Financial Well-Being of Micro-Entrepreneurs: A Proposed Conceptual Framework

*Putri Aliah Mohd Hidzir¹, Shafinar Ismail¹, Sharifah Heryati Syed Nor², & Aqilah Nadiah Md Sahiq¹
¹Faculty of Business & Management, Universiti Teknologi MARA, Cawangan Melaka Kampus Bandaraya
Melaka, Malaysia

²Faculty of Business and Management, Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia aliahidzir@gmail.com*, shafinar@uitm.edu.my, heryati879@uitm.edu.my, aqilahnadiah@uitm.edu.my

Abstract: The financial well-being of micro-entrepreneurs is a multifaceted concept that encompasses both financial stability and personal satisfaction with one's financial situation. The pandemic experienced by the country has affected people from all walks of life, including micro-entrepreneurs. These self-employed people not only scored the lowest when it comes to financial behaviors but they are also the most vulnerable in terms of financial well-being. This study intends to fill a gap in the literature by looking at the factors that influence micro-entrepreneurs' financial well-being in Malaysia. A systematic review of reviews was conducted through electronic databases between January 2018 and December 2022 using refined search methods, such as the Boolean operator, phrase searching, truncation, wild card, and field code functions, based on enriched keywords: ("FINANCIAL WELL-BEING*" OR "FINANCIAL WELLBEING) AND ("MICRO-ENTREPRENEUR* OR "MICRO-ENTERPRISE*"). Scopus and Web of Science were selected as the two primary databases to search for relevant articles and materials for the review. The results demonstrate the incorporation of several variables into the proposed framework of financial well-being of micro-entrepreneurs, namely social trust, social networks, financial self-efficacy, and financial innovation as a mediator. The proposed framework is derived from the Social Capital Theory and the Social Cognitive Theory, as well as reviews of past empirical studies.

Keywords: Financial well-being, micro-entrepreneurs, micro-enterprise, Malaysia.

1. Introduction

Micro-enterprise is defined as an enterprise with a sales turnover of less than RM300,000 or having employees of less than five (SME Corp., 2023). It can be said that micro-entrepreneurs are individuals who manage micro-enterprises. The term micro-enterprise and micro-entrepreneurs has been widely used with other term as well. For instance, informal employment has been interchangeably used with micro enterprises (Edusah, 2013; Lewis, 2020), while Lubell (1991) identified micro-enterprise with the modern informal sector. Apart from that, Edusah (2013) also relates the concept of micro-enterprise to small-scale industries.

The financial well-being of micro-entrepreneurs may include having access to financial resources such as loans, grants, and other forms of financing, as well as being able to manage their finances efficiently. This includes keeping accurate financial records, understanding their cash flow, managing their expenses, and investing in their business growth (Ramli & Yekini, 2022). In addition to these financial factors, financial well-being for micro-entrepreneurs also includes aspects of personal satisfaction, such as feeling confident about their financial situation, having a positive outlook towards their financial future, and feeling fulfilled by their work (Sabri, Wahab, Mahdzan, Magli, & Rahim, 2022). Overall, financial well-being for micro-entrepreneurs is a multifaceted concept that encompasses both financial stability and personal satisfaction with one's financial situation.

However, there are several issues pertinent to the financial well-being of micro-entrepreneurs. The pandemic covid-19 experienced by the country has affected people from all walks of life, including micro-entrepreneurs. Despite recent global health improvements, people around the world continue to face complicated, interrelated threats to their health and well-being that are embedded in social, economic, political, and environmental (World Health Organization, 2021). A report by AKPK in 2018 revealed that self-employed people scored the lowest when it comes to financial behaviors and they are the most vulnerable in terms of financial well-being. People may have trouble saving because they have to make do with less money than they would like because of the high cost of living. This, in turn, means that they don't have enough extra money to put towards savings. Moreover, the fact that more than 90 percent of micro-enterprise and informal businesses have no insurance coverage and 70 percent have no safety nets to fall back on if they lose their jobs (MEDAC, 2021) further increases the concern about the sustainability of micro-enterprises.

