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The moderating effect of spirituality on digital government in low-income countries: a case of SMEs in Zambia

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ABSTRACT

The failure of digital government in most low-income countries has often been attributed to, among many factors, culture. This paper investigated the moderating effect of the indigenous African cultural aspect of spirituality on the adoption and usage of digital government services among small and micro enterprises (SMEs). The base theory was the unified theory of acceptance and use of technology (UTAUT). Analysis was done using structural equations modelling (SEM), applying Hayes' process macro. The results, from 401 SMEs that participated, showed that spirituality has a significant negative moderating influence on the relationship between social influence and the intention to use digital government services. This finding suggests that spirituality, in the Zambian context, has an effect on the usage and adoption of digital government services among SMEs. The study makes a novel contribution to information systems (IS) theory by identifying the influence of an important, yet overlooked, aspect of indigenous African culture on the usage and adoption of digital government services in a low-income country. The paper makes recommendations for practice, policy and IS theory.

Keywords: Spirituality, digital government, UTAUT, technology adoption

INTRODUCTION

Initiatives for digital government are driven by the understanding that the successful adoption and usage of information and communication technology (ICT) will be advantageous and beneficial to individuals and foster social and economic development (Alzahrani, Al-karaghoulil & Weerakkody, 2017; El-Haddadeh, 2009). Nonetheless, the adoption of digital government services in low-income countries remains consistently low, as indicated in table 1 below, despite significant investments in infrastructure (Jeff Gulati, Williams & Yates, 2014; Rorissa & Demissie, 2010; Schuppan, 2009; UNDESA, 2016, 2018; Yavwa & Twinomurinzi, 2018).

Table 1: EGDI rankings (Source: United Nations Surveys (UNDESA, 2016, 2018))

Region	EGDI – 2010	EGDI – 2012	EGDI – 2014	EGDI – 2016	EGDI – 2018
World average	0.44	0.49	0.47	0.49	0.55
Europe	0.62	0.72	0.69	0.72	0.77
Americas	0.48	0.54	0.51	0.52	0.59
Asia	0.44	0.50	0.50	0.51	0.58
Oceania	0.42	0.42	0.41	0.42	0.46
Africa	0.27	0.28	0.27	0.29	0.34

The low levels of adoption are often attributed to the effects of culture (Choudrie, Zamani, Umeoji & Emmanuel, 2017; El-Haddadeh, 2009; Jackson, 2011; Lee, Trimi & Kim, 2013; Schuppan, 2009; Takavarasha, Hapanyengwi, Rupere & Zanamwe, 2012; Zhao, Shen & Collier, 2014).

Many scholars who have investigated the influence of culture on the adoption of digital government services (Choudrie et al., 2017; Gallivan & Srite, 2005; Weerakkody; Dwivedi; Kurunananda, 2009) examined culture based on Hofstede's (1980) national cultural dimensions (Khalil, 2012). These studies overlook the lived reality of indigenous culture and the associated values and belief systems such as the spirituality of individuals in a given society or region (Leung, Bhagat, Buchan, Erez, & Gibson, 2005; Schein, 1984). For example, there has been a recent increase in interest in the role of spirituality and its influence on other disciplines, such as healthcare (Hovland, Niederriter, & Thoman, 2018; Mesquita, Caldeira, Chaves, & Carvalho, 2018; Nahardani, Ahmadi, Bigdeli, & Soltani Arabshahi, 2019) and management (Mishra & Varma, 2019). In this paper, the attention is placed on the indigenous values and belief systems

that define spirituality in African local contexts and their influence on the adoption of digital government services.

Spirituality is defined as a belief in unseen forces that govern over existence and being (Principe, 1983). The terms ‘spirituality’ and ‘religion’ are usually seen as complementary and are used interchangeably, yet they have some important distinctions (Oman, 2013). Spirituality is differentiated from religion, religion being the response of individuals to a belief in an unseen force (Bregman, 2004; Principe, 1983). Spirituality therefore has both cultural and social framings that determine the attitudes, beliefs and practices that influence individuals’ lives (Gumo, Gisege, Raballah, & Ouma, 2012). From the African context, deeper values, attitudes, beliefs and practices are articulated and shaped by African contexts.

The researchers specifically sought to answer the following research question: *“To what extent does spirituality moderate the relationship between social influence and the intention to adopt and use digital government services in Zambia?”*

The study was carried out in the context of small and micro enterprises (SMEs) in Zambia.

