

DO TUITION FEES CROWD OUT DONATIONS FOR RELIGIOUS PUBLIC GOODS?

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ABSTRACT – The provision of public goods, particularly religious educational facilities like Al-Qur'an Learning Center (*Taman Pendidikan Al-Qur'an - TPA*), often faces financial constraints due to their reliance on voluntary donations. To address funding gaps, some institutions have adopted a hybrid model that combines voluntary donations with mandatory tuition fees. This study investigates the impact of introducing tuition fees on donation amounts and the perceived utility of TPA services among residents in Padang City, West Sumatra, Indonesia. Using Ordinary Least Squares (OLS) regression analysis on data from 600 households across 30 housing estates, the research examines the relationship between tuition fees, voluntary donations, and the perceived utility of TPA services. Utilizing the Lancasterian model, the study reveals an inverse U-shaped relationship between donations and perceived utility. While increased tuition fees initially correlate with a perceived improvement in TPA services or infrastructure, likely due to an association between higher fees and quality, this effect diminishes as fees continue to rise. This suggests that while residents may accept and even welcome reasonable fees, excessive charges can discourage voluntary donations, even if individuals remain intrinsically motivated to support the TPA. These findings highlight the importance of carefully balancing financial sustainability with community engagement in TPA funding models. Striking this balance is essential to ensure the continued success and community support of these important institutions.

Keywords: public goods, religious education, voluntary donations, tuition fees, utility, Lancasterian model

ABSTRAK – *Apakah Pengenaan Biaya pada Fasilitas Keagamaan Mengurangi Donasi? Pengelolaan fasilitas publik, terutama dalam pendidikan keagamaan seperti Taman Pendidikan Al-Qur'an (TPA), seringkali mengalami kendala keuangan. Sumber pendanaan yang hanya mengandalkan sumbangan masyarakat menjadi kendala utama. Untuk mengatasi hal tersebut, beberapa lembaga pendidikan mengadopsi model pembiayaan gabungan antara sumbangan sukarela dengan biaya wajib. Studi ini mengkaji dampak pembebanan biaya pendidikan terhadap jumlah sumbangan dan manfaat yang dirasakan dari TPA di kalangan penduduk Kota Padang, Sumatera Barat, Indonesia. Penelitian ini melibatkan 600 rumah tangga di 30 kompleks perumahan. Melalui analisis regresi Ordinary Least Squares (OLS), studi ini mengkaji hubungan antara biaya pendidikan, sumbangan sukarela, dan manfaat yang dirasakan dari TPA. Dengan menggunakan model Lancasterian, studi ini menemukan hubungan berbentuk U terbalik antara sumbangan dan utilitas yang dirasakan. Meskipun pembebanan biaya pendidikan berkorelasi positif dengan peningkatan layanan atau infrastruktur TPA, hal ini akan berkurang seiring dengan meningkatnya biaya. Artinya, masyarakat pada dasarnya menerima pembebanan biaya pendidikan yang wajar. Namun, pembebanan biaya yang dianggap berlebihan dapat mengurangi sumbangan sukarela, meskipun mereka secara intrinsik tetap mendukung keberlangsungan TPA. Temuan ini menekankan pentingnya model pendanaan yang dapat menyeimbangkan keberlanjutan finansial dengan keterlibatan masyarakat. Model pendanaan yang ideal akan menjamin kesuksesan lembaga ini, sekaligus menjaga dukungan masyarakat yang berkelanjutan.*

Kata Kunci: fasilitas publik, pendidikan agama, sumbangan sukarela, biaya pendidikan, utilitas, model Lancasterian

INTRODUCTION

The provision of public goods is often challenged by the free rider problem, leading to financial constraints and inadequate funding. This challenge extends to public goods supporting religious activities, exemplified by the Al-Qur'an Learning Center (*Taman Pendidikan Al-Quran - TPA*), an Islamic-based educational facility established by housing complex residents (Pillai & Alkire, 2007). Despite reliance on voluntary contributions from residents, TPA operational costs, including teacher remuneration and facility maintenance, frequently surpass collected donations.

Consequently, augmenting financial support for TPAs has become paramount for managers, necessitating the exploration of diverse strategies. One such strategy involves integrating voluntary donations with mandatory minimum contributions through fee implementation. This entails TPA management levying tuition fees per child in conjunction with voluntary donations, aiming to mitigate financial burdens (Fitriani & Rachman, 2020). However, the efficacy of this approach and its implications for donation behavior within religious contexts remain unclear.

Donations towards religious endeavors like TPAs are believed to generate spiritual rewards, termed "*pahala*," in the afterlife, serving as a significant motivator for contributors (Mahfudz, 2018; M. A. Siddique & Ahmed, 2021). A comprehensive analysis of donation behavior within religious contexts necessitates understanding the intricate relationship between mandatory fees, voluntary donations, and the pursuit of "*pahala*." Despite these spiritual incentives, TPAs continue to face financial challenges, prompting further investigation into the dynamics of funding mechanisms and their influence on TPA utilization.

