PRIMARY RESEARCH

Financing Maternal and Child Healthcare Service through *Waqf* in Kano State, Nigeria

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Abstract.

Purpose: We examined the effects of factors influencing maternal and child healthcare (MCH) service financing in Kano State through *waqf*. To this end, the impact of donor attitude, subjective norm and perceived behavioral control on intention to finance MCH through *waqf* is examined.

Methodology: A descriptive survey was conducted, and crosssectional data was gathered from business communities of Kantin-Kwari, Singa and Sabon Gari Markets within the Kano metropolis. Similarly, a closed-ended questionnaires were administered to 500 business people.

Findings: By applying Structural Equation Modeling (SEM), it was established that donor's attitude, subjective norm, and perceived behavioural control propelled donor's intention towards financing MCH through *waqf*.

Significance: The study is insightful as it emphasizes the contribution of *waqf* in financing MCH service. It highlights how Waqf can unbundle healthcare financial constraints, particularly in providing maternity and children healthcare services.

Practical Implication: The study has practical implications in the sense that it provides policy makers with the ethical based source of funding MCH services which has the potential to reduce government's fiscal burden. As well, it shows the key role entrepreneurs can play in providing funds for a quality healthcare service.

KAUJIE Classification: E22, S5, S1
JEL Classification: N3, I11, N37

INTRODUCTION

Nigeria has an estimated population of 216.7 million in 2022 (Statista, 2022); not been able to meet the targets of maternal and child healthcare (MCH) intervention of the Sustainable

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Development Goals (SDGs). However, in an effort to improve MCH services, various interventions were put in place by the Nigerian government, including the Midwife Service Scheme, SURE-P MCH, Ward Health System, and the Free Maternal and Child Health policy which were introduced in a number of states in Northern Nigeria. USAID (2015) reported that many Nigerian women and children living in Nigeria do not have access to good and qualitative primary healthcare services. Another report by Borgen Project in 2022 showed that about 59,000 women die annually in Nigeria due to maternal problems, and at least one woman dies out of 20 live births in Nigeria. Similarly, UNICEF (2022) reported that Nigeria has about 31 million children under 5 years; however, the country has the second global position on infant mortality rate, where 262,000 babies die annually. The infant and under-five mortality rates represent 69 and 128 per 1000 live births.

To reduce MCH services inadequacies, the Kano State government initiated free maternal child health policy to mitigate financial barriers that hinder equitable access to MCH service. Despite this effort, budgetary allocations to the health sector in Kano State fell from 19.45% in 2020 to 17.26% in 2021 (The development Research and Projects Centre (dRPC, 2022). Again, government investment in the health sector dropped to 14.98% in the approved 2022 budget (Vanguard, 2021).

There is ample evidence that *waqf* can contribute enormously in financing basic social services such as healthcare delivery if its potential is adequately harnessed. Abdullah (2018)) found that *waqf* can play crucial role in actualizing SDGs, including human capital components such as health and education. Shaikh et al. (2017) emphasized the significance of *waqf* as a social institution for funding healthcare deficits. For example, International Islamic Charitable Organization (IICO) Kuwait financed many developmental projects, including providing healthcare facilities and building hospitals and clinics in Egypt, Palestine, the Philippines, and Kuwait (Mohsin, 2013). The provision of these services by the voluntary sector complements public funding by fixing fiscal deficits of the governments at various levels.

In the context of *maqāṣid al-*Sharīah, the quality of life should be enhanced in terms of the protection of life physiologically and psychologically. Financing quality MCH service is key in this regard as it ensures the survival of mankind on earth. Despite its important role, Muhammad (2010, 2014, 2016)M found that the general public, including the business community in Kano and other parts of Northern Nigeria, was not aware of the potential of *waqf* (endowment) in reducing social and economic inequalities, and alleviating poverty. Notwithstanding, the government does not give priority to harnessing the potentialities of *waqf* in the provision of basic services. As a result, it resort to borrowing which increase the financial burden on government's fiscal position.

In this respect, the study is crucial as it examines the potential of *waqf* from the donor's angle by surveying the micro, small and medium entrepreneurs. Targeting this category of business class is crucial as many perceive that healthcare services should be financed by governments, non-governmental organizations and wealthy individuals. The study addresses this concern by showing that no matter how small is one's business position, a Muslim entrepreneur can contribute in financing MCH service in particular and healthcare delivery in

general, and one will derive Allah's pleasure.

