

# Predicting Saving Intentions in Voluntary Retirement Schemes: Extending the Theory of Planned Behaviors

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#### **Abstract**

**Purpose:** This paper aims to examine the basic determinants of consumers intention to participate in family takaful scheme using decomposed theory of planned behaviour (DTPB) and identifying relevant factors may be moderate the relationship.

**Design/methodology/approach:** A comprehensive review of the DTPB literature is undertaken, with a particular focus on contribution to retirement literature.

**Findings:** The review finds that intention toward participating in family takaful scheme is are not only affected by attitude, subjective norm and perceived behavioural control but also influence by moderating factors like demographic variables, consumer knowledge, situational factors and consumer level of religiosity. Inhibiting factors related to insurance and takaful purchase is also highlighted

**Research limitations/implications:** This study is primarily limited in scope, as it only reviews the previous studies, but the study helps for better understanding of individual intentions to participate in the I-Saraan retirement savings program. The proposed conceptual model gives a theoretical background for the understanding he individual intention towards the scheme. For future studies, we hope that researchers can empirically validate aforementioned constructs.

**Practical implications:** Understanding the characteristics that drive participation in I-Saraan program is an important task for the government to attract the intended population. In this study, a conceptual framework is presented, which can provide valuable insights for devising effective promotional approaches for the I-Saraan scheme.

**Originality/value:** Such an extensive review on identifying relevant factors to participate in takaful using DTPB has not been done before. The paper will be useful to researchers, professionals and others concerned with family takaful to understand the importance factors in participating in family takaful scheme

**Keywords**: Retirement Saving, Self-Voluntary Saving, Self-employed, Government Incentives, Malaysia



### Introduction

Retirement savings are essential for self-employed people as it will help them ensure their financial future. Unlike the employees who are under fixed payment, the self-employed people are not privileged to have employer-provided retirement programs. They frequently rely on personal initiatives due to a lack of access to standard pension plans. Self-employed often relying on personal initiatives due to limited access to traditional pension schemes. Therefore, Employees Provident Fund (EPF) in Malaysia launched i-Saraan as a retirement savings platform for the self-employed, freelancers, and other gig economy workers who do not have access to employer sposored pension. I-Saraan is an online retirement contribution aimed at making sure that all the Malaysian residents are able to save enough money to enable them to have comfortable retirement (EPF, 2023). According to the Dewan Bahasa dan Pustaka (DBP), 'saraan' refers to financial support provided to improve quality of life (DBP, 2017).

The Malaysia self- employed is the second largest grouping in Malaysia's working force and the figure is rising rapidly. According to the World Bank, the proportion of self-employed individuals in Malaysia was 24.7 percent in the year 2022 (World Bank, 2024). Hence, almost a quarter of Malaysia's workforce are self-employed. Some people are self-employed because they work independently or with a few partners, earning income based on goods and services profits. The growing gig economy and services sector, alongside the positive view of business ownership, have all contributed to this trend. Therefore, more active government policy is needed to support this growing sector (Schaper, 2020). Consequently, the government developed the I-Saraan scheme to support these groups in retirement.

However, less than 10% of Malaysia's 2.7 million self-employed individuals contribute to the i-Saraan scheme and only 18% of this population makes consistent contributions (The Star, 2020). This is quite disheartening, considering the scheme's intention to assist self-employed individuals and those without steady incomes in saving for retirement. Malaysians need to effectively manage their retirement savings to ensure a secure life after retirement, as insufficient funds can lead to economic difficulties and personal stress (Ab Rahim et al., 2022; Shariff & Ishak, 2021). The rising cost of healthcare, the high cost of living, and people living longer are all important reasons to adequately plan for retirement.

Previous retirement studies illustrate that several factors influence retirement savings behaviour, including savings attitudes, financial socialisation, financial literacy, financial plan, propensity to plan, future orientation, and lack of awareness (Chelliah et al., 2022; Jamaludin & Gerrans, 2015; Kimiyagahlam et al., 2019; Haron et al., 2019). As such study from Shariff & Ishak (2021) investigated the factors influencing retirement savings decisions among Malaysians and found that financial knowledge, demographics (e.g., age), management, future expectations, and social influences influence retirement savings decisions in Malaysia. The authors also highlighted the impact of social influence family, friends, and social media. Further, an interesting study from Lim et al. (2021) highlighted retirement savings behaviour under an outbreak and found that income level, economic conditions, savings pattern, and retirement goal significantly influenced employees' retirement savings pattern during the COVID-19 pandemic in Malaysia. According to the authors, it is important to teach kids about money to ensure that they appropriately plan for their retirement during economic downturns and pandemics.

