control processes. Furthermore, internal auditing is regarded as an important component of an organization's corporate governance framework, as it involves the supervisory activities of the board of directors and audit committees to reduce agency costs and enhance corporate performance (Sarens & Abdolmohammadi, 2011). Indeed, improving the organization's performance can be made by a high-quality internal audit function composed essentially of competent and objective internal auditors.

Prior literature dedicated to examining the direct association between internal audit and firm performance is so limited. Among the few studies of this caliber, Hutchinson & Zain (2009) explored the relationship between internal audit quality (audit experience and accounting qualification) and firm performance (ROA) in 60 Malaysian companies. The results showed a significant positive relationship between internal audit experience and firm performance. In a related study, Deyganto (2019) revealed that independence of internal audit, competence of internal auditors, and management support positively affect the quality of internal audits while also enhancing the organizational performance of public sector bureaus in southern Ethiopia.

Along the same lines, many empirical studies have demonstrated that the quality of internal auditing is evaluated based on compliance with internal auditing standards, the competence and independence of internal auditors, as well as the size of the internal audit department. These factors have been shown to have beneficial effects on corporate financial performance (Kiabel, 2012- Nigeria; Ziaee, 2014- Iran; Alaswad & Stanisic, 2016- Libya; Chatiwong et al., 2016- Thailand; Alflahat, 2017- Jordan; Talab et al., 2018- Irak; Hazaea et al., 2020- Yemen; Bengrich & El Ghadouia, 2020- Morocco; Hazaea et al., 2021- Yemen).

Furthermore, Newman & Comfort (2018) conducted a study on 25 employees of African Sun Limited to investigate the potential value creation of IAF within an organization and its influence on financial performance. Findings revealed a positive association between IAF quality, measured by the size of the internal audit department, the competence and experience of internal auditors, and the organization's financial performance. The study highlighted the value added by IAF's assurance and advisory roles.

Additionally, Al-Matari & Mgammal (2019) investigated the moderating role of internal audit on the relationship between corporate governance mechanisms and the corporate performance of 47 firms listed in the Saudi stock market. The findings showed a positive and significant correlation between IAF and corporate performance. Moreover, Jiang et al. (2020) demonstrated that operations-related services provided by the IAF bring economic benefits to firms and improve operating performance. Along the same lines, Alzeban (2021) and Alsurayyi & Alsughayer (2021) indicated that the implementation of internal audit recommendations (a proxy for effective internal audit) enhances corporate governance and consequently leads to better firm performance in the context of Saudi Arabia. Despite the majority of studies highlighting the positive and significant association between internal audit quality and firm performance, the results of some previous research provide no evidence of this association (Ejoh & Ejom, 2014; Muchiri & Jagongo, 2017; Elewa & El-Haddad, 2019). Based on the existing literature regarding the relationship between internal audit quality and firm performance, we derived the following hypothesis:
Hypothesis 1: There is a positive association between IAF quality and firm performance.

The Moderating Effect of Internal Audit Gender Diversity: Of the various dimensions of diversity, gender is raising increasing interest, both as a biological and social construct, particularly with reference to gender-specific leadership styles and their explicit contribution to corporate governance (Helfat et al., 2006). Based on cognition and behavioral theory, women are more communal (e.g., gentle, empathetic, interpersonally sensitive, collaborative, etc.), and men are more agentic (e.g., rational, independent, aggressive, decisive, ambitious, competitive, etc.) (Eagly & Carli, 2003). Additionally, within the realm of business, women are argued to be conservative and risk-averse and to be more effective than their male counterparts concerning processing information, planning, monitoring, engaging in corporate social responsibility, and demonstrating impartiality in moral judgment (Nelson, 1996; Glass et al., 2016). The relationship between gender diversity and firm performance has therefore been investigated in several studies, especially as regards the board and the audit committee.

For instance, Kim & Starks (2016) provided evidence that the gender structure of the board of directors can enhance firm value and performance due to the valuable contributions made by female directors. First, female directors are more likely to appreciate diverse opinions, gather input from all board members, and adopt a cooperative decision-making approach to encourage teamwork among the group (Post & Byron, 2015). Second, they often bring different perspectives into board discussions, as they tend to ask more questions, provide higher levels of board accountability, and are better prepared for meetings (Adam & Ferreira, 2009). Finally, having women on boards increases creativity and innovation, as well as provides a strategic advantage in global competition (Robinson & Dechant, 1997). Indeed, several empirical studies have found that the presence of women on boards and audit committees has a positive effect on firm performance (Sabatier, 2015-France; Gordini & Rancati, 2017-Italy; Ahmadi et al., 2018-France; Ud Din et al., 2021-Pakistan; Brahma et al., 2021- UK). However, others have highlighted a negative relationship (Adams & Ferreira, 2009- US; Ahern & Dittmar, 2012-Norway; Soare et al., 2022-Belgium).

There have not been many studies conducted on female auditors. For example, Ittonen & Peni (2012) find evidence that companies with female audit engagement partners tend to incur notably higher audit fees, suggesting that the presence of female auditors could have a beneficial impact on audit quality. Their findings

are also supported by Rahim et al. (2022), who found that auditor gender moderates the impact of auditor independence and competence on audit quality. Nekhili et al. (2022) demonstrated that gender-diverse audit partners constrain unethical earnings management behavior in a French mandatory joint audit setting. Thus, Oussii & Klibi (2019) demonstrated that IAFs led by female Chief Internal Auditors in Tunisian listed companies tend to be more effective than those led by male Chief Internal Auditors. In summary, most studies have demonstrated that gender differences affect the quality of financial reporting and auditing, as well as firm performance; however, no prior research has specifically investigated the potential impact of internal audit gender on firm performance. Therefore, this study expands upon this line of research and explores whether the presence of female internal auditors affects the firm's performance. Thus, we hypothesize that:
Hypothesis 2: Internal audit gender diversity moderates the relationship between IAF and firm performance.

3. Research Design

Sample Selection and Data Collection: Our initial sample included 80 Tunisian companies that were listed on the Tunis Stock Exchange (TSE) between 2015 and 2019. We manually collected the data for this study from financial reporting and the "Stock Guide" published by TSE. Thus, data related to the IA functions, CAE gender, and other governance attributes were collected from a survey questionnaire sent to Chief Internal Auditors (CIAs) pertaining to 80 Tunisian firms listed on TSE. Between January 2020 and April 2020, we received 75 usable responses, giving a response rate of 93.75 percent. So, the final sample contains 75 listed companies and 375 yearly observations. Panel B in Table 1 presents the sector classifications of the sample, from which it is seen that above 33 percent of firms in our sample belong to the industrial sector and almost 30 percent of firms are in the financial services sector. Just over 10 percent of companies are in the telecommunications sector, and few firms (less than 5 percent) are in the energy, health care, and construction sectors.

Table 1: Sample Selection and Industry Breakdown

Panel A. Sample Selection		
Initial sample		80
Less: Firms deleted because of nonresponses to the survey		(5)
Final sample		75
Study duration		5
Total observations		375
Panel B. Sample distribution across the industry	**N**	**%**
Industrials	25	33.33
Distributors	6	8
Oil and gas	3	4
Health care	3	4
Construction and building	3	4
Telecommunication services	8	10.66
Transport	5	6.66
Financial services	22	29.33
Total	75	100

Research Model and Variables Definition: To test empirically the association between internal audit quality and firm performance specified in our first hypothesis, we use the following GLS regression model:

$$TQ_{it} = \beta_0 + \beta_1 IAFQ_{it} + \beta_2 FSIZE_{it} + \beta_3 FAGE_{it} + \beta_4 FIND_{it} + \beta_5 BIG4_{it} + \beta_6 BIND_{it} + \beta_7 ACEXP_{it} + \varepsilon_{it} \quad (1)$$

Moreover, this study examines the moderating effect of internal audit gender diversity on the relationship between IAF quality and the firm's financial performance by using the following GLS regression model:

$$TQ_{it} = \beta_0 + \beta_1 IAFQ_{it} + \beta_2 FCAE_{it} + \beta_3 (FCAE_{it} * IAFQ_{it}) + \beta_4 FSIZE_{it} + \beta_5 FAGE_{it} + \beta_6 FIND_{it} + \beta_7 BIG4_{it} + \beta_8 BIND_{it} + \beta_9 ACEXP_{it} + \varepsilon_{it} \quad (2)$$

Table 2 below summarises all variables used in the models above:

Table 2: Variables Measures

Variable	Symbols	Definition	Authors
Dependent Variable:			
Firm performance	TQ	Tobin's Q = (Market Value of Equity + Book Value of Debt)/Total Assets.	Chung & Pruitt (1994)
Independent variables:			
Internal audit quality	IAFQ	A single composite number measuring the quality of the IAF. The variable can range from 0 to 6 with 0 representing the lowest quality and 6 representing the highest quality. The score is formed by assigning a value of 1 to scores above the median for *Experience, Certification, Training, Objectivity, IASize,* and *FieldworkQA,* and summing them together.	Prawitt et al. (2009) Pizzini et al. (2015) Abidin (2021) Vadasi et al. (2021)
	Experience	Average number of years of internal audit experience.	
	Certification	The percentage of internal auditors who have the CIA or CPA certification.	
	Training	The average number of training hours per internal auditor during the year.	
	Objectivity	Dummy variable equals one if the CAE reports functionally to the audit committee, and 0 if not.	
	IASize	Number of internal auditors in the staff.	
	FieldworkQA	Dummy variable that equals 1 if the firm's IAF has a formal quality assurance program and 0 if otherwise.	
Gender diversity	FCAE	Dummy variable is equal to 1 if the CAE is female, and 0 if not.	Oussii & Klibi (2019)
	FCAE × IAFQ	Interaction term between gender diversity and IAF quality	
Firm size	FSIZE	Natural logarithm of total assets.	Haniff & Hudaib (2006) Richardson et al. (2013)
Firm age	FAGE	The number of years since the company was founded.	Qian & Li (2003)
Firm's industrial sector	FIND	Dummy variable is equal to 1 if the firm is in the financial industry and 0 otherwise.	Oussii & Klibi (2019)
Audit quality	BIG4	Dummy variable is equal to 1 if the firm has a Big4 auditor and 0 otherwise.	Davidson et al. (2005) Ifurueze et al. (2022)
Board independence	BIND	Percentage of independent directors.	Abdul Rahman & Mohamed Ali (2006) Liu et al. (2014) Qian et al. (2019)
Financial expertise on the audit committee	ACEXP	Percentage of accounting and financial experts on the audit committee.	Oussii & Klibi (2019)

4. Results

Descriptive Statistics and Correlations: Table 3 reports the descriptive statistics of the variables used in this study. It shows that the average value of Tobin's Q is 10.31, greater than 1, which means that the firm is worth more than the cost of its assets. Our IAF quality composite score is formed from the sum of six variables: Experience, Certification, Training, Objectivity, IA size, and Formal quality assurance program. Following Prawitt et al. (2009) approach, each variable is standardized, and the IAF quality score is then calculated by taking the sum of the six variables mentioned above. This variable has an average score of 2.14, which ranges from 0 to 5. This result refers to an adequate quality of IAF in the sampled firms. The findings also reveal that 28 percent of the CAEs in our sample are female. Early 81 percent of audit committee members are financial experts and the board is characterized by a mean proportion of independent directors of 23.21 percent. Regarding the firms' characteristics, the descriptive statistics reveal that the mean natural log of the sample firms is 18.26, corresponding to around TND 49 million. Additionally, companies in the finance sector constitute approximately 31 percent of the study's sample. The average age of our sample firms is 40 years. Almost 41 percent of Tunisian listed firms are audited by one of the four largest international audit firms.

Table 3: Descriptive Statistics

Variable	Mean	SD	Minimum	Maximum
TQ	10.3146	13.7653	0.0013	58.1432
IAFQ	2.1466	1.4959	0	5
FSIZE	18.2651	1.6904	13.7573	22.0244
FAGE	40.7733	24.3210	8	167
BIND	0.2321	0.1529	0	6
ACEXP	0.8159	0.1543	0.5833	1
Frequency	0		1	
FCAE	270 (72%)		105 (28%)	
FIND	260 (69.33%)		115 (30.67%)	
BIG4	222 (59.2%)		153 (40.8%)	

The Pearson correlation values reported in Table 4 show that firm performance (TQ) is positively and significantly correlated to the internal audit quality (IAFQ), the firm's age (FAGE), the firm's industrial sector (FIND), and the financial expertise on the audit committee (ACEXP). Furthermore, we observed a significant negative correlation between the dependent variable and variables such as firm size (FSIZE), gender diversity (FCAE), and board independence (BIND). The table shows that there are no signs of a multicollinearity problem because none of the variables correlates over 0.8. Gujarati and Porter (2009) recommend 0.8 at the start at which multicollinearity concerns may hurt the regression analysis. The results of the variance inflation factor (VIF) test have confirmed that the highest VIF is 2.41, which is well below the recommended threshold (Gujarati, 2004).

Table 4: Correlation Matrix

Variables	TQ	IAFQ	FCAE	FSIZE	FAGE	FIND	BIG4	ACEXP	BIND
TQ	1								
IAFQ	0.4627***	1							
FCAE	-0.1000*	0.0620	1						
FSIZE	-0.4988***	-0.1094**	0.1722***	1					
FAGE	0.4587***	0.2530***	-0.0296	-0.1970****	1				
FIND	0.4530***	0.6122***	0.2808***	-0.1074**	0.1693***	1			
BIG4	0.0393	0.2091***	0.0624	0.0522	0.1087**	0.0009	1		
ACEXP	0.1313**	0.5167***	0.2628***	0.1315**	0.1000*	0.6376***	0.1620****	1	
BIND	-0.1001*	-0.0566	0.0453	0.2093***	-0.0521	-0.0982*	0.0720	0.0322	1
VIF		1.89	1.18	1.20	1.11	2.41	1.12	1.98	1.06

Notes: *. **. *** Denote significance levels of 10%, 5%, 1%, respectively

Multivariate Analysis: Table 5 shows the results of the GLS regressions. Model 1 and Model 2 are both significant at p <0.01 with an adjusted R^2 of 0.561 and 582, respectively. Model 1 in Table 5 demonstrates a significant and positive association between IAFQ and TQ (p<0.05). This result supports our first hypothesis, implying that internal audit quality enhances firm performance. This outcome is consistent with the findings of several prior studies (Hutchinson & Zain, 2009; Alflahat, 2017; Bengrich & El Ghadouia, 2020; Alsurayyi & Alsughayer, 2021). The results of model 2 show that internal audit gender moderation with internal audit quality (FCAE*IAFQ) has a positive and significant effect on firm performance (TQ) at the 1% level, implying that the presence of female CAE moderates with the IAF to strengthen Tunisian listed companies' financial performance.

Hence, our second hypothesis is supported. With respect to the control variables, the results show that the association between firm size (FSIZE) and firm performance (TQ) is significantly negative. This result is not consistent with previous studies (Core et al., 2006; Jiang et al., 2020; Alzeban, 2021). The results also indicate that companies operating in the financial services sector (FIND) are more likely to have better financial performance. Moreover, findings reveal a positive and significant relationship between firm age (FAGE) and the firm's financial performance (TQ). This result is consistent with our expectations. According to the results, the regression coefficients of BIG4, ACEXP, and BIND were not statistically significant, indicating that firm performance is not affected by audit quality, the percentage of accounting and financial experts on the audit committee, or board independence.

Table 5: Regression Results

		Dependant variable: TQ			
		Model 1		**Model 2**	
Variables	**Sign expected**	**Coeff**	**P>Z**	**Coeff**	**P>Z**
IAFQ	+	299.2259	0.032**	327.6701	0.018**
FCAE	+	-	-	582.6	0.084*
FCAE *IAFQ	+	-	-	365.6247	0.006***
FSIZE	+	-340.8418	0.000***	-333.4438	0.000***
FAGE	+	25.9933	0.000***	25.4131	0.000***
FIND	+	1283.237	0.006***	1480.124	0.001***
BIG4	+	19.0822	0.872	-1.9627	0.987
ACEXP	+	-1036.869	0.241	-979.7685	0.262
BIND	+	115.9074	0.904	83.2275	0.930
Constant		5641.838	0.000***	5450.356	0.000
R^2		0.561***		0.582***	
N		375		375	

Notes: *. **. *** Denote significance levels of 10%, 5%, 1%, respectively.

5. Conclusion and Recommendations

This study extends the existing literature on gender diversity by examining how female CAEs play a moderating role between the internal audit quality and the financial performance of 80 Tunisian-listed firms from 2015 to 2019. In our analysis, we used Tobin's Q as a proxy for firm performance and found that the quality of internal audit functions had a positive and significant impact on financial performance. This finding is consistent with prior studies suggesting that higher-quality internal auditing improves firm performance (Sarens & Abdolmohammadi, 2011; Newman & Comfort, 2018; Al-Matari & Mgammal, 2019; Jiang et al., 2020; Alzeban, 2021). Our results also indicate that female heads of internal audit positively moderate the effect of IA quality on firm performance. This finding is in line with empirical evidence by Oussii & Klibi (2019) who found internal audit departments managed by women are more effective in the Tunisian context.

This study contributes to the existing literature on internal auditing and gender diversity by examining the link between the attributes of internal audit quality, the appointment of female Chief Audit Executives (CAEs), and firm performance in Tunisia. Moreover, the paper's findings carry significant implications for regulators

and policymakers, since the presence of female CAEs within internal audit departments could bring potential benefits, thereby leading to better corporate governance practices. Therefore, emphasizing the appointment of more females in the internal audit function is highly recommended.

The findings of our study suggest several potential areas for future research. It may be worthwhile to apply the same research framework to similar emerging markets to compare results. Additionally, future research could expand the sample size and utilize alternative measures to assess the quality of the IAF and the performance of the firm.

References

Abdul Rahman, R. & Mohamed Ali, F. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal,* 21(7), 783-804.

Abidin, N. (2021). Internal audit quality and disclosure on risk management and internal control. *International Journal of Business, Economics and Management,* 8(3), 154-164.

Adams, R. & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics,* 94(2), 291-309.

Ahern, K. & Dittmar, A. (2012). The changing of the boards: The impact on firm valuation of mandated female board representation. *The Quarterly Journal of Economics,* 127(1), 137-197.

Ahmadi, A., Nakaa, N. & Bouri, A. (2018). Chief Executive Officer attributes board structures, gender diversity and firm performance among French CAC 40 listed firms. *Research in International Business and Finance,* 44, 218-226.

Alaswad, S. & Stanisic, M. (2016). Role of internal audit in performance of Libyan financial organizations. *International Journal of Applied Research*, 2(2), 352-356.

Alflahat, M. (2017). The impact of internal audit on organizational performance of selected Jordanian companies. *International Journal of Multidisciplinary Research and Development,* 4(8), 285-289.

Al-Matari, E. & Mgammal, M. (2019). The moderating effect of internal audit on the relationship between corporate governance mechanisms and corporate performance among Saudi Arabia listed companies. *Contaduria y Administracion,* 65(1), 1-36.

Alsurayyi, A. & Alsughayer, S. (2021). The relationship between corporate governance and firm performance: The effect of internal audit and enterprise resource planning (ERP). *Open Journal of Accounting,* 10(2), 56-76.

Alzeban, A. (2021). Internal audit findings, audit committees, and firm performance evidence from the UK. Asia-Pacific Journal of Accounting and Economics. doi:10.1080/16081625.2021.1908153

Bengrich, M. & El Ghadouia, M. (2020). Etude de l'influence de l'audit interne sur la performance globale des entreprises de la région Souss Massa. *Revue Internationale du Chercheur,* 1(2), 98-116.

Brahma, S., Nwafor, C. & Boateng, A. (2021). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance and Economics,* 26(4), 5704-5719.

Carter, D., Simkins, B. & Simpson, W. (2003). Corporate Governance, Board Diversity, and Firm Value. *The Financial Review,* 38(1), 33-53.

Chatiwong, T., Ussahawanitichakit, P. & Janjarasjit, S. (2016). Proactive internal audit strategy and firm performance: Empirical evidence from Thai-listed firms. *AU-GSB e Journal,* 9(1), 3-24.

Chung, K. & Pruitt, S. (1994). A simple approximation of Tobin's Q. *Financial Management,* 23(3), 70-74.

Core, J., Guay, W. & Rusticus, T. (2006). Does weak governance cause weak stock returns? An examination of firm operating performance and investor's expectations. *The Journal of Finance, 61*(2), 655-687.

Davidson, R., Goodwin-Stewart, J. & Kent, P. (2005). Internal governance structures and earnings management. *Accounting and Finance,* 45(2), 241-267.

Deyganto, K. (2019). Internal audit quality and its impact on public sector organizational performance: Evidence from sector Bureaus of Southern Ethiopia. *International Journal of Economy, Energy and Environment,* 4(6), 118-131.

Eagly, A. & Carli, L. (2003). Finding gender advantage and disadvantage: Systematic research integration is the solution. *The Leadership Quarterly,* 14(6), 851-859.

Eagly, A., Karau, S. & Makhijani, M. (1995). Gender and the effectiveness of leaders: Ameta-analysis. *Psychological Bulletin,* 117(1), 125-145.

Ejoh, N. & Ejom, P. (2014). The effect of internal audit function on the financial performance of tertiary institutions in Nigeria. *International Journal of Economics, Commerce and Management,* 2(10), 1-14.

Elewa, M. & El-Haddad, R. (2019). The effect of audit quality on firm performance: A panel data approach. *International Journal of Accounting and Financial Reporting,* 9(1), 229-244.

Farrell, K. & Hersch, P. (2005). Additions to corporate boards: The effect of gender. *Journal of Corporate Finance,* 11(1/2), 85-106.