The remainder of the paper is structured as follows: the literature review on digital government and spirituality is presented in the next section, followed by a discussion of the guiding theory and the methodology employed in the study. The results and discussion are presented in the subsequent section. The conclusions, recommendations and future work are presented in the final section.

LITERATURE REVIEW

Digital government

Digital government is defined as a socio-technical phenomenon or mechanism by which governments provide efficient services using ICT in a seamless and interfaced manner (Chugunov, Kabanov, & Misnikov, 2017). Individuals interact with governments using electronic platforms and obtain required services with minimal or no human contact. Traditionally, governments were known to be bureaucratic and largely manual but ICT began an evolution. The key drivers of this evolution (Gil-garcia & Martinez-moyano, 2007; Solvak et al., 2019) included the modernisation of processes, an improvement in internal efficiency and an increase in access to information (Janowski, 2015) through universal access mechanisms

(Narayan, 2014). Driven by these imperatives, the concept of a government has been transformed from a manual environment to a digital one where processes and decision-making are digitised using various technologies. Such a digital evolution goes through several stages that are often measured along stages of maturity (Fath-allah, Cheikhi, Al-qutaish, & Idri, 2014), from standalone administrative systems and mere web presence (static) to a fully engaged and agile participative government.

Spirituality

Spirituality is a universal concept that represents experiences, attitudes, memories and a mysterious consciousness of the connection between different realities (Hoogen, 2014). Spirituality has also been defined as being the “spirit” (life force, energy, essence) of a specific culture, expressing the most basic values of that culture (Cilliers, 2009). Scholars advocate the inclusion of the sacred or transcendent as part of spirituality when the influence of spirituality is investigated (Swart, 2017). Tanyi (2002b) describes spirituality as comprising religion combined with indigenous beliefs and values. Spirituality, when seen as part of culture (Hoogen, 2014), includes a person’s awareness of the existence and experience of inner feelings and beliefs, which gives purpose, meaning and value to life (Fisher, 2011). Individuals express these feelings and beliefs through religious values, rituals, ceremonies and traditional practices (Tanyi, 2002b), which serve as an embodiment of their identity.

The influence of African spirituality on everyday work practices is best described in the following quote: “*Wherever the African is, there is his religion: he carries it to the fields where he is sowing seeds or harvesting a new crop; he takes it with him to the beer party or to attend a funeral ceremony; and if he is educated, he takes religion with him to the examination room at school or in the university; if he is a politician, he takes it to the house of parliament*” (Mbiti, 1969). For example, the Zambian (African) adage, “*Vula kasendekela musha mutondo, mutu anamonomo*”, literally meaning, “*if the rain gets heavy under a tree, then it has sensed the presence of a human being*”, depicts a belief system rooted in African spirituality, where a person who experiences unexplained realities attributes them to superstition.

The following attributes of spirituality as a construct (Kadar et al., 2015; Tanyi, 2002a) were investigated in the study:

- Turning to ancestral practices to deal with situations that are not understood.
- Turning to God for answers to challenging situations.
- Seeking to transcend one's self-interests.
- Being aware of and accepting one's interconnectedness with others and creation.
- Understanding the high significance of one's actions.
- Seeking to integrate with others holistically.

The study hypothesised that such attributes have the potential to affect the adoption of digital government services negatively. The study investigated this influence in the context of SMEs in Zambia, which is discussed in the next section.

SMEs in Zambia and e-filing

SMEs in Zambia account for 80% of the companies that are registered with the patents and companies registration agency and yet only a few of them use digital government services (Nhekairo, 2014; Nuwagaba, 2015), particularly the e-filing service. SMEs are targeted in this study because they cumulatively account for 70% of Zambia's GDP and 88% of employment in Zambia (International Trade Centre, 2019). SMEs contribute significantly to the national treasury through taxes, thus playing a key role in national development.

In Zambia, the e-filing service for the submission of returns for either tax, pension or company registration is considered a digital innovation. The service was launched to offer a better service to citizens and organisations, who previously had to queue for hours to have their manual returns processed. E-filing is aimed at enhancing voluntary compliance with the prescribed requirements for the submission of returns while at the same time making it easier for individuals and organisations to access support. In respect of e-filing, the more returns are filed electronically (not nil returns), the higher the expected government revenue (IRS, 2012) and the easier it is to administer tax. The e-filing portal enables people to submit returns (forms) via the internet, to lodge applications to register for various services, to submit objections, to check their online accounts and to perform other online services without physically visiting the respective government offices. Despite substantial investments by the government to establish

transformative innovations, the number of SMEs using the digital services compared to the registered citizens remains low.

