Predicting the determinants of pandemic giving among Muslims in Malaysia using the extended TPB Model via logistic regression

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ABSTRACT

This study investigates the influence of seven motivational factors on pandemic giving. As COVID-19 struck, many philanthropic donations were initiated in the form of fundraising, and surprisingly, the collections were enormous, even within a limited timeframe. However, such situation is limitedly researched, albeit it may help to improve the approach and strategies of charity organisations in increasing fund collection. Thus, adopting the Theory of Planned Behaviour (TPB), this study analyses three core components of TPB; attitude, subjective norms and perceived behavioural control, together with another four variables hypothesized to influence giving behaviour; altruism, trust, religiosity and financial wellness. A survey was administered via convenient purposive sampling to test the hypotheses using logistic regression. Findings indicate that cash was the highest option of giving followed by food, manpower, equipment, expertise, and others. Findings also revealed that intention, number of dependents and monthly saving as the best predictor in influencing pandemic giving behaviour among Muslims especially for cash, equipment and expertise giving. Hence, this study suggests charity marketers to focus on strategies that will increase the intention and appropriately target the groups who are willing to contribute.

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1.   Introduction

The COVID-19 pandemic, which lasted for approximately two years, from 2019 to 2021, impacted people's lives in many ways. In the case of Malaysia, the unstable situation of movement control order (MCO), enhanced movement control order (EMCO), conditional movement control order (CMCO), and recovery movement control order (RMCO), which need to be enforced had left the public in anxiety, disturbed, unemployed, and alarmingly distressed. Based on the records from the Department of Statistics Malaysia (2021), the unemployment rate in Malaysia increased to 4.6% in 2021 from 4.5% in 2020. Previously, in 2019, the rate was 4.55%. Many people were distressed by their own situations and struggled to cope with the pandemic challenges. Nevertheless, mutual helping has apparently been shown through various forms and channels of donation initiated by various parties. Donations are not only limited to dollars and cents, but the donors also even contributed ready-to-eat food for the volunteers or sewed the Personal Protective Equipment (PPE) for medical frontliners. Some even packed dried food to be sent to people's homes when they needed to be quarantined to contain the virus.

Many studies have been conducted to investigate the elements that influence or motivate charitable behaviour. Indeed, generosity has played a part in poverty alleviation through meeting the requirements of those in need, helping those who are in debt, and assisting defenceless travellers to complete their journey (Abdullahi, 2019; Jamal et al., 2019). Despite being primarily driven by religiosity and a desire to help others (Chetioui & Lebdaoui, 2022; Doces et al., 2022), research on the factors of philanthropic behaviour during pandemic is scant. However, during the COVID-19 epidemic, several charities were founded, gathering a large number of monetary funds and donations in a short amount of time, which is commendable.

During the COVID-19 epidemic, USD 10.4 billion was collected across the globe within two months of the pandemic (March to May 2020), indicating increased generosity (Hale, 2020). Various donations have been initiated by different organisations in order to assist individuals afflicted by the COVID-19 outbreak. In Malaysia, based on random observation on the websites, 14 different agencies were found to be pooling donations during the early stages of the quarantine order between March and June 2020. Interestingly, these COVID-19 funds were new initiatives that only existed during this pandemic outbreak. With a total collection of more than MYR 200 billion, there is a prevalent trend of generosity in the nation (Ishak et al., 2022). The generosity and willingness to help those affected during the pandemic is a positive attitude that should be managed systematically so that the donors can be strategically approached during a contingency.

The trend of increased generosity is supported in the reports of the World Giving Index conducted by the Charities Aid Foundation (CAF) since 2010, which recorded a slight increase in giving among Malaysians from 2019 to 2021 in terms of the overall score, as shown in Table 1.

Table 1: Summary of CAF World Giving Index 2019 and 2021

YEAR	Overall		Helping A Stranger		Donating Money		Volunteering Time	
	Rank	Score	Rank	Score	Rank	Score	Rank	Score
2021	29	40%	68	55%	21	45%	43	19%
2019	30	39%	73	44%	24	45%	29	28%

Source: Charities Aid Foundation (2019, 2021)

Philanthropic giving to others with the intention of improving their welfare (Otto & Bolle, 2011), is a part of the altruism notion (Teah et al., 2014). Religious beliefs significantly encourage giving (Ranganathan & Henley, 2008). Such teachings are in line with the various schools of religious thought that provide utility for social life regardless of physical, financial, or voluntary work (Lim & Putnam, 2010). Islam promotes charitable giving through a variety of Islamic almsgiving practises, including infaq (charity giving) and waqf (Islamic endowment). Because it benefits individuals in need while simultaneously

advancing growth and the general welfare, voluntary giving is strongly advised (Kasri, 2013). Religion does, in fact, have a favourable influence on the collection of zakat, infaq, alms, and digital waqf in Indonesia (Fadilah et al., 2020). According to Wang and Li (2022), being religious encourages both Muslim and non-Muslim donors to give more money.

