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A socio-economic model of *Zakah* compliance

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Abstract

Purpose – To provide a sound understanding of *Zakah* compliance behaviour, this paper aims to shed light on the relationships between *Zakah* system fairness, *Zakah* morale, peer influence and law enforcement with *Zakah* compliance behaviour among entrepreneurs.

Design/methodology/approach – The underpinning model used in this paper is the socio-economic theory of regulatory compliance for assessing the probable determinants shaping *Zakah* payers' compliance behaviour. Based on a survey of active entrepreneurs in a typical Islamic situation like Yemen, a total of 500 self-administered instruments were distributed to the respondents. Partial least squares-structural equation modelling (PLS-SEM) was used to estimate the compliance model.

Findings – All the variables included in the compliance model are statistically significant, except for law enforcement. *Zakah* compliance of entrepreneurs is significantly influenced by *Zakah* system fairness, *Zakah* morale and peer influence.

Practical implications – *Zakah* institutions and agencies in Muslim-majority countries may use the results of this work to focus attention on appropriate proactive policies to formulate a fair *Zakah* system, inculcating moral responsibility among *Zakah* payers, embarking on sensitisation programmes in society as a whole, and being more proactive in educating Muslims in the importance of paying *Zakah* to the respective *Zakah* agencies.

Originality/value – This paper complements the limited literature on *Zakah* by examining both tangible and intangible motivations affecting *Zakah* payers' compliance decision.

Keywords Compliance, Moral responsibility, Socio-economic model, System fairness, *Zakah*

Paper type Research paper

1. Introduction

Throughout history, as the social welfare programmes developed, there have been essential features within them; among the most important are the humanitarian and social harmony features. For such programmes to be successful, they need to be culturally sensitive and recognize the significance of societal ties and connections with others in the community (Tobert, 2017). In a distinctive religion like Islam, all perspectives regardless of faith, e.g. the significance of harmonious social relationships that strive to reinforce human brotherhood, social solidarity and the well-being of all, are carefully considered. Basically, Islam is not merely a religion or ideology; rather, it is a complete way of life that encompasses all aspects of social security and economic prosperity for all its followers, not only in this world but also in the hereafter.

In Islam, people are permitted to undertake any trading activity for gaining a profit, without inflicting harm and ruin to others or the environment. As such, individuals are



expected to create egalitarian welfare among mankind. Additionally, the Islamic system fosters people to set proper procedures to prevent wealth concentration in the hands of the few. *Zakah* (alms-giving) is, thus, a unique mechanism for ensuring a more equitable redistribution of resources/wealth to eliminate social gaps as well as to share some of one's wealth with vulnerable groups in society (Khurshid *et al.*, 2014).

The payment of *Zakah* is a compulsory annual levy on the productive wealth of individuals and companies, with a fixed rate of 2.5 per cent of the wealth that meets *Zakah's* conditions (e.g. financially able Muslims reaching the minimum threshold "*Nisab*", full ownership and completion of one lunar year "*Haul*" of owning the wealth). The potential of *Zakah* to achieve its set objectives is indisputable. *Zakah* is a worship (*Ibadah*) and one of the five pillars of Islam that has socio-economic benefits and effective impact on the well-being of all. This can be viewed when well-to-do individuals dispense a proportion of their productive wealth in the form of *Zakah* to the marginalized and poor in society. This stimulates harmonious social interaction among all segments of the community. Appropriate and fair distributions of *Zakah* will help the less privileged to engage in economic activities. At the national level, *Zakah* is considered as a fundamental element of the state's fiscal policies and operations. It occupies a central position as a natural fiscal tool that assists to balance the national economy by distributing wealth more equitably and income from surplus units (rich) to deficit units (poor).

A growing body of research has confirmed that a unique function of *Zakah* is the provision of social service and the advancement of impartial wealth circulation to protect the vulnerable against risks; it is also important as a poverty-eradication mechanism in Muslim communities (Ahmad *et al.*, 2017; Ibrahim and Ghazali, 2014). Curiously, in modern times, it has been recorded that half of the global poverty exists in Muslim countries, although their inhabitants constitute only 24 per cent of the total global population (Pew Research Center, 2017). Indeed, this fact is so baffling to those who believe that God (Almighty Allah) bestowed Muslims with a functioning socio-economic system like *Zakah*. This system achieved enviable success throughout the golden era of Islamic history. During the Caliph Umar Ibn Abdul Aziz reign, for example, the proceeds from *Zakah* successfully eradicated absolute poverty from society (Ahmed, 2004).

In recent years, there has been sharp criticism of *Zakah* institutions and their functionality, covering lack of coordination, efficiency, transparency and enforcement relating to both fair collection and distribution of *Zakah* funds (Bilo and Machado, 2019; Johari *et al.*, 2015). The advocacy and renewed struggle to strengthen and effectively enforce *Zakah* law has come at a time when it is much desired. The genuine frustration here is not a result of lack of resources to be subjected to *Zakah*; the total potential *Zakah* collectable worldwide might generate some US\$600bn annually (Heikal *et al.*, 2014). Rather, the reason for low *Zakah* collection might be traced to the prevalence of a noncompliance dilemma among Muslims, not only in Muslim majority countries, e.g. Malaysia (Saad *et al.*, 2019), Indonesia (Heikal *et al.*, 2014), Saudi Arabia (Alosaimi, 2018) and Yemen (Bin-Nashwan *et al.*, 2019), but also in Muslim-minority communities, e.g. the Philippines (Andam and Osman, 2019). Why there is high noncompliance behaviour to a fundamental religious commandment aimed at reducing income and wealth inequality in the Muslim community is worth examining.