Glass, C., Cook, A. & Ingersoll, A. (2016). Do women leaders promote sustainability? Analyzing the effect of corporate governance composition on. *Business Strategy and the Environment*, 25(7), 495-511.

Gordini, N. & Rancati, E. (2017). Gender diversity in the Italian boardroom and firm financial performance. *Management Research Review,* 40(1), 75-94.

Gramling, A., Maletta, M., Arnold, S. & Church, B. (2004). The role of the internal audit function in corporate governance: A synthesis of the extant internal auditing literature and directions for future research. *Journal of Accounting Literature,* 23(1), 194-244.

Gujarati, N. (2004). Basic Econometrics. New York: The McGraw-Hill.Fourth Ed. Ltd.

Gujarati, N. & Porter, D. (2009). Basic Econometrics. US: The McGraw-Hill. Third Ed. Ltd.

Haniffa, R. & Hudaib, M. (2006). Corporate governance structure and performance of Malaysian listed companies. *Journal of Business Finance and Accounting,* 33(7), 1034-1062.

Hardies, K. & Khalifa, R. (2018). Gender is not"a dummy variable": a discussion of current gender research in accounting. *Qualitative Research in Accounting and Management,* 15(3), 385-407.

Hazaea, S., Tabash, M., Khatib, S., Zhu, J. & Al-Khuali, A. (2020). The impact of internal audit quality on the financial performance of Yemeni commercial banks: An empirical investigation. *The Journal of Asian Finance, Economics and Business,* 7(11), 867-875.

Hazaea, S., Tabash, M., Zhu, J., Khatib, S. & Farhan, N. (2021). Internal audit and financial performance of Yemeni commercial banks: Empirical evidence. *Banks and Bank Systems,* 16(2), 137-147.

Helfat, C., Harris, D. & Wolfson, P. (2006). The pipeline to the top: Women and men in the top executive ranks of U.S corporations. *The Academy of Management Perspectives,* 20(4), 42-64.

Hutchinson, M. & Zain, M. (2009). Internal audit quality, audit committee independence, growth opportunities and firm performance. *Corporate Ownership and Control,* 7(2), 50-63.

Ifurueze, P., Anichebe, A. & Nkechi, M. (2022). Effect of audit firm size on the market performance of industrial goods companies in Nigeria. *Asian Journal of Advances in Research,* 17(4), 110-118.

IIA. (1999). Definition of Internal Auditing. The Institute of Internal Auditors, Altamonte Springs, FL.

Ittonen, K. & Peni, E. (2012). Auditor's gender and audit fees. *International Journal of Auditing,* 16(1), 1-18.

Ittonen, K., Vahamaa, E. & Vahamaa, S. (2013). Female auditors and accruals quality. *Accounting Horizon,* 27(2), 205-228.

Jiang, L., Messier, W. & Wood, D. (2020). The association between internal audit operations-related services and firm operating performance. *Auditing: A journal of practice and Theory,* 39(1), 101-124.

Kiabel, B. (2012). Internal auditing and performance of government enterprises: A Nigerian study. *Global Journal of Management and Business Research,* 12(6), 1-17.

Kim, D. & Starks, L. (2016). Gender diversity on corporate boards: Do women contribute unique skills? *American Economic Review,* 106(5), 267-271.

Liu, Y., Wei, Z. & Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance,* 28(C), 169-184.

Muchiri, N. & Jagongo, A. (2017). Internal auditing and financial performance of public institutions in Kenya: A case study of Kenya Meat Commission. *African Journal of Business Management,* 11(8), 168-174.

Nekhili, M., Javed, F. & Nagati, H. (2022). Audit partner gender, leadership and ethics: The case of earnings management. *Journal of Business Ethics,* 177, 233-260.

Nelson, J. (1996). Feminism, Objectivity 0and Economics. Routledge, London.

Newman, W. & Comfort, M. (2018). Investigating the value creation of internal audit and its impact on company performance. *Academy of Entrepreneurship Journal,* 24(3), 1-21.

Oussii, A. & Klibi, M. (2019). Does the chief audit executive gender matter to internal audit effectiveness? Evidence from Tunisia. *African Journal of Economic and Management Studies,* 10(4), 424-439.

Pizzini, M., Lin, S., Vargus, M. & Ziegenfuss, D. (2015). The impact of internal audit function quality and contribution on audit delays. *Auditing: A Journal of Practice and Theory,* 34(1), 25-58.

Post, C. & Byron, K. (2015). Women on boards and firm financial performance: A meta-analysis. *Academy of Management Journal,* 58(5), 1546-1571.

Postula, M., Irodenko, O. & Dubel, P. (2020). Internal audit as a tool to improve the efficiency of public service. *European Research Studies Journal,* (3), 699-715.

Prawitt, D., Smith, J. & Wood, D. (2009). Internal audit quality and earnings management. *The Accounting Review,* 84(4), 1255-1280.

Qian, G. & Li, L. (2003). Profitability of small and medium-sized enterprises in high tech industries: The case of the biotechnology industry. *Strategic Management Journal,* 24(9), 881-887.

Qian, L., Norazlin, A., Irene, W., Cheng, Z. & Hasahudin, B. (2019). Board gender diversity, board independence and firm performance in Malaysia. *Institutions and Economies,* 11(1), 1-20.

Rahim, S., Wahyuni, N., Anzhari, A. & Karim, A. (2022). Determination of audit quality: auditor gender stereotype study in South Sulawesi, Indonesia. *Journal of Positive Schook Psychology,* 6(11), 569-586.

Richardson, G., Taylor, G. & Lanis, R. (2013). Determinants of transfer pricing aggressiveness: Empirical evidence from Australian firms. *Journal of Contemporary Accounting and Economics,* 9(2), 136-150.

Robinson, G. & Dechant. (1997). Building a business case for diversity. *Academy of Management Executive,* 11(3), 21-31.

Sabatier, M. (2015). A women's boom in the boardroom: Effects on performance? *Applied Economics,* 47(26), 2717-2727.

Sarens, G. & Abdolmohammdi, M. (2011). Monitoring effects of the internal audit function: agency theory versus other explanatory variables. *International Journal of Auditing,* 15(1), 1-20.

Seierstad, C. (2016). Beyond the business case: The need for both utility and justice rationales for increasing the share of women on boards. *Corporate Governance,* 24(4), 390-405.

Soare, T., Detilleux, C. & Deschacht, N. (2022). The impact of the gender composition of company boards on firm performance. *International Journal of Productivity and Performance Management,* 71(5), 1611-1624.

Subhi, A. & Stanisic, M. (2016). Role of internal audit in performance of Libyan financial organizations. *International Journal of Applied Research,* 2(2), 352-356.

Talab, H., Abdul Manaf, K. & Siti Seri, D. (2018). Internal audit function, ownership structure and firm performance in Iraq. *Journal of Engineering and Applied Sciences,* 13(8), 2098-2102.

Ud Din, N., Cheng, X., Ahmad, B. & Sheikh, M. (2021). Gender diversity in the audit committee and the efficiency of internal control and financial reporting quality. *Economic Research,* 34(1), 1170-1189.

Vadasi, C., Bekiars, M. & Andrikopoulos, A. (2021). Internal audit function quality and corporate governance: The case of Greece. *Multinational Finance Journal,* 25(1/2), 1-61.

Ziaee, M. (2014). The effect of audit quality on the performance of listed companies in the Tehran stock exchange. *International Letters of Social and Humanistic Sciences,* 21, 36-43.

Information Management and Business Review (IMBR)
Vol. 15, No. 2, June 2022 (ISSN 2220-3796)

Examining the Relationship of Customer Satisfaction and Brand Loyalty in Sports Products among University Students

Nur Hani Syazwani Bakri[1], Mohamad Firdaus Ahmad[2*], Nur Syazwani Zulaikha Safwan[3], Nur Dalilah Dahlan[4], Norsyazlin Elfira Mohd Azli[5] & Mohd Huzaimie Ahmad Kafrawi [6]
[1,2*,3,4,5]Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Cawangan Negeri Sembilan, Kampus Seremban, Malaysia
[6]Department of Business Management, Kolej Poly-Tech MARA Bangi, Selangor, Malaysia
hanisyazwani@uitm.edu.my, firdaus466@uitm.edu.my*, syazwanisafwan@gmail.com, dalilahdahlan90@uitm.edu.my, syazlin.elfira9812@gmail.com, huzaimie@gapps.kptm.edu.my

Abstract: To stay relevant in this market field, involving technology, many sports brands come forward with features that distinguish them from the other brands. Sports brand companies prioritize consumer demand to maintain the relevance of their products in the market. They emphasize customer satisfaction and brand loyalty, as these factors directly impact sales outcomes. Sporting goods customers come from diverse backgrounds, and university students significantly contribute to the sales of these products. Therefore, this research investigates the correlation between the contentment of customers and their loyalty toward sports brands within the context of university students. The quantitative approach using a survey design was used to conduct this study. A total of 361 university students were involved in this study. The data for this study were collected using a series of questionnaires containing 26 items that assess customer satisfaction and brand loyalty. The statistical analysis was performed using the Pearson Correlation analysis test. The results indicate a significant and high correlation between customer satisfaction and loyalty toward sports brands. Thus, this study offers valuable insights into customer satisfaction and product loyalty, specifically among university students and recommends that future studies focus on exploring the variations in customer perception towards sports goods based on gender and age.

Keywords: *Customer Satisfaction, Brand Loyalty, University Students, Sports Products, Sports Brand.*

1. Introduction

Customer satisfaction can determine repurchase and brand loyalty. Many studies concentrate on studying customer satisfaction and brand loyalty separately. According to Parashar (2018), customer satisfaction can be measured by how healthy experiences meet the customer's needs. Not forgetting too that the brand name differentiates it from other brands, including campaign, value, services, and action. These factors lead to brand loyalty. Ilias et al. (2020) stated that brand loyalty can be described as a positive attitude toward a brand that results in repurchasing over time. Choosing suitable sports attire such as shirts, pants, and shoes is vital to enhancing a healthy lifestyle. It is essential to have the correct apparel to start a daily routine when it comes to sports. Therefore, the provider creates a sports brand that involves sports activity. Adidas, Nike, Puma, and others are examples of sports brands. Brand loyalty can involve a strong and deep connection between the customer and the brand, wherein the customer remains steadfast and does not switch to another brand as long as the current brand delivers comfort and satisfaction (Sugiarto & Octaviana, 2021).

It represents the consumer's decision to consistently choose a specific brand within a particular product category. Ilias et al. (2020) indicated that it happens when buyers perceive satisfaction with the products offered, such as quality at the right price. These factors can lead to repurchase behavior. In addition, few researchers found that brand loyalty results from customer satisfaction. Besides, satisfaction and trust are two pillars of building loyalty (Mansouri et al., 2022). When discussing sports brands, particularly in apparel and footwear, it becomes evident that Nike, Adidas, and Puma are globally recognized brands favored by numerous customers, including those in Malaysia. Among the sportswear brands in Malaysia, Nike stands out as the most preferred choice, closely followed by Adidas, Reebok, Puma, New Balance, and other brands, as Uzir (2010) noted. This preference for Nike is further supported by the findings of Hardjono and Teng (2019), who stated that Nike and Adidas are the top choices among Gen Y consumers in Malaysia, followed by New Balance, Puma, and Asics.

The researchers also highlighted that nearly 80% of the respondents preferred Nike regarding sportswear. Meanwhile, individual preferences vary among people, and sports products have gained significant popularity among the youth demographic. There are a lot of sports brands that can be offered to students, and they are more concerned about quality, price, and value than looking for their satisfaction when selecting a brand. Pa et al. (2021) found an increasing number of students seeking sports products, and Nike and Adidas are the brands most university students prefer. Thus, to compete in the market, it is necessary if providers provide a variety of features in their products. Saricam (2022) stated that the more services supplied by brand sportswear retailers, the greater the likelihood of brand loyalty.

2. Literature Review

Customer Satisfaction: In Mohammad's (2021) perspective, customer satisfaction is defined as fulfilling customers' needs, desires, and demands regarding quality, timeliness, cost, and flexibility, which fosters brand loyalty. This concept is closely linked to the customer's expectations derived from the brand. Rahuman et al. (2022) further suggest that customer satisfaction hinges on a product's perceived performance compared to the buyer's expectations. Previous research conducted by El et al. (2020) identified various factors influencing customer satisfaction, including product quality, service quality, price, situational factors, and personal factors. Customer satisfaction is influenced by the customer's perceptions of their cognitive functioning and expectations. Consequently, customer satisfaction can impact a customer's choice to interact with a particular business. The higher the joy, the higher the loyalty (Zhong & Moon, 2020). For example, sports consumers will buy products from their favorite brands because of their experiences using them. Customer satisfaction is based on the customer's feelings towards the brand they purchase, whether it satisfies them or not. Customer satisfaction can also be achieved when customer expectations are met (Kee et al., 2021).

Perceived Quality: Quality refers to a distinctive characteristic of a product or service that fulfills the requirements of current or prospective customers (Kotler & Keller, 2016). The perception of quality has a positive influence and constitutes one of the elements contributing to customer satisfaction (Assaker et al., 2020). Specifically, in consumer brand engagement, perceived quality encompasses a consumer's assessment of the product or service's trustworthiness and reliability. It is closely associated with customer preferences, satisfaction levels, and purchase decisions (Akoglu & Özbek, 2022). The research conducted by Jain et al. (2022) highlighted the importance of brand credibility in influencing consumers' decision-making processes and perceptions of choices. Perceived quality plays a crucial role as a fundamental aspect of brand equity. When customers have higher expectations regarding purchasing a product from a particular brand, they are more inclined to recommend that brand to others (Falahat et al., 2018). Therefore, it will influence purchase intention. The quality of products that satisfy users' needs may include different features and simultaneously enhance the performance of products. When customers recognize superior quality in a product, it indicates that their needs are being met, resulting in satisfaction and loyalty towards the brand (Falahat et al., 2018). According to Akoglu and Özbek (2022), product quality is the primary factor influencing loyalty toward sports brands.

Perceived Value: Perceived value can be described as the balance between what customers pay to acquire products or services and what they receive in return (Fan et al., 2023). This value can manifest in both monetary and non-monetary forms. Monetary value is often associated with price, while non-monetary value encompasses customers' investment of time, physical effort, and mental energy (Ikechi & Tamuno, 2023). However, the specific nature of perceived value may vary slightly depending on individual consumers and specific situations. Tukiran et al. (2021) propose that value can be understood as the benefits that customers derive from a product, such as the value of affordability, the value of meeting specific consumer preferences, the value of price quality, and the value of receiving a fair exchange for what is given. Ashraf et al. (2018) meanwhile added that customers perceive performance, stability, economy, presence, and protection with the service, and customers include time and money in the total cost incurred. In addition, Hamzah and Shamsudi (2020) revealed that the customers who gain value from the organizations will be more loyal to the organization than those who do not. According to Pandey et al. (2020), perceived value is defined as the value of a product according to its price in the mind of customers. After using a product, the customer will decide if it is worth buying. This point will influence the customer's willingness to pay for the product.

Brand Trust: Brand trust can mediate the current market's long-term relationship between provider and buyer. According to Khan and Fatma (2019), trust in a brand is established through personal experiences and interactions with the brand, which play a vital role in shaping consumer perceptions. Brand trust is developed through information-seeking behaviors and diverse encounters with the brand. To enhance trust, customers' willingness on the capabilities and function of brands is needed. Previous studies suggested considering brand loyalty as an essential outcome of brand trust. Brand trust results in increased loyalty, as trust establishes a mutually beneficial relationship between the customer and the brand. Brand trust is rooted in the customer's expectations, formed by beliefs that the brand possesses consistent, competent, and credible characteristics (Kwan et al., 2019). As per Chen and Cheng (2020), consumers' trust in a specific brand is gradually established through prior experiences and interactions with the brand. Building trust in a brand fosters long-term relationships between manufacturers and their customers.

Service Quality: Service quality can accurately describe the consumer's overall perception of the organization's excellence and services. It encompasses the customer's ability to discern when an organization delivers the expected services and meets the basic requirements (Jan et al., 2022). It also often reflects the customer's perception and value judgment of a product or service. The lack of a connection between customer expectations and the services provided leads to short-term customer satisfaction. However, good service leads to long-term customer satisfaction and positive feelings about the organization. Besides that, if customers prefer one brand over another and continue to use the brand's services, it indicates that the customer is delighted with the product or service. As suggested by Zeithaml et al. (1996), cited in Ashraf et al. (2018), as a result of the customer's good evaluation of the brand's services, it was recommended that the consumer have a strong relationship with the brand.

Brand Loyalty: Brand loyalty refers to customers' positive attitude toward a brand, which may result from frequent purchases over time (Ilias et al., 2020). Loyalty represents customer attitudes and reflects customers' permanent commitment (Nora, 2019). Customers receive brand loyalty after they experienced a brand and have a relationship with it through perception and cognition. The greater the brand's position in the market, the less exposed customers are inclined to switch brands (Mukherjee & Althuizen, 2020). Brand loyalty is influenced by various factors, encompassing both emotional and cognitive aspects such as brand association, trust, perceived quality, performance, and customer satisfaction (Akoglu & Özbek, 2022). It can be defined as a strong preference for a particular brand over similar alternatives available in the market. Brand loyalty represents a consistent pattern of behavior and thinking exhibited by consumers. The choice of including a specific brand within a product category is ultimately made by the consumer. Loyalty is fostered through the establishment of trust and the impact of the brand on consumers. Buyers believe the brand provides the appropriate product look, quality grade at the right price, and identity.

3. Methodology

This quantitative research utilizes descriptive and inferential statistical analyses to accomplish its objectives. The study involved 361 respondents who were administered a comprehensive questionnaire to collect the necessary data. In this study, university students refer to students from Universiti Teknologi MARA (UiTM) Seremban Campus. The researcher employed a simple random sampling method to select the respondents. The data collected were analyzed using the Statistical Package for Social Science (SPSS) software. The hypothesis aims to explore the existence of a significant correlation between customer satisfaction and sports brand loyalty among university students. The questionnaire is divided into three sections. Section A focuses on gathering information about the respondent's demographic background. Section B contains 20 items related to customer satisfaction, while Section C includes six items regarding brand loyalty. All of these questions were derived and modified from the study by Ahmed et al. (2014) on the impact of brand trust and customer satisfaction on brand loyalty. In Sections B and C, respondents rated the items on a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

4. Results and Findings

Table 1: What is the Preferred Sports Brand among University Students?

Preferred Brand	Frequency	Percentage (%)
Adidas	106	29
Nike	97	27
Puma	48	13
Asics	47	13
Under Armor	21	6
Sketchers	18	5
Reebok	16	4
Others	8	3

Based on the finding, the highest preferred sports brand among university students, with twenty-nine percent (29%), is Adidas, compared to the lowest with three percent (3%) which is others.

Table 2: Relationship between Customer Satisfaction and Sports Brand Loyalty among University Students

		Sports Brand Loyalty
Customer Satisfaction	Pearson Correlation	.906**
	Sig. (2-tailed)	.000
	N	361

Based on the finding, there is a significant relationship between Customer Satisfaction and Sports Brand Loyalty among university students with r = .906, p = .000.

Discussion

This research examines the correlation between Customer Satisfaction and Sports Brand Loyalty among university students. The study reveals that Adidas emerges as the favored sports brand among university students based on the findings. This finding is similar to the previous journal, in which the most significant brand is primarily Adidas (Janoskova & Kral, 2020), as we know that Adidas is one of the most famous brands among all groups for its brand image and is also known for its quality, durability as well as affordable price. As a result, it is proven that this brand is a choice for university students. However, this finding was contrasted when Matthews et al. (2019) found that Nike is the brand most university students admire. The results of the study indicate that the image of a brand plays a crucial role in representing the quality of its products or services. This finding is supported by Kataria and Saini (2020), who emphasized that the brand nature scale encompasses the inherent attributes of manufactured goods, such as quality, value, and trust.

This study also found no vast gap between these two brands. Thus it can conclude that every brand has their follower since they know the good and bad of every brand, such as its design, features, quality, and durability. The study's results indicate a notable positive correlation between Customer Satisfaction and Sports Brand Loyalty. This finding is consistent with a previous study by Uysal and Okumus (2022), which also discovered a positive relationship between customer satisfaction and loyalty among sportswear consumers. The features associated with sportswear were shown to contribute to this similar outcome. Furthermore, to reinforce these findings, Hadi and Rahim (2014) uncovered similar results, demonstrating a significant relationship between customer satisfaction and the cognitive aspect of loyalty toward sports brands. Researchers believe a buyer will repurchase and stick to one brand due to their experiences when using the products. With a good experience, they will maintain in their head and be afraid to try other brands because they are afraid to experience a new one. Fels et al. (2017) mentioned that brand loyalty is when customers keep repurchasing the same brand.

5. Conclusion and Recommendations

The result demonstrates a significant and high correlation between customer satisfaction and sports brand loyalty among UiTM students. This indicates that most of the students are satisfied and loyal to their sports brand due to the quality and values of the products. In this situation, providers and marketers must sustain

their brands significantly to enhance customer trust. A good representative of the brand may affect the reputation and sales of the product. As a result, it enables customers to stay loyal and perceive the brand choices for the long term. Therefore, this study's findings can contribute to university students by gaining a deeper understanding to enhance their marketing knowledge, especially in product, price, place, and promotion. This could influence students' purchasing decisions on satisfaction and loyalty toward the chosen brand. This study also provides valuable insight for future researchers by extending the findings to other university students to retrieve their satisfaction and brand loyalty. Besides, future researchers can study the perceptions of customer satisfaction towards brand loyalty based on gender. This can broaden the perspective of this research and contribute new literature to the studies.