The next section briefly describes the underlying theory of adoption that guided the study.

THEORY AND HYPOTHESES

The unified theory of acceptance and use of technology (UTAUT) was used in this study because it measures 70% of the intention to perform an action (Venkatesh, Morris, Davis & Davis, 2003). Based on the UTAUT model and its constructs, which are defined in the subsequent sections, the researchers developed the hypotheses that were used in the model adapted for the research problem.

Performance expectancy

Performance expectancy (PE) is the degree to which an individual believes that using e-filing services increases efficiency, reduces operational costs and provides control. Tarhini, El-Masri, Ali and Serrano (2016) note that PE is a strong predictor of behavioural intention (BI) to use technologies. Venkatesh et al. (2003) demonstrated that PE was a strong predictor of the behavioural intention to use technologies in both voluntary and involuntary situations. Further, Azmi, Kamarulzaman and Hamid (2012) and Ada and Cukai (2014) hypothesised that perceived usefulness, an integral part of PE, positively affects e-filing adoption. Therefore, the researchers postulated the following hypothesis:

H₁: PE positively affects individuals' BI to use e-filing services in Zambia.

Effort expectancy

Effort expectancy (EE) depicts the degree of ease associated with the use of e-filing for tax returns and other government services. This construct is an important determinant of e-filing acceptance and usage. There are individuals who have a fear of technology. The perception that using e-filing services is easy will determine their acceptance and adoption of such services (Alawadhi & Morris, 2008). The researchers thus formulated the following hypothesis:

H₂: EE positively affects individuals' BI to use e-filing services in Zambia.

Social influence

Social influence (SI) is the degree to which people's behaviour is influenced by perceptions of others, who have used e-filing services (Venkatesh et al., 2003). Their usage behaviour is subject to what others say or do, also referred to as subjective norm or normative social influence, in that their behaviour is influenced by the desire to seek approval or avoid rejection. The dimension or scope of influence of SI on BI is influenced by religion, beliefs, practises and values, collectively referred to as spirituality. The researchers therefore hypothesised as follows:

H₃: SI positively affects individuals' BI to use e-filing services in Zambia.

H₆: The positive influence of SI on individuals' BI to use e-filing services is moderated by spirituality.

Facilitating conditions

Facilitating conditions (FCs) relate to the degree of belief that organisational and technical infrastructure exists to support the use of e-filing services (Venkatesh et al., 2003). FCs positively influence usage behaviour (Alraja, 2016; Ghalandari, 2012) and, unlike the previous constructs, FCs directly determine technology use. FCs include existing infrastructure (connectivity, computers, mobile devices, affordable tariffs, regulations, policies and e-filing platforms) that supports technology acceptance. The researchers therefore hypothesised as follows:

H₄: FCs will have a positive influence on e-filing service usage behaviour.

Behavioural intention

Prior studies have shown that BI has a significant positive influence on the use of e-filing services (Ada & Cukai, 2014; Alghamdi, Goodwin & Rampersad, 2011). Some scholars argue that BI is the most important determinant of actual behaviour (Alghamdi et al., 2011). The most important factor that determines user acceptance and use of technologies such as e-filing is the user's intention (Alghamdi et al., 2011). The researchers therefore hypothesised as follows:

H₅: BI positively influences individuals' usage behaviour in respect of e-filing services.

AMFEF MODEL

The model referred to as the adoption model for e-filing (AMfEF), presented in figure 1, was used to investigate the moderating influence of spirituality on the adoption of e-filing services in Zambia.