Both mandatory fees and voluntary donations impact residents' utility in terms of TPA service utilization. Enhanced TPA service quality generally leads to increased usage, with more residents enrolling their children. However, existing literature predominantly centers on secular public goods, potentially overlooking the nuanced complexities of donation behavior within religious contexts (Bekkers & Wiepking, 2011; Akmal et al., 2020). This highlights a significant gap in understanding the funding dynamics of religious public goods like TPAs, particularly the interplay between mandatory fees and voluntary contributions.



Previous research primarily examines the relationship between mandatory fees and voluntary contributions in contexts such as national parks (Alpizar et al., 2003) and tax-funded public goods (N. Huda & Setyawan, 2020). These studies, however, do not fully encompass the motivational nuances inherent in religious donations. The present study differentiates itself through its focused investigation of the dynamics between mandatory fees, voluntary donations, and the pursuit of "pahala" within the specific context of TPAs. By incorporating the concept of spiritual rewards, this research offers a unique perspective on how religious beliefs and values influence donation behavior and financial sustainability. Furthermore, the study employs a Lancasterian model to analyze the inverse U-shaped relationship between donations and utility, presenting a novel application within the context of religious public goods.

A thorough understanding of the relationship between mandatory fees and voluntary donations in supporting TPAs is crucial for developing effective fundraising strategies that ensure the financial sustainability of these religious educational institutions. This study aims to elucidate the dynamics of funding mechanisms for TPAs in Padang City, specifically focusing on the impact of mandatory fees on voluntary donations, the mediating role of fees in the relationship between donations and TPA utilization, and the distinctive patterns of donation behavior and TPA utilization within religious contexts compared to secular public goods.

By addressing these research questions, the study aims to provide a comprehensive understanding of TPA financial sustainability and the underlying dynamics of donation behavior within religious communities. The findings will offer valuable insights for TPA managers, policymakers, and community leaders, enabling them to optimize financial support while fostering community engagement and upholding Islamic principles of social justice and equity. This research further contributes to the broader literature on public finance and philanthropy by illuminating the distinct dynamics of donation behavior within religious contexts, thereby addressing a significant gap in existing research.

LITERATURE REVIEW

Traditional economic models often posit that individuals act primarily based on self-interest and utility maximization. However, these models may neglect the



spiritual motivations behind donations for religious activities, especially within Islamic contexts where the concept of "*pahala*" (divine reward) holds significant importance. Incorporating Islamic economic principles into the analysis requires a nuanced approach that acknowledges the intrinsic value placed on religious giving and the anticipation of divine rewards in the hereafter (Kamri et al., 2014).

Theories of altruism and social preferences suggest that individuals derive satisfaction from contributing to the welfare of others, including through charitable donations (Ibrahim, 2018). Studies in Western countries have explored the impact of government programs and tax incentives on charitable giving. For example, Frey and Meier (2003) found that institutional fees and government interventions could lead to a crowding-out effect, where individuals reduce their voluntary donations in response to mandatory charges.

Research in Islamic contexts, such as Saudi Arabia and Indonesia, highlights the significant role of spiritual rewards in motivating charitable donations (Mahfudz, 2018; M. A. Siddique & Ahmed, 2021). These studies emphasize the importance of understanding the spiritual dimension in developing effective fundraising strategies for Islamic societies. Comparative research across different cultural and religious contexts provides insights into the universality and variability of donor behavior. Bekkers and Wiepking (2011) conducted a comprehensive review of philanthropy, highlighting that while some motivations are universal, the specific triggers for charitable giving can vary significantly across different societies.

Donations can be motivated by both intrinsic factors, such as altruism, empathy, and personal values, as well as extrinsic factors, including tax incentives, social recognition, and institutional obligations. In the context of religious donations, individuals may be intrinsically motivated by their faith and beliefs, viewing donations as a form of religious duty and spiritual fulfillment. However, the imposition of external fees, such as tuition charges for religious education, can disrupt these intrinsic motivations and alter individuals' donation behavior (Breeze & Morgan, 2019).

Religious Public Goods

Religion exerts a profound influence on societies worldwide, with particular attention paid to the concept of religious public goods. These goods, services, and initiatives provided by religious organizations benefit society at large,



regardless of individual affiliations. Iannaccone (1998) proposed a framework categorizing religious goods into club, common, and public goods. Examples include charity, education, healthcare, and community development, primarily facilitated by churches, mosques, temples, and synagogues. Funding for these initiatives primarily relies on voluntary contributions, donations, and occasionally government support (C. Smith & Brown, 2018).

The provision of religious public goods varies across traditions and regions, reflecting the diverse needs and priorities of communities. For instance, Christian churches in predominantly Christian nations may offer food banks and shelters, while mosques in Muslim-majority countries focus on healthcare and education. These initiatives not only benefit specific religious communities but also contribute to broader social cohesion and address societal challenges such as poverty and healthcare disparities. Importantly, the act of giving donations for religious activities is often motivated by the belief in accruing spiritual rewards, or "*pahala*," in the afterlife (M. N. A. Siddique & Ahmed, 2021).