References

Ahmed, Z., Rizwan, M., Ahmad, M. & Haq, M. (2014). Effect of brand trust and customer satisfaction on brand loyalty in Bahawalpur. *Journal of Sociological Research,* 5(1), 306-326.

Akoglu, H. E. & Özbek, O. (2022). The effect of brand experiences on brand loyalty through perceived quality and brand trust: a study on sports consumers. *Asia Pacific Journal of Marketing and Logistics*, 34(10), 2130-2148.

Ashraf, S., Ilyas, R., Imtiaz, M. & Ahmad, S. (2018). Impact of service quality, corporate image and perceived value on brand loyalty with presence and absence of customer satisfaction: A study of four service sectors of Pakistan. *Sciences*, 28(2), 452-474.

Assaker, G., O'Connor, P. & El-Haddad, R. (2020). Examining an integrated model of the green image, perceived quality, satisfaction, trust, and loyalty in upscale hotels. *Journal of Hospitality Marketing & Management*, 29(8), 934-955.

Chen, Z. F. & Cheng, Y. (2020). Consumer response to fake news about brands on social media: the effects of self-efficacy, media trust, and persuasion knowledge on brand trust. *Journal of Product & Brand Management*, 29(2), 188-198.

El Fikri, M. & Dewi Nurmasari Pane, R. A. (2020). Factors Affecting Readers' Satisfaction in" Waspada" Newspapers: Insight from Indonesia. Indexing and Abstracting.

Falahat, M., Chuan, C. S. & Kai, S. B. (2018). Brand loyalty and determinates of perceived quality and willingness to order. *Academy of Strategic Management Journal*, 17(4).

Fan, T. Y., Pan, B. Y., Tseng, S. D. & Chao, L. P. (2023). How to Enhance Corporate Customers' Loyalty on Purchasing Service Products? Exploring from the Perspective of Information Search. *Sustainability*, 15(9), 7101.

Fels, A., Falk, B. & Schmitt, R. (2017). User-driven customization and customer loyalty: A survey. *Procedia CIRP*, 60, 410-415.

Hadi, N. N. & Rahim, N. M. (2014). The Relationship between Customer Satisfaction and Loyalty toward Sport Brand in Urmia. *Indian Journal of Fundamental and Applied Life Science,* 4(3), 1435-1439.

Hamzah, A. A. & Shamsudin, M. F. (2020). Why is customer satisfaction important to business? *Journal of Undergraduate Social Science and Technology*, 1(1).

Hardjono, B. & Teng, C. Y. (2019). Evaluating the influence of sportswear brand personality on generation y customer preference in Malaysia. *International Journal of Recent Technology and Engineering*, 8(1), 38–44.

Ikechi, O. P. & Tamuno, M. P. (2023). Customer Perceived Value Adoption and Marketing Performance of Luxury Hotels in Port Harcourt. BW Academic Journal, 21-21.

Ilias, N. F. B., Liang, T. K. W., Lo, M. C., Yee, S. S. & binti Badruddin, N. I. (2020). Factors Influencing Brand Equity of Sportswear Brands among Young Adults in Malaysia. *Journal of Marketing and Information Systems*, 3(1), 26-45.

Jain, S., Basu, S., Dwivedi, Y. K. & Kaur, S. (2022). Interactive voice assistants–Does brand credibility assuage privacy risks? *Journal of Business Research*, 139, 701-717.

Jan, T., Arfat Manzoor, D. S. N. T. & Ishrat, W. B. (2022). Service Quality in J&K Bank and Its Impact on Customer Satisfaction: SEM Approach. *Central European Management Journal*, 30(4), 1420-1426.

Janoskova, K. & Kral, P. (2020). Perception of selected sportswear brands with an emphasis on expected benefits and features as a prerequisite for customer satisfaction. In *SHS Web of Conferences*, 74, 01008.

Kataria, S. & Saini, V. (2020). The mediating impact of customer satisfaction in relation to brand equity and brand loyalty: An empirical synthesis and re-examination. *South Asian Journal of Business Studies*, *9*(1), 62-87.

Kee, D. M. H., Gan, Z. W., Chan, Y. Q., Lee, H. T., Tan, X. Y. & Lee, S. W. (2021). Customer satisfaction and brand loyalty: A case study of Nestlé. *Advances in Global Economics and Business Journal*, 2(1), 13-26.

Khan, I. & Fatma, M. (2019). Connecting the dots between CSR and brand loyalty: the mediating role of brand experience and trust. *International Journal of Business Excellence*, 17(4), 439-455.

Kotler, P. & Keller, K. L. (2016). Marketing Management (15th Global Edition). England: Person Education Limited.

Kwan, S. S., Amenuvor, F. E., Basilisco, R. & Owusu-Antwi, K. (2019). Brand trust and brand loyalty: A moderation and mediation perspective. *Current Journal of Applied Science and Technology*, 38(4), 1-17.

Mansouri, H., Sadeghi Boroujerdi, S. & Md Husin, M. (2022). The influence of sellers' ethical behavior on customer loyalty, satisfaction and trust. *Spanish Journal of Marketing-ESIC*, 26(2), 267-283.

Matthews, D., Rothenberg, L. & Gopalakrishnan, S. (2019). The impact of mass customization on fashion-innovative students: an assessment of the need for uniqueness, self-identity, and perceived performance risk. *International Journal of Fashion Design, Technology and Education*, 12(3), 293-300.

Mohammad, S. (2021). Impact of Brand Loyalty on Customer Satisfaction (An Empirical Analysis of Clothing Brands). Jamal, S. & Sultan, K. (2021). Impact of Brand Loyalty on Customer Satisfaction (An Empirical Analysis of Clothing Brands). *Turkish Journal of Computer and Mathematics Education*, 12(10), 7085-7093.

Mukherjee, S. & Althuizen, N. (2020). Brand activism: Does courting controversy help or hurt a brand? *International journal of research in marketing*, 37(4), 772-788.

Nora, L. (2019). Trust, commitment, and customer knowledge: Clarifying and linking relational commitments to repurchasing intentions. Management Decision.

Pa, W. A. M. W., Zainal, M. S. & Mahmud, M. S. (2021). Factor of Brand Loyalty in Sportswear among Student-Athletes. *Journal of Contemporary Issues in Business and Government,* 27(1).

Pandey, N., Tripathi, A., Jain, D. & Roy, S. (2020). Does price tolerance depend upon the type of product in e-retailing? Role of customer satisfaction, trust, loyalty, and perceived value. *Journal of Strategic Marketing*, 28(6), 522-541.

Parashar, G. (2018). A Study of Brand Awareness and Customer Satisfaction. *International Journal of Research,* 5(22).

Rahuman, A. A., Akram, A. M. & Siraji, M. (2022). Service Quality and Customer Satisfaction: Evidence from State Commercial Banks in Ampara District. *Daengku: Journal of Humanities and Social Sciences Innovation*, 2(1), 9-18.

Saricam, C. (2022). Analyzing service quality and its relation to customer satisfaction and loyalty in sportswear retail market. *Autex Research Journal*, 22(2), 184-193.

Sugiarto, S. & Octaviana, V. (2021). Service Quality (SERVQUAL) Dimensions on Customer Satisfaction: Empirical Evidence from Bank Study. *Golden Ratio of Marketing and Applied Psychology of Business*, 1(2), 93-106.

Tukiran, M., Tan, P. & Sunaryo, W. (2021). Obtaining customer satisfaction by managing customer expectation, customer perceived quality and perceived value. *Uncertain Supply Chain Management*, 9(2), 481-488.

Uysal, A. & Okumuş, A. (2022). The effect of consumer-based brand authenticity on customer satisfaction and brand loyalty. *Asia Pacific Journal of Marketing and Logistics*, 34(8), 1740-1760.

Uzir, E. R. (2010). Customer-based brand equity of the sportswear market in Malaysia.

Zhong, Y. & Moon, H. C. (2020). What drives customer satisfaction, loyalty, and happiness in fast-food restaurants in China? Perceived price, service quality, food quality, physical environment quality, and the moderating role of gender. *Foods*, 9(4), 460.

Information Management and Business Review (IMBR)
Vol. 15, No. 2, June 2022 (ISSN 2220-3796)

A Review of the Critical Gaps in the Food Security Literature: Addressing Key Issues for Sustainable Development

Fadhlur Rahim Azmi[1*], Suhaiza Zailani[2] & Mastura Roni[3]
[1, 3]Faculty of Business & Management, Universiti Teknologi MARA, Cawangan Melaka Kampus Bandaraya Melaka, 110, Off Jalan Hang Tuah, 75350 Melaka, Malaysia
[2]Department of Management, Faculty of Business and Economics, Universiti Malaya, 50403 Lembah Pantai, Kuala Lumpur, Malaysia
fadhlur@uitm.edu.my*, shmz@um.edu.my, masturroni@uitm.edu.my

Abstract: This review paper covers important gaps in the knowledge base on food security, which have an impact on world development and cause an estimated 820 million people to suffer from chronic hunger and malnutrition. Food waste, climate change, socioeconomic considerations, agricultural policy, access to wholesome foods, food sovereignty, and food security are some of the major topics covered in the literature. Because of this, ensuring food security is not a straightforward issue that can be resolved by changing a single variable; rather, it necessitates the combination of numerous multidisciplinary approaches. Therefore, the goal of this study is to pinpoint the major gaps in the literature, such as a lack of attention to the perspectives of marginalized groups and a lack of investigation into the connections between food security and other global issues. The article offers suggestions for future work, including how to prioritize understudied subjects, incorporate other points of view, and enhance data collection techniques. As a result, it can be a useful starting point for linguists who want to research related topics. This study offers new researchers and practitioners a place to start to learn more about the rapidly, growing field of sustainable food security. Future research can also address these gaps and enhance food security globally for a sustainable future. This will require the participation of new scholars, policymakers, and practitioners.

Keywords: *Food security, Global development, Marginalized groups, Sustainable future.*

1. Introduction

Food security is defined as a state where all individuals have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and preferences for an active and healthy life. It plays a crucial role in achieving the United Nations' Sustainable Development Goals (SDGs) related to poverty reduction, hunger eradication, and sustainable agriculture. Food security also has a significant impact on health outcomes, as poor nutrition can lead to malnutrition and diet-related chronic diseases. However, with an estimated 690 million people experiencing hunger and malnutrition in 2019, it is considered one of the most significant global challenges of the 21st century (FAO, 2019). To make matters worse, the COVID-19 pandemic has further exacerbated food insecurity, with an additional 132 million people experiencing hunger in 2020 (Clapp & Moseley, 2020). In addition, food insecurity can lead to social unrest, political instability, and conflict. Recent research has highlighted the importance of addressing food security through a multidimensional and interdisciplinary approach. For instance, there is a growing recognition of the role of food systems in achieving food security and the need to transform them to be more sustainable and resilient (IPBES, 2019).

There is also a need to address the social and economic factors that contribute to food insecurity, such as poverty, inequality, and conflict (FAO, 2019). Thus, food security is a critical global issue that impacts human health, economic development, and social stability. It is essential to address this challenge through a multidimensional and interdisciplinary approach that considers the complex interactions between food systems, social and economic factors, and environmental sustainability. The current state of food security literature highlights the complexity of the issue and the need for a multidimensional and interdisciplinary approach. Recent research has identified key issues related to food security, including food waste, climate change, socioeconomic factors, agricultural policies, access to healthy food, and food sovereignty and security (Alexander, Brown, Arneth, Finnigan, & Rounsevell, 2019; FAO, 2019). However, there are critical gaps in the literature that need to be addressed for sustainable development. For instance, there is inadequate attention to certain issues, such as food sovereignty and food waste; insufficient exploration of the intersections between food security and other global issues such as gender inequality and environmental sustainability;

and limited focus on the perspectives and experiences of marginalized groups (Galli & Watters, 2019; Rosenthal, Quinn, Hatt, & Wallinga, 2021).

To address these gaps, recent literature has recommended incorporating diverse perspectives and voices into food security research, prioritizing research on understudied issues and intersections with other global issues, strengthening partnerships and collaborations between researchers, policymakers, and practitioners, as well as improving data collection and analysis methods to better capture the complexity of food security issues (Galli & Watters, 2019). Overall, the current state of food security literature highlights the urgent need to address this critical global issue through a holistic and interdisciplinary approach that takes into account the complex interactions between food systems, social and economic factors, environmental sustainability, and other global issues. The review aims to provide recommendations for future research and action by highlighting the issues that have been inadequately studied in the literature. The scope of the review article is broad, encompassing a multidimensional and interdisciplinary approach to food security that takes into account social, economic, and environmental factors. The review article draws on recent literature on food security and related issues, including food waste, climate change, socioeconomic factors, agricultural policies, access to healthy food, and food sovereignty and security. The article aims to contribute to the understanding of food security as a critical global issue and provide insights for researchers, policymakers, and practitioners on how to address the gaps in the literature and improve food security globally for a sustainable future.

2. Key Issues in Food Security Literature

Food waste is a critical issue in the context of food security, with significant implications for food availability, access, and utilization (FAO, 2019). Food waste occurs at different stages of the food supply chain, from production to consumption, and has negative economic, environmental, and social impacts (FAO, 2019; Leip, et al., 2022). According to the Food and Agriculture Organization (FAO), one-third of all food produced for human consumption is lost or wasted each year, amounting to about 1.3 billion metric tonnes globally (FAO, 2019). Food waste reduces the availability of food for consumption and can contribute to food insecurity, particularly in low-income countries and among vulnerable populations (Nabuuma, Reimers, Hoang, Stomph, & Swaans, 2022). Food waste also has significant environmental impacts, including the waste of natural resources, greenhouse gas emissions, and pollution (FAO, 2019). Moreover, food waste has economic implications, such as increased costs for farmers, food producers, and consumers (Philippidis, Sartori, Ferrari, & M'Barek, 2019). Addressing food waste is critical for achieving food security goals and sustainable development. Recent literature has identified several strategies to reduce food waste, including improving storage and transportation infrastructure.

Promoting sustainable consumption patterns, reducing food losses at the production and post-harvest stages, and redistributing surplus food to those in need (Nakawuka, Langan, Schmitter, & Barron, 2018). Food waste is a significant issue in the context of food security, with negative implications for food availability, access, and utilization. Addressing food waste is critical for achieving food security goals and sustainable development and requires a multidimensional and interdisciplinary approach. Climate change is a critical issue in the context of food security, with significant implications for food production, distribution, and access. Climate change affects agricultural productivity, natural resources, and food systems and contributes to increased food insecurity and malnutrition (FAO, 2019). According to the Intergovernmental Panel on Climate Change (IPCC), climate change is likely to increase the frequency and intensity of extreme weather events such as droughts, floods, and heat waves, which can lead to crop failures, livestock losses, and food price volatility (IPCC, 2019). In addition, climate change affects the nutritional quality of food as changes in temperature, rainfall, and soil moisture can impact the composition of crops and their nutrient content (Godde, Mason-D'Croz, Mayberry, & Thornton, 2021).

Furthermore, climate change exacerbates existing inequalities and vulnerabilities, with marginalized populations such as smallholder farmers, women, and indigenous communities being particularly affected by its impacts (FAO, 2019). Addressing the impacts of climate change on food security requires a comprehensive and coordinated approach, including mitigation and adaptation strategies. Mitigation measures aim to reduce greenhouse gas emissions and limit the extent of climate change, while adaptation measures focus on building resilience and reducing vulnerability to the impacts of climate change (Sharifi, 2020). Some of the

recommended strategies include promoting sustainable agriculture and land-use practices, improving water management, enhancing biodiversity and ecosystem services, and building climate-resilient food systems (IPCC, 2019). Addressing the impacts of climate change on food security requires a comprehensive and coordinated approach, including mitigation and adaptation strategies that are tailored to the specific needs and contexts of different populations. Socioeconomic factors, such as poverty, income inequality, and social exclusion.

Play a critical role in determining access to food and nutrition and are major drivers of food insecurity globally (O'Hara & Toussaint, 2021). In many countries, people who live in poverty often lack the resources to purchase enough food or to access nutritious foods, leading to undernutrition and malnutrition (Fanzo, 2014). In addition, socioeconomic factors also affect the quality of diets and food choices, as individuals with low income or education may have limited access to information on healthy diets (Liguori, et al., 2022) and may rely on cheap, energy-dense, and nutrient-poor foods (Ignowski, Belton, Tran, & Ameye, 2023). Furthermore, socioeconomic factors interact with other determinants of food insecurity, such as climate change and conflicts, exacerbating their impacts on food access and nutrition (Ripkey, et al., 2021; Godde, Mason-D'Croz, Mayberry, & Thornton, 2021). Addressing the role of socioeconomic factors in food security requires a multifaceted approach that addresses the root causes of poverty and inequality as well as the immediate challenges of food access and nutrition. Some of the recommended strategies include promoting inclusive economic growth, improving social protection programs, enhancing access to education and health services, and empowering marginalized groups to participate in decision-making and advocate for their rights (Di Prima, Wright, Sharma, Syurina, & Broerse, 2022).

Addressing the role of socioeconomic factors in food security requires a comprehensive and coordinated approach, including strategies that tackle poverty, inequality, and social exclusion and promote inclusive and sustainable development. Agricultural policies can promote or hinder food security depending on how they are designed and implemented (Adenle, Wedig, & Azadi, 2019). For example, policies that support smallholder farmers and prioritize food production for domestic consumption can enhance food security, while policies that prioritize export-oriented agriculture and large-scale commercial farming may undermine food security by reducing access to food and disrupting local food systems (Bjornlund, Bjornlund, & van Rooyen, 2022). Moreover, agricultural policies also affect the quality and safety of food as they regulate food standards, certification, and labeling. Policies that prioritize food safety and quality can enhance consumer confidence and promote healthy diets, while inadequate or poorly enforced policies may lead to food-borne illnesses and negative health outcomes (Liguori, et al., 2022). To address the role of agricultural policies in food security, it is important to adopt a holistic approach that considers the diverse needs and perspectives of different stakeholders, including farmers, consumers, policymakers, and civil society organizations (Mattas, et al., 2021).

Some of the recommended strategies include promoting sustainable agriculture practices, investing in rural infrastructure and services, strengthening food safety and quality standards, and promoting participatory decision-making processes that engage diverse stakeholders (Geekiyanage, Fernando, & Keraminiyage, 2020). Addressing the role of agricultural policies in food security requires a comprehensive and participatory approach that considers the diverse needs and perspectives of different stakeholders. Access to healthy food is a key aspect of food security, as it determines whether individuals and communities have the ability to obtain and consume nutritious food in sufficient quantities (Smith, Ng, & Popkin, 2017). Access to healthy food is influenced by a range of factors, including income, affordability, availability, and proximity to food outlets. However, disadvantaged communities, such as low-income households and rural populations, often face significant barriers to accessing healthy food, which can lead to higher rates of food insecurity and diet-related diseases (Penne & Goedemé, 2021). The lack of healthy food options in food deserts can contribute to poor dietary choices, limited food diversity, and an increased risk of chronic diseases such as obesity, diabetes, and heart disease (Fitzpatrick, Greenhalgh-Stanley, & Ver Ploeg, 2019).

Moreover, access to healthy food is not only a matter of physical availability but also affordability, as healthy food options are often more expensive than processed and unhealthy foods, making it difficult for low-income households to purchase nutritious food (Anderson, et al., 2021). To address the issue of access to healthy food, it is necessary to adopt a multi-sectoral approach that addresses the underlying factors that contribute

to food insecurity and food deserts (Speich, et al., 2023). Some of the recommended strategies include promoting healthy food retail options in underserved areas, increasing the purchasing power of low-income households through food assistance programs, promoting urban agriculture and community gardening, and supporting local food systems that prioritize healthy and sustainable food production (Diekmann, Gray, & Thai, 2020). Addressing the issue of access to healthy food requires a comprehensive approach that considers the multiple factors that contribute to food insecurity. Food sovereignty and security are increasingly recognized as critical aspects of ensuring access to safe, nutritious, and culturally appropriate food for all. Food sovereignty refers to the right of communities and people to control their food systems.

Including the production, distribution, and consumption of food, in ways that are sustainable, equitable, and culturally appropriate (Desmarais, 2017). On the other hand, food security focuses on ensuring that all individuals have access to sufficient, safe, and nutritious food to meet their dietary needs and preferences (Ingram, 2020). Food sovereignty and security are interrelated concepts that recognize the importance of local and community-based food systems and the need for equitable distribution of resources and power (Poirier & Neufeld, 2023). These concepts emphasize the importance of food production and distribution that is ecologically sustainable, socially just, and culturally appropriate, with a focus on supporting small-scale farmers and local food systems (Desmarais, 2017). Moreover, they prioritize the inclusion of marginalized communities and the recognition of their knowledge and expertise in food systems. The issue of food sovereignty and security has important implications for policy and practice.

For example, global food policies and trade agreements can impact the ability of communities to maintain control over their food systems, as large corporations often dominate the global food trade (Clapp, 2021). Additionally, the focus on increasing food production through industrial agriculture can have negative impacts on the environment and small-scale farmers, contributing to land degradation, loss of biodiversity, and social inequalities (FAO, 2019). To address the issue of food sovereignty and security, it is necessary to adopt a comprehensive approach that includes the perspectives and needs of local communities and small-scale farmers (Adu-Baffour, Daum, & Birner, 2021). Some of the recommended strategies include promoting agroecological and sustainable food production methods, supporting local food systems and small-scale farmers, and incorporating community-led approaches to food governance and decision-making (Desmarais, 2017). Addressing the issue of food sovereignty and security requires a comprehensive approach that considers the perspectives and needs of local communities and small-scale farmers.