Achieving financial well-being requires effective financial management, access to financial resources, and a positive mindset toward one's financial future (Bank Negara Malaysia, 2022). This is a challenge for most because micro-entrepreneurs are struggling to generate enough revenue to cover their expenses, leading to a situation where they are unable to pay their debts and bills (The Star, 2021). The financial well-being of a micro-entrepreneur also can influence the likelihood of successfully managing bankruptcy (Khan, Dankiewicz, Kliuchnikava, & Oláh, 2020). If an entrepreneur has a good understanding of their financial situation and has taken steps to manage their debts before declaring bankruptcy, they may be able to recover and start anew. Therefore, having a healthy financial well-being is important for micro-entrepreneurs.

As a result, several studies have focused on certain aspects of financial well-being, such as social trust (Baktir & Watson, 2021; Tupminen & Haanpää, 2022), social networks (Tupminen & Haanpää, 2022; Li, 2016), and financial self-efficacy (Nguyen, 2022; Naveed, Farah, & Hasni, 2021). Therefore, the objective of this study is to propose a framework of social trust, social networks, financial knowledge, and financial self-efficacy on the financial well-being of micro-entrepreneurs in Malaysia, as well as financial innovation as the mediating variable.

2. Literature Review

Theoretical Foundation: In determining the conceptual framework, Social Capital Theory and Social Cognitive Theory are used as the underpinning theories. Social Capital Theory underpins the current study with its notion that social relationships are resources that may be used to facilitate the growth and accumulation of human capital through time (Machalek & Martin, 2015). The term "social capital" refers to the relationships that exist between people who live in a certain society. Social capital facilitates the flow of resources and the introduction of new ideas into an organization (Thomas & Gupta, 2021).

The concept of social capital has a long history, but it was Bourdieu (1986), Coleman (1988) and Putnam (1993), who laid the groundwork for its inclusion in academic and policy discussions. Bourdieu considered social capital as a characteristic of an individual rather than a society. He also pointed out that a person's ability to exercise power over the group or individual who is responsible for the mobilization of resources is facilitated by their level of social capital (Claridge, 2018). The concept of social capital by Coleman laid the foundation for Robert Putnam's theory. As opposed to Bourdieu and Coleman, Putnam defined social capital as the amount of participation, civic engagement, and trust, which makes it a public good (Tzanakis, 2013). His theory also claimed that social capital shifts from being something held individually to being something owned collectively.

Moreover, Putnam (1993) mentioned that sources of social capital (i.e., trust, norms, networks) are inclined to build on themselves and get stronger over time, as people make connections and build trust when working together. Therefore, social capital is found in one's network and more specifically, in one's connections with others. Additionally, in outlining the elements of social capital, Putnam specifically identified norms, participation, and trust, whereas Bourdieu and Coleman's operationalizations were quite vague. However, when seen from a Bourdieusian viewpoint, social capital may be defined as being tied to one's social network's power and prestige, but when viewed from a Colemanian perspective, it might include reciprocal norms, network size, and social support (Michalos, 2022). Hence, this study intends to incorporate the features of social networks and social trust derived from the theory in assessing micro-entrepreneurs financial well-being.

Social cognitive theory by Bandura (1991) asserts that people's beliefs of their abilities have an impact on every aspect of their lives, including their goals, their choices, and their resolve to complete tasks, positive or negative patterns of thinking, and the degree to which they persevere in the face of difficulties (Bandura, 1991). The theory also emphasizes external and internal social reinforcement while considering the specific ways in which individuals earn and sustain behavior (LaMorte, 2019). Therefore, it is seen as a way to improve well-being by aiming at improved emotion, cognitive processes, behavioral abilities, or the modification of the social settings in which they live and work (Pajares, 2002). Thus, this current study proposes the variable of financial self-efficacy derived from social cognitive theory and its relationship to the financial well-being of micro-entrepreneurs.