In Yemen, the *Zakah* system was introduced during the early period of Islam, and the government has retained the task of *Zakah* administration in an orderly fashion without disruption since the arrival of the first assigned Muslim ruler (Mu'adh Ibn Jabal) who was sent to Yemen by the holy Prophet (pbuh) (Kahf, 1999). In modern times, given the importance of *Zakah*, many Muslim countries like Yemen, Malaysia, Pakistan, Sudan, Saudi Arabia and Libya have re-established modern government agencies/entities to run the *Zakah* systems within their jurisdiction and have issued laws and empowered institutions to enforce those laws for smooth conduct of *Zakah* management with regard to

its collection, distribution and procedure in a modern setting (Powell, 2009). Yemen has over 27.4 million inhabitants, who are wholly Muslim (World Bank, 2017). Despite it being a mandatory duty – handled just like a tax – for Yemenis financially able to dispense their wealth, it has been concluded that the amount of annual *Zakah* collections in Yemen remains unabatedly low, shrinking year-in-year-out as well as being far behind income tax collections (The General Directorates of *Zakah* Obligations GDZO, 2016), even though tax rebates are offered to those who pay *Zakah* (GDZO, 2016; Bin-Nashwan *et al.*, 2016).

The annual reports of the *Zakah* Authority (known as GDZO) visibly show a deep gap between potential and actual *Zakah* collected over the period 2011–2016, in the range of 3.5 (US\$2.25m) to 40 per cent (US\$28m). Additionally, it has been found that business *Zakah* is considered the largest source of the state's total *Zakah* revenue. Nevertheless, the collection of this type of *Zakah* is disappointing compared to the total number of active registered businesses and the needs of those entitled to *Zakah* funds, which is on the rise (Saif, 2016). This may imply that *Zakah* payers perceive that the functional *Zakah* system is inequitable, or that *Zakah* is less important than income tax, given the weakness of its enforcement provisions by the Yemeni government. Thus, an understanding of the nature of Muslims' decision to comply with *Zakah* and its determinants is of particular interest to *Zakah* institutions/agencies and governments in general so that proactive steps can be taken to avert further losses and to secure higher compliance with *Zakah* payments from all *Zakah* payers.

Previous research has paid much attention to Muslims' behavioural intention to comply with *Zakah*, while the actual compliance itself has been relatively neglected (Andam and Osman, 2019; Bidin *et al.*, 2009). Meanwhile, behavioural models (e.g. the theories of reasoned action (TRA), planned behaviour (TPB) and extended TPB) have been strenuously examined in the *Zakah* literature (Andam and Osman, 2019; Bidin *et al.*, 2009; Bin-Nashwan *et al.*, 2017). This sheds light on the significance of the present study to explore the actual *Zakah* compliance behaviour and its determinants in a unique way, by drawing on the socio-economic model of regulatory compliance. In an attempt to address the lacuna in the literature, which extensively focuses on behavioural perspectives, this socio-economic theory is an extended model to provide a more comprehensive explanation of behaviour driven by both extrinsic and intrinsic aspects. The model consolidates economic aspects (deterrence) with aspects of sociology and psychology (moral development, fairness and social influences) (Sutinen and Kuperan, 1999). This framework has the capacity to design and implement more efficient compliance behaviour among individuals, especially in a regulated environment like *Zakah*, which is legislated through the enactment of laws and regulations, as in Yemen.

This research adds value and insight to both theoretical and practical aspects in many ways. In the first place, unlike previous *Zakah* studies, the focus of the study is to examine the actual compliance behaviour of *Zakah* payers and moves beyond investigating "intentions", which is merely a precursor to the actual behaviour itself. Furthermore, it emerges with a new and wider empirical approach based on the socio-economic model – as a viable framework for a better understanding of human compliance – derived from various disciplines (economics, psychology and sociology). The present study is a pioneer in *Zakah* compliance studies, investigating the influence of *Zakah* system fairness, *Zakah* morale, peer influence and law enforcement on *Zakah* payers' compliance behaviour. In practice, it serves as a catalyst for strategies and policies that may further improve the functionality of the *Zakah* system and its collection as an effective instrument against the plight of poverty.

In what follows, the paper provides an overview of the literature and hypothesis development in Section 2. Research methodology is clearly presented in Section 3. In Section 4, the analysis and results are presented, followed by the discussion, and research implications are provided in Section 5. Concluding remarks, limitations and future directions are taken up in Section 6.