Significantly in this regard, the majority of research on charitable giving in Malaysia focuses on particular types of religious giving, such as zakat and waqf (Muda et al. 2006; Rizal & Amin, 2017). According to Muda et al. (2006), self-satisfaction affects zakat participation in addition to religious considerations. Awang et al.'s (2017) study found that altruism considerably and strongly predicts the performance of charitable deeds. The results are in line with other studies by Kasri and Indriani (2022), Kasri and Ramli (2019), and Rizal and Amin (2017), which came to the same conclusion that people with these natural qualities are more inclined to donate. In a study by Arsyianti and Kassim (2021), they discovered that wealth is not necessarily a factor in charitable giving. Additionally, trust has been linked to giving, especially philanthropic giving (Mo & Zhu, 2022). In fact, trust becomes a vital tool for philanthropic foundations to build a responsible and effective image in order to acquire donors' trust, thereby attracting more donations (Nie et al., 2016; Pedro & Andraz, 2021). Moreover, technological advances related to online crowdfunding and Fintech demand the trustworthiness of fundraisers that are able to strengthen philanthropic behavior (Kartika et al., 2023).

Recent studies have analysed antecedents of philanthropic behavior during COVID-19. Chetioui et al. (2023) discovered that past behavior, subjective norms, attitude toward giving donations, and intention to donate are the major determinants of philanthropy during COVID-19, besides the mediating effect of attitude. The study also reveals the moderating effect of Islamic religiosity, indicating that individuals who feel themselves highly religious are more likely to donate during the pandemic. Grounded in TPB, the study criticizes the theory as purely rational, neglecting two significant dimensions: affective and cognitive factors that are influential on human behaviour. On another note, the study by Zou et al. (2023) reported a negative relationship between the local spread of COVID-19 and corporate donations. Indeed, the global pandemic also challenges the CSR initiatives of companies and corporations to meet public expectations of them in their effort to sustain business (Carroll, 2021).

Recognising that the decision to donate or not to donate for philanthropic purposes can be impacted by a variety of variables, more research into the determinants of philanthropic behaviour is required. As a result, based on Ajzen's (1991) Theory of Planned Behaviour (TPB), this study explores philanthropic behaviour during a pandemic among employed and earning Malaysians, utilising three fundamental components of the theory: attitude, subjective norm, and perceived behavioural control. Nonetheless, because TPB has been criticised for excluding other important components (Chetioui & Lebdaoui 2022), this study expands the model to incorporate altruism, financial stability, religion, and trust.

Therefore, this research is expected to inform on the most influential factors significantly associated with giving that can help agencies strategize methods to approach donors and consequently accumulate a massive amount of donations within a short period of time. This will benefit the casualties in any urgent situation amid crises of health, environmental, social, or geopolitical unrest, as people are becoming more humane and generous to help. Moreover, empirical research on factors influencing donors in a pandemic setting has been limited (Chetioui & Lebdaoui 2022); thus, this study is essential to contribute to the dearth of such research.

2.   Literature review

This study adopts the TPB formulated by Ajzen (1991), which explains the notion that a particular behaviour is related to the person's level of intention to predict the chances of performing the behaviour. The core components of this theory are attitude, subjective norm, and perceived behavioural control. By

basing on the literature, the framework of this theory is extended by including other variables which are hypothesized to influence charitable giving behaviour, such as altruism, trust, religiosity, and financial wellness, as suggested in a study by Awang et al. (2015) which found that attitude and perceived behavioural control as the most influential factors of voluntary charitable giving among Muslims in Malaysia. Using the same conceptual framework, this study attempts to prove which variables influence pandemic giving among Muslims in Malaysia.

The use of the extended TPB was found to provide superior explanatory and predictive power, as proven in a study by Veludo-de-Oliveira et al. (2017) that compares the findings from three models (TRA, TPB, and the revised TPB for predicting individuals' intention to donate and their future monetary-donation behaviour. Another study combined the theory of planned behavior and norm activation theory with social presence theory to conceptualize and develop an integration framework to measure donation intention (Chen et al., 2019). As a result, it was found that time donation is significantly affected by social presence, trust, and perceived behavioural control while for money donations, all variables were found to be significant except for the subjective norm. In the Malaysian context, TPB's relevance to predicting charitable giving during the pandemic was also evident in a study by Bin-Nashwan et al. (2020) that focused on the attitude component. It was proven in the study that all constructs included in the model (i.e., charitable projects geared for those affected by the pandemic, Internet technology (IT) features, and religiosity level) were statistically significant, except for trust in charities.