Financial Well-being of Micro-Entrepreneurs: Financial well-being can be referred to as a person's financial situation in which they have enough resources to live comfortably, content, and worry-free (Iramani & Lutfi, 2021). Consumer Financial Protection Bureau also described it as having financial stability as well as financial freedom of choice, both in the now and in the future. Studies on the financial well-being of micro-entrepreneurs yield very limited results. For instance, Eid et al. (2023) aimed to assess the economic health of SME proprietors in the governorate of Damietta. The data for this study was gathered from 384 SMEs by administering a questionnaire and then analyzed using structural equation modeling (SEM). A strong correlation between financial literacy levels and well-being was found in the research. Furthermore, Azman et al. (2021) explored the effects of Islamic microfinance on the financial well-being of micro-entrepreneurs and found a significant relationship between investment, and expansion towards financial well-being. War & Wadk (2016) studied the financial literacy of Sri Lankan micro-entrepreneurs towards financial well-being and discovered that investment and retirement strategies have the most central impact on financial well-being, while money, credit, debt, and risk management showed insignificant impact.

In another context of the study, García-Mata et al. (2022) analyzed the effects of sociodemographic characteristics, family characteristics, and economic characteristics on financial well-being in Mexico and found that contributing factors that improve one's financial well-being are the level and consistency of one's income, level of education, marital status, age, and employment status. Nguyen (2022) carried out an analysis of financial well-being and found that there is a strong relationship between financial well-being and financial problems, financial literacy, financial knowledge, and financial self-efficacy. The researcher also noted that prior studies measure financial well-being by using a variety of objective characteristics such as income, socio-demographic characteristics, and investment performance of their debt level. Furthermore, according to She et al. (2022), financial well-being is affected by subjective financial knowledge, financial attitude, and locus of control, while financial behavior mediates relationships. The findings also demonstrate that an individual's psychological beliefs give rise to their acts and are the primary motivating factor behind a person's behavior, which in turn affects their financial well-being.

Previous studies on financial well-being can be clustered into three approaches: objective measurement (such as income and wealth), subjective measurement (such as personality, attitudes, and knowledge) and a combination of objective and subjective measurements. (Brüggen, Hogrev, Holmlund, Kabadayi, & Löfgren, 2017). According to Ismail, Kumaran, Munawwarah, Muhammad & Sarifuddin (2021) because only an individual can accurately assess the level of his or her financial well-being, the subjective method may be the most appropriate measurement tool. Nevertheless, there are still other aspects to consider, such as the number of people living in the home, the monthly household budget, the amount of debt owed, and the number of stressors in one's life.

However, the determinants of financial well-being specifically in the context of micro-entrepreneurs in Malaysia are yet to be fully discovered. There is room for the development of research studies that differ from those covered by previous researchers in terms of level of income, demography, consumption pattern, employment, and lifestyle. The current study, therefore, proposed the factors of social trust, social networks, financial self-efficacy, and financial innovation toward micro-entrepreneurs' financial well-being.

Antecedents of Financial Well-Being of Micro-Entrepreneurs

Social Trust: Social trust can be defined as putting one's faith in strangers in the community, and demonstrating dependence on humanity's goodwill (Bai, Gong, & Feng, 2019). It is also a fundamental foundation for relationships between individuals and society (Kwon, 2019). Social trust has been used in previous literature in a variety of contexts and has been found to contribute to economic growth (Beugelsdijk, Groot, & Schaik, 2004), financial development (Guiso, Sapienza, & Zingales, 2004), government efficiency (Knack, 2022), and the use of open business-to-business e-commerce (Qu, Pinsonneault, Tomiuk, Wang, & Liu, 2015).

Furthermore, social trust is an indicator that indicates social progress and contributes to personal life satisfaction, and it has also been proven to be substantially related to people's subjective well-being (Li & He, 2022). Aside from that, as a study by Barrafrem, Tinghög, & Västfjäl (2021) reveals, during the pandemic

Covid-19, faith in the government in managing the crisis had a significant influence on the general population's well-being. Moreover, the research emphasized the need for people's faith in government organizations that are functioning well to aid in dealing with not just the issues linked with healthcare but also the financial concerns caused by the epidemic.