2. Literature review and development of hypotheses

2.1 Socio-economic theory of regulatory compliance

The literature typically invokes the need to prescribe a compliance policy and institutional design to create a comprehensive understanding of compliance behaviour. In [Becker's \(1968\)](#) model, crime is likely to be committed by people when its expected benefit outweighs the benefit of engaging in a legitimate activity. The risk of being punished is a sole means possible to boost people's compliance with certain rules. However, [Sutinen and Kuperan \(1999\)](#) argued that this economic approach has a major weakness: high potential punishment does not always lead to low degrees of unlawful behaviour (noncompliance). The argument is based on the grounds that further enforcement input by stricter punishments is usually impractical or not cost-effective. It implies that compliance behaviour can be assumed as associated with other surrounding environment influences. For instance, aligned with the social learning theory, the work of [Sutinen and Kuperan \(1999\)](#) indicated some determinants influencing compliance behaviour to encompass peer pressure and the amount of social influences encountered by individuals. There is evidence supporting the proposition that individuals are more noncompliant if more of their surrounded society and important referent groups are engaging in the action itself ([Sutinen and Kuperan, 1999](#)). Likewise, people's beliefs towards system fairness and law appropriateness and its institutions as well as moral considerations are essential ingredients in realising a high degree of compliant behaviour ([Musimenta et al., 2017](#); [Sutinen and Kuperan, 1999](#); [Kuperan and Sutinen, 1998](#)).

As a regulatory requirement, just like tax, *Zakah* is legally institutionalised through modern statutes in a number of predominantly Muslim states (e.g. Yemen, Saudi Arabia, Malaysia, Pakistan, Sudan and Libya), and *Zakah* funds are distributed to specific groups of the marginalized and vulnerable. There are two features that make the *Zakah* system relevant for modern legal scholars ([Powell, 2009](#)): as a progressive element in the calculations, if a base income/wealth amount does not reach the minimum threshold set, individuals are exempt from *Zakah*. This amount of income is assumed to fulfil basic living costs. *Zakah* can be imposed to a certain amount on the most common form of income/wealth in mainly agrarian societies (e.g. livestock products and crops); further, *Zakah* can be imposed not only on gross productive wealth, but also on wealth that is not actively invested (e.g. cash and precious metals). *Zakah* has a vital role in consumption as being a fruitful source of increasing aggregate demand in the market and fighting compactness "hoarding capital". Therefore, Muslim communities can mobilise vast *Zakah* funds not only to fulfil the poor needs, but also as a potent source of increasing purchasing power and consumer demand, creating chain effects on stability in the Islamic economic framework and community.

It follows that it might be appropriate to adapt common compliance models in the context of *Zakah*; one of the viable models is the socio-economic model of regulatory compliance. Thus, the present work complements the limited literature in this area and is deemed a major contribution, especially as the study examines *Zakah* system fairness, *Zakah* morale, peer influence and law enforcement as strong influences on *Zakah* payers' compliance behaviour.

2.2 *Zakah* system fairness and compliance

Fairness is widely acknowledged as one of the fundamental objectives of *Zakah* ([Alosaimi, 2018](#); [Kahf, 1999](#)). Fairness of the *Zakah* system seems to involve at least two aspects. First is the perceived general fairness used by *Zakah* administration systems in all *Zakah*-related processes, in terms of assessment and distribution procedures. Second is the *Zakah* payers' perception of the *Zakah* institutions or agencies in relation to the benefit received by *Zakah* recipients (*Asnaf*) in reciprocal exchange for *Zakah* paid. The perception of fairness is an essential component of compliance behaviour ([Bobek, 1997](#)). That is, people's perception of the *Zakah* systems is a crucial issue as a fair system instils compliant behaviour among *Zakah*

payers. Having said that, it is expected that the obligatory *Zakah* that payers may wish to evade is driven by their perceptions towards the fiscal treatment fairness used in the system (i.e. this involves fair *Zakah* assessment, fair distribution of *Zakah* funds and is subjected to fair procedures).

The literature dedicated to *Zakah* compliance has few instances of attempts to explore the relationship between *Zakah* system fairness and compliance behaviour. Prior studies, largely conducted in a taxation context, have shown that the perceived fairness level of a certain system can be directly associated with compliance behaviour (Alosaimi, 2018; Faizal and Palil, 2015; Murphy, 2009; Musimenta *et al.*, 2017). Unlike these studies from the tax perspective, the present study examines the influence of *Zakah* system fairness on *Zakah* compliance behaviour. It is unsurprising that *Zakah* noncompliance occurs, as *Zakah* payers feel a lack of system fairness. Principally, to achieve the noble objectives of *Zakah*, *Zakah* payers should fully comply with the institution's rules on one hand, while on the other hand, the *Zakah* authority should fulfil their entrusted duties. Hence, Muslims who recognise the inherent fairness of the system exhibit positive *Zakah* compliance behaviour, unlike those who perceive the *Zakah* system as unfair. It is, therefore, postulated that:

H1. Zakah system fairness positively influences the entrepreneurs' *Zakah* compliance.

2.3 *Zakah* morale and compliance

Perhaps, the overall strategy of a *Zakah* institution should always be to encourage voluntary compliance whenever possible or to facilitate such compliance with whatever means or mechanisms are available. One distinctive characteristic of *Zakah* compliance behaviour is the intrinsic motivation and moral responsibility felt by some but perhaps not by others. Torgler (2007) proposed that levels of compliance behaviour are quantified by intrinsic motivation to comply with a certain duty. The level of *Zakah* morale – intrinsic motivations to pay the due *Zakah* as a contribution to society – is considered as a significant predictor in explaining the degree of compliance observed (Sutinen and Kuperan, 1999). Following Lisi (2015) and Torgler and Murphy (2004), some theoretical research addressed the puzzle of compliance behaviour based on optimal tax models. In most studies on morality and compliance behaviour, in fact, researchers commonly focused on income tax compliance, ignoring the effect of moral considerations on *Zakah* payers' compliance decision. Alm (2012) argued that the concept of moral consideration has not yet received the attention that its role in compliance behaviour would seem to merit. This inadequacy has left queries concerning some aspects of compliance regulatory policy grossly under-researched.