To further explore the moderating variables' effect on attitudes toward pandemic giving, Sarea & Bin-Nashwan (2021) demonstrated a significant moderating role of internal values of religious beliefs on the relationship between external aspects and attitudes toward giving money. A more recent study using the TPB to predict Malaysian Muslims' donation intention by Daud et al. (2022) yielded the necessary evidence that religiosity and attitude are significant factors that directly predict monetary donation intention, while attitude acted as a mediator in the relationship between religiosity and subjective norms. Subjective norms refer to an individual's perception of a particular behavior, influenced by the judgment of others in the nearby circle, such as parents, spouses, friends, or teachers. In a study by Nugroho et al. (2018), subjective norms were tested for the influence of family, friends, and the social community. Subjective norms seemed to become more relevant with the recent trend of social media reference and significantly influenced behavioural intentions in the study of social interactions and subjective norms of social media posting (Ibrahim, 2020).

2.1 Altruism

In order to appeal to the donor, it is vital to cultivate a relationship between the organisation and the donor, including an understanding of the donor's preferences (Waters, 2009). According to Polonsky et al. (2002), several intrinsic factors influence the donor's charitable giving, including pity, social justice, empathy, sympathy, guilt, fear, and the need for self-esteem. While there are differing opinions on whether people are more likely to act out of altruistic or egotistical motives, the researchers claim that both are powerful motivators. Typically, those who have altruism as their motivation are reluctant to be recognized (Winterich et al., 2013). Interestingly, the same study also noted that those high in moral identity internalization are uninfluenced by recognition, regardless of their symbolization.

Altruism can be defined as a 'trait that measures the degree of an individual's inclination to act in the interests of others without the expectation of reward or positive reinforcement in return,' and it has been commonly related to the sense of emotions, empathy, and humanitarianism (Kumar & Chakrabarti, 2023). They further divided altruism into two dimensions based on the type of intrinsic motivation for a donation. First, pure altruism relates to the care of the public good or societal issues. This may include a donation to create awareness about climate change or research on cancer. The second type is impure altruism, which is the experience of the joy of giving (independence of social concerns) (Kumar & Chakrabarti, 2023). Impure

altruism has also been described as the extra "warm glow" effect of donating (Wunderink, 2002). Both types of altruism have been recognized as motivating factors for charitable giving.

In Islam, altruism is strongly encouraged, and communal engagement is promoted as a form of worship. Previous studies on Muslim donors showed that for Muslims, Islamic beliefs, values, and altruistic attitudes could motivate them to show a genuine concern for others irrespective of their religious background (Jamal et al., 2019). This may be attributed to the practice of Prophet Muhammad, who always encouraged Muslims to develop a positive attitude and care toward the well-being of others through his words and actions.

2.2   Trust

Trust is essential and frequently repeated in the literature and ideas of voluntary action (Hager & Hedberg, 2016). When examining why people find, join, solicit services from, volunteer for, or make monetary contributions to non-profit organisations, trust is unavoidably mentioned. Many non-profit organisations rely on their capacity to stimulate individual donations for financial support (Fischer et al., 2011; Hager & Hedberg, 2016), and the decision to give is a central topic in non-profit and philanthropic studies (Bekkers, 2003; Bekkers & Wiepking, 2011; Hager & Hedberg, 2016). This is in line and in accordance with this study since the primary purpose is to analyse the determinants of philanthropic behaviour, and it is imperative that trust be included. The existing studies have shown the significance of trust in influencing an individual's attitude towards charitable or non-profit organisations and their philanthropic behaviour (Alhidari et al., 2018; Amirul Faiz Osman et al., 2016; Chen et al., 2019; Ghazali et al., 2016; Hager & Hedberg, 2016; Hassan et al., 2018; Li et al., 2018; Purnamasari et al., 2021; Sura et al., 2017; Usman et al., 2022). For example, it was found that specifically, Gen-Y in Malaysia is significantly affected by trust in order for them to donate to a charitable organisation.

Hager & Hedberg (2016) further strengthen the impact of trust by demonstrating an empirical analysis that shows that institutional trust does play a vital role in influencing charitable giving behaviour. As well as in Saudi Arabia, individual trust in a charitable organisation significantly affects both the intention to donate and future monetary donation-giving behaviour (Alhidari et al., 2018). On top of that, when it involves zakat and waqf institutions, building trust is crucial to encouraging people to donate. This is because people who donate their money would want to know who manages it, where it goes, and the distributions for each year (Amirul Faiz Osman et al., 2016; Ghazali et al., 2016; Purnamasari et al., 2021). Finally, with the rapid advancement of financial technology, donations can now be made online through multiple platforms, such as online crowdfunding, crowdfunding projects, social network sites, Fintech, and its equivalent. It was found that trust has a significant impact on influencing donors' decisions to donate their money to a charitable or non-profit organisation voluntarily (Chen et al., 2019; Li et al., 2018; Sura et al., 2017; Usman et al., 2022).