The Importance of Addressing These Key Issues for Sustainable Development: Sustainable development aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. This requires addressing the social, economic, and environmental dimensions of food security and ensuring that all individuals have access to safe, nutritious, and culturally appropriate food (FAO, 2019). The importance of addressing key issues related to food security is multifaceted. For example, reducing food waste can help conserve resources and reduce greenhouse gas emissions while also ensuring that food is used more efficiently (Panchasara, Samrat, & Islam, 2021). Addressing the impacts of climate change on food production can help ensure that food systems remain resilient and adaptable in the face of changing environmental conditions (IPCC, 2019). Improving access to healthy food can contribute to reducing rates of malnutrition and diet-related diseases while also promoting social and economic development (FAO, 2019). Moreover, promoting food sovereignty and security can support the development of local and community-based food systems that are sustainable, equitable, and culturally appropriate (Desmarais, 2017). In addition to these benefits, addressing key issues related to food security can also have positive impacts on other global development goals.

Such as reducing poverty, promoting gender equality, and protecting biodiversity (FAO, 2019). For example, improving access to healthy and nutritious food can help reduce rates of malnutrition and stunting, which are major contributors to poverty and poor health outcomes (Agostoni, Baglioni, La Vecchia, Molari, & Berti, 2023). Promoting gender equality in food systems can support the empowerment of women and girls, who are often responsible for food production and preparation in many communities (FAO, 2019). Additionally, sustainable food systems can contribute to the conservation of biodiversity and ecosystem services, which are critical for supporting human livelihoods and well-being (IPBES, 2019). Furthermore, addressing these issues is critical for achieving the Sustainable Development Goals (SDGs) established by the United Nations in

2015. The SDGs aim to end poverty, protect the planet, and ensure that all people can enjoy peace and prosperity by 2030. Food security is a critical component of achieving these goals, with many of the goals directly or indirectly related to food security issues. For example, SDG 2 aims to end hunger and achieve food security and improved nutrition, while SDG 13 focuses on climate action to combat climate change, which has significant implications for food security.

Additionally, SDG 1 aims to end poverty, and SDG 5 aims to achieve gender equality, both of which are closely linked to food security issues. Addressing these key issues requires a multi-sectoral approach involving collaboration and partnerships between researchers, policymakers, practitioners, and community members. It is crucial to incorporate diverse perspectives and voices into food security research, prioritize research on understudied issues and intersections with other global issues, and strengthen partnerships and collaborations between stakeholders. Improving data collection and analysis methods to better capture the complexity of food security issues is also important. Finally, fostering sustainable development requires prioritizing the resolution of fundamental concerns connected to food security. To achieve this goal, it is necessary to use a holistic strategy that values the acknowledgment of the knowledge and experience of marginalized populations and takes into account the social, economic, and environmental aspects of food security. By focusing on these basic concerns, we can encourage the growth of sustainable and equitable food systems that contribute to the present and future well-being of all people.

3. Critical Gaps in Food Security Literature

Despite the significant amount of research conducted on food security, there are critical gaps in the literature that need to be addressed for sustainable development. These gaps include:

Limited Attention to Certain Issues: The food security literature has not given adequate attention to certain issues such as food waste, food sovereignty, and the perspectives and experiences of marginalized groups (Garnett et al., 2013). The issue of food waste has received limited attention in the food security literature despite its significant impact on food availability and accessibility. Globally, around one-third of the food produced for human consumption is lost or wasted each year (FAO, 2019). This represents a significant loss of resources including land, water, and energy, and has negative environmental and social implications. Addressing food waste is therefore crucial for ensuring food security and sustainable development. Similarly, food sovereignty, which emphasizes the right of people to control their food systems, including production, distribution, and consumption, has not been given adequate attention in the food security literature (Nisbett, et al., 2022).

This is even though food sovereignty is closely linked to food security and has important implications for the resilience and sustainability of food systems. Finally, the perspectives and experiences of marginalized groups, such as small-scale farmers and low-income communities, have received limited attention in the food security literature (Scoones, et al., 2020). This is a significant gap as these groups often face unique challenges in accessing and producing food, and their perspectives and experiences are essential for understanding and addressing food insecurity. To address these gaps, it is essential to incorporate diverse perspectives and voices into food security research and to prioritize research on understudied issues such as food waste and food sovereignty. Furthermore, it is crucial to ensure that the perspectives and experiences of marginalized groups are adequately represented in the literature and to develop effective strategies that promote sustainable and equitable food systems for all.

Insufficient Exploration of Intersections: There has been insufficient exploration of the intersections between food security and other global issues such as gender inequality, environmental sustainability, and animal welfare (Belton, et al., 2022). The intersectional nature of food security issues and their links with other global challenges such as gender inequality, environmental sustainability, and animal welfare has been recognized in the literature. For instance, research suggests that women are disproportionately affected by food insecurity due to gender-based discrimination in access to resources and education, as well as cultural norms and gender roles (Sinclair, et al., 2022). Additionally, environmental degradation and climate change have direct and indirect impacts on food security, particularly for vulnerable populations in developing countries (IPCC, 2019). The impact of animal agriculture on food security and the environment has also

gained attention in recent years, with debates on the sustainability of current consumption patterns and production methods (Garnett, et al., 2013). Despite these links, the literature on food security has generally focused on food production and distribution while neglecting the broader social and environmental contexts that underlie food security challenges (Belton, et al., 2022). This lack of attention to intersections limits the effectiveness of food security policies and programs in addressing the complex and multifaceted nature of food insecurity. Therefore, there is a need for research that explores the intersections between food security and other global issues to develop more holistic and effective strategies to address food insecurity.

Limited Focus on Policy Implications: The food security literature has a limited focus on the policy implications of research findings, which can hinder effective policy and practice (Filippini, Mazzocchi, & Corsi, 2019). This is a critical gap, as policymakers often rely on evidence-based research to make informed decisions. Inadequate consideration of policy implications in food security research can hinder the development of effective policies and practices to address food security issues (Balehegn, et al., 2020). For example, a study by (Savari & Amghani, 2022) found that while there is a large body of literature on small-scale farming, there is a lack of attention to the policy implications of these findings. This gap in the literature highlights the need for more research on the policy implications of food security research to support the development of effective policies and practices for sustainable development. Research studies that do not provide clear policy implications may not be able to contribute to decision-making and action (Spanaki, Karafili, Sivarajah, Despoudi, & Irani, 2022).

Therefore, it is crucial that food security research not only identify the problems but also provide practical policy recommendations for addressing them. Furthermore, some scholars have argued that there is a need for interdisciplinary and cross-sectoral approaches to food security research that consider the role of different actors in policy development and implementation (Zhang, Dhir, & Kaur, 2022). This requires not only collaboration between researchers but also between researchers, policymakers, and practitioners. Policymakers need to be involved in the research process to ensure that the findings are relevant and applicable to policy development and implementation (Namany, Govindan, Alfagih, McKay, & Al-Ansari, 2020). Overall, food security research must provide clear policy implications and recommendations to ensure effective policy and practice for addressing food insecurity. Additionally, interdisciplinary and cross-sectoral approaches to research can enhance the effectiveness of policy and program development and implementation.

Impact of Climate Change on Food Security: Temperature and CO2 increases can facilitate plant growth to some extent. However, rising temperatures also accelerate plant and soil evapotranspiration, which necessitates adequate water for agricultural growth. Climate change will have increasingly negative effects on agricultural production in countries that are already water-scarce as a result of declining water supplies; an increase in extreme events such as floods and severe storms, heat stress, and an increase in pests and diseases will have devastating effects on agricultural production (Asiedu, Adetola, & Odame Kissi, 2017; Odeku, 2013). At a certain threshold of warming, specifically above a two-degree Celsius increase in average global temperatures, adaptation would become exceedingly difficult and costly. In regions where temperatures are already extremely high, such as the Sahel region of Africa or South Asia, less heat-tolerant crops, such as wheat, could be impacted promptly by temperature increases (Máté, Novotny, & Meyer, 2021).

If nothing is done to enhance agricultural yields in the continent's most food-insecure nations, an estimated 43 million more Africans could fall below the poverty line by 2030 (Djankov & Panizza, 2020; Wudil, Usman, Rosak-Szyrocka, Pilař, & Boye, 2022). It is anticipated that climate change will affect the frequency and intensity of extreme events. Already, the effects of extreme events on agriculture are significant (Bindi, Palosuo, Trnka, & Semenov, 2015). Climate change is significantly altering the conditions under which agriculture is practiced. The effects of climate change on agricultural production systems are both direct and indirect. Changes in physical characteristics, such as temperature and precipitation patterns, have direct effects on specific agricultural production systems. Indirect effects include those that alter the productivity of other species, such as pollinators, parasites, disease vectors, and invasive species. These secondary effects can play a significant role. Given a large number of interacting traits and connections, the majority of which are unknown, it is significantly more challenging to evaluate and predict them (Nunn & Kumar, 2018; Scholtz, Schönfeldt, Neser, & Schutte, 2014; Wang & Wang, 2022).

Lack of Standardized Methods: There is a lack of standardized methods for measuring and assessing food security, which can limit comparability and generalizability. Furthermore, the lack of standardized methods also presents challenges in tracking progress toward achieving food security goals, such as those outlined in the Sustainable Development Goals (SDGs) (FAO, 2019). The SDGs include a specific target to end hunger and achieve food security by 2030, as well as targets related to nutrition and sustainable agriculture. Without standardized methods for measuring and monitoring progress toward these targets, it becomes difficult to assess the effectiveness of interventions and track progress towards achieving the goals (Heidkamp, et al., 2021). The absence of standardized methods can limit the comparability and generalizability of findings and hinder the development of effective policies and interventions. In addition, the concept of food security is complex, encompassing multiple dimensions such as availability, access, utilization, and stability of food (Clapp, Moseley, Burlingame, & Termine, 2022). As a result, there is a need for standardized methods to assess food security that capture its multidimensionality and variability across contexts. Some studies have highlighted the importance of using standardized methods for measuring food security.

For example, a study (Pérez-Escamilla & Segall-Corrêa, 2008) emphasized the need for standardized methods to assess food security and proposed a framework that considers the multiple dimensions of food security. Another study (Coates, 2013) reviewed various methods for measuring food security and found that the methods differed in their conceptualization and operationalization of food security, leading to variations in the estimated prevalence of food insecurity. To address these gaps, there have been calls for the development of standardized methods for measuring and assessing food security, as well as for the incorporation of a more comprehensive and multidimensional approach to measuring food security (Pérez-Escamilla, Shamah-Levy, & Candel, 2017). This includes the use of mixed-methods approaches and the incorporation of qualitative data to better understand the perspectives and experiences of food-insecure populations. Overall, addressing the lack of standardized methods is critical for improving the accuracy and comparability of food security research and tracking progress toward achieving global food security goals.

Lack of Advanced Technology: There are competing and complementary perspectives on food safety in the era of big data (Vågsholm, Arzoomand, & Boqvist, 2020). (Ben Ayed & Hanana, 2021), argue that multidisciplinary approaches should provide the food industry with more effective tools to ensure food quality and safety. Complex and enigmatic processes, such as machine learning and computational intelligence, are used for the real-time processing of these enormous data sets (Ben Ayed & Hanana, 2021). Lack of transparency makes it more difficult to scrutinize data and provide evidence-based recommendations. Utilizing food supply and demand forecasts and tracking food from farm to table without regard for food safety is also hazardous (Sapienza & Vedder, 2021). Consequently, initiatives involving big data must incorporate food safety considerations.

The advantages could include the reduction of food waste, the assurance of food safety through more effective process control, and the restoration of consumer and food industry confidence (Misra, et al., 2022). In addition, it would be advantageous to transition from destructive or invasive testing to sensor-based, non-invasive automated monitoring. Simply deploy these sensors on-site to monitor production in real-time. Large volumes of high-throughput, analytical, and imaging metadata obtained with these instruments will enable more precise food supply forecasting by shedding light on the rotting and decay processes of various food products stored under varying conditions (temperature, packaging). If made available online, this developing knowledge could provide the food company with ongoing benefits (Rejeb, Rejeb, & Zailani, 2021; Talari, Cummins, McNamara, & O'Brien, 2022).

4. Addressing Critical Gaps in Food Security

Several suggestions for further research and action can be made to overcome the significant gaps found in the literature on food security. To better capture the complexity of food security issues, data collection and analysis methods need to be improved. These include incorporating diverse perspectives and voices into food security research, prioritizing research on understudied issues and their connections to other global issues, fostering partnerships and collaborations between researchers, policymakers, and practitioners, and focusing on understudied issues and their intersections with other global issues. First off, multiple viewpoints and voices must be included in food security research to fully comprehend the complexities of the problems

involved. In particular, this entails giving special weight to the viewpoints and experiences of marginalized groups that are frequently disproportionately impacted by food insecurity, such as small-scale farmers and low-income communities. To ensure that these groups' needs and perspectives are heard, researchers can use community-based participatory research techniques. Second, it is essential for creating successful policies and practices to alleviate food poverty to prioritize research on understudied topics and how they connect with other global concerns.

This includes expanding studies on food sovereignty (Bezner Kerr, Hickey, Lupafya, & Dakishoni, 2019), food waste, and how issues like gender inequity, environmental sustainability, and animal welfare connect with concerns about food security (Mardones, et al., 2020). To ensure a thorough grasp of these difficulties, policymakers might prioritize financing for research in these areas and promote collaboration between academics from diverse disciplines. Thirdly, creating opportunities for knowledge sharing and collaboration between various stakeholders as well as strengthening partnerships and collaborations between researchers, policymakers, and practitioners can help ensure that research findings are effectively translated into practices and policies that address food insecurity. For instance, to discuss research findings and their implications for policy and practice, officials should arrange regular meetings with researchers and practitioners (Gava, Bartolini, Venturi, Brunori, & Pardossi, 2020). Developing effective policies and practices requires enhancing data collection and analysis techniques to better represent the complexity of food security concerns. This entails using quantitative and qualitative techniques that can capture the lived experiences of people and communities affected by food poverty, as well as standardized procedures for measuring and assessing food security. To learn more about the social and cultural aspects that contribute to food insecurity, researchers should also look into new data sources like social media and other digital platforms.

5. Conclusion and Recommendations

In conclusion, the food security literature has critical gaps that limit our understanding of the complex nature of food security issues and hinder effective policy and practice. These gaps include inadequate attention to certain issues, insufficient exploration of intersections with other global issues, limited focus on the perspectives and experiences of marginalized groups, a lack of attention to policy implications, and a lack of standardized methods for measuring and assessing food security. Addressing these gaps is crucial for sustainable development, as food security is a fundamental component of global development and has far-reaching implications for social, economic, and environmental well-being. To address these gaps, researchers, policymakers, and practitioners must work together to incorporate diverse perspectives and voices into food security research, prioritize research on understudied issues and intersections with other global issues, strengthen partnerships and collaborations, and improve data collection and analysis methods to better capture the complexity of food security issues? By addressing these critical gaps, we can gain a more comprehensive understanding of food security and develop more effective policies and practices that promote food security for all. It is essential to recognize that food security is a complex and multifaceted issue that requires collaborative efforts from various sectors to achieve sustainable solutions.

Therefore, it is a call to action for researchers, policymakers, and practitioners to work together and prioritize efforts to address these gaps and improve food security globally. Only then can we create a more just and equitable food system that ensures access to nutritious and culturally appropriate food for all. Gaps in the food security literature can have significant implications for policy and practice as they can limit the effectiveness of efforts to address food insecurity. One of the most pressing implications is the limited attention given to certain issues such as food waste, food sovereignty, and the perspectives and experiences of marginalized groups. This can result in policies and programs that do not fully address the root causes of food insecurity or that inadvertently perpetuate inequalities. For example, the issue of food waste has received inadequate attention in the literature on food security, despite the fact that around one-third of all food produced for human consumption is lost or wasted each year (Santeramo & Lamonaca, 2021). Addressing food waste not only reduces food insecurity but also contributes to environmental sustainability by reducing greenhouse gas emissions and conserving natural resources (Pörtner, et al., 2022). Policies and programs that promote food waste reduction, such as food recovery programs and improved supply chain management, can therefore have significant impacts on both food security and sustainability. Similarly, the concept of food sovereignty has received limited attention in the literature on food security.

It's the potential to challenge the dominant paradigm of global food systems and promote more equitable and sustainable food production and distribution (Clapp, Moseley, Burlingame, & Termine, 2022). Food sovereignty emphasizes the rights of people to define and control their food systems and to produce and consume food that is culturally appropriate, environmentally sustainable, and socially just. By prioritizing the perspectives and needs of small-scale farmers and marginalized communities, food sovereignty can address the root causes of food insecurity and promote more sustainable and equitable food systems. Insufficient exploration of the intersections between food security and other global issues such as gender inequality, environmental sustainability, and animal welfare also has significant implications for policy and practice. For example, the gendered dimensions of food insecurity have been largely overlooked in the food security literature, despite the fact that women and girls are disproportionately affected by food insecurity (Morales, Morales, & Beltran, 2021). Addressing gender inequality in food systems, such as by promoting women's land rights and improving access to education and resources, can therefore be crucial for achieving food security and reducing poverty. Furthermore, the limited focus on policy implications of research findings in the food security literature can hinder effective policy and practice. Without clear and actionable policy recommendations, research may not be translated into effective interventions, and efforts to address food insecurity may be less effective or inefficient.

Therefore, there is a need for greater collaboration between researchers, policymakers, and practitioners to ensure that research findings are translated into effective policies and programs that can address the root causes of food insecurity (Murrell & Jones, 2020). Finally, the lack of standardized methods for measuring and assessing food security can limit the comparability and generalizability of findings, making it difficult to identify and address food insecurity on a global scale. This underscores the need for the development and implementation of standardized methods and indicators for measuring and assessing food security, which can improve comparability in addition to enabling more effective monitoring and evaluation of interventions. In conclusion, gaps in the food security literature can have significant implications for policy and practice, as they can limit the effectiveness of efforts to address food insecurity. Addressing these gaps will require greater attention to certain issues, such as food waste and food sovereignty, as well as greater exploration of the intersections between food security and other global issues. Additionally, there is a need for greater collaboration between researchers, policymakers, and practitioners to ensure that research findings are translated into effective policies and programs and for the development and implementation of standardized methods and indicators for measuring and assessing food security.

Acknowledgment: The authors would like to thank Universiti Teknologi MARA, Cawangan Melaka for supporting this article.

References

Adenle, A. A., Wedig, K. & Azadi, H. (2019). Sustainable agriculture and food security in Africa: The role of innovative technologies and international organizations. Technology in Society, 58.

Adu-Baffour, F., Daum, T. & Birner, R. (2021). Governance challenges of small-scale gold mining in Ghana: Insights from a process net-map study. Land Use Policy, 102.

Agostoni, C., Baglioni, M., La Vecchia, A., Molari, G. & Berti, C. (2023). Interlinkages between Climate Change and Food Systems: The Impact on Child Malnutrition-Narrative Review. *Nutrients*, 15(2), 416.

Alexander, P., Brown, C., Arneth, A., Finnigan, J. & Rounsevell, M. (2019). Human appropriation of land for food: The role of diet. Global Environmental Change, 58.

Anderson, E., Wei, R., Liu, B., Plummer, R., Kelahan, H., Tamez, M. & Mattei, J. (2021). Improving healthy food choices in low-income settings in the United States using behavioral economic-based adaptations to choice architecture. Frontiers in Nutrition, 8.

Asiedu, B., Adetola, J. & Odame Kissi, I. (2017). Aquaculture in troubled climate: Farmers' perception of climate change and their adaptation. *Cogent Food and Agriculture*, 3(1).

Balehegn, M., Duncan, A., Tolera, A., Ayantunde, A., Issa, S., Karimou, M. & Adesogan, A. (2020). Improving adoption of technologies and interventions for increasing the supply of quality livestock feed in low- and middle-income countries. Global food security, 26.

Belton, B., Johnson, D., Thrift, E., Olsen, J., Hossain, M. & Thilsted, S. (2022). Dried fish at the intersection of food science, economy, and culture: A global survey. *Fish and Fisheries*, 23(4), 941-962.

Ben Ayed, R. & Hanana, M. (2021). Artificial intelligence to improve the food and agriculture sector. Journal of Food Quality, 1-7.

Bezner Kerr, R., Hickey, C., Lupafya, E. & Dakishoni, L. (2019). Repairing rifts or reproducing inequalities? Agroecology, food sovereignty, and gender justice in Malawi. *The Journal of Peasant Studies*, 46(7), 1499-1518.

Bindi, M., Palosuo, T., Trnka, M. & Semenov, M. (2015). Modeling climate change impacts on crop production for food security. *Climate Research*, 65, 3–5.

Bjornlund, V., Bjornlund, H. & van Rooyen, A. (2022). Why food insecurity persists in sub-Saharan Africa: A review of existing evidence. *Food Security*, 14(4), 845-864.

Clapp, J. (2021). *Nature Food*, 2(6), 404-408.

Clapp, J. & Moseley, W. (2020). This food crisis is different: COVID-19 and the fragility of the neoliberal food security order. *The Journal of Peasant Studies*, 47(7), 1393-1417.

Clapp, J., Moseley, W., Burlingame, B. & Termine, P. (2022). The case for a six-dimensional food security framework. Food Policy, 106.

Coates, J. (2013). Build it back better: Deconstructing food security for improved measurement and action. *Global Food Security,* 2(3), 188-194.

Desmarais, A. A. (2017). Food sovereignty and the challenge of democracy: A public policy perspective. Routledge.

Di Prima, S., Wright, E. P., Sharma, I. K., Syurina, E. & Broerse, J. (2022). Implementation and scale-up of nutrition-sensitive agriculture in low-and middle-income countries: a systematic review of what works, what doesn't work and why. Global Food Security, 32.