Despite the benefits of religious public goods, debates persist regarding their inclusivity and the implications of government funding. While these initiatives promote solidarity within religious communities, they may inadvertently reinforce divisions along religious lines. Moreover, questions arise regarding the efficacy and sustainability of religiously motivated interventions compared to secular alternatives. Concerns about accountability, discrimination, and the separation of church and state further complicate discussions surrounding government support for religious public goods (Jones et al., 2020).

Recent scholarship has increasingly focused on the intersection of religion, social welfare, and public policy, particularly in the context of globalization and religious pluralism. Researchers explore how religious beliefs shape attitudes toward social justice, environmental stewardship, and human rights, influencing the provision of public goods. Technological advancements, such as online platforms and social media, have also transformed religious engagement and activism, offering new avenues for mobilizing support and advocating for social change within religious communities. These developments challenge traditional models of public goods provision, prompting a reevaluation of the roles of religious and secular institutions in addressing societal needs while considering the underlying motivations,



including the pursuit of spiritual rewards ("*pahala*"), driving donation behavior within religious contexts (Swamy & Yildirim, 2020).

Crowding Out

The phenomenon of crowding out, particularly concerning donations, has garnered significant attention in economic and social sciences literature. Crowding out occurs when the introduction of external factors, such as government policies or institutional fees, reduces individuals' motivation or willingness to engage in voluntary charitable activities or donations (Andreoni, 1993). This review explores the crowding out effect in the context of religious donations, focusing on its implications and empirical evidence, with a specific emphasis on the impact of tuition fees on donations to TPAs.

The theoretical framework underlying the crowding out effect draws from economic theories of altruism, social preferences, and rational choice. Traditional economic theory posits that individuals act based on self-interest and utility maximization. However, theories of altruism and social preferences suggest that individuals derive satisfaction from contributing to the welfare of others, including through charitable donations. The introduction of external interventions, such as government programs or institutional fees, can alter the incentives and motivations for charitable giving, leading to crowding out (Frey & Meier, 2003).

Understanding the motives driving charitable donations is crucial for comprehending the crowding out effect. Donations can be motivated by both intrinsic factors, such as altruism, empathy, and personal values, as well as extrinsic factors, including tax incentives, social recognition, and institutional obligations. In the context of religious donations, individuals may be intrinsically motivated by their faith and beliefs, viewing donations as a form of religious duty and spiritual fulfillment. However, the imposition of external fees, such as tuition charges for religious education, can disrupt these intrinsic motivations and alter individuals' donation behavior (Breeze & Morgan, 2019).

Empirical studies investigating the crowding out effect of donations have produced mixed results, with findings varying depending on the context, methodology, and specific interventions examined. Research in the field of public finance has provided evidence of crowding out in response to government spending on social welfare programs. For instance, studies have found that increased government funding for healthcare or education can lead



to a reduction in private charitable donations to related causes (Searing & Dennison, 2019).

Religious organizations are significant recipients of charitable donations globally, with individuals motivated by religious beliefs, values, and norms to contribute financially to religious causes. However, the imposition of institutional fees, such as tuition charges for religious education at institutions like TPAs, may disrupt individuals' intrinsic motivations to donate. TPAs serve as a vital institution for imparting Quranic knowledge to Muslim children, relying on donations for financial sustainability. The introduction of tuition fees may lead individuals to perceive their financial obligations as fulfilled, thus crowding out their willingness to donate voluntarily (Schwadel, 2019).

TPAs represent a significant case study for examining the crowding out effect of institutional fees on religious donations. As a cornerstone of Islamic education, TPAs play a crucial role in teaching Quranic principles, values, and knowledge to Muslim children. However, the imposition of tuition fees for TPA attendance may disrupt individuals' intrinsic motivations to donate to the institution. Parents and community members may perceive their financial obligations as fulfilled through fee payments, thereby reducing their willingness to contribute voluntarily. This dynamic underscores the tension between institutional sustainability and the preservation of voluntary charitable contributions within religious communities (Hill & Tudball, 2020).

Donations to TPA

TPA represents a vital institution within Muslim communities, playing a crucial role in imparting Quranic knowledge, Islamic values, and religious education to children. As a cornerstone of Islamic learning, TPA relies heavily on charitable donations for its financial sustainability and operational continuity. This literature review explores the dynamics of donations to TPA, examining the motivations behind giving, the impact of socioeconomic factors, and the implications for religious education and community development.

TPA serves as a fundamental institution for teaching Quranic principles, Arabic language, and Islamic studies to Muslim children, fostering a deep understanding and appreciation of their faith from a young age. The curriculum at TPA typically includes memorization and recitation of the Quran, as well as instruction in Islamic ethics, history, and jurisprudence. Furthermore, TPA provides a communal space for children to engage with peers, teachers, and



religious leaders (Battal & Ibrahim, 2023), fostering social cohesion and religious identity formation (Mahmud & Alatas, 2022).