2.3   Religiosity

Religiosity is a person's belief in God and how closely they follow God's path. According to Johnson et al. (2000), individuals with solid religiosity keep religiously sanctioned behavioural habits. For some, charity and religiosity "go hand in hand" (Rizal & Amin, 2017; Skarmeas & Shabbir, 2011). Each religion has its own unique giving history and emphasizes selfless compassion (Emmons & Paloutzian, 2003). Faith-based giving relates to sacrifice and selflessness, and the thought of earning a reward in the hereafter further entrenches the notion of incentive towards religious charity behaviour, which is crucial in influencing Muslim behaviour (Rizal & Amin, 2017; Skarmeas & Shabbir, 2011). This is expected, especially for Muslims, because their daily lives are influenced by *Shariah* Laws, whose primary purpose is to achieve the Maqasid Shariah (Objective of Shariah), which is to safeguard the public interest, including philanthropic activities such as zakat, infaq, waqf, sadaqah, and others. Previous research has shown that

religion positively affects charitable behaviour (Diop et al., 2018; Mohd Dali et al., 2019; Qurrata et al., 2020; Rizal & Amin, 2017; Awang et al., 2017; Fadillah et al., 2020).

For monetary waqf, the perception of Ihsan and the concept of equality strengthen Muslims' religiousness, which increases waqf's generosity. Similarly, religion positively impacts the collection of zakat, infaq, alms, and digital waqf in Indonesia (Fadillah et al., 2020). Besides, religiosity is an increasingly relevant subject of research in consumer understanding. There is a varied impact on individual beliefs due to various religious affiliations that shape their consumption patterns. Islam is a religion that regulates Muslims under shari'ah rules and is based on the Quran and Sunnah, in all aspects of life, including politics, economy, and spirit. However, the level of religiosity differs, affecting their view (Mohd Dali et al., 2019). It was found that when it comes to what causes pro-social behaviours (like giving and volunteering), behavioural variables have a much more significant effect than attitude variables. Prayer at Fajr on time and participating in activities in the neighbourhood had a more considerable effect. For example, Qataris' decisions to donate to charitable organisations and volunteer rather than being religious or possessing a trustworthy viewpoint (Diop et al., 2018). This is also supported by other studies in a different context, such as Malaysia, which show that giving to beggars is substantial and significant for internal factors like altruism (related to religiosity, especially for Muslims) and perceived behavioural control (Awang et al., 2017). Even more surprising is what should be going on in China, where most people are known to believe in communism. However, the results of linear regression show that respondents with religious beliefs can increase the amount of money Chinese people give to charity (Lin, 2021).

2.4 Financial wellness

As put forward by Alam Rasel and Mehedi Hassan (2020), understanding potential donors is essential for non-profit organisations because of the reliance placed on them to help accumulate funds to support social causes. There are various extrinsic variables that influence donor behaviour. Among the factors are age, gender, and geo-demographics, as well as a person's social class and income (Polonsky et al., 2002). According to De Oliveira et al. (2011), it is common for charitable organisations to target wealthy donors to help the poor exclusively. However, the study also indicates that the poor also tend to give donations in a lesser amount than the wealthy. Individuals helped by the charity were also more prone to make donations regardless of their wealth status. This is similar to the findings made by Bennett (2012), whereby there is a significant correlation between age and charitable giving, but other factors such as gender, education, and income are not that significant.

In Islam, a person's financial stability can be perceived from their obligation to pay zakat on their income or property because zakat is not imposed on the poor. Zakat on income may be defined as 'zakat on any form of income or return, including salary and dividends. This is consistent with the Islamic spirit of nurturing brotherhood and compassion among Muslims, as the system forces the wealthy to assist the needy (Nor Paizin, 2021). The amount of zakat imposed is 2.5 percent of the income. Apart from zakat, financial stability for Muslims may also be perceived through their purchase of takaful. Although it is not obligatory in Islam, some Muslims choose takaful products as part of their financial and life security. Awareness of the need for takaful and the motivation to choose takaful products may be influenced by financial literacy, saving motives, and an individual's religiosity (Zakaria et al., 2016).

In Malaysia, according to the Malaysian Inland Revenue Board, individuals who earn more than RM34,000 per annum after EPF deductions must register their tax files. Thus, it can be presumed that those who must pay taxes are those who generate higher incomes. However, it must be cautioned that those with high incomes may not necessarily be financially stable as other variables exist, such as eligibility for tax relief, personal commitments, health conditions, place of residence, and the number of dependents. Concerning taxes, studies have indicated a higher tendency to donate when the donors see the tax benefit associated with the donation (Alam Rasel & Mehedi Hassan, 2020).