Social Networks: Economists have recently examined a third factor in the relationship between income and well-being: social networks, also referred to as social connections or relationships with friends, coworkers, and even community, can all be regarded as forms of social capital (Yeo & Lee, 2019). When it comes to getting financial advice, social networks and close personal ties are the most cost-effective routes to pursue, particularly when trust is a significant factor in the choice to seek financial guidance (Lachance & Tang, 2012). Another study by Ladha et al. (2017) outlined social networks as one of the four key elements in understanding financial health in developing countries. It was further stated that individuals who use formal financial goods as well as those who do not utilise official financial products often turn to social networks for assistance in coping with difficulties.

Conducted research on the effect that social networks have on one's well-being involving the adult population of Australia. It was found that life satisfaction and well-being is strongly influenced by one's structure of social networks, social bond, and social support, while also discovering relational social restrictions and limitation in their networks. It was further implied that social networks have both good and bad effects on well-being. Likewise, Thomas and Gupta (2021) stressed how employees' financial well-being may be affected by their social networks, and the impact of strong ties in a network is often associated with social capital.

Financial Self-Efficacy: Financial self-efficacy is defined as the amount of confidence that a person has in their capacity to access, utilize, and make financial decisions, as well as cope with a difficult financial circumstance (Ghosh & Vinod, 2017). According to Stajkovic and Luthans (1998), those with strong self-efficacy may be able to expend sufficient effort that, if properly applied, may result in beneficial outcomes, while people with low self-efficacy will almost certainly give up too soon and will be unsuccessful. Higher financial self-efficacy is associated with more productive financial behaviors and a sense of well-being (Farrell, Fry, & Risse, 2016). Moreover, conducted a study on financial well-being and the factors affecting them, involving students in Ho Chi Minh City, Vietnam. The students' financial well-being depends heavily on their level of financial self-efficacy, which is one of the crucial factors. Moreover, according to the findings of the study, having faith in one's ability to make and carry out sound financial decisions is a key factor in achieving financial well-being. This is in line with the findings by Renaldo et al. (2020) where financial self-efficacy was found to be a strong predictor of a person's ability to fulfill their personal goals, and they are more likely to improve their financial well-being. The study also asserted that having financial self-efficacy is a person's confidence that they are capable of taking the necessary steps to accomplish a goal and their ability to carry out their duties.

Financial Innovation as a Mediator: Financial innovation is expected to be a mediator between social trust, social networks, and financial self-efficacy. Financial innovation can be described as any new products, platforms, and processes that introduce or improve new ways a financial activity is carried out (Khraisha & Arthur, 2018). After the outbreak of the pandemic covid-19, many businesses are unable to operate as effectively as they once did. As business models adapt to new market conditions, competitive advantages change dynamically, and the qualities that once distinguished a company may become less significant (Am, Furstenthal, Jorge, & Roth, 2020). Many financial innovations have undoubtedly benefited economic development, and the link between financial and economic advancement is well established (Levine, 2005; Nguena, 2019). Studied mediating effects of financial innovations between behavioral factors and financial inclusion of micro-enterprises in Kenya by using a positivist approach and explanatory research design. The findings showed that financial innovations mediated the relationship between each of the behavioral factors (self-control, confidence, social proof) and financial inclusion. It was also determined that the introduction of financial innovations including mobile payments, agency banking, and developing financial products has not only increased the number of new markets, but also the availability of innovative financial services products, which all contribute to optimal financial decisions, growth opportunities, and economic growth for microentrepreneurs.

3. Methodology

The proposed conceptual framework for determinants of financial well-being among micro-entrepreneurs in Malaysia is based on the underpinning theories of the Social Capital Theory and Social Cognitive Theory, as well as past literature. Using systematic search methods, past literature was evaluated. This technique was constructed with three sub-processes—identification, screening, and eligibility—to ensure exhaustive and methodical searching. This procedure can be accurately described in the review to the extent that all database searches can be repeated. The current study follows a methodical examination of literature published on micro-entrepreneurs. This study examines the literature published using keywords such as "microentrepreneurs", "financial well-being", "small business", and "micro-enterprise" using the Boolean operator "AND" and "OR". Specifically, the combination of keywords has primarily centered on micro-entrepreneurs and financial well-being.