The decision to donate to TPA is influenced by a myriad of motivations, including religious beliefs, cultural values, and altruistic intentions. For many donors, contributing to TPA is viewed as a form of religious obligation (zakat), fulfilling their duty to support Islamic education and propagation. Additionally, donors may be driven by a desire to invest in the spiritual development and well-being of future generations, believing that supporting TPA will yield long-term benefits for the community and society at large (Alkire & Pillai, 2007).

Socioeconomic factors play a significant role in shaping donor behavior and patterns of giving to TPA. Research indicates that donors from higher-income brackets tend to contribute larger amounts to TPA, reflecting their greater financial capacity and philanthropic inclination. Moreover, individuals with higher levels of education and religious observance are more likely to donate to TPA, underscoring the importance of social capital and religious engagement in fostering charitable giving (Hidayat & Romli, 2019).

The fundraising strategies employed by TPA and its organizational practices can significantly influence donation levels and donor engagement. Effective communication of TPA's mission, goals, and impact can enhance donor trust and confidence, encouraging greater generosity and sustained support. Additionally, transparent financial management and accountability mechanisms are crucial for ensuring donor satisfaction and long-term commitment to TPA's mission (Nurani, 2021).

Despite the critical role of TPA in religious education and community development, fundraising efforts may face challenges stemming from economic uncertainties, donor fatigue, and competition from other charitable causes. Moreover, the COVID-19 pandemic has posed unprecedented challenges for TPA, disrupting traditional fundraising activities and exacerbating financial strain. However, technological innovations and online platforms offer new opportunities for TPA to expand its donor base, reach a wider audience, and diversify revenue streams (Fitriani & Rachman, 2020).

Collaboration and partnership between TPA, local communities, and other stakeholders are essential for ensuring the sustainability and effectiveness of fundraising efforts. By forging strategic alliances with mosques, Islamic organizations, businesses, and philanthropic foundations, TPA can leverage



collective resources, expertise, and networks to enhance fundraising capacity and achieve long-term financial stability. Furthermore, engaging with donors as partners and stakeholders in TPA's mission can foster a sense of ownership and commitment, strengthening donor relationships and fostering a culture of giving (Rahmawati & Muzdalifah, 2021).

METHODOLOGY

The methodology section of a research study delineates the systematic framework and procedures utilized for data collection and analysis, thereby offering a comprehensive understanding of the research process and ensuring the reliability and validity of the results obtained. This segment elaborates on the methodological approach adopted in a study investigating the effects of donations and fees on the utilization of TPA in Padang City, West Sumatra, Indonesia.

Study Design

The design of a study is critical as it determines the focus, scope, and methodology used to effectively answer the research question or objective. In terms of the methodology chosen to study TPAs in residential areas as opposed to those located in open areas (where everyone can see them, such as TPAs on the side of major public roads) and those managed by the government, there are several factors that may have influenced this decision.

TPAs established within residential areas often enjoy a higher level of community involvement and ownership. Unlike government-managed TPAs, which may feel distant or detached from the local community, those within residential areas are often initiated, managed, and funded by the residents themselves. This aspect fosters a sense of ownership and commitment among the community members towards the TPA's activities and outcomes.

The disadvantage of reliance on community donations and fundraising initiatives is that it may subject TPAs to financial instability. Fluctuations in donor contributions or economic downturns can disrupt TPA operations, affecting teacher salaries, educational resources, and infrastructure maintenance. Without sustainable funding sources, TPAs may struggle to maintain consistent educational standards and meet the evolving needs of their students.



Community-funded TPAs may become overly reliant on external support, including donations from individuals, religious organizations, and philanthropic foundations. While external funding can supplement operational expenses and infrastructure development, it may also create dependencies that compromise TPA autonomy and sustainability. Moreover, fluctuations in external funding sources can destabilize TPA finances, leading to uncertainty and administrative challenges.

Data Collection and Sampling

The research collected data from 30 housing complexes in Padang City, with each complex comprising approximately 20 households. This sampling approach aimed to capture a diverse range of perspectives and socioeconomic backgrounds within the community. Given the lack of official data on TPAs in some housing complexes, quota sampling was employed, setting specific targets for the number of households to be included in the study.

Data collection involved administering a questionnaire directly to 600 households, comprising both quantitative and qualitative inquiries. The questionnaire was designed to gather information on household demographics, donation behaviors, perceptions of TPA services, and socioeconomic indicators. By employing a mix of closed-ended and open-ended questions, the study aimed to obtain comprehensive insights into the factors influencing TPA utilization and donation patterns.

Estimation Strategy

The estimation strategy outlined in the methodology aims to analyze the impact of donations and fees on the utility of housing residents in terms of their usage of *Taman Pendidikan Al-Qur'an* (TPA) services. The utility function proposed in the study serves as a framework for quantifying the relationship between donations, fees, household income, and TPA utilization.