In addition, empirical researches have divergent results on the predictive power of the Theory of Planned Behavior (TPB) in understanding the intention to donate *waqf*. Studies such as (Azizi et al., 2019; Kamil & Kasri, 2021; Osman & Muhammed, 2017; Ratnasari et al., 2017) revealed that all the TPB's constructs significantly determined respondents' intention to give for *waqf*. However, the findings of Osman, et al. (2015) invalidate this relationship. The authors found no significant effects of attitude (ATT), subjective norm (SN) and perceived behavioral control (PBC) on intention to give charity for Islamic endowment. Further, Ismaila & Maryantib (2022) showed that only SN influenced intention to donate, while attitude and PBC are not significant predictors. Again, Abdel-Samad (2017) showed that SN has the least predictive power when examining people' intention to give charity. The authors found that this fact is consistent across three theories of planned behaviour. Hence, this study examines donors' intention to use *waqf* for financing maternal and child healthcare (MCH) services in Kano State.

The paper is structured into five sections. Section two discusses the empirical literature. Section three provides insights on data sources and methods employed to analyze the data. Section four presents, analyzes, and discusses the results and provides policy implications of the findings. Finally, chapter five concludes, provides recommendations and highlights areas for further research.

THEORETICAL LITERATURE

Conceptualization of *Waqf* and MCH

Waqf literally means detention. Sabit, Hamid, and Ismail (2005) define *waqf* as to hold, confine, detain, prevent, or restrain. However, Nor et al. (2022) validated a hybrid word "Benefidonors" derived from "Beneficiaries" and "Donors" to promote the terms "share more", "use more" and "donate more" for *waqf* ecosystem, which suggests the user can also donate.

In a similar vein, Maternal and child health (MCH) is an essential issue of development because millions of women and children in developing countries continue to experience several health-related problems. According to the World Health Organisation (2006), MCH services involve strategies to enhance and prevent ". . . therapeutic or rehabilitation facility.." including mother and child healthcare.

The Theory of Planned Behaviour (TPB)

TPB is a model where intention provides a yardstick or barometer for understanding human behavior (Mahmoud et al., 2020). The model is built on three interconnected drivers of intention, including ATT, SN and PBC (Ajzen, 1991). Thus, TPB is based on the antecedents to ATT, SN and PBC (Knabe, 2012).

In relation to this theory, Abdel-Samad (2017) compared the predictive power among the theory of reasoned action (TRA), TPB and revised TPB in Saudi Arabia. The authors found that attitude to donate, SN, and PBC are significant predictors of intention to donate in all the models. However, the effect of SN is not as significant as the attitude to donate and PBC. The

authors argued the weak effect of SN is possible in Saudi environment where people believe that Islamic teachings enjoin Muslims to donate in anonymity in order to purify intention and get more rewards. In addition, the study found that a revised TPB is the best model if moral aspect is considered. Therefore, we expect the models's antecedents to translate into the positive behavioural intention of a donor towards *waqf* for financing maternal and child healthcare service in Kano.

Empirical Review
Waqf and Healthcare Services
On healthcare, studies such as M. K. Hassan et al. (2022); Mahadhir et al. (2021); Muhammad (2014); Raja Adnan et al. (2022) supported *waqf* for healthcare development. Raja Adnan et al. (2022) observed that developing the corporate governance model for Malaysian *waqf* healthcare service will facilitate the provision of quality healthcare and make it affordable to the poor and the underprivileged. They viewed that sound corporate practices for *waqf* health sector are necessary for its sustainability. According to them, a good corporate governance mechanism will reduce government spending in providing healthcare services and make *waqf* hospitals more effective in financing healthcare services in Malaysia.

A study by Jani et al. (2022) showed that *waqf* could work effectively in financing medical bills for children with special health problems. In addition, *waqf* is an essential mechanism to fund the educational pursuit of this kind of children. Again, this voluntary institution complements the government's financing in the health sector and other important sectors in society. Sulistyowati (2022) showed that finance is one of the key challenges of healthcare *waqf* in Indonesia and Malaysia. The effect of insufficient funds to finance healthcare services has a detrimental effect on the poor.