Malaysian retirement problems have been studied extensively by many researchers (Chelliah et al., 2022; Haron et al., 2019; Kimiyagahlam et al., 2019; Lim et al., 2021; Shariff & Ishak,



2021). However, its association with the slow growth of retirement savings in relation to I-Saraan remains limited. Therefore, it is important to examine the factors that influence retirement savings among individuals participating in the I-Saraan scheme to address this gap. A clearer understanding of these factors is crucial for the government to effectively influence retirement savings among the self-employed and thereby increase contributions to the I-Saraan program.

Hence, this study aimed to explain the factors that effect retirement funds among individuals, focusing on the applicability of the decomposed theory of planned behavior (DTPB) model to the context of the I-Saraan. It extends the DTPB model by investigating the substantial affect of governmental incentives, providing fresh perspectives on the determinants shaping behavior within the I-Saraan scheme.

## **Literature Review**

#### I-Saraan

The I-Saraan is the retirement savings programme in Malaysia for those people who are self-employed or working in the gig economy to save for the retirement period. The I-Saraan allows voluntary contributions for those who are self-employed or do not receive regular wages, and are therefore unable to save for their retirement through their employers. It is meant to help the people to save money towards their retirement period in order to ensure that they are financially stable when they reach that age.

The I-Saraan is an excellent method to build up one's retirement fund, especially in situations where a person may not have the option of participating in a normal employer paid up provident fund scheme. In this scheme, clients can contribute any amount they are willing and at any frequency they are comfortable with. In this respect, the I-Saraan promotes the long-term financial planning as it helps people develop an earlier savings behavior, while they are still employed and can save for retirement when there may be little or no income. By contributing to the I-Saraan scheme, EPF members can take advantage of various benefits: tax relief, lump sum payout upon death, additional annual dividend over the retirement savings, and the extra 15% bonus on the total contribution up to RM 300. Thus, to qualify for the I-Saraan, one has to be a Malaysian citizen below the age of 60 years, be self-employed, opt for I-Saraan contribution, and be an EPF member (EPF, 2023). (EPF, 2023).

## Retirement

Retirement in Malaysia typically begins when an individual stops working upon reaching the standard retirement age of 60 years old, as mandated by the country's tax laws and/or state oldage pension rules. Saving enough for retirement is crucial to ensure financial security after you stop working. Nevertheless, certain individuals don't take advantage of early opportunities to save for retirement and subsequently fail to prioritize it for an extended period (Brière et al., 2022).

Many researchers have conducted retirement studies by focused on the various perspectives. (Alkhawaja & Albaity, 2020; Bateman et al., 2023; Brière et al., 2022; Krijnen et al., 2020). Some studies focused on retirement planning (Chelliah et al., 2022; Kimiyagahlam et al., 2019), while others focused on retirement savings (Bateman et al., 2023; Krijnen et al., 2020; Lim et al., 2021). Retirement savings behaviour studies considering Covid-19 perspectives have also been conducted (Bateman et al., 2023; Lim et al., 2021).



Various studies have illustrated the importance of understanding the factors that influence retirement savings to better address the issue of insufficient retirement funds (Ab Rahim et al., 2022; Lim et al., 2021). Kimiyagahlam et al. (2019) investigated the relationships between behavioural factors and retirement planning to develop a theoretical model based on the Theory of Planned Behaviour and Time Perspective Theory. They highlight the direct association between financial literacy, propensity to plan, and future orientation with retirement planning behaviour.