The first step is identification, during which time the researcher seeks out alternate forms of keywords such as synonyms, antonyms, and related terms. From the beginning of 2018 until the end of 2022, all databases were searched using Boolean operators, phrase searches, truncation, wild card, and field code functions, either individually or in combination, based on the primary and enhanced keywords: ("FINANCIAL WELL-BEING*" OR "FWB" OR "FINANCIAL WELLBEING) AND ("MICRO-ENTREPRENEUR* OR "MICRO-ENTERPRISE*").

Scopus and Web of Science were selected as the two primary databases to search for relevant articles and materials for the review. Four (4) different databases were accessed to provide more context. It was decided to use Google Scholar, Research Gate, Mendeley, and university libraries. 782 articles have been found as results of the identification process in the primary and secondary databases, and around 352 articles did not make it beyond the screening phase because they did not satisfy the inclusion criteria, which left 457 papers to be evaluated for eligibility. Eligibility assessment is the third step, and it involves a manual check of the remaining articles from the retrieval phase to make sure they all fit the study's criteria. Only 43 of the articles were selected and the rest of the duplicate records were from multiple databases.

4. A Proposed Conceptual Framework

Current research proposes a conceptual framework based on both the Social Capital Theory and the Social Cognitive Theory, as well as prior literature. In the context of this study, the Social Capital Theory proposes that social trust and social networks provide an underlying motivation for the financial well-being of microentrepreneurs. Comparatively, Social Cognitive Theory in the context of this study proposed that an individual's self-efficacy is influenced by attitudes and subjective norms. In addition, numerous studies have demonstrated the importance of financial innovation as a mediator between all independent variables and the financial well-being of microentrepreneurs. Combining the underlying theories with a literature review, this study aims to investigate the relationship between social trust, social networks, financial self-efficacy and the financial well-being of microentrepreneurs. This study will also investigate the function of financial innovation as a mediator between the two variables. The proposed framework is depicted in Figure 1 below.

Figure 1: Conceptual Framework of Financial Well-Being for Micro-Entrepreneurs Social trust Social networks Financial well-being Financial Selfefficacy

5. Conclusion and Recommendations

In summary, the current study posits that financial innovation may act as a mediator between social trust, social networks, and financial self-efficacy to improve micro-entrepreneurs' financial well-being. The results of this investigation point to a conceptual framework, depicted in Figure 1, that can guide and further the research. This research will contribute to the body of knowledge and understanding of how social trust, social networks, and financial self-efficacy interact with financial innovation to affect micro-entrepreneurs' financial well-being. To the best of the researcher's knowledge, studies based on empirical evidence are uncommon in this field, particularly from a Malaysian viewpoint, and therefore, this contribution will include a deeper understanding of the factors that affect micro-entrepreneurs financial well-being. In addition, the results are anticipated to provide useful insights that the government might use to develop a more protective policy for micro-entrepreneurs well-being and quality of life. Furthermore, the findings of this research could help policymakers develop programs and incentives that would help microbusinesses maintain stable financial stability. Micro-entrepreneurs and members of Malaysia's informal economy present an interesting study population because there is room to inquire into other potential factors influencing financial success. The authors of this study believe that the clarity presented by the proposed framework will encourage further study of this crucial concept among academics.

Acknowledgment: This research was funded by the Ministry of Higher Education through the Fundamental Research Grant Scheme (FRGS), grant number 600-RMC/FRGS 5/3 (045/2021).