Empirical studies have addressed the influence of tax morale considerations on compliance behaviour (Alm, 2012; Brink and Porcano, 2016; Halla, 2012; Lisi, 2015; Stark and Kirchler, 2017) and revealed a positive relationship. Again, as there is relatively little analysis – theoretical or empirical – of how *Zakah* morale can boost payers' motivation to voluntarily comply with *Zakah* instructions, the present work, therefore, attempts to bridge the research gap by determining the influence of *Zakah* morale on Muslims' decisions on *Zakah* compliance. Hence, considering the above, this study proposes that:

H2. Zakah morale positively influences the entrepreneurs' *Zakah* compliance.

2.4 *Peer influence and compliance*

The burgeoning studies in economics have underscored the role of social norms in predicting economic behaviour. The presence of peers has a profound influence on individuals' decision-making in everyday human social interactions. This is reinforced by Gächter *et al.* (2017), that it is important to have a deep understanding of peer influence because people do not act in social isolation; rather, they interact with others and often

observe their behavioural patterns prior to making a decision. Additionally, examining peer pressures is theoretically significant as the peer group is one of the key determinants of normative beliefs-driven behaviour in most conceptual considerations of compliance behaviours across the social sciences interest (Gächter *et al.*, 2017). In a similar trend, Islam asserts that peers and referent groups exert considerable influence and pressure on individuals, which is likely to shape the extent of their adherence to Islamic teachings.

Despite a distinct theoretical framework of the importance of normative structure and peer influence on norm-driven behaviour, empirical evidence suggests that peers' (e.g. religious leaders and scholars, business peers or partners, colleagues, friends and relatives) influence on actual *Zakah* compliance has been given less attention by researchers (Alosaimi, 2018). It can be argued that because the behaviour under study in the present research is *Zakah* – a form of worship in Islam, which Muslims ideally pay in accordance with Islamic law – religious peers (leaders and scholars) may be assumed to be a predominant component in the normative views, strengthening the corresponding motivation to comply.

Generally, research from various disciplines has shown normative beliefs to have a strong effect on behaviour (Amin, 2013; Oni *et al.*, 2017; Ramayah *et al.*, 2009). In the case of *Zakah*, Andam and Osman (2019) confirmed that social norms are positively related to compliance intention. Heikal *et al.* (2014) also showed the usually documented relationship between *Zakah* compliance and normative beliefs. As a Muslim collectivist community, it could be predicted that in Yemen significant peers (e.g. religious leaders) would constitute pressure for *Zakah* compliance. Hence, the stronger the effect from peers to comply, the strength is *Zakah* compliance behaviour. It is, therefore, hypothesised that:

H3. Peer influence positively influences the entrepreneurs' *Zakah* compliance.

2.5 Law enforcement and compliance

Although a high level of compliance may be achieved through the twin forces of social influence and moral development, coercive enforcement procedures appear to be a crucial component of any compliance regime. According to Sutinen and Kuperan (1999), in almost any set of people subject to the provisions of the law, there could be a certain subset, usually small, of chronic, blatant offenders who are driven by some explicit tangible consequences against their illegitimate activities; social influence and moral development may exert little or no effect on their unfavourable behaviour. The only proper mechanism to control illegal activity for this subgroup is enforcement. Perhaps, the economic incentive may be changed either by diminishing the possible illegal utility or by enforcing stricter punishment (Sutinen and Kuperan, 1999).

Drawing on the nature of *Zakah* as a complementary pillar of the Islamic faith as well as a fundamental catalyst for social security and fiscal policy, the practice of *Zakah* is legally enforced in some Muslim countries (e.g. Yemen, Saudi Arabia, Pakistan and Malaysia) (Powell, 2009). Just like tax, the enactment of a *Zakah* law has provided legal *Zakah* planning opportunities as well as details for successful administration of *Zakah* activities. This option creates certain advantages and uniformities in the jurisdictions enclosed by laws that capture all the details of *Zakah*. Despite relentless efforts, the collection of *Zakah* funds in these countries, including Yemen, has unfortunately remained low, failing to achieve the desired target (Bin-Nashwan *et al.*, 2019). An effective implementation of enforcement measures should play an encouraging role in strengthening *Zakah* compliance behaviour.

Unlike the tax literature, extant literature that has approached the influence of law enforcement on *Zakah* compliance is rare. In tax settings, law enforcement has been documented empirically with significant influence on compliance behaviour (e.g. Cummings *et al.*, 2009; Mendoza *et al.*, 2017). Researchers (e.g. Khamis and Yahya, 2015; Farah *et al.*, 2017) have revealed a positive and significant relationship between law enforcement and *Zakah*

payers' compliance decision. It can be envisaged that the more effective and stricter the enforcement policies implemented by *Zakah* authorities, the greater the strength of *Zakah* compliance behaviour. Nevertheless, this has to be examined empirically. It is, thus, postulated that:

H4. Law enforcement positively influences the entrepreneurs' *Zakah* compliance.