Further, study by the Haron et al. (2019) examined the factors influencing retirement planning from the private sector perspective. Authors believe that there is a lack of awareness among Malaysians about the need to save for old age. Consequently, many people procrastinate in planning for retirement. Lim et al. (2021) explored the impact of earnings level, economic circumstances, savings patterns, and the clarity of retirement objectives on the retirement savings behaviour of Malaysian employees during the COVID-19 epidemic. Supporting the construction of a conceptual model for effective retirement planning, the study suggests that income level, economic condition, savings behaviour, and retirement goal clarity have a significant impact on retirement savings behaviour.

The study by Chelliah et al. (2022) examined the factors influencing retirement planning among low-income workers in the Northern Region of Malaysia. They recognized that retirement planning is a global concern that is especially important in developing countries like Malaysia. They found that savings attitude, financial socialization, financial literacy, and demographic characteristics (e.g., ethnicity, state of residence) had a significant impact on retirement planning among low-income employees in the Northern Region. Notably, the study did not focus on government retirement schemes, but rather on the broader issue of retirement planning among low-income workers.

This research study therefore seeks to fill this gap of research by applying the DTPB model to the I-Saraan system which is a government-based retirement scheme. The purpose of this study is to investigate the specific savings behavior determinants in this specific program. This focused research strategy will enable the researchers to develop findings that are pertinent to this retirement scheme.

## **Decomposed Theory of Planned Behaviour (DTPB)**

The DTPB is based on Ajzen's theory of planned behavior, which was introduced in 1991. As stated by the Theory of Planned Behaviour, the conduct of an individual depends with his/her intention to perform the behaviour, which in turn depends with attitude towards the behaviour, perceived norms and perceived control over the behaviour. The DTPB proposed by Taylor and Todd replaces the attitude, subjective norms, and perceived behavioural control of the TPB with additional subbelief structures.

Theory of Planned Behaviour is an extension of the DTPB as it further breaks down the three primary drivers, namely attitudes, subjective norms and perceived behavioural control into sub categories of dimensions and variables. The theory can be used for predicting and explaining behavioural intentions and actual behavior in different domains, including digital marketing, education, banking, e-commerce, m-commerce, etc. (Ashaari et al., 2024; Gangwal & Bansal, 2016; Khasawneh and Irshaidat 2017; Mahad et al., 2016; Nyasulu & Chawinga, 2019; Shaikh et al.)



In the realm of the financial services context, Husin and Rahman (2016) employed the DTPB to analyze the factors influencing consumer intentions to engage in the family takaful or Islamic Insurance scheme. As a result, they developed a set of hypothesis derived from DTPB, which embraced factors that influence consumers' intention on takaful. The study revealed that consumer attitude, knowledge towards family takaful schemes, perceived control, and perceived exposure were significant determinants of intention to participate. But they discovered that the direct effects from religiosity, awareness, and subjective norms to intentions were non-significant. Therefore, the absence of research on using DTPB in the financial services sector implies the need for the use of DTPB in this area.

Attitude, subjective norm, perceived behavioural control

#### **Attitude**

Ajzen (1991) defined attitude as the psyshological inclination that manifests as a positive or negative assessment of a certain thing. Generally, a person's desire to engage in a certain activity increases with their positive attitude towards it. More specifically, previous studies reported that attitude has a direct and positive influence on an individual's behaviour (Abdullahi & Othman, 2021; Badaj & Radi, 2018; Hwa & Perumal, 2018; Tao & Fan, 2017).

In the framework, the authors include two latent dimensions of the "attitude" construct: "relative advantages" and "compatibility". Relative advantage is the extent to which an innovation offers advantages in place of those of its predecessor (Roger, 1983). Customers frequently see relative advantages in terms of the financial advantages and costs that may result from adopting an innovation and changes that are reasonable to their social position. Those who contribute to a voluntary retirement fund would have a relative advantage, due to the retirees' increased capacity to support themselves throughout their retirement. Previous studies found positive relationships between relative advantages and attitude (Aziz & Afaq, 2018; Maulana et al., 2018; Shih & Fang, 2004).

Compatibility is the degree to which an innovation or new technology aligns with the existing values, prior experience, present demands and needs of potential users (Nyasulu & Dominic Chawinga, 2019; Tao & Fan, 2017). An innovation has a higher chance of being adopted if it aligns with someone's culture, values, needs or common standards. Since compatibility affects how people view the potential benefits, it is expected that compatibility and attitude will have a positive relationship. Previous studies have proved that compatibility influences behavioural intentions within the DTPB model (Nyasulu & Dominic Chawinga, 2019; Tao & Fan, 2017).