3.   Methodology

3.1   Measures

To answer the research questions, a set of questionnaires was constructed and administered to invite responses from the public. The questionnaire consists of 37 items to test respondents' seven motivational factors towards giving. The questionnaire is divided into four parts: Part A (Demography and Socio-demography), Part B (Patterns of Giving), Part C (Intention of Giving) and Part D (Factors of Giving). The description of Part C (Intention of Giving) and Part D (Factors of Giving) is explained in Table 2 below.

Table 2: Measures of intention and giving factors

Category	Label	Description	Bibliography
Intention	C1	I donate for COVID19 Fund	Ajzen (1991);
	C2	I donate for COVID19 Fund consistently	Sapingi et al. (2011);
	C3	I donate for COVID19 Fund when I receive explanation on the purpose of the fund	Kashif & De Run (2015); Awang (2017)
	C4	I donate for COVID 19 when there is evidence of the need	
	C5	I plan to increase my donation for COVID 19 fund	
Attitude	DA1	I love to donate	
	DA2	I feel donating is a noble act	
	DA3	I pity those who ask for help	
	DA4	I feel asking for donations by individuals or institutions is appropriate	
	DA5	I think donating can help those in need	
Subjective Norm	DB1	I donate due to the influence of my family	
	DB2	I donate because my friends donate	
	DB3	I donate because people around me donate	
	DB4	I donate to create a good self-image to the community	
	DB5	I donate to create a good self-image to those who receive my donation	
Perceived Behavioural Control	DC1	I donate to anybody who is in need	
	DC2	I allocate a part of my income for charitable giving consistently	
	DC3	I still donate although it may reduce my financial capability	
Altruism	DD1	I do not hesitate to give donation to the needy	Rushton & Fekken (1981);
	DD2	I believe that my donation can help giving a better life to others	Nagel (1978); Andreoni
	DD3	Helping others makes me happy	(1990).
	DD4	I donate without expecting any returns	
	DD5	I feel sympathy and empathy with other people's misery	
Financial Wellness	DE1	My household income is sufficient	Joo, S. (2008);
	DE2	I plan and manage my daily expenses	Garman et al., (1999);
	DE3	My income is sufficient to cover the debt	Delafrooz & Paim (2011); Fazli
	DE4	I spend according to priority	et al. (2012).
	DE5	I have consistent savings	
	DE6	I have investment assets	
	DE7	I subscribe to life/takaful insurance	
	DE8	I pay income tax	
Religiosity	DF1	I fulfil my religious obligations	Hardy, S. A., & Carlo, G.
	DF2	I believe that wealth belongs to the God and human does not possess absolute ownership	(2005); Worthington et al. (2012);
	DF3	I believe that by donating, I have justified the rights of others upon my wealth	Rohani & Badrul (2011); Mukhtar & Butt (2012); Ahmad
	DF4	I believe that donating can purify one's wealth	(2008).
	DF5	I believe that people who donate will be rewarded in religion	
	DF6	I always ensure that my income resources are clean (for example: free from bribery)	

Category	Label	Description	Bibliography
Trust	DG1	I trust that those who ask for donation are really in need	Bennett & Barkensjo (2005);
	DG2	I trust that those who receive donation will spend it to fulfil their basic needs.	Oladimeji et al. (2013); Banks & Raciti (2014);
	DG3	I trust that those who receive donation will utilize it wisely	Sargeant et al. (2006).
	DG4	I trust that those who receive donation will not ask for donation if they can self-sustain themselves	
	DG5	I can differentiate between those who are genuinely need donations and those who act fraudulently.	

3.2 Data collection

This study's unit of analysis (sample) comprises Muslim Malaysian employed adults who are income earners and donated during the pandemic. The data collected is based on the nonprobability convenience sampling method using online social media platforms and applications. A total of 163 complete responses were obtained and analyzed via SPSS version 22.0, using logistic regression to determine the best predictor of giving behavior. Like other regression analyses, logistic regression is a predictive analysis that explains the relationship between one dependent binary variable and multiple independent variables. In this study, logistic regression is used to predict the behaviour to give or not to give by analyzing the relationship with a set of independent variables; attitude, subjective norm, perceived behavioural control, altruism, financial wellness, religiosity, and trust.

4.   Data analysis

4.1 Demographic profile

Based on the following Table 3, it was found that of 163 respondents, most of the respondents were female (75%), at the age more than 36 years old (72%), had between one and six dependents (71%), graduated with a minimum of a bachelor's degree (86%), worked as government servants (55%) and earned more than RM5001 per month (49%). Regarding household income, a balanced distribution was gathered from the data, with 33% of the respondents from the B40 group, 31% from the M40 group, and 36% from the T20 group. Some information on financial management was collected from the respondents, whereby the majority of the respondents had managed to save less than RM600 per month (61%). They were also found to be quite generous, with 55% of the respondents contributing more than RM500 annually for donations and the largest group contributing more than RM701 per year by 34%. Lastly, almost 40% of the respondents were involved in donations for tax-benefit purposes.