Similarly, Utami et al. (2022) provided evidence on the benefits of health *waqf* in Yogyakarta. At the national level, the authors reported that Muhammadiyyah had established nearly 180 higher learning institutions, its clinical centres and hospitals exceeded 2000, while the orphanages were beyond 318 across Indonesia (p. 93). The *waqf* has successfully established thousands of mosques and schools at the elementary and high school levels. In Yogyakarta alone, Muhammadiyyah healthcare *waqf* has seven general hospitals, including PKU Hospital, which offer modern healthcare services to poor people. Other health centres include a maternal and paediatric hospital, a primary health care centre, a dental hospital, three general clinics and a maternal and child clinic. This is one of the many success stories of *waqf* in financing healthcare activities. Also, the benefits largely go to the poor people who cannot afford the basic healthcare services.

The story is similar in Malaysia, where An-Nur *waqf* has 16 clinics in Kelantan State and provided service to more than 765,000 patients in 2011 (S. N. A. C. Hassan & Ab Rahman, 2018). Despite the important role of *waqf*, Abg Marzuki et al. (2021) observed a high level of awareness regarding healthcare *waqf* in Malaysia. Again, Baqutayan & Mahdzir (2018) observed that *waqf* could be utilized to provide healthcare services. In particular, it can make healthcare more affordable to the less privileged people as it happened in the history of Muslim societies.

TPB and Intention to Donate to Waqf

Recent studies (Haidlir et al., 2021; Iman et al., 2021; Ismaila & Maryantib, 2022; Osman et al., 2016; Ratnasari et al., 2017) have examined the donor's intention to contribute to *waqf*. Some of the empirical research (Haidlir et al., 2021; Ismaila & Maryantib, 2022; Osman & Muhammed, 2017; Osman et al., 2016) have adopted TPB and employed SEM and/or PLS in examining the donor's intention to contribute to *waqf*.

Harahap et al. (2020) established that SN, PBC, and religious commitment were influential on *waqf* behavior in the era of COVID-19. In contrast, attitude and knowledge were not significant in explaining *waqf* behavior. Also, Kamil & Kasri (2021) analyzed donor's intention in Indonesia using the TPB approach and SEM. They documented the relevance of TPB in determining the intention to give cash *waqf*. Haidlir et al. (2021) examined public behavior on cash *waqf* in Indonesia. Using extended TPB and SEM, it was revealed that TPB antecedents encouraged individuals' behavior towards *waqf*.

Alifiandy et al. (2020) examined the relevance of TPB model in understanding the donor's intention (waqif) to contribute in Airlanga, Indonesia. Abdulkareem et al. (2020) surveyed 218 Islamic scholars in Oyo State, Nigeria, and ATT, SN, PBC, and religiosity increased donor's intention to establish *waqf*.

In summary, there are mixed findings on the effect of ATT, SN, and PBC on donor's intention. Many studies (Alifiandy et al., 2020; Azizi et al., 2019; Haidlir et al., 2021; Iman et al., 2021; Osman & Muhammed, 2017; Pujani et al., 2021; Ratnasari et al., 2017) found a significant positive effect of attitude on donor's intention. However, Ismaila & Maryantib (2022) and Osman et al. (2016) could not establish attitude's influential role. Also, SN is a significant positive predictor of donor's intention (Azizi et al., 2019; Pujani et al., 2021; Iman et al., 2021; Osman & Muhammed, 2017; Ratnasari et al., 2017). However, Osman et al. (2016) have no strong evidence on how SN drives a donor's intention. Similarly, PBC is significantly and positively related to donor's intention (Azizi et al., 2019; Osman & Muhammed, 2017; Ratnasari et al., 2017), but studies such as (Ismaila & Maryantib, 2022; Osman et al., 2016) could not confirm this relationship. Therefore, the study formulates three hypotheses:

H1: Attitude positively predicts donor's intention
H2: Subjective norm positively predicts donor's intention
H3: Perceived behavioural control positively predicts donor's intention

DATA AND METHODS

Cross-sectional survey research is used due to its appropriateness in the assessment of people's perceptions and attitudinal and behavioural dispositions. Thus, empirical data for the study is expected to be collected within one month. The study population includes all business community members in three major markets located in Kano State. Hence, three major markets were selected in Kano Metropolitan Area: Sabon-Gari Market, Singer Market and Kantin Kwari Market. According to statistics available at the various offices of the markets association, the estimate of Kantin-Kwari Market traders is 175,000, Sabon-Gari Market

traders is 85,000, and Singer Market traders is 20,000. Therefore, the total population is 280,000.