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3. Research method

3.1 Design, population and sample of the study

The present work adopts a cross-sectional research design, examining a population of 56,326 entrepreneurs in the trading sector registered in Yemen under the [Federation of Yemen Chambers of Commerce and Industry \(FYCCI\) \(2016\)](#) database. Prior to undertaking the main research, a pilot study was done to assess, detect, remove and adjust any ambiguities in the questions; questionnaires were distributed to 50 respondents (entrepreneurs and academic experts from public universities). Minor adjustments were made based on the pilot study responses. The table of sample selection provided by [Krejcie and Morgan \(1970\)](#) suggested a random sample of 382 businesses, but this was increased to 500 to address potential nonresponse bias and other issues related to the process of collecting and retrieving data. Over a two-month period, data of this research were gathered via self-administered questionnaire instruments from the unit of analysis (owners and managers of businesses); a total of 287 responses (57 per cent) was returned, although only 274 responses were deemed usable for further analysis, 13 responses being incomplete.

3.2 Questionnaire and measurements

The survey instrument consists of two main parts: the demographic characteristics of participants and observable variables. The demographic characteristics were ranked using categorical scales. The instrument developed 29 measurement items for the observable variables. All these measurement scales developed in this research were adapted from prior empirical studies, as portrayed in [Table I](#). All questions sent to respondents are scored on a five-point Likert scale anchored between 1 = strongly disagree and 5 = strongly agree.

Construct	Operationalisation	No. of items	Source adaption
<i>Zakah</i> system fairness	The perceived fairness used in the administration system of <i>Zakah</i> (in terms of assessment, distribution and procedures) as well as the perceived exchange with the <i>Zakah</i> authority and benefit received by entitled beneficiaries in return for <i>Zakah</i> paid	7	Gilligan and Richardson (2005)
<i>Zakah</i> morale	The degree to which <i>Zakah</i> payers consider paying <i>Zakah</i> to be morally agreeable and arising from intrinsic motivation	9	Alabede (2012) and Forsyth (1980)
Peer influence	The degree to which <i>Zakah</i> payers adopt their peers' preference either to comply or not comply with the <i>Zakah</i> authority's obligation	5	Bobek et al. (2013)
Law enforcement	The perceived activities or actions (e.g. detections, prosecutions and punishments) by the <i>Zakah</i> authorities towards noncompliant behaviour	4	Idris (2006)
<i>Zakah</i> compliance	The behaviour of paying due <i>Zakah</i> to the <i>Zakah</i> authorities/agencies in accordance with the regulations and rules of these authorities	4	Ajzen (2002)

Table I.
Operational definition and source of constructs

3.3 Method of analysis

Data collected are analysed by variance-based structural modelling equation-partial least squares (PLS-SEM) through SmartPLS version 3.0. This study selected PLS-SEM as a primary data analysis software over a covariance-based SEM (CB-SEM) because PLS-SEM is more appropriate to the prediction-oriented approach of the present study. PLS-SEM can also exhibit a greater extent of statistical power than CB-SEM and can handle non-normal data distribution (Hair *et al.*, 2017). Following Cain *et al.* (2017) and Hair *et al.* (2017), Mardia's multivariate skewness and kurtosis are inspected for potential nonnormality, using online software tool WebPower. Table II presents the findings demonstrating that the Mardia's multivariate skewness coefficient is 4.226 with a *p*-value of 0.000 and kurtosis ($\beta = 38.536$, $p = 0.000$). As the findings confirm that the data collected are multivariate non-normal, the study continued using SmartPLS for nonparametric analysis.

4. Results and data analysis

4.1 Descriptive statistics

As displayed in Table III, the largest group of participants in the survey were aged 40–49 (45 per cent), followed by participants aged 30–39 (27 per cent). And, 88 per cent were male. Two-thirds of the respondents were married (67 per cent). The sample also showed more than half of the respondents held a secondary school certificate (54 per cent), followed by holders of bachelors' degrees and diploma (26 and 20 per cent, respectively). Concerning the period of

Measure	β	<i>z</i>	<i>p</i> -value
Skewness	4.226	193.006	0.000
Kurtosis	38.536	3.498	0.000

Table II.
Mardia's multivariate
skewness and
kurtosis ($n = 274$)

Source(s): Authors' compilation via online WebPower (<https://webpower.psychstat.org/models/kurtosis/>)

Measure	Items	Frequency	(%)
Gender	Male	241	88
	Female	33	12
Age (years)	Less than 30	32	12
	30–39	75	27
	40–49	123	45
	50 and above	44	16
Marital status	Single	50	18
	Married	184	67
	Other	40	15
Education level	Up to secondary school certificate	148	54
	Diploma certificate	56	20
	Bachelor's degree and above	70	26
Period of business	Less than 5 years	51	18
	5–10	94	34
	11–15	79	30
	More than 15	50	18
Type of business ownership	Sole proprietorship	229	84
	Partnership	32	11
	Company	10	4
	No response	3	1

Table III.
Descriptive
statistics ($n = 274$)

business, the majority of participants had experience of five or more years (82 per cent), implying that they are sufficiently matured to understand the *Zakah*-related practices imposed on their businesses. Of the 274 businesses, 84 per cent are owned by a sole proprietor, with 11 and 4 per cent operated as partnerships and companies, respectively. This indicates a simple organizational structure in Yemen, with little hierarchical power.