## **Subjective Norm Construct**

Ajzen (1991) defined subjective norms as the perceived social pressure to carry out or not carry out a behaviour. Subjective norms regulate behaviour motivated by a desire to behave according to how others believe you should behave. Many previous studies have indicated that subjective norms are important predictors of individual's intentions (Ab. Rahim & Amin, 2011; Ganesan et al., 2020; Ibrahim et al., 2017). Based on the literature review, authors include media influence as the construct.

Media influence pertains to the impact of mass media channels, such as television, radio, newspapers, magazines, and the internet, on shaping an individual's intention towards a particular behaviour (Aziz, Afaq, & Muhammad, 2020; Md Husin, Ismail, & Ab Rahman,



2016). We believe that mass media can disseminate information, create awareness, and influence attitudes and perceptions to encourage people to save for their retirement.

## **Perceived Behavioural Control Construct**

Perceived behavioural control refers to an individual's perception of how easy or difficult it is to perform a particular behaviour. It is based on the person's subjective assessment of the resources, skills, and opportunities available to them that can influence their ability to carry out the behaviour effectively (Ajzen, 1991; La Barbera & Ajzen, 2020). It is expected that perceived behavioural control and intentions will be positively related. Maulana et al. (2018) and Shih and Fang (2004) observed that perceived behavioural control had significant and positive associations with attitudes.

In this study, the authors incorporated two latent constructs of the subjective namely "facilitating condition" and "self-efficacy". Enabling condition relates to the perceived encouragement for performing the behaviour, including perceived availability of resources required for the behaviour (Ajzen, 2002; Taylor & Todd, 1995). Time, money, opportunity, or skills have been described as the resource factors affecting the perception of behavioural control by Ajzen (1991). In more detail, individuals get a sense of control over their lives when they believe they have more resources and this results in an increase in their behavioural intentions (Madden et al. 1992).

In the context of the DTPB, perceived self-efficacy is the extent to which an individual believes that he or she is capable of performing the specific behaviour (Ajzen, 2002). Hence, self efficacy which could be defined as the level of confidence that an individual has in the ability to perform a given task has a positive relationship with behaviour (Bandura, 1978; Matsumori et al., 2019). Self-efficacy influences both behavioral intentions and actual behaviors by shaping perceived behavioral control. Individuals with high self-efficacy are inclined to plan and effectively carry out activities. (Abdullahi et al., 2021;; Yusof et al., 2018).

#### **Government Incentives**

The government has a significant role of encouraging people's adoption of retirement saving plans. Through the analysis of these policies and measures, it was found out that the government has the ability to shape savings behaviour and consequently promote desired circular flow of income (Emmerson et al., 2006; Lawlor, 2015; Venti & Wise, 1992). Studies performed in the past are concreted by confirming the involvement of the government in the determination of the savings retirement habit in individuals (Lawlor, 2015; Muhamad Husin & Mohamed, 2021). According to Muhamad Husin & Mohamed (2021), government incentives were cited as the aspect of the external environment that affects the savings behaviour among employees in the Malaysian public sector. Therefore, it is hypothesized that the perceived importance of government incentives significantly affects the behavioural intention towards the I-Saraan.



#### **Theoretical Framework**

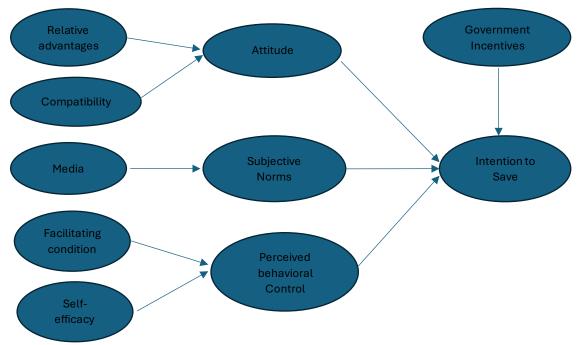


Figure 1: Theoretical Framework

# Study Implications and Limitations

## **Theoretical Implications**

The results of the study have made multiple significant contributions to today's knowledge. This study provides an unparalleled insight into factors that influence the intent of consumers to save for retirement in voluntary pension plan schemes, specifically, Malaysia's I-Saraan scheme.