The sample size used Yamane's formula (Yamane, 1967):

$$n = \frac{280,000}{1+280,000(0.05)^2}$$

$n = 399.43$

The degree of non-response bias is computed based on the following formula:

$$n2 = \frac{399.43}{0.95}$$

$n2 = 420$

However, the sample size is increased to 500 respondents to make the findings more reliable and increase the response rate.

Convenience sampling is utilized in eliciting respondents' data. In proportion to the size of each market, 312 respondents were drawn from Kantin Kwari Market, 152 from Sabon-Gari; and 36 from Singer Market. The Table I shows the distribution of the sample size across the three sampled markets.

TABLE 1
Sample Size Determination

S/N	Markets	Total Population	% of Total	Sample Size
1	Kantin Kwari	175,000	62.5	312
2	Sabon-Gari	85,000	30.36	152
3	Singer	20,000	7.14	36
	TOTAL	280,000	100	500

Data

A closed-ended questionnaire was used to gather data. The choice of questionnaire arises because it is easier to get across to the potential respondents or sample. It is effective, cheap, and permits wider coverage. Furthermore, the choice of a questionnaire as the data collection instrument is based on its compatibility with the TPB model, as numerous applications have shown. The questionnaire is structured into two sections. The demographic information section and the other section consist of questions regarding intention, ATT, SN and PBC. The questions on the instrument were measured using an ordinal Likert scale; in this respect, 1 represents strongly disagree, while 5 represents strongly agree. Maiyaki & Mohd Mokhtar (2011) viewed that the questionnaire's items measure respondents' intention, and as such Likert scale is more appropriate and reliable.

Data Analysis Techniques

We first start with the tests of validity and reliability. The instrument was validated by content/face validity. Experts were consulted to validate the instrument. Cronbach's Alpha

was applied to test for how reliable the instrument was.

In analyzing data, the study employed PLS algorithm and bootstrapping (Regression, Heterotrait-Monotrait Ratio of Correlations (HTMT), SRMR (standardized root mean square residual). In line with Hair Jr et al. (2017), the study applied both SEM using Smart PLS 3 and PLS-SEM, considering its statistical ability to obtain meaningful solutions in almost any situation. Rasoolimanesh & Ali (2018) showed the superiority of PLS-SEM over CB-SEM, which is beset with certain limitations, such as its inadequacy for making predictions and multiplicity of constructs.

The research model is specified in Eq. 1:

$$Y_i = \beta_{i0} + \beta_{i1}X_{i1} + \beta_{i2}X_{i2} + +\beta_{ik}X_{ik} \tag{1}$$

Where Y is the dependent variable; β_{i0} is the intercept; $\beta_{i1} - \beta_{ik}$ represent the parameter estimates; $X_{i1} - X_{ik}$ represent the independent variables. Therefore, the model seeks to analyze the relationship between donor intention towards *waqf* and the behavioural explanatory variables. Specifically, the behavioural model is presented in Eq. 2:

$$\beta 1_i = \beta_0 + \beta_{i1}ATT_i + \beta_{i2}SN_i + \beta_{i3}PBC_i \tag{2}$$

Where *BI* represents behavioural intention, ATT stands for attitude, SN is the subjective norm, and PBC represents perceived behavioural control.

RESULTS AND DISCUSSIONS

The results of the PLS-SEM path can be reported and evaluated by assessing measurement and structural models, respectively (Barroso et al., 2018; Hair Jr et al., 2016). The former examines how valid and reliable are the constructs, including convergent and discriminant validity. In contrast, the latter analyzes the path coefficients, evaluates the value of R-squared, determines the effect size, ascertains the predictive relevance and examines the moderating effect.

Assessing Measurement Model
Assessing measurement model involves individual item reliability, internal consistency reliability, content validity, convergent validity and discriminant validity.