The utility function derive from Lancasterian Theory is represented as follows:

$$U = \beta_0 + \beta_1 D + \beta_2 D^2 + \beta_3 Y + \beta_4 F + \beta_5 (D \times F) + \epsilon_i \quad (1)$$

Where:



- U (Utility of housing residents): Average number of residents of each residential who enroll their children in the TPA
- D (Donation to TPA): Average infaq of residents of each residential to the TPA (specifically through the TPA's infaq and waqf goals/boxes)
- D² (Donation_Square to TPA): Square number of donation to TPA
- F (Tuition Fee): Average compulsory contribution imposed on parents of each residential for TPA services
- Y (Income): Average income of residents of each residential
- Fe (Female): % female house head population of each residential
- Con: Dummy variable whether or not the TPA's manager has received any money from the government.

Hypotheses and Expected Effects

The utility function allows for the examination of various hypotheses regarding the effects of donations, fees, and household income on TPA utilization:

Effect of Donations (D)

The coefficient $\beta_1 > 0$ signifies that utility increases with the decision to donate. This observation underscores the intrinsic motivation of individuals to contribute to public goods, such as TPA services. Conversely, the coefficient $\beta_2 < 0$, which pertains to the squared term of donations, indicates a diminishing marginal utility of donations. As the amount of donations increases, the utility gained from each additional unit of donation decreases, which may reflect phenomena such as donor fatigue or diminishing returns.

Furthermore, the coefficient $\beta_5 < 0$ pertains to the interaction term between donations and fees, illustrating the moderating effect of fees on the relationship between donations and utility. A negative coefficient in this context suggests that higher fees reduce the marginal utility derived from donations, potentially discouraging individuals from contributing further.

The marginal effect of donations on utility can be calculated as follows:

$$\frac{\partial U}{\partial D} = \beta_1 + 2\beta_2 D + \beta_5 F \quad (2)$$



Effect of Fees (F)

The coefficient $\beta_4 < 0$ indicates that higher fees are associated with a decrease in utility. This suggests that individuals may interpret increased fees as a sign of enhanced TPA services or improved infrastructure. In addition, the interaction term $\beta_5 < 0$ reflects the moderating effect of donations on the relationship between fees and utility. A negative coefficient for this interaction term implies that higher levels of donations reduce the marginal utility derived from fees, potentially dissuading individuals from making donations. The relationship can be expressed mathematically as:

$$\frac{\partial U}{\partial F} = \beta_4 + \beta_5 D \quad (3)$$

RESULTS AND DISCUSSION

The regression results are presented across several models in Table 1. The first model, displayed in column 1, represents the basic regression results concerning TPA utilization, influenced only by two variables: donations and the square of donations. The model in column 2 incorporates additional explanatory variables, enhancing its complexity. Ultimately, the fifth model represents a comprehensive framework aligned with the original hypothesis. This analytical approach serves two primary purposes: first, it tests the validity of the theoretical framework by introducing control variables as moderators; a robust theory should remain applicable even when influenced by the introduction of control variables. Second, it substantiates the hypotheses posited within the model.

Basic Results

The estimation findings presented in Table 1 demonstrate that donations positively influence the utility of residents in the housing sector of Padang City. Specifically, as community donations increase, there is a corresponding rise in the overall utility derived from TPA services by housing residents. This effect can be attributed to the intrinsic motivation of the community, which anticipates enhancements in the quality of the TPA as a vehicle for religious education. However, an increase in donation amounts tends to reduce the utilization of the TPA.



Table 1. Basic Regression Results

	1	2	3	4	5	6
<i>D</i>	1.3155 (0.87)	1.4453* (0.82)	1.6774** (0.81)	2.6651** (1.09)	2.4967** (1.11)	2.5085** (1.15)
<i>D</i> ²	-4.0222* (2.14)	-4.6515** (2.03)	-5.2900** (2.01)	-5.2545** (1.99)	-5.5140** (2.01)	-5.5481** (2.11)
<i>Y</i>		0.0001** (0.00)	0.0001** (0.00)	0.0001*** (0.00)	0.0001*** (0.00)	0.0001*** (0.00)
<i>F</i>			-0.0001 (0.00)	0.0001 (0.00)	0.0001 (0.00)	0.0001 (0.00)
<i>D x F</i>				-0.0013 (0.00)	-0.0011 (0.00)	-0.0011 (0.00)
<i>fe</i>					-0.0927 (0.10)	-0.0922 (0.10)
<i>con</i>						-0.0044 (0.06)
<i>_cons</i>	0.3976*** (0.08)	0.2168* (0.11)	0.2713** (0.11)	0.0733 (0.19)	0.1441 (0.20)	0.1439 (0.21)
<i>F</i>	2.3692	3.3311	3.2888	3.0558	2.6686	2.1892
<i>r</i> ²	0.1493	0.2776	0.3448	0.389	0.4104	0.4106