By identifying those main determinants such as attitude, subjective norms, perceived behavioural control and incentives from the government, this research helps us to further understand factors that drives or hinders saving for retirement through such schemes. In addition, this study extends existing retirement savings literature by turning our attention to a voluntary retirement savings scheme, I-Saraan, which is unique in the Malaysian context. The study contributes further to provide insight for retirement savings behavior, in particular the self-employed and gig economy workers who may not have access to traditional employer-sponsored retirement plans. This study has rich contributions in a theoretical sense, and yet requires more investigative research to continue advancing the frameworks that have been proposed.

## **Practitioner's Implications**

Understanding the characteristics that drive participation in I-Saraan program is an important task for government to attract the intended population. In this study, a conceptual framework is presented, which can provide valuable insights for devising effective promotional approaches for the I-Saraan scheme.

Attitude, subjective norms, perceived behavior control, and government incentives have been found in this study to be the most important elements influencing consumer intentions of participating in I-Saraan. By developing marketing initiatives of different types tailored to their



needs for the I-Saraan program, governments can improve understanding these major variables in intention. For instance, the government should use educational efforts as well as financial literacy initiatives to stress long-term benefits from an I-Saraan investment and its usefulness in retirement planning.

#### **Limitations and Future Research Directions**

This study is primarily limited in scope, as it only reviews the previous studies, but the study helps for better understanding of individual intentions to participate I-Saraan retirement savings program. The proposed conceptual model gives a theoretical background for the understanding he individual intention towards the scheme. For future studies, we hope that researchers can empirically validate aforementioned constructs.

This study has revealed several important predictors of personal saving intentions; however, it is possible that some of the additional variables have been overlooked. Consequently, we encourage future researchers to investigate using other potential variables (such as financial literacy, perceived risk, tax incentives and/or behaviour biases) to gain an even better understanding of the drivers of individual retirement wealth.

Given the study's reliance on the specific sociopolitical context in Malaysia, cross-country studies would also be useful to assess the transferability of study findings and implications to other country contexts. This is because there are likely differences across countries with regard to culture, society and economy.

#### **Discussion and Conclusion**

The study presents a conceptual framework based on the Decomposed Theory of Planned Behaviour (DTPB) to better understand the factors influencing voluntary participation in Malaysia's I-Saraan retirement savings scheme. Four basic elements were derived from this study that motivated consumer decisions to contribute money toward an I-Saraan retirement fund: attitude, subjective norms, perceived behavior control and government incentives.

This study makes three key contributions to the literature:

- 1. The study expands on the DTPB by incorporating government incentives to better understand individual intentions to engage in I-Saraan's voluntary retirement savings program. This fills a gap in research on voluntary retirement savings.
- 2. This study examines factors affecting I-Saraan involvement, including attitudes, subjective norms, perceived behavioral control, and government incentives. The findings can help governments build effective policies.
- 3. This research contributes to the existing literature by expanding the scope of the proposed model by dissecting the Theory of Planned Behavior.

The findings provide valuable insights into the factors driving voluntary retirement savings behaviour, particularly for the I-Saraan scheme among Malaysians. While the model is conceptual and requires empirical validation, it represents an important step in better understanding the psychological and social factors that influence participation in government-sponsored retirement savings programs in Malaysia.