Individual Item Reliability
The study examined the outer loadings of each latent construct's measure in order to determine its reliability. A loading reflects the expected value of change in an indicator when the factor changes by one standardized unit (Pornprasertmanit et al., 2014). Hair et al. (2011) suggested a rule of thumb that any item whose loading is at least 0.50 should be retained. Thus, the results found that donor-perceived behavioural control (number 2) was removed as its loading is below 0.50. Therefore, twenty items were retained out of twenty-one as they had loadings between 0.610 - 0.819. Therefore, individual item reliability was attained in this study, as shown in Figure 1. In order to attain an acceptable level of convergent validity, the factor loading should be at least more than 0.5 (Hair et al., 2011; Rasoolimanesh & Ali, 2018).

Cronbach's alpha is complemented by a composite reliability coefficient (Hair et al., 2011) and corroborated by Mahmoud et al. (2022). The composite reliability coefficient for each latent construct should exceed 0.70 (Bagozzi & Yi, 2012) and Cronbach Alpha coefficient value closer to 1, indicating higher internal consistency reliability of the instrument (Sekaran & Bougie, 2010).
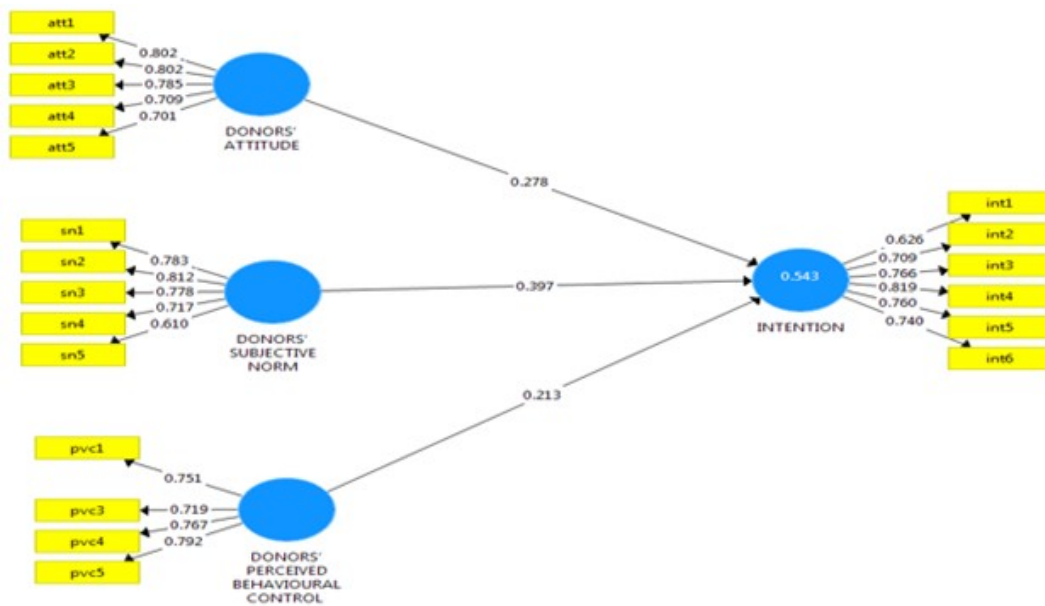

FIGURE 1. Measurement Model

However, from Table II, the least composite reliability value is 0.843, satisfying sufficient conditions for reliability. The Cronbach Alpha coefficient reliability value is between 0.759 and 0.833, indicating higher internal consistency reliability of the study instrument. For each latent construct, the AVE exceeded 0.50, confirming convergent validity. The rho_A value ranges between 0.722 - 0.843 and was within the acceptable region, further satisfying the convergent validity of this study.

TABLE 2
Construct Validity and Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
DONORS' SN	0.796	0.81	0.86	0.553
DONORS' ATT	0.817	0.819	0.873	0.579
DONORS' PBC	0.759	0.772	0.843	0.574
INTENTION	0.833	0.843	0.878	0.546

However, to achieve discriminant validity, the variance of a set of items should be explained better by the underlying latent variable than by other latent variables (Hair et al., 2011). There are many approaches used in testing discriminant validity, including Fornell and Lacker criterion, Hetetrait-monotrait ratio (HTMT) and Cross loadings criterion. HTMT ratio is considered adequate because it is a more suitable criterion for assessing discriminant validity (Henseler et al., 2015). Thus, the HTMT ratio above 0.85 indicates the presence of a discriminant validity problem (Kline, 2011). The study found the highest HTMT value of

0.779 in donor subjective norm and intention, as seen in Table III. This value is less than 0.85, which confirms the discriminant validity of measurement.