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.
- Am, y. J., Furstenthal, L., Jorge, F. & Roth, E. (2020). Innovation in a crisis: San Francisco: Mckinsey & Company. 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).
- Bai, C., Gong, Y. & Feng, C. (2019). Social Trust, Pattern of Difference, and Subjective Well-Being. Sage, 1-17. doi:10.1177/2158244019865765
- Baktir, Z. & Watson, F. (2021). Trust-Driven Entrepreneurship for Community Well-Being of Refugees and Their Local Hosts. Journal of Macromarketing, 251-266. doi:10.1177/0276146720935157
- 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.
- Bandura, A. (1991). Social Cognitive Theory of Self-Regulation. Organizational Behaviour and Human Decision Processes, 248-287.
- Bank Negara Malaysia. (2022, January 24). Financial Sector Blueprint 2022-2026. Retrieved from Elevate the financial well-being of households and business: https://www.bnm.gov.my/publications/fsb3
- 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.
- Beugelsdijk, S., Groot, H. d. & Schaik, T. (2004). Trust and economic growth: a robustness analysis. Oxford Economic Papers (pp. 118-134). United Kingdom: Oxford University Press.

- 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.
- Brüggen, E. C., Hogrev, J., Holmlund, M., Kabadayi, S. & Löfgren, M. (2017). Financial well-being: A conceptualization and research agenda. Journal of Business Research, 228–237.
- 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.
- Claridge, T. (2018). Introduction to Social Capital Theory. Social Capital Research, 1-658.
- 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.
- Edusah. (2013). The Informal Sector, Micro-Enterprises and Small-Scale Industries: The Conceptual Quandary. Journal of Economics and Sustainable Development, 117-185.
- 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
- Farrell, L., Fry, T. R. & Risse, L. (2016). The significance of financial self-efficacy in explaining women's personal finance behavior. *Journal of Economic Psychology*, 54, 85-99. doi:https://doi.org/10.1016/j.joep.2015.07.001
- 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 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.
- Ghosh, S. & Vinod, D. (2017). What Constrains Financial Inclusion for Women? Evidence from Indian Microdata. *World Development*, 92(C), 60-81.
- 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.
- Guiso, L., Sapienza, P. & Zingales, L. (2004). The Role of Social Capital in Financial Development. American Economic Review, 526-556.

- 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 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.
- Iramani, R. & Lutfi, L. (2021). An integrated model of financial well-being: The role of financial behavior. Accounting, 691-700.
- Khan, K. A., Dankiewicz, R., Kliuchnikava, Y. & Oláh, J. (2020). How do entrepreneurs feel about bankruptcy? *International Journal of Entrepreneurial Knowledge*, 8(1), 89-101.
- Khraisha, T. & Arthur, K. (2018). Can we have a general theory of financial innovation processes? A conceptual review. Financial Innovation, 1-27. doi:https://doi.org/10.1186/s40854-018-0088-y
- Knack, S. (2022). Social Capital and the Quality of Government: Evidence from the States. *American Journal of Political Science*, 46(4), 772-785.
- Kwon, O. Y. (2019). Social Trust and Economic Development: The Case of South Korea. Canada: Edward Elgar. doi:10.4337/9781784719609.00008
- Lachance, M. E. & Tang, N. (2012). Financial Advice and Trust. Economics.
- LaMorte, W. W. (2019). The Social Cognitive Theory. Boston University School of Public Health.
- 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.
- Levine, R. (2005). Finance and Growth: Theory and Evidence. In P. Aghion, & S. Durlauf, Handbook of Economic Growth (pp. 1-40). Amsterdam: Elsevier Science.
- Lewis, M. (2020). Informal Enterprises in the East Cape. East Cape: Eastern Cape Socio-Economic Consultative Council.
- Li, N. & He, M. (2022). Social Security Satisfaction and People's Subjective Wellbeing in China: The Serial Mediation Effect of Social Fairness and Social Trust. Frontiers in Psychology, 1-16. doi:10.3389/fps.2022.855530
- Li, Y. (2016). Social mobility, social network and subjective well-being in the UK. *Contemporary Social Science*, 11(2-3), 222-237.
- 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.
- Machalek, R. & Martin, M. W. (2015). Sociobiology and Sociology: A New Synthesis. In J. D. Wright, & J. D. Wright (Ed.), International Encyclopedia of the Social & Behavioral Sciences (Second Edition) (pp. 892-898). Elsevier.
- 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.
- MEDAC. (2021, July 1). MEDAC Plans to Introduce Protection Plans for Micro and Informal Enterprises. Retrieved from Kementerian Pembangunan Usahawan dan Koperasi: https://kuskop.gov.my/admin/files/med/image/portal/PDF/Kenyataan%20media/PRESS%20RELE ASE%20%20@%20MEDAC%20PLANS%20TO%20INTRODUCE%20PROTECTION%20PLANS%20FO R%20MICRO%20AND%20INFORMAL%20ENTERPRISEs.pdf