Table 3: Demographic profile of the respondents

No	Variable	Category	F	%
1	Gender	Male	38	23.3
		Female	125	76.7
		Total	**163**	**100**
2	Age	18-25	22	13.5
		26-35	24	14.7
		36-49	72	44.2
		More than 50	45	27.6
		Total	**163**	**100**
3	Number of dependents	None	39	23.9
		1-3	64	39.3
		4-6	53	32.5
		7 and above	7	4.3
		Total	**163**	**100**

No	Variable	Category	F	%
4	Highest academic qualification	SPM/STPM	8	4.9
		Diploma	15	9.2
		Bachelor	80	49.1
		Master/PhD	60	36.8
		Total	**163**	**100**
5	Occupation	Self Employed	23	14.1
		Government Sector	90	55.2
		Private Sector	30	18.4
		Retiree	20	12.3
		Total	**163**	**100**
6	Monthly income	Less than 1000	12	7.4
		1001-2000	17	10.4
		2001-3000	23	14.1
		3001-4000	12	7.4
		4001-5000	20	12.3
		5001-6000	22	13.5
		6001-7000	21	12.9
		More than 7001	36	22.1
		Total	**163**	**100**
7	Monthly household income	Less than 2000	18	11.0
		2001-4000	21	12.9
		4001-6000	15	9.2
		6001-8000	28	17.2
		8001-10000	19	11.7
		10001-12000	3	1.8
		12001-14000	34	20.9
		More than 14001	25	15.3
		Total	**163**	**100**
8	Monthly saving	RM 1-200	30	18.4
		RM 201-400	36	22.1
		RM 401-600	33	20.2
		RM 601-800	13	8.0
		RM 801-1000	16	9.8
		RM1001-1200	4	2.5
		RM 1201-1400	12	7.4
		More than RM1401	19	11.7
		Total	**163**	**100**
9	Estimated annual donation	Less Than 100	18	11.0
		101-200	25	15.3
		201-300	17	10.4
		301-400	13	8.0
		401-500	19	11.7
		501-600	11	6.7
		601-700	4	2.5
		More Than 701	56	34.4
		Total	**163**	**100**
10	Tax	Yes	65	39.9
		No	47	28.8
		Not Sure	51	31.3
		Total	**163**	**100**

4.2   Forms of giving

The survey presented respondents with various options for giving, including cash, food, manpower, equipment, expertise, and others. The results indicate that cash was the most popular form of giving, with 87% of respondents choosing this option. Food donations were the second most popular, with 58% of respondents choosing this option. Manpower was volunteered by 26% of respondents, while 12% contributed equipment. Expertise assistance, such as counseling and medical services for those affected or

traumatized by COVID-19, was given by 11% of respondents. The descriptive statistics of the forms of giving are described in Table 4 below.

Table 4: Form of giving among respondents

No	Category	Responses	Frequency	Percent (%)
1	Cash	Yes	142	87.1
		No	21	12.9
		Total	**163**	**100**
2	Food	Yes	95	58
		No	68	42
		Total	**163**	**100**
3	Manpower	Yes	42	25.8
		No	121	74.2
		Total	**163**	**100**
4	Equipment	Yes	20	12.3
		No	143	87.7
		Total	**163**	**100**
5	Expertise	Yes	18	11.0
		No	145	89.0
		Total	**163**	**100**
6	Others	Yes	2	1.2
		No	161	98.8
		Total	**163**	**100**

4.3   Results of logistic regression

To analyze which variables significantly influence the act of giving according to the types of giving, logistic regression was conducted. Logistic regression, also called logit analysis, is a statistical technique that combines elements of multiple regression and multiple discriminant analysis, but with distinct types of variables used in the analysis. Like multiple regression, logistic regression predicts one or more independent variables based on a single dependent variable, with the independent variables ranging from continuous to discrete, dichotomous, or mixed. Similarly, like discriminant analysis, logistic regression requires a discrete or non-metric dependent variable (Hair et al., 2009). The equation of the specified model is written as

$$L_i = I\eta \left(\frac{P_i}{} \right) = + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots B_{18} X_{18} \qquad (1)$$

Where L_i represents the log-odds of an event occurring. The log-odds is the natural logarithm of the odds of the event occurring, where odds are defined as the probability of the event happening divided by the probability of the event not happening. While $I\eta$ is an index or a function related to the linear combination of predictor variables ($X1, X2, ..., X18$) and their corresponding coefficients ($\beta1, \beta2, ..., \beta18$). The P_i represents the probability of the event occurring, given the predictor variables whereas ($1 - P_i$) represents the probability of the event not occurring, given the predictor variables. ($\beta1, \beta2, ..., \beta18$) are the coefficients that determine the impact of each predictor variable on the log-odds and ($X1, X2, ..., X18$) are predictor variables or features that predict the giving.