TABLE 3
Heterotrait-Monotrait Ratio (HTMT)

	DONORS' SN	DONORS' ATT	DONORS' PBC	INTENTION
DONORS' SN				
DONORS' ATT	0.658			
DONORS' PBC	0.551	0.679		
INTENTION	0.779	0.718	0.66	

Assessment of Structural Model

When measurement model criteria are satisfied, the next activity is to assess the structural model by examining the path coefficients. The authors adopted the standard bootstrapping of 5000 bootstrapped samples to analyze how significant path coefficients are Hair Jr et al. (2016). Figure 2 shows the estimates for the structural model.
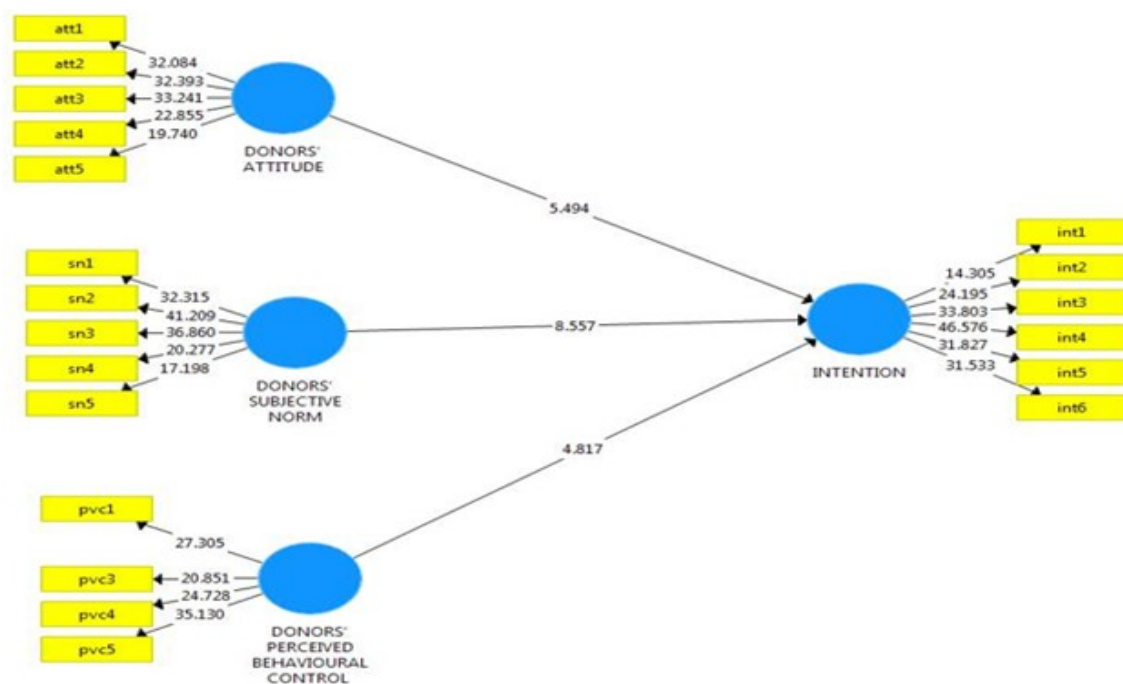
FIGURE 2. Structural Model and Hypotheses Tests

To ascertain the level of significant effects, that exist between donor's intention and its behavioural determinants, hypotheses were formulated and tested. In addition, the estimates for the structural model are presented in Table IV. The results suggested a significant effect of ATT on donor's intention to finance MCH service through *waqf* in Kano State at (t= 5.494); thus supporting H1. This corroborates the findings of Muhammad (2016) who established that attitude predicts donor's intention. It is also in line with studies e.g., Pujani et al. (2021); Azizi et al. (2019); Haidlir et al. (2021); Iman et al. (2021); Osman & Muhammed (2017);

Ratnasari et al. (2017) that applied TPB to explain donor's intention. Nevertheless, it is consistent with Ismaila & Maryantib (2022) and Osman & Muhammed (2017), who found that attitude has no significant effect.