Standard errors are in parentheses; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

(Source: Author calculation)

Donation Impact

Table 1 reveals a positive correlation between donations and TPA utilization, confirming the initial hypothesis. The coefficient magnitude remains relatively stable (1.3-1.6) across columns 1 to 3, indicating a consistent positive impact. Conversely, the square of donations demonstrates a negative relationship with utilization, suggesting diminishing returns as donation amounts increase. This phenomenon aligns with the concept of donor fatigue, where the perceived impact of each additional donation unit decreases. Individuals may reach a saturation point where further increases in donations do not significantly enhance their perceived utility from TPA services. Notably, the introduction of tuition fees (columns 4-6) considerably amplifies the donation coefficient, rising from 1.3-1.6 to 2.49-2.66. This suggests a synergistic effect between fees and donations within the Islamic context.



This finding contrasts with some Western studies (Smith & Brown, 2020) that indicate potential "donor dependency," where excessive reliance on external funding can hinder service utilization. However, it aligns with research on religious settings (Huda & Rahman, 2019), where higher donations correlate with increased participation in religious activities.

Socio-economic Factors

Regression analysis highlights a positive and significant relationship between income levels and TPA utilization (columns 2-6). This finding holds particular relevance within Islam, where donating to religious activities is believed to generate spiritual rewards ("*pahala*") in the afterlife, thus increasing the perceived utility of TPA services. This aligns with broader literature on educational participation (Johnson & Smith, 2019; Lee, 2021), emphasizing the role of socio-economic factors in accessing educational resources.

Fee Impact

Contrary to expectations based on conventional Western economic models, the introduction of tuition fees alongside voluntary donations positively influences TPA utilization (columns 4-6). While the magnitude is weak and statistically insignificant, this positive relationship suggests a unique dynamic within Islamic communities.

This finding can be interpreted through the lens of Islamic religious principles. Paying fees, in conjunction with voluntary donations, may be perceived as fulfilling religious obligations and investing in children's religious education, thus accruing *pahala* (Kuran, 2004). This aligns with research on philanthropy within religious communities, where the motivation for earning *pahala* significantly influences donation behavior (Mahfudz, 2018).

The Lancasterian model of public goods consumption provides further insight. Individuals derive utility not only from consuming public goods but also from contributing to their provision (Besley & Ghatak, 2003). Therefore, paying fees and donating enhances the sense of ownership and community investment in TPAs, leading to increased satisfaction and utilization.

This analysis underscores the complex relationship between donations, fees, religious beliefs, and socio-economic factors in shaping TPA utilization within an Islamic context. While these findings challenge some Western economic



assumptions, they highlight the importance of culturally sensitive analyses. Further research should explore equitable fee structures and support mechanisms for low-income families to ensure inclusive access to TPA services.

Partial Derivative Impact

The impact of donations and tuition fees on the utilization of TPA services by residents involves both direct and indirect effects. The direct impact is represented by the coefficient of the variable itself, while the indirect impact arises from the interaction with other variables, such as when the relationship between donations (or tuition fees) and TPA service utilization is mediated by the presence of tuition fees (or donations).

Table 2. Partial TPA Utilization Effects Estimation

Formula	Parameters	TPA Utilization Effects	
		Without considering the socio demographic	Considering the socio demographic
(1)	(2)	(3) = Column 4 on Table 1	(4) = Column 6 on Table 1
	D	2.6651	2.5085
$\frac{\partial U}{\partial D}$	$2\beta_2 D$	$-(2 \times 2.6651) = -4.53302$	$-(2 \times 2.5085) = -5.0170$
	$\beta_5 F$	$-(0.0001 \times 0.0013) = -1.3 \times 10^{-7}$	$-(0.0001 \times 0.0011) = -1.1 \times 10^{-7}$
Σ		Negative	Negative
	F	0.0013	0.0011
$\frac{\partial U}{\partial F}$	$\beta_5 D$	$-(0.0001 \times 2.6651) = -2.67 \times 10^{-4}$	$-(0.0001 \times 2.5085) = -2.51 \times 10^{-4}$
Σ		Positive	Positive
Net		Negative	Negative

(Source : Author calculation)

Partial Derivative Impact of Donations on TPA Utilization

The partial derivative with respect to donations, ($\frac{\partial U}{\partial D} = \beta_1 + 2\beta_2 D + \beta_5 F$), demonstrates how changes in donations (D) and fees (F) influence the overall utility (U) derived from TPA services. The coefficient for donations (β_1) signifies the direct impact of donations, whereas the squared term ($2\beta_2 D$) captures the non-linear relationship between donation amounts and utility.



Furthermore, the interaction term ($\beta_5 F$) considers the moderating effect of fees on the relationship between donations and utility.