4.2 Common method bias

As the nature of the data gathered is self-reported, there might be a threat to the results' validity from common method bias (CMB). Therefore, the study performed Harman's single-factor analysis to identify and assess whether one general component can account for most of the variance among variables in the research model. Based on this analysis, the single component constitutes 22.82 per cent of the variance, well below the 50 per cent threshold, so CMB did not pose a validity threat (Podsakoff *et al.*, 2003). A test of full collinearity was also conducted to determine if there is a variable that reflects values of variance inflation factor (VIF) exceeding 3.3. The findings indicated pathological values of VIF for all variables ranging from 1.00 to 1.19, once again confirming that CMB is not a concern in this research.

4.3 Measurement model

The reflective model assessment requires inspection of the validity and reliability of the variables of interest. It is necessary to assess the criteria of convergent and discriminant validity as well as reliability for internal consistency. The findings depicted in Table IV indicate that of the 29 items in the main part of the questionnaire, 23 loadings were greater than 0.70 and three were between 0.40 and 0.70; three loadings below 0.40 were discarded from the database. The values of the average variance extracted (AVE) exceeded the 0.50 acceptable threshold (Hair *et al.*, 2017), supporting the convergent validity (Hair *et al.*, 2017). Furthermore, Table IV illustrates the appraisal of the measures' internal consistency.

The values of Cronbach's α of all latent constructs exceeded the required threshold of 0.70 (Hair *et al.*, 2017). Regarding the composite reliability (CR), values of all latent variables were well above 0.70, establishing reliable latent constructs. Additionally, the values of the Dijkstra-Henseler's ρ analysis – the consistent and important estimate for measuring internal consistency reliability – were higher than 0.70 for all latent variables (Dijkstra and Henseler, 2015).

Another assessment for measurement model is discriminant validity; it was evaluated via analysis of Fornell and Larcker's (1981). As evident from Table V, for all latent constructs, the square root of AVE was greater than other square correlations in the model; therefore, no lack of discriminant validity was detected. In addition, the heterotrait-monotrait (HTMT) ratio – an estimate of the correlation between latent constructs – was used to measure the discriminant validity at the level of constructs. The HTMT test indicates that all constructs ratios were below the conservative threshold value of 0.85 (Kline, 2015). Hence, discriminant validity was supported. In a nutshell, a series of statistical assessments inspected the measurement model, confirming reliable and valid measurement scales used for constructs of interest, enabling testing of the research structure model.

4.4 Structural model

Assessment of the structural model primarily aims at testing for the influence of exogenous constructs on the endogenous construct. Typically, the assessment of such model comprehends an analysis of collinearity among constructs, hypothesized relationship significance, explained variance (R^2), effects size (f^2) and model's predictive relevance (Q^2) (Hair *et al.*, 2017). First, it is essential to examine the model collinearity. The findings

Table IV.
Measurement model
assessment

Constructs	Items	Convergent validity		Internal consistency reliability		
		Loadings	AVE	Cronbach's α	CR	Dijkstra-Henseler's ρ
Zakah system fairness	ZFair_1	0.860	0.617	0.875	0.905	0.886
	ZFair_2	0.849				
	ZFair_3	0.771				
	ZFair_4	0.809				
	ZFair_5	0.655				
Zakah morale	ZFair_7	0.749	0.644	0.907	0.926	0.914
	ZMor_1	0.700				
	ZMor_2	0.746				
	ZMor_3	0.831				
	ZMor_4	0.859				
Peer influence	ZMor_6	0.854	0.674	0.874	0.910	0.883
	ZMor_7	0.819				
	ZMor_8	0.795				
	PInfl_1	0.815				
	PInfl_2	0.918				
Law enforcement	PInfl_3	0.917	0.636	0.834	0.874	0.932
	PInfl_4	0.773				
	PInfl_5	0.651				
	LEnfo_1	0.865				
Zakah compliance	LEnfo_2	0.739	0.551	0.729	0.831	0.730
	LEnfo_3	0.736				
	LEnfo_4	0.843				
	ZComp_1	0.718				
	ZComp_2	0.740				
	ZComp_3	0.775				
	ZComp_4	0.735				

Source(s): Authors' compilation

	Discriminant validity (Fornell-Larcker criterion)				
	ZFair	ZMor	PInfl	LEnfo	ZComp
ZFair	0.785				
ZMor	0.048	0.802			
PInfl	-0.170	-0.372	0.821		
LEnfo	0.009	0.053	-0.068	0.798	
ZComp	0.335	0.338	-0.503	0.149	0.742

Discriminant validity (HTMT_{0.85} criterion)

ZFair					
ZMor	0.078				
PInfl	0.191	0.419			
LEnfo	0.071	0.076	0.105		
ZComp	0.414	0.409	0.625	0.167	

Note(s): ZFair, *Zakah* system fairness; ZMor, *Zakah* morale; PInfl, peer influence; LEnfo, law enforcement; ZComp, *Zakah* compliance

Source(s): Authors' compilation

Table V.
Discriminant validity

demonstrate VIF values of all latent constructs to be less than the acceptable threshold value of 3.3 (ranging from 1.00 to 1.19), signifying that multicollinearity issue does not exist in the data (see Diamantopoulos and Siguaw, 2006).