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### References

- Ab Rahim, F., Amin, H., Jamil, N., & Ishak, N. (2022). Understanding factors influencing voluntary contribution of 'I-saraan' among Malaysian: A conceptual model. *International Journal of Academic Research in Business and Social Sciences*, *12*(10). <a href="https://doi.org/10.6007/ijarbss/v12-i10/15380">https://doi.org/10.6007/ijarbss/v12-i10/15380</a>
- Ab Rahim, F., & Amin, H. (2011). Determinants of Islamic insurance acceptance: An empirical analysis. *International Journal of Business & Society*. 12(2), 37-54.
- Abdullahi, A., Othman, A. H., & Kassim, S. (2021). Financial inclusion enhancement through the adoption of Islamic microfinance in Nigeria. *International Journal of Ethics and Systems*, 37(3), 486-505. https://doi.org/10.1108/ijoes-02-2021-0040
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. *Action Control*, 11-39. <a href="https://doi.org/10.1007/978-3-642-69746-3\_2">https://doi.org/10.1007/978-3-642-69746-3\_2</a>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-t
- Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, *32*(4), 665-683. <a href="https://doi.org/10.1111/j.1559-1816.2002.tb00236.x">https://doi.org/10.1111/j.1559-1816.2002.tb00236.x</a>
- Alkhawaja, S. O., & Albaity, M. (2020). Retirement saving behavior: Evidence from UAE. *Journal of Islamic Marketing*, 13(2), 265-286. <a href="https://doi.org/10.1108/jima-03-2020-0072">https://doi.org/10.1108/jima-03-2020-0072</a>
- Amin, H. (2014). An empirical investigation on consumer acceptance of internet banking in an Islamic bank. *Labuan Bulletin of International Business and Finance (LBIBF)*, 5, 41-65. <a href="https://doi.org/10.51200/lbibf.v5i.1439">https://doi.org/10.51200/lbibf.v5i.1439</a>
- Aziz, S., & Afaq, Z. (2018). Adoption of Islamic banking in Pakistan an empirical investigation. *Cogent Business & Management*, *5*(1), 1548050. https://doi.org/10.1080/23311975.2018.1548050
- Badaj, F., & Radi, B. (2018). Empirical investigation of SMEs' perceptions towards PLS financing in Morocco. *International Journal of Islamic and Middle Eastern Finance and Management*, 11(2), 250-273. https://doi.org/10.1108/imefm-05-2017-0133
- Bateman, H., Dobrescu, L. I., Liu, J., Newell, B. R., & Thorp, S. (2023). Determinants of early-access to retirement saving: Lessons from the COVID-19 Pandemic. *The Journal of the Economics of Ageing*, 24, 100441. <a href="https://doi.org/10.1016/j.jeoa.2023.100441">https://doi.org/10.1016/j.jeoa.2023.100441</a>
- Beck, L., & Ajzen, I. (1991). Predicting dishonest actions using the theory of planned behavior. *Journal of Research in Personality*, 25(3), 285-301. https://doi.org/10.1016/0092-6566(91)90021-h
- Bhatti, T., & Md Husin, M. (2019). An investigation of the effect of customer beliefs on the intention to participate in family *Takaful* schemes. *Journal of Islamic Marketing*, 11(3), 709-727. https://doi.org/10.1108/jima-04-2018-0066
- Chelliah, P., Shanmugam, A., & Suang Sin, T. (2022). A study on the factors impacting retirement planning among low-income workers in the northern region, Malaysia. *Journal of Entrepreneurship and Business*, 10(2), 69-84. <a href="https://doi.org/10.17687/jeb.v10i2.928">https://doi.org/10.17687/jeb.v10i2.928</a>
- Dewan Bahasa Pustaka. (2017). *Maklumat Kata*. Pusat Rujukan Persuratan Melayu. https://prpm.dbp.gov.my/cari1?keyword=saraan
- Blundell, R, Emmerson, & C., Wakefield, M. (2006). The importance of incentives in influencing private retirement saving: Known knowns and known unknowns. *IFS Working Paper Series W06/09*. Institute for Fiscal Studies. <a href="https://doi.org/10.1920/wp.ifs.2006.0609">https://doi.org/10.1920/wp.ifs.2006.0609</a>



- EPF. (2023, November 7). *Retirement Savings for Self-employed Members*. https://www.kwsp.gov.my/member/contribution/i-saraan
- Malay Mail. EPF: Incentive limit for I-Saraan programme raised to RM500 per year from January 1. (2024, January 24).