- Michalos, A. C. (2022). The Pope of Happiness A Festschrift for Ruut Veenhoven. Canada: Springer.
- 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.
- Naveed, M., Farah, M. F. & Hasni, M. J. (2021). The transformative role of firm information transparency in triggering retail investor's perceived financial well-being. *International Journal of Bank Marketing*, 39(7), 1091-1113.
- Nguena, C. L. (2019). On financial innovation in developing countries: The determinants of mobile banking and financial development in Africa. Journal of Innovation Economics & Management, 69-94.
- Nguyen, S. M. (2022). Visualization and bibliometric analysis on the research of financial well-being. international Journal of Advanced and Applied Sciences, 10-18.
- 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, 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
- Pajares, F. (2002). Overview of Social Cognitive Theory and Self-Efficacy. Emory University, 1-5.
- 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.
- Qu, W. G., Pinsonneault, A., Tomiuk, D., Wang, S. & Liu, Y. (2015). The impacts of social trust on open and closed B2B e-commerce: A Europe-based study. *Information & Management*, 52, 151-159.
- Ramli, A. & Yekini, L. S. (2022). Cash Flow Management among Micro-Traders: Responses to the COVID-19 Pandemic. *Sustainability*, 14(7), 1-21.
- 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.
- Sabri, M. F., Wahab, R., Mahdzan, N. S., Magli, A. S. & Rahim, H. A. (2022). Mediating Effect of Financial Behaviour on the Relationship Between Perceived Financial Wellbeing and Its Factors Among Lowincome Young Adults in Malaysia. Frontiers in Psychology, 1-16.
- 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.
- SME Corp. (2023, 3 9). Micro Enterprises. Retrieved from SME Corporation Malaysia: https://www.smecorp.gov.my/index.php/en/micro-enterprises
- 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 concerning climate change. *Trends in Food Science & Technology*, 126, 192–204.
- The Star. (2021, September 28). Over 37,000 businesses folded in pandemic times, says minister. Retrieved from TheStar: https://www.thestar.com.my/news/nation/2021/09/28/over-37000-businesses-folded-in-pandemic-times-says-minister
- Thomas, A. & Gupta, V. (2021). Social Capital Theory, Social Exchange Theory, Social Cognitive Theory, Financial Literacy, and the Role of Knowledge Sharing as a Moderator in Enhancing Financial Well-Being: From Bibliometric Analysis to a Conceptual Framework Model. Frontiers in Psychology, 1-16.
- Tupminen, M. & Haanpää, L. (2022). Young People's Well-BeingSS and the Association with Social Capital, i.e. Social Networks, Trust and Reciprocity. *Social Indicators Research*, 159, 617-647.
- Tzanakis, M. (2013). Social capital in Bourdieu's, Coleman's and Putnam's theory: empirical evidence and emergent measurement issues. *Educate*, 13(2), 2-23.
- 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).

- World Health Organization. (2021, May 20). The impact of COVID-19 on global health goals. Retrieved from COVID-19 responsible for at least 3 million excess deaths in 2020: https://www.who.int/news-room/spotlight/the-impact-of-covid-19-on-global-health-goals
- 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).
- Yeo, J. & Lee, Y. G. (2019). Understanding the Association Between Perceived Financial Well-Being and Life Satisfaction Among Older Adults: Does Social Capital Play a Role? Journal of Family and Economic Issues, 592-608.
- Zhang, Q., Dhir, A. & Kaur, P. (2022). Circular economy and the food sector: A systematic literature review. *Sustainable Production and Consumption*, 32, 655-668.