As for the significance of hypothesized relationships, it is assessed using a bootstrapping procedure of 5,000 resamples drawn with replacement. The results show that with one exception (for the path: LEnfo → ZComp), all the path relationships can be statistically supported once a bootstrap critical *t*-value is above ±1.65 (one-tailed test). Consequently, H1, H2 and H3 are supported, but H4 is not (see Table VI for all results). Specifically, *Zakah* system fairness positively influenced *Zakah* payers' compliance ($\beta = 0.260, p = 0.000$); *Zakah* morale had a positive relationship with *Zakah* payers' decision to comply ($\beta = 0.176, p = 0.001$) and peer influence reported a negative relationship with *Zakah* compliance ($\beta = -0.385, p = 0.000$). Contrary to expectations, the influence of law enforcement failed to report statistical evidence on *Zakah* payers' compliance decisions ($\beta = 0.110, p = 0.061$).

As the present study aims to explain compliance behaviour, it is important to emphasize that the coefficient of determination of the endogenous construct (R^2) is maximised (Hair et al., 2017). The results show that the R^2 value of the endogenous variable (*Zakah* compliance behaviour) is well above the recommended threshold value (0.02) (Figure 1), supporting that the model used has substantial predictive accuracy (Cohen, 1988). It implies that the socio-economic factors adapted in this research collectively explain 35.7 per cent of the variance level of *Zakah* payers' compliance behaviour.

Along with examining R^2 , the study assessed whether the omission of a certain construct causes changes in the R^2 value, by computing the value of effects size (f^2). To assess the f^2 magnitude, the study used Cohen's (1988) guidelines: an f^2 value of 0.02 indicates small effect, 0.15 medium effect and 0.35 large effect. The results show that the f^2 values for all exogenous

Hypothesis and path	Path coefficient	<i>t</i> -value	<i>p</i> -value	f^2	90% confidence intervals
H1: ZFair → ZComp	0.260	4.865	0.000	0.102	(0.164, 0.340)
H2: ZMor → ZComp	0.176	3.131	0.001	0.042	(0.082, 0.266)
H3: PInfl → ZComp	-0.385	6.922	0.000	0.193	(-467, -0.293)
H4: LEnfo → ZComp	0.110	1.549	0.061	0.019	(-0.154, 0.179)

Table VI.
Structural model
assessment

Source(s): Authors' compilation

Note(s): ZFair: *Zakah* system fairness; ZMor, *Zakah* morale; PInfl, peer influence; LEnfo, law enforcement; ZComp, *Zakah* compliance

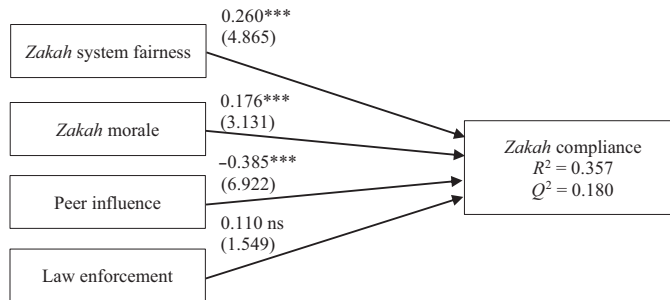


Figure 1.
PLS results for
structural model
assessment

Note(s): ns = nonsignificant; *** $p < 0.01$; values in brackets refer to *t*-statistics

constructs ranged from small to medium effect, except for law enforcement, which is trivial ($f^2 = 0.01$).

Lastly, for model fit assessment in PLS-SEM, the study applied the blindfolding procedure to evaluate the Stone–Geisser Q^2 (predictive relevance) (Geisser, 1974; Stone, 1974) with a pre-specified distance of seven. In this model, the Q^2 value of the endogenous variable is above zero (0.180), thus demonstrating the model's predictive relevance. Structural assessment results are exhibited in Table VI and clearly visualised in Figure 1.

5. Discussion and research implications

Attempts to use *Zakah* funds towards achieving an economically and socially sustainable Muslim community have so far been a mirage. *Zakah* collection remains consistently low in Muslim countries, including Yemen, as there is considerable reluctance among Muslims to comply with its rules. This research, therefore, examined the puzzle of *Zakah* compliance in a regulated *Zakah* environment in Yemen using a compliance framework that integrates socially and economically relevant determinants.

Numerous significant results emerged from this study. According to the socio-economic model of regulatory compliance, the results revealed that psychological and social aspects (social influence and moral development), rather than an economic approach, elicited a significant level of motivations influencing *Zakah* payers' compliance behaviour. Interestingly, the findings acknowledged that the fairness of the *Zakah* system exerts a positive influence on *Zakah* compliance behaviour among entrepreneurs. This finding confirms earlier results (Murphy, 2009; Musimenta *et al.*, 2017) that individuals' perception of system fairness is likely to influence their payment compliance. Musimenta *et al.* (2017) revealed empirical evidence that the perceptions of fairness are directly and positively related to compliance behaviour. Indeed, the present study found that the more fairness is present in the *Zakah* system, the greater the strength of *Zakah* compliance behaviour.

Likewise, *Zakah* payers' morale beliefs positively and significantly influence *Zakah* compliance. The result is in line with the literature (Lisi, 2015; Stark and Kirchler, 2017) and means that *Zakah* payers with higher moral consideration are much more likely to engage in compliance behaviour with *Zakah* obligation than those with lower moral considerations.