Diekmann, L. O., Gray, L. & Thai, C. (2020). More than food: The social benefits of localized urban food systems. Frontiers in Sustainable Food Systems, 4.

Djankov, S. & Panizza, U. (2020). COVID-19 in developing economies. Örebro: EconPapers.

Fanzo, J. (2014). Strengthening the engagement of food and health systems to improve nutrition security: Synthesis and overview of approaches to address malnutrition. *Global food security*, 3(3-4), 183-192.

FAO. (2019). The State of Food and Agriculture 2019: Moving Forward on Food Loss and Waste Reduction. Rome. Retrieved from World Food and Agriculture – Statistical Pocketbook 2019.: https:www.fao.org

Filippini, R., Mazzocchi, C. & Corsi, S. (2019). The contribution of Urban Food Policies toward food security in developing and developed countries: A network analysis approach. Sustainable Cities and Society, 47.

Fitzpatrick, K., Greenhalgh-Stanley, N. & Ver Ploeg, M. (2019). Food deserts and diet-related health outcomes of the elderly. Food Policy, 87.

Galli, F. & Watters, R. (2019). Food systems and the SDGs: Bridging the policy gap. Rome: FAO.

Garnett, T., Appleby, M., Balmford, A., Bateman, I., Benton, T., Bloomer, P. & Godfray, H. (2013). Sustainable intensification in agriculture: premises and policies. *Science*, 341(6141), 33-34.

Gava, O., Bartolini, F., Venturi, F., Brunori, G. & Pardossi, A. (2020). Improving the policy evidence base for agricultural sustainability and food security: A content analysis of life cycle assessment research. *Sustainability*, 12(3), 1033.

Geekiyanage, D., Fernando, T. & Keraminiyage, K. (2020). Assessing the state of the art in community engagement for participatory decision-making in disaster risk-sensitive urban development. International journal of disaster risk reduction, 51.

Godde, C. M., Mason-D'Croz, D., Mayberry, D. & Thornton, P. (2021). Impacts of climate change on the livestock food supply chain; a review of the evidence. Global food security, 28.

Heidkamp, R. A., Piwoz, E., Gillespie, S., Keats, E., D'Alimonte, M., Menon, P. & Bhutta, Z. (2021). Mobilizing evidence, data, and resources to achieve global maternal and child undernutrition targets and the Sustainable Development Goals: An agenda for action. *The Lancet*, 397(10282), 1400-1418.

Ignowski, L., Belton, B., Tran, N. & Ameye, H. (2023). Dietary inadequacy in Tanzania is linked to the rising cost of nutritious foods and the consumption of food away from home. Global Food Security, 37.

Ingram, J. (2020). Nutrition security is more than food security. *Nature food*, 1(1), 2-2.

IPBES. (2019). Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Bonn: IPBES Secretariat.

IPCC. (2019). Climate Change and Land: An IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems. Geneva: IPCC.

Leip, A., Caldeira, C., Corrado, S., Hutchings, N., Schaap, M. & van Grinsven, H. (2022). Halving nitrogen waste in the European Union food systems requires both dietary shifts and farm-level actions. Global Food Security, 35.

Liguori, J., Trübswasser, U., Pradeilles, R., Le Port, A., Landais, E., Talsma, E. & Holdsworth, M. (2022). How do food safety concerns affect consumer behaviors and diets in low-and middle-income countries? A systematic review. Global Food Security, 35.

Mardones, F. O., Rich, K., Boden, L., Moreno-Switt, A., Caipo, M., Zimin-Veselkoff, N. & Baltenweck, I. (2020). The COVID-19 pandemic and global food security. Frontiers in Veterinary Science, 7.

Máté, D., Novotny, A. & Meyer, D. (2021). The impact of sustainability goals on productivity growth: The moderating role of global warming. *International Journal of Environmental Research and Public Health*, 18(21).

Mattas, K., Tsakiridou, E., Karelakis, C., Lazaridou, D., Gorton, M., Filipović, J. & Veneziani, M. (2021). Strengthening the sustainability of European food chains through quality and procurement policies. *Trends in Food Science & Technology*, 120, 248-253.

Misra, N. N., Dixit, Y., Al-Mallahi, A., Bhullar, M., Upadhyay, R. & Martynenko, A. (2022). IoT, Big Data, and Artificial Intelligence in Agriculture and Food Industry. *IEEE Internet of Things Journal*, 9(9), 6305–6324.

Morales, D. X., Morales, S. & Beltran, T. (2021). Racial/ethnic disparities in household food insecurity during the COVID-19 pandemic: a nationally representative study. *Journal of racial and ethnic health disparities*, 8, 1300-1314.

Murrell, A. & Jones, R. (2020). Measuring Food insecurity using the food abundance index: implications for economic, health and social well-being. *International journal of environmental research and public health*, 17(7), 2434.

Nabuuma, D., Reimers, C., Hoang, K., Stomph, T. & Swaans, K. (2022). Impact of seed system interventions on food and nutrition security in low-and middle-income countries: A scoping review. Global Food Security, 33.

Nakawuka, P., Langan, S., Schmitter, P. & Barron, J. (2018). A review of trends, constraints and opportunities of smallholder irrigation in East Africa. *Global food security*, 17, 196-212.

Namany, S., Govindan, R., Alfagih, L., McKay, G. & Al-Ansari, T. (2020). Sustainable food security decision-making: an agent-based modeling approach. Journal of Cleaner Production, 255.

Nisbett, N., Harris, J., Backholer, K., Baker, P., Jernigan, V. & Friel, S. (2022). Holding no-one back: the nutrition equity framework in theory and practice. Global Food Security, 32.

Nunn, P. & Kumar, R. (2018). Understanding climate-human interactions in Small Island Developing States (SIDS): Implications for future livelihood sustainability. *International Journal of Climate Change Strategies and Management*, 10(2), 245–271.

Odeku, K. O. (2013). Global climate change, the threat to food safety and poverty. *Mediterranean Journal of Social Sciences*, 4(14), 827–834.

O'Hara, S. & Toussaint, E. (2021). Food access in crisis: Food security and COVID-19. Ecological Economics, 180.

Panchasara, H., Samrat, N. & Islam, N. (2021). Greenhouse gas emissions trends and mitigation measures in Australian agriculture sector—a review. *Agriculture*, 11(2), 85.

Penne, T. & Goedemé, T. (2021). Can low-income households afford a healthy diet? Insufficient income as a driver of food insecurity in Europe. Food Policy, 99.

Pérez-Escamilla, R. & Segall-Corrêa, A. (2008). *Revista de Nutrição*, 21, 15-26.

Pérez-Escamilla, R., Shamah-Levy, T. & Candel, J. (2017). *Global Food Security*, 14, 68-72.

Philippidis, G., Sartori, M., Ferrari, E. & M'Barek, R. (2019). Waste not, want not: A bio-economic impact assessment of household food waste reductions in the EU. *Resources, Conservation and Recycling*, 146, 514-522.

Poirier, B. & Neufeld, H. (2023). We Need to Live off the Land: An Exploration and Conceptualization of Community-Based Indigenous Food Sovereignty Experiences and Practices. *International Journal of Environmental Research and Public Health*, 20(5), 4627.

Pörtner, L. M., Lambrecht, N., Springmann, M., Bodirsky, B., Gaupp, F., Freund, F. & Gabrysch, S. (2022). We need a food system transformation—In the face of the Russia-Ukraine war, now more than ever. *One Earth*, 5(5), 470-472.

Rejeb, A., Rejeb, K. & Zailani, S. (2021). Big data for sustainable agri-food supply chains: a review and future research perspectives. *Journal of Data, Information and Management*, 3, 167-182.

Ripkey, C., Little, P., Dominguez-Salas, P., Kinabo, J., Mwanri, A. & Girard, A. (2021). Increased climate variability and sedentarization in Tanzania: Health and nutrition implications on pastoral communities of Mvomero and Handeni districts, Tanzania. Global Food Security, 29.

Rosenthal, J. P., Quinn, M., Hatt, E. & Wallinga, D. (2021). Food systems and public health: Linkages to achieve healthier diets and healthier communities. *Annual Review of Public Health*, 42, 183-198.

Santeramo, F. G. & Lamonaca, E. (2021). Food loss–food waste–food security: a new research agenda. *Sustainability*, 13(9), 4642.

Sapienza, S. & Vedder, A. (2021). Principle-based recommendations for big data and machine learning in food safety: the P-SAFETY model. *AI and Society*, 38(1), 5–20.

Savari, M. & Amghani, M. (2022). SWOT-FAHP-TOWS analysis for adaptation strategies development among small-scale farmers in drought conditions. International Journal of Disaster Risk Reduction, 67.

Scholtz, M. M., Schönfeldt, H., Neser, F. & Schutte, G. (2014). Research and development on climate change and greenhouse gases in support of climate-smart livestock production and a vibrant industry. *South African Journal of Animal Sciences*, 44(5), 1–7.

Scoones, I., Stirling, A., Abrol, D., Atela, J., Charli-Joseph, L., Eakin, H. & Yang, L. (2020). Transformations to sustainability: combining structural, systemic and enabling approaches. *Current Opinion in Environmental Sustainability*, 42, 65-75.

Sharifi, A. (2020). Trade-offs and conflicts between urban climate change mitigation and adaptation measures: A literature review. Journal of Cleaner Production, 276.

Sinclair, K., Thompson-Colón, T., Bastidas-Granja, A., Matamoros, S., Olaya, E. & Melgar-Quiñonez, H. (2022). Women's autonomy and food security: connecting the dots from the perspective of Indigenous women in rural Colombia. SSM-Qualitative Research in Health, 2.

Smith, L. P., Ng, S. & Popkin, B. (2017). Trends in US home food preparation and consumption: analysis of national nutrition surveys and time use studies from 1965-1966 to 2007-2008. *Nutrition Journal*, 16(1), 1-16.

Spanaki, K., Karafili, E., Sivarajah, U., Despoudi, S. & Irani, Z. (2022). Artificial intelligence and food security: swarm intelligence of AgriTech drones for smart AgriFood operations. *Production Planning & Control*, 33(16), 1498-1516.

Speich, C., Barth-Jaeggi, T., Musard, C., Havugimana, C., Gakuba, E. & Prytherch, H. (2023). Nutrition in City Ecosystems (NICE): Protocol of a multi-sectoral development project to improve food and nutrition security of secondary city populations in Bangladesh, Kenya and Rwanda. *Frontiers in Public Health*, 11, 211.

Talari, G., Cummins, E., McNamara, C. & O'Brien, J. (2022). State-of-the-art review of Big Data and web-based Decision Support Systems (DSS) for food safety risk assessment with respect to climate change. *Trends in Food Science & Technology*, 126, 192–204.

Vågsholm, I., Arzoomand, N. & Boqvist, S. (2020). Food Security, Safety, and Sustainability—Getting the Trade-Offs Right. *Frontiers in Sustainable Food Systems*, 4, 16.

Wang, H. L. & Wang, D. (2022). Agricultural Insurance, Climate Change, and Food Security: Evidence from Chinese Farmers. *Sustainability (Switzerland)*, 14(15).

Wudil, A., Usman, M., Rosak-Szyrocka, J., Pilař, L. & Boye, M. (2022). Reversing Years for Global Food Security: A Review of the Food Security Situation in Sub-Saharan Africa (SSA). *International Journal of Environmental Research and Public Health*, 19(22).

Zhang, Q., Dhir, A. & Kaur, P. (2022). Circular economy and the food sector: A systematic literature review. *Sustainable Production and Consumption*, 32, 655-668.

Information Management and Business Review (IMBR)
Vol. 15, No. 2, June 2022 (ISSN 2220-3796)

The Effect of HRM Practices on Organizational Performance: A Survey of Malaysian State Sports Councils' Employees

Nur Syazwani Zulaikha Safwan[1], Mohamad Firdaus Ahmad[2*] & Muhammad Syukri Abdullah[3]
[1,2] Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Cawangan Negeri Sembilan, Kampus Seremban, Malaysia
[3] Faculty of Business and Management, Universiti Teknologi MARA, Cawangan Melaka, Kampus Alor Gajah, Malaysia
syazwanisafwan@gmail.com, firdaus466@uitm.edu.my*, syukriabdullah@uitm.edu.my

Abstract: Organizational performance can be evaluated through the effectiveness of human resource management (HRM) practices implemented in the organization. However, the problem of improper and misguided implementation of HRM practices causes conflict between employees and organizations, influencing organizational performance. This study examines the effect between HRM practices and organizational performance among Malaysian State Sports Councils' (MSSC) employees by adapting the Social Exchange Theory. This survey involved a total of 280 MSSC employees. This research instrument consists of 35 items that measure HRM practices and organizational performance. Data were analyzed using regression analysis. Based on the findings, there is a significant and direct effect between HRM practices and organizational performance among MSSC employees. In conclusion, the organization's excellent structure of HRM practices enables employees to commit to work and perform tasks according to the organizational goals. Future researchers are recommended to extend the sample of study to other sports organizations or other public and private organizations in measuring HRM practices and organizational performance.

Keywords: *HRM practices, Organizational Performance, Malaysian State Sports Council.*

1. Introduction

HRM practices have made the organization implement policies to recruit, select and train employees, enabling them to develop organizations to become more flexible, intelligent and competent in business management than their competitors (Cherif, 2020). An organization's efforts must increase the motivation of its employees. This is supported by Sarfraz et al. (2018), that effective HRM practices may secure talented employees as they are vital for an organization to accomplish its mission and vision. This is due to the capabilities of HRM practices that have been recognized as essential aspects that can contribute to achieving desired outcomes. It indicates the excellent application of HRM practices may influence the employees' productivity, which indirectly addresses the high performance of organizations. Organizational success results from employees' commitment to the organization. Every organization aspires to sustain a high level of performance to maintain long-term. Organizational performance is regarded as the aggregate of an organization's achievements (Khan et al., 2020). According to Abualoush et al. (2018), organizational performance is the organization's ability to fulfill its mission, activities, tasks, and outcomes. Likewise, researchers stated that organizational performance is the capacity to satisfy the organization's objectives and stakeholders. This shows that it can act as an evaluation for the organization to quantify and determine its efficiency and effectiveness over a specified period.

Good organizational performance symbolizes profit, effectiveness, and survival in achieving its goals. Besides, a well-performing organization is seen from work produced as it can positively impact organizational productivity. However, every organization will undoubtedly experience problems in creating success, such as the issue of workplace isolation (Rasool et al., 2020). This issue has been considered an internal problem that can affect the performance of an organization. Terng and Ahmad (2021) support that this happens because of insufficient information sharing and social support from coworkers and management. This makes employees feel alone and makes them perform poorly in a job, which can negatively impact the management in making plans and decisions. It shows a better understanding of how the environment affects employees' behavior and how to conduct drives to achieve goals that need to be created (Saeed et al., 2019). On top of the above discussion, good HRM practices must be the key to influencing organizational performance, especially in the sports industry. According to Durisic (2022), many athletes are developed annually to fulfill Malaysia's sports industry's demands. The consensus from this situation indicates that HRM practices are one of the elements

needed by top management and HR practitioners to maintain and grow athletes' performance. HRM practices applied by management can lead the organization to perform well. Hence, this study examines the effect of HRM practices on organizational performance in the Malaysian State Sports Council (MSSC).

2. Literature Review

Recently, the utilization of HRM can determine the achievement of an organization in handling employees to achieve goals. HRM practices have been regarded as an important indicator in influencing organizational performance. This is due to the high level of HRM perceived by employees that can enable them to perform work. In contrast, if employees anticipated less HRM, they would be less emotionally invested in accomplishing the mission and vision. This statement shows HRM can be positively associated with performance when a strategic plan is used by management for the employee. The ineffectiveness of HRM will undoubtedly make the efforts of employees to achieve success futile. Therefore, this part of the literature review documented past studies regarding HRM practices and organizational performance. Based on a study carried out by Foo et al. (2020) in the hotel industry in Malaysia shows a significant relationship between HRM practices and organizational performance. The result of this study aligned with past research, which revealed a positive association between the two variables (Ali et al., 2020; Shayegan et al., 2022). According to Chillakuri and Vanka (2021), HRM motivates employees to improve their self-development by assisting them in reaching goals & reducing their stress physically & mentally.

The finding from Tensay and Singh (2020) also established a connection between HRM practices and organizational performance among public service employees in Ethiopia. Researchers stated that the fundamental services provided to the citizens play a main role in helping the organization to develop HRM as it helps to improve the service quality and satisfaction of customers. Kitchot et al. (2021) also found a direct effect on HRM and firm performance among employees in Thailand. Researchers stated HRM plays a crucial role as a strategic partner in supporting the organization to build the competencies required to execute its plan. However, Akeel et al. (2019) pointed to a non-significant relationship between HRM practices and organizational performance among employees who worked in Libya's construction industry. Milon (2019) stated that poor investment in HRM resulted in unfavorable outcomes among employees. This problem has prevented the organization from operating its business well. Additionally, Jashari and Kutllovci (2020) conducted a study on the manufacturing industry in Kosovo and reported a significant relationship between recruitment and selection practice and organizational performance. Researchers stated that a high level of professionalism shown in the hiring process would make the organization have a greater impact on their performance.

The findings from Nafari and Rezaei (2022) also indicated a relationship between recruitment practice and organizational performance among employees who worked in public hospitals in Iran. Researchers stated that implementing appropriate strategies for recruiting employees enables the organization to select qualified specialists. Meanwhile, Hameed and Mohamed (2016) signified a connection between recruitment and selection practices in India's private hospitals. Researchers assert that the organization will improve its overall performance by selecting nurses with the necessary skills and characteristics. Despite that, Njenga (2018) revealed that recruitment practices and firm performance in the insurance industry in Kenya are not associated. The researcher indicates that the most pressing problem in the recruiting process was deciding the suitable method to employ as it can influence the quality of employees. The finding was also supported by the past study conducted by Anwar and Abdullah (2021) that signified insignificant results between recruitment practice and organizational performance among employees in Iraq. Apart from that, the research conducted by Samwel (2018) documented a significant relationship between training practice and organizational performance among employees in Tanzania.

The researcher stated that training and development are essential practices that cultivate employees' specific skills. Hanci-Donmez and Karacay (2019) also reported that training positively affects employee organizational performance in Turkey. Researchers emphasized that training methods that take a broad view of education can be a basis for building knowledge and abilities to enhance productivity. Besides, Ohanyere et al. (2021) demonstrated the synonymous finding with previous researchers regarding training practices and organizational performance among employees in Nigeria. In contrast, the Parayitam et al. (2021) finding

shows that training and development practice and organizational performance are not connected. Researchers expressed that performance could be hindered if insufficient training and development opportunities exist. Then, Kim and Jang (2020) exhibit a positive effect of rewards on organizational performance in the restaurant industry. Researchers stated that a greater reward invested in the employee was associated with improved performance. The equitable remuneration policies conducted in the organization create a good working environment. A study by Nafari and Rezaei (2022) shows a significant relationship between reward practice and organizational performance.

The researcher stated that reward is the second strongest predictor of organizational achievement. Besides, Tensay and Singh (2020) also reported a similar result in the relationship between reward practice and organizational performance. The researcher indicates that the organization's strategic reward can reflect the organizational objectives. Nevertheless, a study by Njenga (2018) shows inconsistent findings, as it reported a non-significant relationship between reward and organizational performance. The incapability of rewarding employees can lead to lower organizational performance. On the other hand, Sweis et al. (2020) show a significant relationship between performance appraisal practice and organizational performance. Researchers indicate that performance feedback serves as an indicator for managers and employees to discover performance gaps. This evaluation may assist employees in strengthening their skills to become more competitive in the workplace. Alaraqi (2017) found the same findings that performance appraisal practice and organizational performance among oil companies in Iraq had a significant relationship.

The researcher mentioned the appraisal system allowed the organization to collect information regarding past and recent performance that can be used to track the progress. However, a study by Hameed and Mohamed (2016) demonstrated an insignificant relationship between performance appraisal and organizational performance. The lack of administration in the appraisal system could not enable organizations to enhance performance. Additionally, the participation practice significantly influences organizational performance (Jashari & Kutllovci, 2020). Researchers emphasized employees will be more confident and motivated to work if they have the opportunity to be involved in organizational goals and the decision-making process. This indicates that open communication chances offered by the organization can boost employee motivation. The result was aligned with a past study by Tensay and Singh (2020) regarding the relationship between the two variables. Researchers indicate that the opportunity to express thought and feedback allows employees to feel free and can make the organization more likely to succeed. Previous researchers reported the results were not in line with Hanci-Donmez and Karacay (2019) as they found that participation is not associated with organizational performance.

Chen et al. (2020) emphasize that employees lose their sense of ownership when they cannot contribute to achieving organizational goals. It also may result in the employees refraining from contributing their ideas due to the unappreciated behavior shown by the organization. On top of the above explanation, it can be concluded that HRM practices have been the major focus for every organization in ensuring consistent resources that enable others to be more competitive. The discussion regarding HRM practices and organizational performance by previous researchers also indicated that HRM practices are significant in providing positive consequences toward an organization's success. It shows the understanding of employees on HRM practices enables the organization to develop a positive culture among peers and management. This is due to the organization always prioritizing the positive relationship between employees and the organization to reduce conflict or issues that can affect performance. Therefore, this asserts that HRM can foster the employees' growth in terms of attitudes, skills and behavior at the workplace. Consequently, this can result in the organization gaining a favorable response concerning its performance.