In scenarios where sociodemographic factors are not considered (Columns 1 and 2 of Table 1), the partial derivative ($\frac{\partial U}{\partial D}$) reveals the impact of donations on TPA utilization. The coefficient β_1 initially indicates a positive impact, with a value of 2.6651. However, the squared term (2×2.6651) yields a negative impact (-4.53302), illustrating a diminishing effect as donations increase. The interaction term β_5 also contributes negatively, albeit insignificantly, to the overall effect.

When sociodemographic factors are taken into account (Columns 3 and 4 of Table 1), slight adjustments in coefficients are observed. The coefficient β_1 decreases to 2.5085, indicating a reduced initial impact of donations on TPA utilization. Despite this, the squared term (2×2.5085) maintains a negative impact (-5.0170), consistent with the previous scenario. Similarly, the interaction term β_5 shows a slight reduction in its negative influence on utilization.

The coefficients β_1 in the scenarios, 2.6651 and 2.5085, demonstrate a positive influence of donations on utilization, signifying that higher donation levels lead to increased TPA utilization among residents. This positive correlation reflects the intrinsic motivation of individuals and the community to support religious education initiatives through voluntary contributions. However, the squared term β_2 , calculated as $-(2 \times \beta_1)$, reveals a diminishing marginal utility of donations. The negative values in both scenarios suggest that as donation amounts increase, the utility derived from each additional unit of donation decreases. This phenomenon implies donor fatigue or diminishing returns associated with increasing donation levels.

Furthermore, the interaction term β_5 , which evaluates the combined effect of donations and fees on utilization, exhibits negative values in both scenarios. This negative coefficient suggests that higher fees diminish the marginal utility derived from donations, potentially discouraging individuals from contributing. Increased tuition fees may lead individuals to perceive their financial contributions as less impactful or necessary, leading to decreased utility from donations. According to Khan (2019), high fees or financial barriers can deter individuals from donating, particularly when they perceive limited value or benefit from their contributions.



Partial Derivative Impact of Fees on TPA Utilization

The partial derivative with respect to fees, $(\frac{\partial U}{\partial F} = \beta_4 + \beta_5 D)$, provides insights into how changes in tuition fees influence individuals' utility, considering the moderating effect of donations (D). An increase in tuition fees (F) is associated with a positive coefficient β_4 , suggesting an increase in utility, which reflects individuals' perceptions of improved TPA services or infrastructure. The positive coefficient of partial derivative for β_4 implies that higher fees positively impact utility, indicating that individuals perceive increased tuition fees as beneficial or indicative of enhanced TPA services or infrastructure.

The positive coefficient may reflect the notion that individuals associate higher fees with enhanced quality or value in the TPA services provided. They may perceive the increased investment in TPA facilities and programs as a positive development that contributes to their overall satisfaction and utility. Jones et al. (2020) supports the idea that individuals often equate higher fees with higher quality or prestige in educational settings. The findings suggest that perceptions of value and quality play a significant role in shaping individuals' willingness to pay higher fees for educational services.

The interaction term β_5 captures the moderating effect of fees on the relationship between donations (D) and utility. A negative coefficient of partial derivative implies that higher fees diminish the marginal utility derived from donations, potentially discouraging individuals from contributing. This negative coefficient implies that the presence of high tuition fees may offset the positive impact of donations on utility. As fees increase, individuals may become less inclined to make voluntary contributions to the TPA, regardless of their intrinsic motivation or altruistic intentions.

Moreover, the interaction term $\beta_5 D$, calculated as the product of the coefficient β_5 and donations, exhibits negative values in both scenarios. This term captures the moderating effect of donations on the relationship between fees and utilization. The negative coefficients suggest that higher donations diminish the marginal utility derived from fees, potentially mitigating the negative impact of fees on TPA utilization. In line with this, Johnson and Smith (2019) has demonstrated that the imposition of high fees or financial barriers can deter individuals from engaging in charitable giving or philanthropic activities. The findings highlight the importance of fee structures and financial policies in shaping individuals' donation behavior and overall utility.



Perfect Crowding Out Effect

The phenomenon referred to as the "crowding out effect" suggests that the introduction of external rewards may diminish individuals' intrinsic motivation to engage in specific activities. In the context of TPA utilization, imposing tuition fees or mandatory contributions are extrinsic incentives that can influence individuals' decision-making. The perfect crowding out effect occurs when increased mandatory fees completely offset the positive impact of voluntary donations on TPA utilization. This results in a net decrease in utilization despite the presence of donations.

This phenomenon is observed when the partial derivative of donations with respect to TPA utilization is smaller than the impact of fees. The partial derivative of donations represents the positive influence of donations on utilization, indicating that higher donation levels lead to increased TPA utilization. Conversely, the partial derivative of fees represents their negative impact, signifying that higher fees decrease utilization. Consequently, even if donations increase, the incremental decrease in utilization due to higher fees outweighs the incremental increase from donations, leading to a net reduction in TPA utilization.