The analysis commences with the classification table with the cut-off value of 0.5 used to predict the correct percentage of actual occurrence (Hussin et al.,2014). As the giving in the form of others was minuscule, the result for this category was not further discussed.

Table 5: Result of classification table

	Cash	Food	Manpower	Equipment	Expertise
Base Model	87.1	58.3	74.2	87.7	89.0
Correct percentage	89.6	72.4	76.7	88.3	88.3

Based on the result of the classification table in Table 5, it was found that cash, equipment, and expertise had a high value of more than 87% for the prediction of the correct percentage in the base model without the inclusion of independent variables. After the inclusion of the independent variables, the values were seen to increase for cash and equipment but slightly decrease for expertise. For food, the base model showed a low percentage of 58.3% but after the inclusion of independent variables, the percentage increased remarkably to 72.4%. Lastly, for manpower, the base model showed 74.2% and it moderately increased to 76.7% after the inclusion of the independent variables. Thus, it can be concluded that all models were still beyond the 50% cut-off value and were able to predict the giving behaviour during the pandemic between 72.4% and 89.6% representing a high value of prediction.

Table 6: Model measurement for types of giving

	Omnibus			Cox & Snell	Nagelkerke		Hosmer & Lemeshow		
	Chi-Square	df	sig	R^2	R^2	-2 Log likelihood	Chi-Square	df	sig
Cash	26.729	16	.019	.167	.311	95.509[a]	8.934	8	.348
Food	30.937	16	.014	.173	.233	190.536[a]	7.622	8	.471
Manpower	25.098	16	.068	.143	.210	160.919[a]	12.855	8	.117
Equipment	27.820	16	.033	.157	.299	93.540[a]	10.010	8	.264
Expertise	27.322	16	.038	.154	.308	85.924[a]	2.032	8	.980

A few tests were conducted to further estimate the model fit, as described in Table 6. There are a few critical rudimentary tests in the analysis, such as the Omnibus test to test the model coefficient by basing it on the values of chi-square, degree of freedom, and significant value; the Cox & Snell R² and Nagelkerke R² tests to describe the percentage of variance explained by the model by referring to the value of R². The number closer to 1 indicates a stronger relationship, and the value of the Nagelkerke R² exceeds the Cox & Snell R². While the Hosmer & Lemeshow test estimates the fit of the model through the value of the chi-square, degree of freedom, and significance level, a non-significant chi-square indicates a good fit. The maximum likelihood value represents the amount of information that cannot be explained by the model or the complete information that must be explained by the model. The Omnibus test was conducted to test the model coefficients, and it was found that none of the models were significant. However, the R² Nagelkerke value of all models was found to exceed the values of R² Cox & Snell, and the Hosmer & Lemeshow test found a good fit indicator across all models. Thus, it is concluded that all models have shown a level of good fitness.

Table 7: Analysis of logistic regression for types of giving

Variable	Cash			Food			Manpower			Equipment			Expertise		
	B	**Exp (B)**	**sig**	**B**	**Exp (B)**	**sig**	**B**	**Exp (B)**	**sig**	**B**	**Exp (B)**	**sig**	**B**	**Exp (B)**	**sig**
Constant	-2.63	.07	.47	-3.86	.021	.13	-7.53	.00	.04	-16.8	.00	.01	-12.7	.00	.06
Gender	.15	1.16	.83	-.44	.65	.34	-.51	.60	.29	-.41	.67	.54	-.49	.61	.45
Age	-.15	.86	.70	.43	1.53	.12	.074	1.08	.82	.06	1.07	.89	-.65	.52	.20
Dependents	-.37	.69	.43	-.04	.96	.87	.31	1.36	.32	.50	1.66	.24	1.31	3.70	**.01***
Academic	-.48	.62	.29	.57	1.77	.03	.49	1.64	.14	.69	2.00	.12	.41	1.50	.35
Occupation	.50	1.64	.13	-.16	.85	.47	-.71	.49	.02	-.48	.62	.23	-.27	.76	.54
Income	.36	1.44	.13	.08	1.09	.59	-.11	.89	.52	.28	1.32	.27	.13	1.14	.61
Household	.25	1.28	.20	-.04	.96	.74	-.06	.94	.68	-.18	.84	.41	-.36	.70	.11
Savings	-.23	.80	.20	-.20	.91	.36	-.04	.96	.74	.41	1.50	**.01***	.34	1.41	.04
Intention	1.04	2.83	**.00****	-.30	.74	.11	-.083	.92	.70	-.26	.77	.34	-.93	.39	**.00****
Attitude	.35	1.41	.54	.08	1.08	.83	.16	1.17	.71	.12	1.12	.86	-.60	.55	.37
PBC	.42	1.52	.28	.38	1.46	.12	-.03	.97	.92	.17	1.19	.68	-.25	.78	.50
SN	-.16	.85	.44	.03	1.03	.82	.06	1.06	.65	.021	1.02	.91	.44	1.56	.04
Altruism	-.53	.59	.36	.06	1.06	.87	-.14	.87	.74	.92	2.50	.20	.20	1.22	.76
F. Wellness	-.57	.56	.17	.21	1.24	.41	.53	1.69	.09	-.96	.39	.031	.37	1.45	.46
Religiosity	.98	2.68	.19	-.59	.56	.22	.45	1.56	.47	1.06	2.89	.32	1.41	4.10	.17
Trust	-.75	.47	.08	.62	1.86	.01	.29	1.34	.33	.37	1.44	.39	.64	1.89	.16