3. Methodology

A survey design was used to examine the effect of HRM practices on organizational performance among MSSC employees. The study involved 280 employees from MSSC to answer the questionnaire. Besides, stratified random sampling has been employed in determining the number of samples selected. The instrument adapted from Beijer (2014) consists of 24 items divided into five dimensions to measure HRM practices; recruitment and selection, training and development, reward, performance appraisal, and participation and communication. Meanwhile, 11 items from Yeneneh (2021) have been adapted for organizational

performance. All the items for HRM practices and organizational performance were based on a five-point Likert scale format ranging from 1 (strongly agree) to 5 (strongly disagree). Additionally, 30 respondents were used for a pilot study. The result shows items of HRM practices and organizational performance are very reliable since the value >0.80 (Hair et al., 2010). The table below shows the interpretation of the Cronbach alpha value of the study.

Table 1: Cronbach Alpha Value of HRM Practices and Organizational Performance

Variable	N of Items	Cronbach Alpha
HRM Practices		
- Recruitment and selection	4	0.845
- Training and development	5	0.836
- Reward	6	0.889
- Performance appraisal	4	0.857
- Participation and communication	5	0.913
Organizational Performance	11	0.941

4. Results and Discussion

Table 2 below shows the demographic profile of respondents based on gender. A total of 280 MSSC employees consisting of 156 male employees and 124 female employees participated in this study.

Table 2: Demographic Profile of Respondents

		Frequency (f)	Percent (%)
Gender	Male	156	55.7
	Female	124	44.3
	Total	280	100.0

Based on Table 3, regression analysis shows a significant and direct effect of HRM practices on organizational performance among MSSC employees (β=0.450, $p<0.05$). This shows when HRM Practices go up one unit, organizational performance goes up 0.45.

Table 3: Regression Analysis on HRM Practices and Organizational Performance

			Estimate (β)	S.E.	C.R.	P	Result
Org. Performance	<---	HRM Practices	0.450	0.085	5.311	***	Significant

This study revealed HRM practices significantly and directly affect organizational performance among MSSC employees (β=0.450, p=***, $p<0.05$). The analysis demonstrates that for every one-unit increase in HRM practices, there is a corresponding increase of 0.45 in organizational performance. HRM practices influence organizational performance in MSSC because effective HRM practices have created an inclusive and diverse working environment for employees to understand roles and responsibilities to accomplish goals. This means that proficient management in conducting HRM practices may initiate MSSC employees to polish their skills and knowledge, thus leading them to have good morale in achieving organizational goals. Kuria and Mose (2019) support that goal achievement depends on the knowledge of the HRM practices implemented in the organization. Chanana and Sangeeta (2021) also stated an efficient communication strategy in HRM can encourage employees to stay focused on their tasks and meet organizational goals.

The result was parallel with Ali et al. (2020), indicating a significant result between HRM practices and organizational performance among employees in the southern region of Khyber Pakhtunkhwa, Pakistan. Researchers stated that HRM practices are widely recognized for serving as crucial building blocks that contribute to the overall effectiveness and productivity of the organization. Lai et al. (2017) and Shayegan et al. (2022) also found a significant relationship between HRM and organizational performance among private

sector employees in the United Kingdom and Iran. The priority in HRM has enabled the organization to produce higher productivity and profitability. According to Paderna et al. (2020), well-equipped employees with necessary resources like rewards training and development are more likely to contribute to achieving superior outcomes. On the other hand, the finding of past scholars shows HRM practices are not significant in organizational performance perceived by teachers in Saudi Arabia (Akhtar et al., 2022).

Researchers demonstrate that neglecting employees' benefits has made them have few opportunities that are significant to tasks. In this situation, the organization may lose valuable employees that can contribute to organizational performance. Halawi and Haydar (2018) support that the misalignment of HR strategies and organizational objectives has made employees have few skills significant to organizational achievement. In turn, employees may have little chance to continue their career paths. The irregular revisiting suggestion will make employees perceive negative commitment within the organization. In conclusion, the organization must prioritize HRM practices as the main guideline for organizational policy in conducting their employees. The organization's role in constructing appropriate strategies can contribute to achieving optimal results. As a result of this study, shows HRM practices conducted by MSSC have provided opportunities for employees to have good relations with the management in achieving their mission and vision. Therefore, the results of past studies can strengthen and support this study's finding that indicates a significant and direct effect between HRM practices and organizational performance among MSSC employees.

5. Conclusion and Recommendations

In conclusion, the study of HRM practices and organizational performance offers valuable insights for employers and employees in public and private organizations. The findings indicate a significant and direct effect of HRM practices and organizational performance among MSSC employees. This shows that MSSC employees possess a good understanding of HRM practices implemented by organizations enabling employees to acquire them and perform effectively in their roles. By ensuring the implementation of effective HRM practices, organizations can contribute to organizational success. The result of this study can provide implications to both employers and HR practitioners in public and private organizations in evaluating the application of HRM practices in the organization. They are able to evaluate HRM practices applied in their organization and whether they achieve the standard or not. Besides, the awareness and knowledge received from this study enable employers to ensure the organization follows the standard policy in facilitating the skill enhancement of employees. This study's results also reinforce employers' need to invest highly in organizational processes and strategies to increase organizational performance. Therefore, future researchers may extend the study sample to other sports organizations or other public and private organizations in measuring HRM practices, organizational commitment, and organizational performance as this study only examines the employees' perception of the Malaysian State Sports Council.

References

Abualoush, S., Masa'deh, R., Bataineh, K. & Alrowwad, A. (2018). The role of knowledge management process and intellectual capital as intermediary variables between knowledge management infrastructure and organization performance. *Interdisciplinary Journal of Information, Knowledge, and Management*, 13, 279–309.

Akeel, M. E. A., Omar, R. & Masrom, M. A. N. (2019). Relationship Between Human Resource Management and Organizational Performance: Employee Skills as a Mediator. *Australian Journal of Basic and Applied Sciences*, 13(4), 29–35.

Akhtar, N., Mohammad Azeem, S., F. Basiouni, A., Ahmed, A., Ban Teoh, K. & Alvi, A. (2022). What motivates the most? Money or Empowerment: Mediating Role of Employee Commitment to Organizational Performance. *Journal of Organisational Studies and Innovation*, 9(2), 21–37.

Alaraqi, A. K. (2017). Relationship between SHRM and Organizational Performance among Iraqi Oil Companies. *Journal of Global Economics*, 05(01), 1–12.

Ali, A., Awan, P. D. M. Z. & Javed, D. A. (2020). Exploring Organizational Trust as Mediator in the Relationship between HRM Practices and Organizational Performance. *Research Journal of Social Sciences and Economics Review (RJSSER)*, 1(2), 85–92.

Anwar, G. & Abdullah, N. N. (2021). The impact of Human resource management practice on Organizational

performance. *International Journal of Engineering, Business and Management*, 5(1), 35–47.
Beijer, S. (2014). HR practices at work: Their conceptualization and measurement in HRM research.
Chanana, N. & Sangeeta. (2021). Employee engagement practices during COVID-19 lockdown. *Journal of Public Affairs*, 21(4), 1–8.
Chen, T., Hao, S., Ding, K., Feng, X., Li, G. & Liang, X. (2020). The impact of organizational support on employee performance. *Employee Relations*, 42(1), 166–179.
Cherif, F. (2020). The role of human resource management practices and Employee Job Satisfaction in predicting organizational commitment in the Saudi Arabian banking sector. *International Journal of Sociology and Social Policy*, 40(7–8), 529–541.
Chillakuri, B. & Vanka, S. (2021). Examining the effects of workplace well-being and high-performance work systems on health harm: a Sustainable HRM perspective. *Society and Business Review*, 16(1), 71–93.
Durisic, D. B. A. (2022). ISU ReD : Research and eData National Athletes ' Perceived Image of the Government in the Development of Sports in Malaysia.
Foo, L., Dahlia, H. G., Zawawi, D., Othman, S. F. & Mohhidin, M. (2020). A model linking HRM practices, service-oriented OCBs & organizational performance in the Malaysian hotel industry. *Journal of Tourism, Hospitality & Culinary Arts*, 12(1), 48–68.
Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). Multivariate data analysis. Pearson.
Halawi, A. & Haydar, N. (2018). Effects of Training on Employee Performance: A Case Study of Bonjus and Khatib & Alami Companies. *International Humanities Studies*, 2(2), 24–45.
Hameed, A. & Mohamed, S. (2016). HRM Practices and Organizational Performance in Hospitals. *Journal of Business and Management*, 18(11), 34–41.
Hanci-Donmez, T. & Karacay, G. (2019). High-Performance Human Resource Practices and Firm Performance: Mediating Effect of Corporate Entrepreneurship. *International Journal of Organizational Leadership*, 8(1), 63–77.
Jashari, A. & Kutllovci, E. (2020). The impact of human resource management practices on organizational performance case study: Manufacturing enterprises in Kosovo. *Business: Theory and Practice*, 21(1), 222–229.
Khan, W. A., Wafa, S. A., Hassan, R. A. & Kashif, U. (2020). The mediating effect of innovation on the relationship between organizational culture and performance of large manufacturing firms in Pakistan. *Malaysian Journal of Business and Economics*, 6(2), 1–15.
Kim, H. S. & Jang, S. (Shawn). (2020). The effect of increasing employee compensation on firm performance: Evidence from the restaurant industry. *International Journal of Hospitality Management*, 88, 1–8.
Kitchot, S., Siengthai, S. & Sukhotu, V. (2021). The mediating effects of HRM practices on the relationship between SCM and SME firm performance in Thailand. *Supply Chain Management*, 26(1), 87–101.
Kuria, M. W. & Mose, D. T. (2019). Effect of Green Human Resource Management Practices on Organizational Effectiveness of Universities in Kenya. *Human Resource and Leadership Journal*, 4(2), 1–20.
Lai, Y., Saridakis, G. & Johnstone, S. (2017). Human resource practices, employee attitudes and small firm performance. *International Small Business Journal: Researching Entrepreneurship*, 35(4), 470–494.
Milon, M. (2019). Present Scenario of Human Resource Management (HRM) Practices in the Life Insurance Companies: Bangladesh Perspective. *Canadian Journal of Business and Information Studies*, 1(6), 17–27.
Nafari, E. & Rezaei, B. (2022). Relationship between human resources strategies and organizational performance based on the balanced scorecard in a public hospital in Iran: a cross-sectional study. *BMC Health Services Research*, 22(1), 1–9.
Njenga, M. W. (2018). The influence of strategic human resource management practices on firm performance of insurance firms in Kenya. https://su-plus.strathmore.edu/handle/11071/6171
Ohanyere, C. P., Ngige, C. & Jacobs, C. (2021). Effect of Training on Organizational Performance of Small and Medium Scale Enterprises in Anambra State, Nigeria. *International Journal of Management and Entrepreneurship*, 3(1), 1–9.
Paderna, R. D., Guiveses, M. L., Ong, S. J. & Tsai, J. L. (n.d.). Improving Employee Experience in a Medium-sized Retail Chain through Quality Human Resource Management Practices : *Does Bifurcation Bias in Family Firms Moderate the Nexus ?* 9(1), 62–79.
Parayitam, S., Naina, S. M., Shea, T., Syed Mohideen, A. H. & Aruldoss, A. (2021). The Relationship Between Human Resource Management Practices, Knowledge Management Practices, and Performance: Evidence from the Healthcare Industry in India. Global Business Review.

Rasool, S. F., Wang, M., Zhang, Y. & Samma, M. (2020). Sustainable work performance: the roles of workplace violence and occupational stress. *International Journal of Environmental Research and Public Health*, 17(3).

Saeed, B., Bin, Afsar, B., Hafeez, S., Khan, I., Tahir, M. & Afridi, M. A. (2019). Promoting employee pro-environmental behavior through green human resource management practices. *Corporate Social Responsibility and Environmental Management*, 26(2), 424–438.

Samwel, J. O. (2018). Impact of Employee Training on Organizational Performance– Case Study of Drilling Companies in Geita, Shinyanga and Mara Regions in Tanzania. *International Journal of Managerial Studies and Research*, *6*(1), 36–41.

Sarfraz, M., Qun, W., Abdullah, M. I. & Alvi, A. T. (2018). Employees' perception of Corporate Social Responsibility impact on employee outcomes: Mediating role of organizational justice for Small and Medium Enterprises (SMEs). *Sustainability (Switzerland)*, 10(7).

Shayegan, S., Yavari, N. & Bazrkar, A. (2022). Human resource development practices and organizational performance: Examining the mediating role of transformational leadership style. *WPOM-Working Papers on Operations Management*, 13(2), 64–85.

Sweis, R. J., Ogla, K., Abdallat, Y., Sweis, G. J., Suifan, T. & Saleh, R. (2020). The impact of human resource management practices on organizational performance in construction companies in Jordan. *International Journal of Business Innovation and Research*, 23(4), 421–434.

Tensay, A. T. & Singh, M. (2020). The nexus between HRM, employee engagement and organizational performance of federal public service organizations in Ethiopia. *Heliyon*, 6(6), e04094.

Terng, L. C. & Ahmad, N. (2021). The Relationship Between Human Resource Management Practices and Employee Performance. *Research In Management Of Technology And Business*, 2(1), 123–136.

Yeneneh, A. (2021). The Impact of Human Resource Management Practice on Organizational Commitment and Organizational Performance in the Public Sector, Ethiopia. Addis Ababa University Page.

Information Management and Business Review (IMBR)
Vol. 15, No. 2, June 2022 (ISSN 2220-3796)

Modelling Online Shopping Behaviour Patterns among Higher Education Consumers: A Structural Equation Modelling (SEM-AMOS) Approach

Siti Hasma Hajar Mat Zin[1*], Siti Haslini Binti Zakaria[2], Balkiah Moktar[3] & Rumaizah Binti Che Md Nor[4]

[1]Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi MARA (UiTM), Johor Branch, Malaysia

[2]Faculty of Business Management & Professional Studies, Management Science & University (MSU), University Drive, Shah Alam, Selangor, Malaysia

[3]Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi MARA (UiTM), Perlis Branch, Malaysia

[4]Mathematical Sciences Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi MARA (UiTM), Sarawak Branch, Malaysia

hasmahajar@uitm.edu.my[1*], siti_haslini@msu.edu.my[2], balkiah@uitm.edu.my[3] & rumaizah@uitm.edu.my[4]

Abstract: Online shopping is a phenomenon that is growing rapidly all over the world. Since 2020, Malaysian consumers have shifted their preference towards online shopping to fulfill their daily needs compared to shopping in a traditional store. Due to this reason, it is vital to identify the characteristics that affect consumers' online shopping behavior between various online websites for business owners to improve their online marketplace. However, only a few studies on online shopping behavior patterns among consumers across different online shopping platforms have been conducted in Malaysia. Therefore, this study was conducted to identify the factors influencing online shopping behavior patterns among Malaysian consumers. The factors involved were web characteristics, external stimulus, affection, and cognition. Data was collected using an online questionnaire, and a cross-sectional research design was used for this study. SPSS version 26.0 and AMOS version 21.0 were used to analyze the data gathered. A total of 371 students and staff were selected randomly from Universiti Teknologi MARA (UiTM) in Malaysia. The results show that the best online shopping platform in Malaysia that is preferred by respondents is Shopee. Only two constructs were statistically significant for online shopping behavior, web characteristics, and cognition. However, the direct effect of external stimulus and affection is not statistically significant. In conclusion, e-businesses should enhance the functionality, usability, and appearance of their websites. Effectively enhancing consumers' perceptions of online shopping could potentially have a positive influence on both their purchase intent and behavior.

Keywords: *Web characteristics, external stimulus, cognition, affection, behavior.*

1. Introduction and Background

Nowadays, online shopping is a global phenomenon that is expanding quickly. Consumers' online shopping habits have been permanently altered because of the pandemic Coronavirus Disease 2019 (COVID-19). A related study by the United Nations Conference on Trade and Development (2020) found that 50 percent of the respondents from nine countries prefer to shop online more frequently. Additionally, they used the internet more frequently for news, medical information, and online entertainment. Due to the COVID-19 epidemic, consumers in developing nations are moving towards a more digital lifestyle. These developments will have an ongoing impact even when the global economy starts to recover. In Malaysia, consumers continue to prioritize online shopping for their daily requirements over traditional in-store shopping. According to an IPSOS Malaysia survey conducted in 2022, online shopping among consumers appears structured, with individuals displaying a consistent inclination towards online shopping even two years after the country reopened due to COVID-19.

Based on, Daroch, Nagrath, & Gupta (2021), online shopping refers to the act of purchasing items directly from the seller without the need for an intermediary. It is often referred to as the process of buying and selling products online. It also has other names such as e-shop, e-store, internet shop, webstore, virtual store, and online store (Singh & Sailo, 2013). Online retailers describe every item in text, with photographs, and with multimedia components, in contrast to physical stores. Many online retailers include links to pages with a variety of additional product information (Rahman, et al., 2018). Potential customers will use the internet to

access relevant information for specific items or services during online purchasing. To satisfy their perceived demands, individuals then assess the choices and choose the one that best satisfies their criteria. Lastly, the transaction is carried out by Javadi, Dolatabadi, Nourbakhsh, Poursaeedi, & Asadollahi (2012). The term online shopping attitude describes individuals' sentiments and emotions toward engaging in online purchases (Li, 2022). According to Javadi et al, (2012), some internet shoppers are adventurous explorers, fun seekers, and shopping lovers, while others are technology muddlers who detest waiting for deliveries.

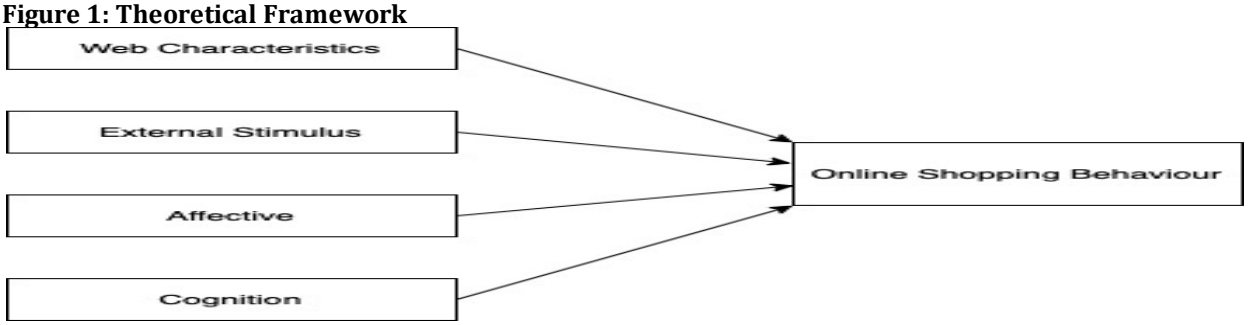
Consequently, more research is now being done to better understand the unique traits of online shopping by concentrating on online consumer behavior. There are several reasons why consumers prefer to shop online. Some consumers prefer to buy online since they can save time due to hectic schedules (Huseynov & Ozkan, 2016; Mittal, 2013). Besides that, convenience, fun, and speed are the other factors driving consumers to purchase more online (Lennon, Ha, & Lyons, 2009). Consumers who shop online also benefit more because they may save time, avoid using cash, and choose the product they want (Yazid, Wel, & Omar, 2016; Yulihasri, Islam, & Daud, 2011). Using an e-commerce platform allows customers to find everything they need under one roof (Saeeda, Naqvib, & Memon, 2020). The number of customers and sales through online shopping has grown consistently over the previous ten years, according to Ozen & Engizek (2014). More businesses are becoming so interested in the e-commerce industry's rapid growth and rising market value that they invest in developing online shopping websites to provide customers with more options (Wu & Tsai, 2017).

The majority of businesses with an online presence manages logistics and fulfilment, carry out e-commerce marketing and sales activities, and more using an online shop or platform. Nowadays, all e-commerce platforms are making a lot of effort to expand their user bases and find the best marketing strategies (Wang, 2021). In Malaysia, the most popular e-commerce websites are Lazada and Shopee (Vasudevan & Arokiasamy, 2021). Another study by Isa, Shah, Palpanadan, & Isa (2020) found that Shopee, Lazada, and Food Panda were the top three shopping websites that customers visited the most since they all supplied the basic everyday goods that customers needed. The elements of a comfortable website, such as an attractive design, nice users, a choice of native language, the amount of uploaded information, and the updating of the product specifications, were factors that influenced customers to purchase online via this platform. However, knowledge and understanding of customers' views towards internet purchasing appear lacking. This is especially true for Malaysia, where online shopping is still fairly new, and consumers are less experienced and frequently more skeptical.

Therefore, this study will be conducted among the current users of online shopping in Malaysia to study the online shopping behavior pattern between different online shopping platforms and determine the factors that influence consumers' decisions among the many e-commerce retailers, with the following objectives:

- To investigate if there are differences in online shopping behavior patterns among consumers between different online shopping platforms.
- To identify the relative strengths of all factors in influencing online shopping behavior patterns.
- To determine how web characteristics, external stimuli, and affective and cognitive processes influence consumer online shopping behavior patterns. The theoretical framework, which is adapted from Wu & Tsai (2017), is shown in Figure 1. The framework consists of four independent variables and one dependent variable. The independent variables are web characteristics, external stimulus, affective, and cognition. Meanwhile, the dependent variable is the pattern of online shopping behavior.

Figure 1: Theoretical Framework



2. Literature Review

Shopping Online Platforms in Malaysia: The transition in the business world is happening due to the rise in technology, leading to the phenomenon that shopping has become more convenient. Nowadays, online shopping has gained preference and popularity due to its convenience, enabling consumers to shop from anywhere and at any time, thereby eliminating the necessity to visit physical stores or shops. According to Afzainizam, Fahmy, Hanif, Muqri, & Firdhaus (2021), this transition will affect those companies or people who still stick with the old business method. This is because, in Malaysia, people tend to change their habit of shopping to online shopping due to a few factors such as time, price, and the variability of items. There are more than 20 online shopping platforms in Malaysia, such as Lazada, Taobao, Zalora, Shopee, etc. Based on the results of a survey conducted by Ipsos reported that 82% of the respondents in this study chose to shop using Shopee for the past six months, followed by Lazada (31%), Facebook (18%), GoShop and Mudah (6%) and TaoBao and Instagram (5%). This study also revealed that most Malaysians preferred Shopee as their online shopping platform due to its user-friendly.