  <a href="https://www.malaymail.com/news/malaysia/2024/01/24/epf-incentive-limit-for-i-saraan-programme-raised-to-rm500-per-year-from-january-1/114259">https://www.malaymail.com/news/malaysia/2024/01/24/epf-incentive-limit-for-i-saraan-programme-raised-to-rm500-per-year-from-january-1/114259</a>
- Ganesan, Y., Allah Pitchay, A. B., & Mohd Nasser, M. A. (2020). Does intention influence the financial literacy of depositors of Islamic banking? A case of Malaysia. *International Journal of Social Economics*, 47(5), 675-690. <a href="https://doi.org/10.1108/ijse-01-2019-0011">https://doi.org/10.1108/ijse-01-2019-0011</a>
- Gangwal, N., & Bansal, V. (2016). Application of decomposed theory of planned behavior for M-commerce adoption in India. *Proceedings of the 18th International Conference on Enterprise Information Systems*, 2, 357- 367. https://doi.org/10.5220/0005627503570367
- Haron, H., Nadiah Salihah Mat Razali, N., & Mohamad, F. (2019). Factors influencing financial planning retirement amongst employees in the private sector in East Coast Malaysia: Literature review and research agenda. *KnE Social Sciences*, 1115-1129. <a href="https://doi.org/10.18502/kss.v3i22.5115">ttps://doi.org/10.18502/kss.v3i22.5115</a>
- Hwa, E. T., & Perumal, S. (2018). Application of decomposed theory of planned behavior on retail patronage amongst women. *International Journal of Academic Research in Business and Social Sciences*, 8(11), 745-757. <a href="https://doi.org/10.6007/ijarbss/v8-i11/4951">https://doi.org/10.6007/ijarbss/v8-i11/4951</a>
- Ibrahim, M. A., Fisol, W. N., & Haji-Othman, Y. (2017). Customer intention on Islamic home financing products: An application of theory of planned behavior (TPB). *Mediterranean Journal of Social Sciences*, 8(2), 77-86. <a href="https://doi.org/10.5901/mjss.2017.v8n2p77">https://doi.org/10.5901/mjss.2017.v8n2p77</a>
- Jamaludin, N., & Gerrans, P. (2015). Retirement savings investment decisions: Evidence from Malaysia. *Journal of the Asia Pacific Economy*, 20(4), 644-657. https://doi.org/10.1080/13547860.2015.1045324
- Kimiyagahlam, F., Safari, M., & Mansori, S. (2019). Influential behavioral factors on retirement planning behavior: The case of Malaysia. *Journal of Financial Counseling and Planning*, 30(2), 244-261. <a href="https://doi.org/10.1891/1052-3073.30.2.244">https://doi.org/10.1891/1052-3073.30.2.244</a>
- Krijnen, J. M., Zeelenberg, M., Breugelmans, S. M., & Van Putten, M. (2020). Inaction inertia in retirement saving. *Journal of Behavioral Decision Making*, *33*(1), 52-62. https://doi.org/10.1002/bdm.2145
- La Barbera, F., & Ajzen, I. (2020). Understanding support for European integration across generations: A study guided by the theory of planned behavior. *Europe's Journal of Psychology*, 16(3), 437-457. <a href="https://doi.org/10.5964/ejop.v16i3.1844">https://doi.org/10.5964/ejop.v16i3.1844</a>
- Lawlor, A. (2015). Getting citizens to save: Media influence on incentive-based policies. *Journal of Social Policy*, 45(2), 201-222. <a href="https://doi.org/10.1017/s0047279415000641">https://doi.org/10.1017/s0047279415000641</a>
- Lim, S. M., Tenk, T., Teoh, M., & Lee, T. H. (2021). Employees' retirement saving behaviour during the COVID-19 pandemic in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 11(3). <a href="https://doi.org/10.6007/ijarbss/v11-i3/8855">https://doi.org/10.6007/ijarbss/v11-i3/8855</a>
- Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin*, 18(1), 3-9. https://doi.org/10.1177/0146167292181001