Siddique and Ahmed (2021) conducted a partial derivative regression analysis and identified a negative relationship between mandatory contributions and voluntary donations to TPA facilities. This conclusion is evident in the dynamics of coefficient changes for all variables from column 3 to column 4 in Table 1. Column 3 demarcates the boundary between intrinsic and extrinsic variables, with columns 1 and 3 representing changes in intrinsic effects. The intrinsic effect, measured by the change in coefficients, exhibits only a small, insignificant increase.

However, from column 4 onward, representing the extrinsic effect, the coefficient change is significant, increasing by almost one point, from 1.6774 to 2.6651. This change in the variable coefficient reflects the impact of introducing the interaction variable of donation with contribution ($D \times F$) in the model. This finding suggests that imposing mandatory fees (extrinsic motivation) might deter residents from making additional financial contributions to support TPA operations (intrinsic motivation). This observed "perfect crowding out" effect underscores the need to consider the unintended consequences of policy interventions on donation behavior.



Contemporary research provides insights into the behavioral economics of charitable giving and the impact of institutional factors on donation behavior (Samad & Ma'ruf, 2018). For instance, Khan (2019) examined the role of framing effects in charitable donations, finding that subtle changes in donation appeals could significantly influence donor responses. Their findings emphasized the importance of transparent communication and donor-centered approaches in fundraising.

In contrast, previous studies have highlighted the potential benefits of mandatory contributions in funding public goods and services (Huang & Liu, 2019). Smith and Brown (2020) investigated the effectiveness of tax-based financing mechanisms in supporting public education initiatives, finding that mandatory contributions were crucial in ensuring stable funding streams. These findings highlight the importance of sustainable financing models in providing public services. Empirical studies analyzing the impact of fundraising strategies and fee structures on public goods provision can offer valuable insights into the occurrence of the perfect crowding out effect.

Research Implications

The study on Al-Qur'an Learning Centers (*Taman Pendidikan Al-Qur'an - TPAs*) in Padang City, West Sumatra, Indonesia, reveals complex dynamics between voluntary donations, tuition fees, and perceived utility of TPA services. These findings have significant implications for religious educational institutions and policymakers.

Firstly, the study demonstrates the importance of balancing financial sustainability with community engagement. While introducing fees can initially enhance perceived service quality, excessive charges may discourage voluntary donations, highlighting the need for careful calibration of fee levels. Secondly, the research underscores the intrinsic motivation of community members to support religious education, but also reveals the phenomenon of donor fatigue, suggesting the need for strategies to maintain donor engagement and demonstrate impact.

Thirdly, the study challenges traditional Western economic models, emphasizing the role of cultural and religious factors in shaping financial contributions. This implies that economic analyses and policies in Islamic contexts should consider unique motivations such as the desire to accrue spiritual rewards. Fourthly, the positive relationship between income levels and



TPA utilization indicates that socio-economic factors significantly influence access to educational resources, aligning with broader research on educational participation.

Fifthly, the observation of a "perfect crowding out effect" highlights the delicate balance between fees and donations, suggesting that institutions should carefully structure fees to avoid inadvertently reducing overall community support. Lastly, these findings underscore the need for transparent communication and donor-centered fundraising approaches to maintain support and prevent donor fatigue.

CONCLUSION

This study provides significant insights into the complex dynamics of donations, tuition fees, and TPA utilization within Islamic communities. The analysis reveals several key findings. Firstly, donations positively impact TPA utilization, but with diminishing returns as amounts increase, highlighting the need for nuanced fundraising strategies. Secondly, the introduction of tuition fees alongside voluntary donations positively influences TPA utilization, aligning with the Islamic principle of earning "*pahala*" (spiritual reward), underscoring the importance of incorporating religious values into fundraising approaches. Thirdly, the study identified a phenomenon termed "tuition fees perfect crowding out donation," where the negative impact of higher fees on utilization outweighs the positive effect of donations, resulting in a net reduction in TPA utilization. Lastly, conventional Western theories may not fully explain donation behavior within Islamic communities, suggesting the need for culturally-specific models.

The implications of these findings are profound for all stakeholders. The findings underscore the importance of considering both intrinsic religious motivations and extrinsic economic factors when designing fundraising strategies for religious institutions. Policymakers and TPA managers should consider balanced fee structures, potentially incorporating sliding scales or incentives, to minimize discouragement of voluntary donations. Religious leaders should emphasize the spiritual rewards ("*pahala*") of giving while maintaining financial transparency to foster trust and encourage continued community support.

However, the study has limitations. It focused on a specific cultural and religious context, potentially limiting generalizability, and cross-sectional data



may not capture long-term trends in donation behavior and TPA utilization. Future research should conduct longitudinal studies examining donor motivations and giving patterns over time, explore the interplay between intrinsic and extrinsic motives in religious donation behavior, perform comparative analyses across different cultural and religious contexts to enhance understanding of philanthropic practices, investigate innovative fundraising approaches and their effectiveness in religious educational settings, and refine theoretical models by incorporating insights from behavioral economics and social psychology to better capture the complexities of human decision-making in charitable giving.

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