Despite being statistically significant, the influence of peers has a negative relationship with *Zakah* payers' compliance. That is, entrepreneurs' peers (e.g. business partners and religious leaders or scholars) have a negative effect on payers' decisions to act in accordance with *Zakah* laws. This finding implies that peers are generally not approving of entrepreneurs paying *Zakah* to the formal *Zakah* institutions, implying a lack of legitimacy for these institutions. A plausible explanation for this negative influence is the perception of peers that *Zakah* payers are not getting the expected benefits from complying with *Zakah* payments. This could be due to the fact that *Zakah* payments may not all be distributed to the poor (*Asnaf*). This may encourage honest people to noncompliance behaviour so that perceiving others' behaviour can influence a person's internalised moral values and standards. Knowing that *Zakah* institutions are not effective may cause individuals to be noncompliant because humans normally seek justice sense by performing the activity itself (Bobek *et al.*, 2013). In the case of Yemen, corruption is pervasive throughout all its public spheres – it is globally ranked 176 out of 180 listed countries on the scale of Transparency International (2018) – and thus undeniably leads to poor levels of trust among the public or state institutions, including the *Zakah* Authority. In this sense, religious scholars underline that *Zakah* should be delegated to a trusted body to dispense it honestly to the entitled receivers (*Asnaf*). Peers like religious scholars may have a negative influence on *Zakah* payers' compliance behaviour, perhaps encouraging them to pay *Zakah* directly to *Asnaf*, without going through the official *Zakah* channels.

Law enforcement, however, proved to have no significant relationship with *Zakah* compliance behaviour of entrepreneurs. Although this result was not supported, it is still an interesting discovery in the *Zakah* environment. It could guide Muslim governments, and Yemen in particular, in the next line of action: proposing that *Zakah* institutions should encourage voluntary rather than enforced compliance. This could also be a reflection of poor law enforcement in Yemen, thus resulting in this variable being nonsignificant.

5.1 Theoretical implications

From a theoretical standpoint, this research seeks to bridge the gap in the literature, which largely relies only on behavioural models (e.g. TRA, TPB and extended TPB) to explain the behavioural intention of *Zakah* payers. It provides insights into the unique *Zakah* setting by offering a new and wider empirical clue drawn from various disciplines (economic, psychological and social). This has been consolidated into the prominent framework suggested by [Sutinen and Kuperan \(1999\)](#) to pay great attention to both tangible and intangible motivations, which influence people's decision to comply with a given set of laws and regulations. The present study contributes to the scanty literature by linking four different determinants of economic, social influence and moral development to *Zakah* compliance behaviour. It empirically addresses the paucity of studies focusing on *Zakah* compliance behaviour among entrepreneurs, in a typical Muslim community like Yemen. Overall, the suitability of PLS-SEM as an analysis technique in examining the adapted socio-economic model of regulatory compliance in the *Zakah* context has been established. The results of this study are expected to provide a platform for developing appropriate models for predicting behavioural issues not only on *Zakah* compliance behaviour but also in other domains of human endeavour.

5.2 Managerial implications

The results of this study can guide Muslim governments and *Zakah* institutions or agencies in formulating appropriate strategies and policies to improve *Zakah* payers' compliance behaviour. Specifically, the findings imply the need for a review of the current status of the *Zakah* systems and re-establishing these systems to ensure that fairness is integrated into all *Zakah*-related processes. Areas that could be improved by authorities to overcome unfavourable attitudes of the *Zakah* system among *Zakah* payers include allocation of *Zakah* burdens among *Zakah* payers and the benefit received by *Zakah* beneficiaries. Public promotion of how *Zakah* funds are spent could be a useful strategy. Governments may also embark on sensitisation programmes and special seminars to improve intrinsic motivation among *Zakah* payers, proactively spreading awareness of paying *Zakah*. Society also plays a significant role in boosting *Zakah* compliance behaviour. Family members, business partners, religious leaders and society as a whole should encourage each other to comply with *Zakah*. Governments might engage with religious leaders, scholars and other social influencers in educating their followers in the importance of paying *Zakah* through the official channels, inculcating a favourable attitude and a sense of responsibility in helping vulnerable groups in society.

6. Conclusion, limitations and future work

The objective of this empirical examination was to identify the keys to strengthening *Zakah* compliance behaviour. The study also aimed to establish an appropriate socio-economic model to explain compliance with a religious duty like *Zakah*. To this end, relevant literature on the theoretical framework of a model was reviewed, emphasising that all stakeholders need to focus more attention on the examined key determinants of compliance if *Zakah*

collections are to be improved significantly. Based on the outcomes of this analysis and discussion, it can be concluded that to shape continued and voluntary compliance behaviour in *Zakah* payers, three things are needed: a fair *Zakah* system, instilling an intrinsic sense of moral obligation and promoting a favourable social environment.

Even though this research offers some interesting results, it has some limitations. The research used a cross-sectional research design, so results may differ if a similar study is conducted at different times and in different contexts. As such, the generalisation of results must be approached cautiously. Thus, in further studies, it is advised to use longitudinal data to capture changes in the human behaviours over time. As this paper primarily focused on business entities from the private sector, further studies may be conducted drawing on the public and mixed trading entities as well as large enterprises, using the same research framework. The absence of studies on *Zakah* that applied the same theoretical approach limits the ability to compare this study's results with those of other studies in the same context. Accordingly, the results of this study could not be benchmarked or explained against the results of similar works. Therefore, future studies are encouraged to empirically investigate *Zakah* compliance based on this model and to consider additional determinants, particularly from other fields like taxation and general regulations.

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