*Significant at p< 0.01
**significant at p< 0.005

Next, to observe which variables are statistically significant with the types of giving, the result of logistic regression was examined and presented in Table 7. Across the five models presented, the only variable found to be significant for giving cash was intention at a 99% significant level with a log odds value of 1.04 and an odds ratio of 2.83, indicating a strong positive relationship. In other words, for a unit increase in intention, the effect will be almost tripled by 183%. Another significant variable was found for equipment at a 90% significance level with a log odds value of 0.41 and an odds ratio of 1.50, indicating a positive relationship between saving and equipment giving that infers that a unit increase in saving will increase the act of giving by 50%. For expertise, the intention was proven to be significant at a 95% significance level with a log odds value of -0.93 and an odds ratio of 0.39, but interestingly implies a negative relationship that influences the reduction of giving by 39%. The number of dependents was also found to be significant for this type of giving at a 90% significance level with a log odds value of 1.31 and an odds ratio of 3.70, which infers that a unit increase in the number of dependents will likely increase the expertise giving by 31%.

5. Discussion and conclusion

In brevity, this study finds that during the pandemic, most Muslim donors in Malaysia preferred to contribute in the form of cash, followed by food, manpower, equipment, expertise, and others based on three assumptions. Firstly, due to the flexibility of cash, it could be used by the recipients to purchase any kind of necessity, such as food, daily needs, medical purposes, goods, and others. Secondly, this type of giving is also popular for the convenience of paying through various donation channels such as online

banking, QR codes, and social media, which do not require them to be mobile. Lastly, this could be caused by restrictions during the pandemic that came under movement control order (MCO), enhanced movement control order (EMCO), conditional movement control order (CMCO), and recovery movement control order (RMCO) which limited people's movement.

Using the framework of TPB, this study uncovers that intention is the strongest predictor of charitable acts during the pandemic. This finding provides empirical evidence that indicates intention is the best predictor that positively and strongly influences cash giving, and an increase in intention will likely increase the act of giving. In the TPB model, intention is the central factor that serves as the point that captures other influencing factors that later determine the strength of willingness to perform the behaviour. Hence, the higher the level of intention to perform the behaviour, the more likely the person will exert the behaviour (Ajzen, 1991). Therefore, it is highly recommended for charity marketers to focus on strategies to increase the intention of giving to increase fundraising. Interestingly, the intention is significantly proven to have a negative relationship that influences the reduction of giving for expertise. This might be due to the fact that those who volunteered for this type of giving are professional groups such as medical officers, nurses, or counsellors who are expected to serve people in need ethically. Thus, they do not need additional encouragement as they are readily available to be of service.

Another variable found to be significant for expertise giving is the number of dependents, which implies that those who have a greater number of children will contribute more. This might be a sign that these experts, who have more children, are more understanding of those who are suffering from the pandemic. A positive relationship between saving and equipment giving is also proven, which implies that those who save more will contribute more in the form of equipment. Usually, the equipment donated during the pandemic is rather expensive, such as ventilators; therefore, those who contribute to this kind of giving must have quite a lot of money to afford such a donation. In conclusion, all models used for this research were also found to indicate a good fit, which infers the suitability of their use for studies in charitable giving, especially pandemic giving. Based on the findings in this study, it is suggested that these variables should be given the utmost focus by charity marketers to increase funding. Therefore, it is recommended that further study be conducted to explore possible variables that promote the intention of giving by targeting larger groups of respondents.

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Conflict of interest statement

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funding organisation.

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Authors' contributions

Amal Hayati Ishak is the principal investigator that conceptualizes this research. She completed the research proposal and drafted the outlines of article to assign each team member accordingly. Salwa Amirah Awang designed the data collection and performed the data analyses. Muhamad Hasif, Mardhiyyah and Shofiyyah updated the literature review. All members assisted in questionnaire distribution. Amal and Salwa anchored the editing and revision of the final paper.

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