Fast delivery, customer reviews, prices and promotions offered by this platform. Results from a study by (Mustakim, Hassan, Sauid, Ebrahim, & Mokhtar, 2022) are used to support this conclusion. They revealed that perceived usefulness, perceived usability, perceived trust, and perceived convenience significantly influenced customer satisfaction on Shopee. To retain customers, online retailers must comprehensively understand customers' perceptions, satisfaction, and intentions toward online shopping. (Musa, Nasaratnam, Rethinam, Varatharajoo, & Shanmugam, 2022), concluded that the convenience of online shopping, delivery time, and site design were significant for customer satisfaction. Meanwhile, consumers' attitudes toward online shopping and perceived behavioral control significantly influence the consumer's intention to engage in online shopping in Malaysia (Wen, Satar, Ishak, & Ating, 2020). However, Afzainizam et al, (2021) demonstrated that the key reason that prevents online shopping is a lack of product information, customer service, delivery time, payment options, and product quality.

Website Characteristics: Due to the expansion of the Internet in the 1990s and the development of internet technology, social and business practices have transformed (Visinescu, Sidorova, Jones, & Prybutok, 2015). Individuals nowadays prefer online shopping instead of shopping at stores or shops. In the context of running an online business, Rasli, Khairi, Ayathuray, & Sudirman (2018) emphasized that the most important factor requiring consideration is the quality of the website. However, the website characteristics may impact the sales and performance in online business operations differently according to the product involvement (Mallapragada, Chandukala, & Liu, 2016). A study by Isa et al (2020) found that the top three customer-preferred online shopping websites are Shopee, Lazada, and Food Panda. They also concluded that the attractive design of the website, user-friendly, selection of different languages, provided information and updated product details were the factors that can attract customers to retain online shopping. This result is consistent with the finding by Lee & Kozar (2006), which found that customers considered the system's quality as the most important criterion when selecting online websites. Instead, system quality, safety, and friendly users while navigating the website also attracted customers to use the online website. According to Shalini & HemaMalini (2015), there is a correlation between website attributes and attitudes, trust, and intentions toward online shopping. This means that website characteristics will impact online shoppers. Besides that, attitude and trust also play the main role in leading customers to buy the products via online shopping. However, they also revealed that online shopping website characteristics do not influence consumers' intention to purchase online.

External Stimulus: According to Youn & Faber (2000), the marketing and retail environments are influenced by external variables. Shopping environments include store size, atmosphere, design, and format, whereas the marketing environment comprises multiple sales and promotional activities. Pritchett, Pritchett, & Kotler, (2003) stated that the external stimuli that affect consumers' purchasing decisions include marketing, products, pricing, distribution, promotions, etc. The advertising and purchasing terms serve as indicators of external stimuli. The size of the store, the environment, the layout, and the configuration are terms of purchase, whereas the offers and promotional activities are terms of presentation (Vishnu & Raheem, 2013). According to Sawyer (1984), in addition to being influenced by internal elements like personal ideas and values, people's attitudes will also alter when exposed to external stimuli. Kimiagari & Malafe (2021) found

that external and internal stimuli significantly affect consumer behavior patterns through social media platforms. A study by Lee & Chen (2021) on online commerce about impulsive behavior found that perceived usefulness directly affects enjoyment but not the urge to buy impulsively.

Consumer's Attitude: The consumer's attitude comprises three components which are affection, cognition, and behavior (Wu & Tsai, 2017). Fihartini et al (2023) defined affection as an emotional characteristic such as satisfaction. According to Peter, Olson, & Grunert (1999) affection is broken down into emotions, particular feelings, moods, and judgments. On the other hand, affection is the expression of one's comprehension of a subject through their response, whether they like or dislike it (Hanna & Wozniak, 2001). Meanwhile, cognition refers to psychological characteristics, such as emotional intelligence (Fihartini, Ramelan, Karim, & Andriani, 2023). Besides that, consumer cognition is defined as their perception, beliefs, and knowledge of the attitude's subject matter. It typically derives from personal experience or other relevant sources (Wu & Tsai, 2017). Peter, Olson, & Grunert (1999) stated that cognition is the understanding and perception of an attitude's subject matter as a result of combining information learned about it directly or from other sources.

Consumer behavior is defined as their purpose or action toward the subject of their attitude. For instance, the possibility that he or she would act in a particular manner or perform a certain action. Based on Ajzen (1985), in terms of customer behavior, the behavior aspect of attitude is frequently represented in their purchase intention. In response to the pandemic, Zeng, Lin, & Zhou (2023) studied the attitudes towards this situation. Besides that, (Das, Sarkar, & Debroy, 2022) conducted a study on consumers' changing behavior during the pandemic phase. Compared to Wu & Huang (2023), it was focused on the current live-streaming trend and its effect on consumers' behavior. Tao, Sun, Liu, Tian, & Zhang (2022) examined the psychological impact of consumers amidst the pandemic situation. In understanding consumers' behavior, Wu, Wang, Ding, & Mo (2023) utilized the cognitive-emotional part as their primary concern.

3. Research Methodology

Respondents and Sampling Method: The population in this study is students and staff from Universiti Teknologi MARA (UiTM), Malaysia. The students and staff from all campuses were chosen randomly as respondents in this study. Depending on the complexity of the model, Hair, Black, & Babin (2010) suggested a minimal sample size.

Table 1: Model Characteristics using Structural Equation Modelling (SEM)

Model Characteristics (Number of latent constructs and items)	Minimum Sample Required
Five or fewer latent constructs. Each latent has more than three items	100
Seven or fewer latent constructs. Each construct has more than three items	150
Seven or fewer latent constructs. Certain construct has less than three items (under identified model)	300
Large number of latent constructs. Certain constructs have less than three items (under identified model)	500

Table 1 was used to determine the minimal sample size for this study, which was 300 observations. Therefore, a total of 371 students and staff were selected randomly from all campus branches in Malaysia. The sampling method used is convenience sampling. This method was used because it is typically affordable and is simple to execute with easily available subjects.

Data Collection Methods: This study was conducted through an online survey created with Google Forms to gain information from the respondents. This approach was chosen due to its many benefits and applicability for this study. The advantages include a lower budget requirement because the survey is sent via email and can be distributed to a large number of respondents at once, and busy respondents can complete the survey whenever it is convenient for them. The data was collected once over two months. A set of questionnaires adapted from other researchers was used to measure the factors contributing to online shopping behavior patterns. The questionnaire used is a survey adapted from Wu & Tsai (2017). There were two primary

sections in the questionnaire. The first section (Section A) contains four items on demographic information such as gender, education level, age group, and UiTM branch. The second section (Section B) consisted of preference for online shopping platforms and another 39 items measuring the respondents' level of agreement on five variables, which are web characteristics, external stimulus, affection, cognition, and behavior. The interval scale matrix with pre-coded numerical scales was used for the responses in this section. A 7-point scale was used to evaluate the extent of the respondent's viewpoint. Scores range from 1 for "strongly disagree" to 7 for "strongly agree". Table 2 shows each variable listed in the questionnaire.

Table 2: Number of Measurement Items

Variables	Number of Question	Per variable
Web characteristics	10	Q2 – Q10
External stimulus	12	Q11 – Q22
Affection	6	Q23 – Q28
Cognition	6	Q29 – Q34
Behavior	6	Q35 – Q40

4. Results

Descriptive Statistics: Table 3 shows the characteristics of the entire sample in terms of gender, age, and online platform preferred by the respondents selected in the study.

Table 3: Descriptive Statistics

Variable	Frequency	Percentage
GENDER		
Males	108	29.1%
Females	263	70.9%
Total	**371**	**100%**
AGE (years old)		
18-25	232	62.5%
26-30	15	4.00%
31-35	27	7.30%
36-40	38	10.2%
41-45	24	6.50%
More than 45	35	9.40%
Total	**371**	**100%**
PLATFORM PREFERED		
Shopee	321	86.5%
TikTok	16	4.30%
Lazada	14	3.80%
Zalora	9	2.40%
Others	11	3.00%
Total	**371**	**100%**

Respondents for this study consist of 29.7% males (108 respondents) and 70.9% females (263 respondents). The respondents' ages ranged between 18 and 25 years (62.5%), which is the highest group, while the lowest group is between 26 and 30 years (4.0%). The best online shopping platform preferred by respondents is Shopee (86.5%), followed by TikTok (4.3%), Lazada (3.8%), Zalora (2.4%), and the remaining platforms between 1.1% and 0.3%.

Reliability Analysis: The study of the characteristics of measurement scales and the components that make up such scales is known as reliability analysis. When using tests with standard items, Cronbach's alpha is used, which is based on the average correlation of the items inside the test. It is based on the average covariance among the components if the items are not standard. The range of Cronbach's alpha, which may be considered a correlation coefficient, has a range of 0 to 1 (Coakes, 2007). Each component's dependability was evaluated using the Cronbach's alpha (coefficient). For each construct, the internal consistency measure

of the assessed items must exceed a minimum value of 0.6. The reliability test is carried out to confirm the instrument's dependability for web characteristics, external stimuli, affection, cognition, and online buying behavior. Cronbach's Alpha is higher than 0.7 for all structures, according to Table 4. According to Sekaran & Bougie (2016) and Awang (2012), Cronbach's Alpha values greater than 0.6 indicate that the instruments are sufficiently reliable for research.

Table 4: The Reliability Assessment for All Constructs

Variables	Number of items	Cronbach's Alpha (n = 371)
Web characteristics	8	0.925
External stimulus	11	0.930
Affection	6	0.897
Cognition	5	0.798
Online Shopping Behaviour	6	0.903

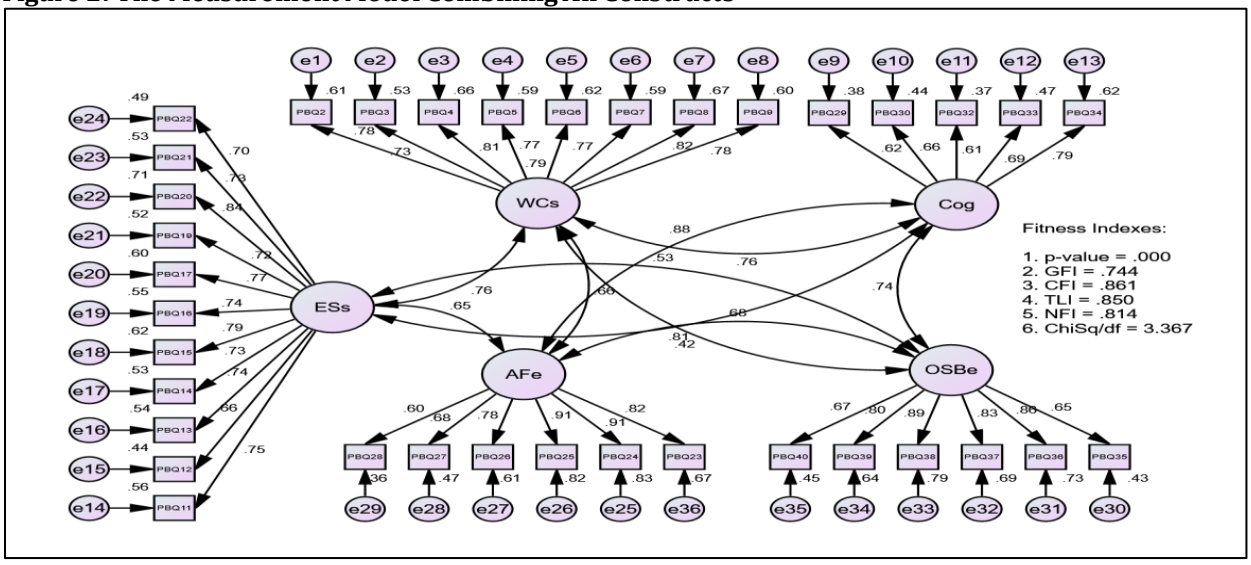
Normality Test: Before proceeding with SEM, the normality assumption was examined. According to Table 5, which measures skewness and kurtosis, skewness values range from -0.957 to -0.214. While the kurtosis values show that the value is between -0.212 and 1.973. These findings demonstrate that all constructs' skewness and kurtosis values are normally distributed. The data is considered to be normally distributed if the absolute values of skewness and kurtosis are 2.0 or less, according to (Hair, Black, & Babin, 2010).

Table 5: The Reliability Assessment for All Constructs

Variables	Mean Score	Skewness	Kurtosis
Web characteristics	5.643	- 0.957	1.973
External stimulus	5.116	- 0.265	- 0.212
Affection	5.431	- 0.755	0.529
Cognition	5.202	- 0.558	0.097
Online Shopping Behaviour	4.677	- 0.214	- 0.585

Structural Equation Modelling (SEM): This test is a combination of factor analysis and multiple regression analysis. It is employed to examine the structural relationship between latent constructs and measurable variables. The SEM technique consists of two steps: assessing the measurement model and assessing the structural model. The measurement model shows how the underlying latent construct and the response items are related. Before developing the structural model, the researcher must evaluate the model for one-dimensionality, validity, and dependability. The interrelationships between the constructs in the study are shown by the structural model.

Figure 2: The Measurement Model Combining All Constructs



According to Zainudin et al (2017) the study must validate the measurement model for each of the model's latent constructs to ensure it is valid, dependable, and unidimensional before conducting the SEM. Validation is carried out using Confirmatory Factor Analysis (CFA). The measurement methodology for pooled CFA for each of the five components is shown in Figure 2. The measuring model for five latent components must satisfy the convergence validity, concept validity, and discriminant validity requirements for validity. According to Figure 2, despite the factor loading being above 0.6 for each item, the Fitness Indexes did not meet the required level. Redundant items could be the reason for the low fitness indices. The redundant items can be found using Modification Indexes (MI), where a value of MI > 15.0 indicates the pair of items is redundant. The modification process must be conducted one at a time till the fitness indices reach the appropriate level. Figure 3 below displays the modified final measurement model.

Figure 3: The Final Measurement Model (Pooled-CFA) Combining Five Constructs

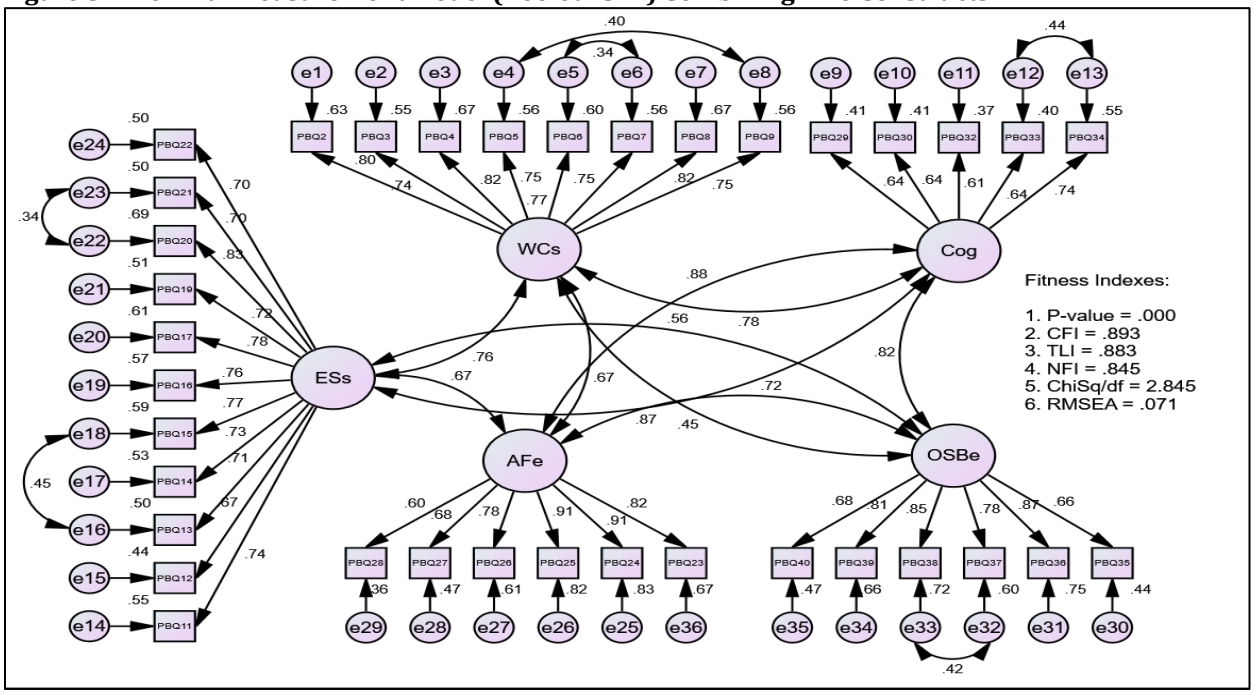


Table 6: The Fitness Indexes Assessment for the Measurement in Figure 2

Name of Category	Name of Index	Index Value	Comments
Absolute Fit	RMSEA	0.071	The required level is achieved
Incremental Fit	CFI	0.893	The required level is achieved
Parsimonious Fit	Chisq/df	2.845	The required level is achieved

In Table 6, the construct validity is evaluated using the measurement model's fitness indices. According to numerous studies (Hoque, Awang, Jusoh, & Muda, 2017; Zainudin, Habsah, Fauzilah, Abu Shams Mohammad, & Kamaruzaman, 2017 & Awang, 2012), the index values have reached the necessary degree of construct validity. Following the acceptance of fitness indices, the Average Variance Extracted (AVE) and Composite Reliability (CR) procedures are used to evaluate convergence validity and reliability. According to Zainudin et al. (2017), the minimum value for AVE is 0.455, and the minimum value for CR is 0.6. The findings demonstrate that every concept and item in the measuring model met the necessary value. This shows that each component of the model in Figure 2 is available for further analysis. Table 7 summarises the outcomes of AVE for convergent validity and CR for construct validity.

Table 7: The Summary of AVE and CR for Five Constructs

Construct	Items	Factor Loading	AVE	CR
	PBQ2	0.80		
	PBQ3	0.74		
	PBQ4	0.821		
	PBQ5	0.80		
Web Characteristics	PBQ6	0.80	0.618	0.928
	PBQ7	0.75		
	PBQ8	0.82		
	PBQ9	0.75		
	PBQ11	0.74		
	PBQ12	0.70		
	PBQ13	0.71		
	PBQ14	0.73		
	PBQ15	0.80		
External Stimulus	PBQ16	0.80	0.546	0.930
	PBQ17	0.80		
	PBQ19	0.72		
	PBQ20	0.83		
	PBQ21	0.71		
	PBQ22	0.71		
	PBQ23	0.82		
	PBQ24	0.91		
	PBQ25	0.91		
Affection	PBQ26	0.80	0.636	0.911
	PBQ27	0.70		
	PBQ28	0.60		
	PBQ29	0.64		
	PBQ30	0.64		
Cognition	PBQ32	0.61	0.510	0.838
	PBQ33	0.64		
	PBQ34	0.74		
	PBQ35	0.70		
	PBQ36	0.90		
Online Shopping Behaviour	PBQ37	0.80	0.635	0.912
	PBQ38	0.85		
	PBQ39	0.81		
	PBQ40	0.70		

Figure 4: The Structural Model of Online Shopping Behavior

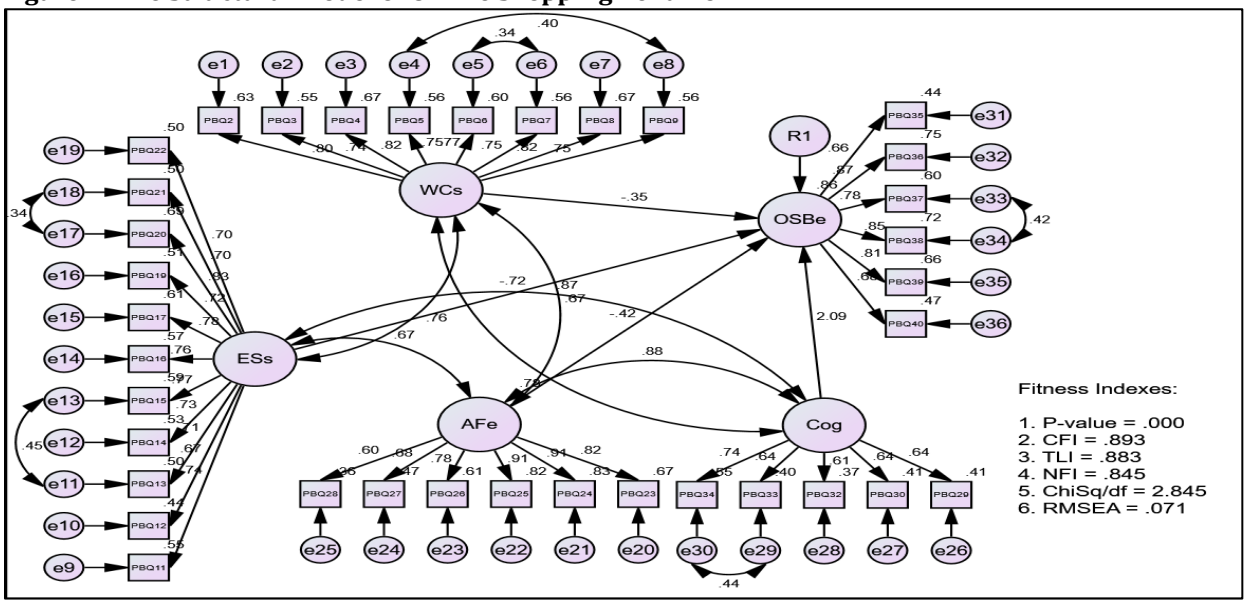


Figure 4 depicts the estimation outcomes and the interrelationship between the constructs. R2 for the model has a value of 0.66. It indicates that 66.0% of the total variation in online shopping behavior is described by web characteristics, external stimulus, affection, and cognition. At the same time, most fitness indices are good because their values are still within acceptable limits, and their factor loadings are above the necessary threshold of 0.6. Table 8 presents the estimator of the direct effect between constructs. The findings of this study revealed that only two constructs were statistically significant to online shopping behavior, which are web characteristics and cognition. However, the direct effects of external stimulus and affection are not statistically significant.