- Matsumori, K., Iijima, K., Koike, Y., & Matsumoto, K. (2019). A decision-theoretic model of behavior change. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.01042
- Maulana, H., Razak, D. A., & Adeyemi, A. A. (2018). Factors influencing behaviour to participate in Islamic microfinance. *International Journal of Islamic and Middle Eastern Finance and Management*, 11(1), 109-130. <a href="https://doi.org/10.1108/imefm-05-2017-0134">https://doi.org/10.1108/imefm-05-2017-0134</a>
- Md Husin, M., & Ab Rahman, A. (2016). Predicting intention to participate in family takaful scheme using decomposed theory of planned behaviour. *International Journal of Social Economics*, 43(12), 1351-1366. https://doi.org/10.1108/ijse-03-2015-0074
- Muhamad Husin, N., & Mohamed, M. (2021). *The Effects of Savings Culture and Government Policy in Instilling the Habit of Savings*. Advances in Social Science, Education and Humanities Research, 564.
- https://doi.org/10.2991/assehr.k.210629.058
- Nyasulu, C., & Dominic Chawinga, W. (2019). Using the decomposed theory of planned behaviour to understand university students' adoption of WhatsApp in learning. *E-Learning and Digital Media*, *16*(5), 413-429. https://doi.org/10.1177/2042753019835906
- Puah, S., Bin Mohmad Khalid, M. I., Looi, C. K., & Khor, E. T. (2021). Investigating working adults' intentions to participate in microlearning using the decomposed theory of planned behaviour. *British Journal of Educational Technology*, *53*(2), 367-390. https://doi.org/10.1111/bjet.13170
- Rogers, E. M. (1983). Diffusion of Innovations, 3rd E rev. Free Press London.
- Schaper, M. (2020). *Malaysia's Self-Employment Explosion: Why So Many Own-Account Workers?* (20), Yusof Ishak Institute.
- Shah, C. S., & Paul, A. (2020). Information seeking behaviour in online shopping. *Reimagining Diffusion and Adoption of Information Technology and Systems: A Continuing Conversation*, 439-450. <a href="https://doi.org/10.1007/978-3-030-64849-7\_39">https://doi.org/10.1007/978-3-030-64849-7\_39</a>
- Shaikh, I. M., Shaikh, F. M., & Noordin, K. (2021). Predicting customers' acceptance towards Islamic home financing using DTPB theory. *Journal of Islamic Marketing*, 13(11), 2331-2346. <a href="https://doi.org/10.1108/jima-12-2020-0372">https://doi.org/10.1108/jima-12-2020-0372</a>
- Shariff, N. S., & Ishak, W. W. (2021). Statistical analyses on factors affecting retirement savings decision in Malaysia. *Mathematics and Statistics*, 9(3), 243-248. https://doi.org/10.13189/ms.2021.090305
- Shih, Y., & Fang, K. (2004). The use of a decomposed theory of planned behavior to study internet banking in Taiwan. *Internet Research*, *14*(3), 213-223. https://doi.org/10.1108/10662240410542643
- The Star. (2020, September 12). *Gig Workers Urged to Join EPF's I-Saraan*. <a href="https://www.thestar.com.my/news/nation/2020/09/12/gig-workers-urged-to-join-epfs-i-saraan">https://www.thestar.com.my/news/nation/2020/09/12/gig-workers-urged-to-join-epfs-i-saraan</a>
- Tao, C., & Fan, C. (2017). A modified decomposed theory of planned behaviour model to analyze user intention towards distance-based electronic toll collection services. *PROMET - Traffic & Transportation*, 29(1), 85-97. <a href="https://doi.org/10.7307/ptt.v29i1.2076">https://doi.org/10.7307/ptt.v29i1.2076</a>
- Tao, C., & Fan, C. (2017). A modified decomposed theory of planned behaviour model to analyze user intention towards distance-based electronic toll collection services. PROMET – Traffic & Transportation, 29(1), 85-97. <a href="https://doi.org/10.7307/ptt.v29i1.2076">https://doi.org/10.7307/ptt.v29i1.2076</a>



- Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144-176. https://doi.org/10.1287/isre.6.2.144
- Taylor, S., & Todd, P. A. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144-176. https://doi.org/10.1287/isre.6.2.144
- Venti, S. F., & Wise, D. A. (1992). Government policy and personal retirement saving. *Tax Policy and the Economy*, 6, 1-41. https://doi.org/10.1086/tpe.6.20061808
- World Bank. (2024, February 2). *Self-employed, total (% of total employment) (modeled ILO estimate) Malaysia*. World Bank Open Data. https://data.worldbank.org/indicator/SL.EMP.SELF.ZS?locations=MY