As expected, the results established a significant effect of SN on donors' intention to use *waqf* for financing MCH service in Kano State at (t= 8.557), thus supporting H2. This means that a positive significant relationship exists between subjective norms and donor's intention to use *waqf* for financing MCH service in Kano State. This implies that relatives, family and friends can influence donors to donate *waqf* for financing MCH services in Kano metropolis. Thus, this finding is in line with recent literature such as (Awang et al., 2017; Azizi et al., 2019; Ismaila & Maryantib, 2022; Osman & Muhammed, 2017; Ratnasari et al., 2017). On the contrary, Osman et al. (2016) observed that SN was not a significant predictor of intention to donate.

Finally, results also suggested PBC did not drive donor's intention to use *waqf* for financing MCH services in Kano State at (t= 4.817); hence H3 was also supported. Hence, Donors' self-efficacy plays a significant role in leading them to donate *waqf* for financing MCH services in Kano metropolis. So, this evidence is supported by related researches e.g., Azizi et al. (2019); Osman & Muhammed (2017); Ratnasari et al. (2017), even though Ismaila & Maryantib (2022); Osman & Muhammed (2017).

TABLE 4
Mean, STDEV, T-Values, P-Values

Hyp.	Direct Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (—O/STDEV—)	P Values	Decision
H2	DONORS' SN ⤍ INTENTION	0.397	0.398	0.046	8.557	0	Supported
H1	DONORS' ATT ⤍ INTENTION	0.278	0.278	0.051	5.494	0	Supported
H3	DONORS' PBC ⤍ INTENTION	0.213	0.215	0.044	4.817	0	Supported

Similarly, the R^2 value is used to examine the structural model in PLS-SEM Hair et al. (2011). Table 5 indicates that the R^2 value is 0.543% and the adjusted R^2 squared is 0.540% suggesting that the independent constructs jointly influence donor's intention to use *waqf* by 54%. This indicates that with high ATT, SN and PBC, the donor intention to finance MCH service through *waqf* in Kano State would upsurge.

TABLE 5
R Square

	R Square	R Square Adjusted
INTENTION	0.543	0.54

Similarly, the assessment of R^2 shows that donors' Subjective Norm is the strongest variable, followed by Attitude and finally Perceived Behavioural Control in that order. Thus, the influence of family and friends is the strongest factor on the donor to contribute to *waqf* for financing MCH service in Kano State. This is followed by donor's attitude; and then, the donor's self-efficacy and confidence in contributing to *waqf* for financing MCH service in Kano State.

Conclusion and Policy Implications
Conclusion
The authors applied TPB and examined donors' intention to use *waqf* for financing maternal and child healthcare services in Kano State. Relevant literature was reviewed and empirical data were gathered and analyzed. Consequently, the following conclusions were drawn: First, Subjective Norms, Attitude and Perceived Behavioural Control help in understanding donors' intention to finance maternal and child Healthcare services through *waqf* in Kano state. Secondly, Subjective Norms has the strongest influence on donors' followed by Attitude, and then Perceived Behavioural Control in that order.

Policy Implications
The study has important policy implications. It spotlights to the policymakers the potential of *waqf* in providing an alternative source of funds to finance MCH services. This will help in reducing the government's fiscal burden. As well it shows the key role entrepreneurs can play in providing funds for a quality healthcare service.

Recommendations and Limitations
More enlightenment campaigns for people in the business communities to contribute to financing MCH service through *waqf* were recommended. The enlightenment campaigns can be through local electronic media like radio stations; and also through organizing workshops and seminars. Similarly, religious sermons and preachings will play a vital role in educating people regarding *waqf* Generally and financing MCH in particular. Secondly, since members can convince people of family and friends to finance MCH service through *waqf* then some few individuals should lead and champion exercise then others are expected to follow suit. Again, having a few members in the community to lead, like religious and opinion leaders, would boost the confidence and self-efficacy of the potential *waqf* contributors.

The research has limitations. In the first place, the study is confined to the Kano metropolis. Therefore, future research should expand to include other Northern Nigerian communities that share similar challenges of MCH service with Kano. Similarly, respondents from other professions could be used.

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