Table 8: The Regression Path of the Coefficient and Its Significance

Construct	Path	Construct	Beta	p-value	Result
	←	Web Characteristics	-0.383	0.011	Significant
Online	←	External Stimulus	-0.720	0.092	Not Significant
Shopping	←	Affective	-0.437	0.358	Not Significant
Behaviour	←	Cognitive	2.367	0.014	Significant

Discussion

The results of the findings showed that only two variables are significant towards online shopping behavior, which are web characteristics and cognitive. An analysis of the findings reveals the correlation between web characteristics and online shopping behavior to be statistically significant (p-value < 0.05). This result was in line with earlier research. The website design strongly predicts online shopping behavior (Pandey & Parmar, 2019); (Rahman, et al., 2018). The key elements of a successful website are entertainment, irritation, utility, attitude towards the site, and intention to return. These elements influence consumers' online shopping behavior. Another finding also shows that the intention to shop online is moderately correlated with website attributes. Website characteristics are one of the main issues consumers have concerning their purpose to shop online (Chincholkar & Sonwaney, 2017; Shaheen, Cheng, & Lee, 2012). Either favorably or negatively, web-based factors affect consumers' online shopping behavior. According to Gupta, Ruchi, & Ashish (2010), the two aspects customers are most interested in when using a website are navigation and content.

A website's identity, categorization of material, use of color, layout and space, graphics, and information presentation are all significant considerations. The user interface design of a website user interface is what makes it appealing to visitors, encouraging them to return more frequently and remain on the site longer. According to Rahman, et al., (2018), customers may appreciate purchasing more from a website store that

uses value-added search engine features and provides a challenging experience. Besides that, the findings reveal the correlation between cognitive and online shopping behavior is significant (p-value < 0.05). The findings supported the theory that cognition has a relationship with online shopping behavior among consumers. Based on Wu & Tsai (2017) consumer behavior and cognition are revealed to have a highly strong influence relationship. It indicates that if a customer begins making purchases online, it will be used to positively affect their perception of online buying. Park, Lee, & Han (2007) stated that the consumers' cognition will influence their purchase intention during the buying process, and the values they perceive will affect their satisfaction level in turn.

Yadav, Goel, & Sharma (2020) used several cognitive factors such as complexity, relative advantage, trust, trialability, and observability. Their finding found that these factors illustrate how respondents perceive the usefulness of online buying. Online shoppers feel they have more options when making purchases. The potential of a transaction increases as a consumer's satisfaction with the values perceived increases (Bei & Chiao, 2001). However, this study reveals that the correlation between external stimuli and online shopping behavior is not significant (p-value > 0.05). While consistent with other research findings, no correlation between the variables was not found in the other research studies. This study shows that different respondents or demographic variables will have different elements of external stimulus that influence online shopping behavior among consumers. External stimulus can be divided into several sub-factors, none influencing the consumer's online shopping behavior. Based on a previous study (Khalil & Raza, 2018), the results indicate that store environment.

Income level has a significant impact on consumers' purchasing decisions, whereas credit card use has the least effect. A study by Li (2022) was also conducted to determine the influence of purchasing behavior and external stimulus, including peer and professional evaluation. Positive reviews from peers and professional advice offered online both show low positive effects on customers' purchasing decisions, with coefficients less than 0.2. It means consumer purchases are not based on internet reviews and peer judgments. This finding may be helpful to marketing managers and marketers to understand consumer purchase behavior and the importance of major influencing elements of external stimulus. Because of these assumptions and support from a few works of literature, the existing theory does not need to be adjusted. This study also reveals that the correlation between affection and online shopping behavior is not significant (p-value > 0.05). There are four categories of affection: emotions, specific feelings, moods, and judgments (Peter, Olson, & Grunert, 1999). Specific emotions influence online shopping behavior differently. Lerner & Tiedens (2006) claim that various feelings of control and uncertainty caused by same-valence emotions have varied consequences for shopping behaviors.

However, researchers discovered that fear was the emotion most significantly connected with arousal. On the other hand, Wierzba, et al., (2015) observed a weak correlation between discrete categories of emotions and excitement in shopping behavior. On the contrary, Kuleh & Setyadi (2016) claimed that when purchasing in person, emotions matter a lot. The relationship between affection and shopping behavior is based on positive emotional connections and close interpersonal relationships. Similarly, Mis (2022) indicates that positive emotions toward internet shopping influence individuals' purchasing decisions. By assessing customers' attitudes toward online purchasing, it may be concluded that consumers have positive views that point to excellent, enjoyable, and favorable attitudes toward online shopping. Das, Sarkar, & Debroy (2022) suggested that both positive and negative emotions affect people's online shopping decisions. Since there is a small disparity between current and previous studies, we can claim that the differences between demographic variables in this study will affect identifying the elements influencing online shoppers' emotions. It showed a statistically significant correlation between internet shopping activity and demographic factors (Cinar, 2020).

5. Managerial Implications and Recommendations

As a consequence of the COVID-19 lockdowns, the e-commerce industry expanded rapidly. Due to this, marketing distribution channels that had previously placed a strong emphasis on traditional methods have started using online platforms. With a vibrant economy, generous government subsidies for digital technology, and a sizable young population, Malaysia has become a desirable e-commerce market in Southeast Asia. In Malaysia, the online business is a collaborative government and commercial sector project to boost online shopping and aid in the nation's economic recovery. Additionally, it aims to assist local businesses impacted by the pandemic. More than 8.2 million consumers have benefited from this mission, which has successfully produced more than RM 945 million in sales. This mission has also had a positive effect on businesses' adoption of the digital strategy, leading to an increase in new job prospects for Malaysians. Therefore, the government should continue to support online retailers to ensure this industry's success. First and foremost, the government must direct online retailers to provide information on how to resolve problems.

In addition, as many banks and financial institutions as possible should work with businesses to make the e-payment process simple and convenient. Aside from that, online businesses also need to be aware of the different regulatory frameworks that control the sector. To avoid any fines or penalties issued by the appropriate authorities, business owners must guarantee that rules relating to registration, advertisements, and handling customer data, among others, are followed. It is essential for business owners engaged in e-commerce to abide by the relevant laws to gain the trust of their online customers. Besides that, to attract more consumers to online shopping, online retailers and business owners may develop more focused and effective online retail operations that meet the demands and expectations of their new online shoppers. When consumers believe an online store would benefit them, e-commerce will be useful. Retailers must persuade consumers to encourage more individuals to make online purchases to increase online sales. Online businesses should implement a good website. Websites are made to provide consumers with options for selecting from a variety of products online.

As compared to shopping outside, which takes more time, consumers will have a wide range of options for their desired purchases. Online retailers' appealing web designs and user-friendly websites will influence customers' decisions to buy the products they genuinely want. Business owners should also offer websites that are full of helpful information and make sure that the websites they explore strictly follow security principles. Additionally, to keep current consumers and draw in new ones, online marketers should deploy cutting-edge, creative, and attractive sales advertising activities through their websites. On the other hand, the consumer's attitude or perception will have an impact on online shopping. Thus, trust is very important because the consumer perceives transaction risk in the online environment as higher when the buyer does not directly interact with the seller and the things they intend to buy. Retailers must start by lowering consumers' perceived risks. To protect consumers online, the government also must implement the legal framework. More individuals are motivated to shop online due to the law's ability to better safeguard their interests.

Conclusion

This study has identified the factors that influence online shopping behavior patterns among consumers. The findings showed that only two constructs were statistically significant to online shop behavior, which are web characteristics and cognitive. However, the variables of external stimulus and affective are not statistically significant. Since there are considerable differences in the behavior of customers from this population who have different types of online buying, it follows that distinct techniques should be developed. From the findings, e-businesses should enhance the functionality, usability, and appearance of their websites. Additionally, it is vital to regularly update and maintain the website content to guarantee its accuracy and superior quality. Online retailers must ensure consumers can make purchases on their websites in the simplest, most convenient way feasible. Easy-to-use websites will encourage new customers to make a purchasing decision and increase their likelihood of making additional purchases.

By successfully enhancing consumers' perception of online buying, it may be possible to positively influence both their purchase intent and behavior. It has been discovered that favorable effects on consumers' cognition influence their propensity to repurchase from an online store. The more customers purchase online, the more favorable their perceptions of online shopping will be. When purchasing online, customer-focused marketing and communication could be offered, giving customers access to specialized goods and services. Additionally, it might offer interactive and diversified information to provide customers freedom of choice and control over the process, which would increase their behavior intention. As for the recommendation, future studies should select a sample of working adults outside of the university and additional variables are connected to internet buying since the sample of the current study only concentrated on university students and staff. The researchers should also employ qualitative and quantitative methods to effectively gather data from Malaysia's general population throughout the age spectrum to thoroughly assess respondents' perceptions of and intentions for online shopping.

References

Afzainizam, N., Fahmy, S., Hanif, S. A., Muqri, M. I. & Firdhaus, A. (2021). Identification of Online Shopping Challenges in Malaysia: A Pilot Study. *International Journal of Synergy in Engineering and Technology,* 2(2), 48-55.

Ajzen, I. (1985). From Intentions to Actions: A Theory of Planned Behavior. (J. Kuhl, & J. Beckmann, Eds.) Springer-Verlag Berlin Heidelberg .

Awang, Z. (2012). Research Methodology and Data Analysis (2nd ed.). UiTM Press.

Bei, L. T. & Chiao, Y. C. (2001). An Integrated Model for the Effects of Perceived Product, Perceived Service Quality, and Perceived Price Fairness on Consumer Satisfaction and Loyalty. *The Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior,* 14, 125-140.

Chincholkar, S. & Sonwaney, V. (2017). Website attributes and its impact on online consumer buying behavior: An empirical study of online consumers in Mumbai region. *Indian Journal of Science and Technology,* 10(1), 1-9.

Cinar, D. (2020). The Effect of Consumer Emotions on Online Purchasing Behavior. IGI Global.

Coakes, S. (2007). Analysis Without Anguish: Version 12.0 For Windows. John Wiley & Sons, Inc.

Daroch, B., Nagrath, G. & Gupta, A. (2021). A study on factors limiting online shopping behavior of consumers. *Rajagiri Management Journal,* 15(1), 39-52.

Das, D., Sarkar, A. & Debroy, A. (2022). Impact of COVID-19 on Changing Consumer Behaviour: Lessons from an Emerging Economy. *International Journal of Consumer Studies,* 46(3), 692-715.

Das, G. & Varshneya, G. (2017). Consumer Emotions: Determinants and Outcomes in a Shopping Mall. *Journal of Retailing and Consumer Services,* 38, 177-185.

Fihartini, Y., Ramelan, M. R., Karim, M. & Andriani, L. (2023). The Role of Female Online Shoppers' Emotional Intelligence on Their Shopping Behavior: A Cognition-Affection-Conation Framework. Proceedings of the International Conference of Economics, Business, and Entrepreneur (ICEBE 2022), 105-116.

Gupta S, L., Ruchi, N. & Ashish, N. (2010). To study the impact of website factors on consumer online buying behavior in India. *IITM Journal of Management and IT,* 2(1), 3-15.

Hair, J. F., Black, W. C. & Babin, B. J. (2010). Multivariate Data Analysis: A Global Perspective (Vol. 7). Pearson Education.

Hanna, N. & Wozniak, R. (2001). Consumer Behavior: An Applied Approach (1st ed.). Prentice Hall, Upper Saddle River, NJ, 2001.

Hoque, A. S. & Awang, Z. (2016). Exploratory factor analysis of entrepreneurial marketing: Scale development and validation in the SME context of Bangladesh. Proceedings of the International Social Sciences and Tourism Research Conference, 22-38.

Hoque, A., Awang, Z., Jusoh, K. & Muda, H. (2017). Social Business Efficiency: Instrument Development and Validation Procedure using Structural Equation Modelling. International Business Management, 222-231.

Huseynov, F. & Ozkan, S. (2016). Internet users' attitudes toward business-to-consumer online shopping: A survey. *Information Development,* 32(3), 452-465.

Isa, K., Shah, J. M., Palpanadan, S. T. & Isa, F. (2020). Malaysians' Popular Online Shopping Websites during Movement Control Order (MCO). *International Journal of Advanced Trends in Computer Science and Engineering,* 9(2), 2154-2158.

Javadi, M. H., Dolatabadi, H. R., Nourbakhsh, M., Poursaeedi, A. & Asadollahi, A. R. (2012). An Analysis of Factors Affecting on Online Shopping Behavior of Consumers. *International Journal of Marketing Studies,* 4(5), 81.

Khalil, D. S. & Raza, A. (2018). The Influence of External Stimuli on Impulsive Buying Behaviour. *Journal of Business & Tourism,* 4(1), 97-116.

Kimiagari, S. & Malafe, N. S. (2021). The role of cognitive and affective responses in the relationship between internal and external stimuli on online impulse buying behavior. Journal of Retailing and Consumer Services, 61.

Kuleh, Y. & Setyadi, D. (2016). The Effect of Brand Trust and Affection on the Attitudinal and Purchase Loyalty of Cellular Telecommunication Customers in East Kalimantan – Indonesia. *European Journal of Business and Management,* 8(24), 86-95.

Lee, C. H. & Chen, C. W. (2021). Impulse Buying Behaviors in Live Streaming Commerce Based on the Stimulus-Organism-Response Framework. *Information Technology and Consumer Behavior: Challenges and Opportunities,* 12(6), 241.

Lee, Y. & Kozar, K. A. (2006). Investigating the effect of website quality on e-business success: An analytic hierarchy process (AHP) approach. *Decision Support Systems,* 42(3), 1383-1401.

Lennon, S. J., Ha, Y. & Lyons, N. (2009). Rural Consumers' Online Shopping for Food and Fiber Products as a Form of Outshopping. *Clothing and Textiles Research Journal,* 27(1), 3-30.

Lerner, J. S. & Tiedens, L. Z. (2006). Portrait of the angry decision maker: How appraisal tendencies shape anger's influence on cognition. *Journal of Behavioral Decision Making,* 19(2), 115-137.

Li, Y. (2022). A Study on the Influence of External Stimuli and Psychological Processes on Stationery Purchase Behavior Based on SOR. *Proceedings of Business and Economic Studies,* 5(4), 79-87.

Mallapragada, G., Chandukala, S. R. & Liu, Q. (2016). Exploring the Effects of "What" (Product) and "Where" (Website) Characteristics on Online Shopping Behavior. *Journal of Marketing,* 80(2), 21-38.

Mis, C. (2022). Emotional Impacts of Online Purchasing Behaviour During the COVID-19 Pandemic. The European Conference on Media, Communication & Film 2022, 41-50.

Mittal, A. (2013). E-commerce: Its Impact on Consumer Behavior. *Global Journal of Management and Business Studies,* 3(2), 131-138.

Musa, R., Nasaratnam, S., Rethinam, K., Varatharajoo, P. M. & Shanmugam, A. (2022). A Study of Factors Influenced Online Shopping Behavior in Malaysia:. *WSEAS Transactions on Business and Economics,* 19, 531-541.

Mustakim, N. A., Hassan, Z., Sauid, M. K., Ebrahim, Z. B. & Mokhtar, N. (2022). Factors Affecting Customer Satisfaction on Shopee. *International Journal of Academic Research in Business and Social Sciences,* 12(10), 544 – 556.

Ozen, H. & Engizek, N. (2014). Shopping online without thinking: being emotional or rational? *Asia Pacific Journal of Marketing and Logistics,* 26(1), 78-93.

Pandey, A. & Parmar, J. (2019). Factors Affecting Consumer's Online Shopping Buying Behavior. Proceedings of 10th International Conference on Digital Strategies for Organizational Success, 541-548.

Park, D. H., Lee, J. & Han, I. (2007). The Effect of On-Line Consumer Reviews on Consumer Purchasing Intention: The Moderating Role of Involvement. *International Journal of Electronic Commerce,* 11(4), 125-148.

Peter, J., Olson, J. & Grunert, K. (1999). Consumer behavior and marketing strategy. McGraw Hill Higher Education.

Pritchett, B., Pritchett, T. K. & Kotler, P. (2003). Test Item File [to Accompany Philip Kotler], Marketing Management. Prentice Hall.

Rahman, M. A., Islam, M. A., Esha, B. H., Sultana, N., Chakravorty, S. & Molnar, A. (2018). Consumer buying behavior towards online shopping: An empirical study on Dhaka city, Bangladesh. *Cogent Business & Management,* 5(1).

Rasli, S., Khairi, N., Ayathuray, H. & Sudirman, M. S. (2018). The Effect of E-Business Website Quality on Customer Satisfaction. *Selangor Business Review,* 3(1), 37-45.

Saeeda, S., Naqvib, M. & Memon, M. (2020). E-Commerce Web Crawling to Facilitate Consumers for Economical Choices. *International Journal of Advanced Computer Systems and Software Engineering,* 1(1), 1-13.

Sawyer, A. G. (1984). Psychological perspective on consumer response to sale promotion, research on sale promotion: collected paper. *Market Science Institute,* 1, 21.

Sekaran, U. & Bougie, R. (2016). Research methods for business: A skill building approach. John Wiley & Sons.

Shaheen, M., Cheng, B. L. & Lee, H. S. (2012). A Study Of E-Shopping Intention In Malaysia: The Influence Of Generation X & Y. *Australian Journal of Basic and Applied Sciences,* 6(8), 28-35.

Shalini, G. R. & HemaMalini, K. S. (2015). A study of online shopping website characteristics and its impact on consumer intention to purchase online in Chennai. *International Research Journal of Engineering and Technology,* 2(9), 412-418.

Singh, A. K. & Sailo, M. (2013). Consumer Behavior in Online Shopping: A Study of Aizawl. *International Journal of Business & Management Research (IJBMR),* 1(3), 45-49.

Tao, H., Sun, X., Liu, X., Tian, J. & Zhang, D. (2022). The Impact of Consumer Purchase Behavior Changes on the Business Model Design of Consumer Services Companies Over the Course of COVID-19. *Frontiers in Psychology,* 13, 1-14.

Vasudevan, P. & Arokiasamy, L. (2021). Online shopping among the young generation in Malaysia. *Electronic Journal of Business and Management,* 6(1), 31-38.

Vishnu, P. & Raheem, A. R. (2013). Factors influencing impulse buying behavior. *European Journal of Scientific Research,* 100(3), 68-79.

Visinescu, L. L., Sidorova, A., Jones, M. C. & Prybutok, V. R. (2015). The influence of website dimensionality on customer experiences, perceptions and behavioral intentions: An exploration of 2D vs. 3D web design. *Information & Management,* 52(1), 1-17.

Wang, Y. (2021). Research on E-commerce Platform of Online Shopping Consumers. Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021), 3031-3035.

Wen, T. S., Satar, N. M., Ishak, N. A. & Ating, R. (2020). Consumer intention towards online shopping in Malaysia. *International Journal of Accounting, Finance and Business (IJAFB),* 5(27), 93-117.

Wierzba, M., Riegel, M., Wypych, M., Jednoróg, K., Turnau, P., Grabowska, A. & Marchewka, A. (2015). Basic Emotions in the Nencki Affective Word List (NAWL BE): New Method of Classifying Emotional Stimuli. *PLoS One,* 10(7).

Wu, S. I. & Tsai, H. T. (2017). A Comparison of the Online Shopping Behavior Patterns of Consumers. *International Journal of Marketing Studies,* 9(3).

Wu, W., Wang, S., Ding, G. & Mo, J. (2023). Elucidating trust-building sources in social shopping: A consumer cognitive and emotional trust perspective. *Journal of Retailing and Consumer Services,* 71, 103217.

Wu, Y. & Huang, H. (2023). Influence of Perceived Value on Consumers' Continuous Purchase Intention in Live-Streaming E-Commerce—Mediated by Consumer Trust. *Economic and Business Aspects of Sustainability,* 15(5), 4432.

Yadav, M., Goel, M. & Sharma, B. (2020). Consumer perception towards online shopping during lockdown. *International Journal of Management,* 11(7), 1578-1584.

Yazid, Z., Wel, C. A. & Omar, N. A. (2016). Persepsi Mahasiswa Terhadap Urusan Pembelian Atas Talian. *Jurnal Personalia Pelajar,* 19(2).

Youn, S. & Faber, R. J. (2000). Impulse buying: Its relation to personality traits and cues. *ACR North American Advances,* 27(1), 179-185.

Yulihasri, Islam, M. A. & Daud, K. A. (2011). Factors that Influence Customers' Buying Intention on Shopping Online. *International Journal of Marketing Studies,* 3(1), 128-139.

Zainudin, A., Habsah, M., Fauzilah, S., Abu Shams Mohammad, M. H. & Kamaruzaman, J. (2017). Social business efficiency: Instruments development and validation procedure using structural equation modeling. *International Business Management,* 11(1), 222-231.

Zeng, S., Lin, X. & Zhou, L. (2023). Factors affecting consumer attitudes towards using digital media platforms on health knowledge communication: Findings of cognition–affect–conation pattern. *Frontiers in Psychology,* 14, 1008427.