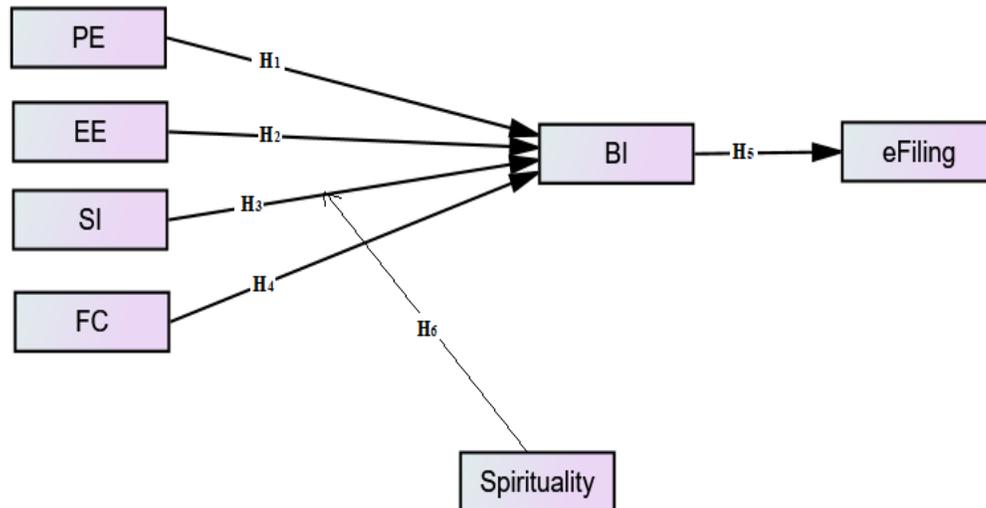


Figure 1: Proposed model

The model was derived from the original UTAUT model (Venkatesh et al., 2003). The adaptation of the original model to a context-specific model is in line with the recommendations made by Venkatesh et al. (2003, p. 470).

METHODOLOGY

A positivist-quantitative approach was used in the study. SME owners were randomly selected from the government database of 132 354 small and micro enterprises registered for e-filing using systematic sampling. A sampling interval of 294 was used. The sample data was estimated to be 450 respondents. This sample size is acceptable considering that structural equation modelling (SEM) requires a sample size determined by the ratio 20:1 (Kline, 2015), which gives a sample size of 160. The survey instrument used was a five-point Likert-type scale questionnaire, and the questions were measured based on the following response options: “strongly disagree (=1)”, “disagree (=2)”, “neutral (= 3)”, “agree (=4)”, and “strongly agree (=5)”. The questionnaires were both administered through a Google survey and delivered

manually to SME owners. The questions that were used to measure spirituality were adapted from the studies carried out by Kadar et al. (2015) and Tanyi (Tanyi, 2002a).

The following spirituality construct items were supported by the question items:

Turning to ancestral practices to deal with situations that are not understood.

Turning to God for answers to challenging situations.

Spirituality question: *When I do not fully understand things such as digital government, I turn to sacred powers to address the situation.*

Spirituality question: *I believe that digital government is allowed by powers beyond the material universe (sacred or transcendent).*

Understanding the high significance of one's actions.

Seeking to transcend one's self-interests.

Being aware of and accepting one's interconnectedness with others and creation.

Spirituality question: *I believe that using digital government will enhance efficiency and thereby improve the social welfare of citizens.*

Spirituality question: *My spiritual background helps me to support digital government programmes for the benefit of others.*

Analysis was done using SEM in SPSS AMOS 25.0 and SPSS 26.0.

RESULTS AND DISCUSSION

Of the 450 questionnaires administered, only 401 were admissible. The adequacy of the sample data was determined using the Kaiser-Meyer-Olkin (KMO) measure of sampling, which shows a KMO of 0.966, indicating that the sample data of 401 is adequate. A KMO that is greater or equal to 0.5 is considered acceptable (Ul Hadia, Abdullah, & Sentosa, 2016).

Table 2: Reliability tests

Kaiser-Meyer-Olkin measure of sampling adequacy		.966
Bartlett's test of sphericity	Approx. chi-square	16707.580
	Df	820
	Sig.	.000

Using Bartlett's test of sphericity, the strength of the relationships between the observed variables and their associated latent variables is seen to be significant at a value of $p < .001$ (UI Hadia et al., 2016). The demographic pattern of the respondents is presented in tables 3 and 4 below.

Table 3: Demography of the sample data

DEMOGRAPHICS		#	% SAMPLE	% POPULATION
Gender	Male	228	56.9%	49.4%
	Female	173	43.1%	50.6%
	TOTAL	401	100%	100%
Age	20 years or under	1	0.25%	0.001%
	Between 21 and 25 years	24	5.99%	0.02%
	Between 26 and 30 years	135	33.7%	0.1%
	Between 31 and 35 years	106	26.4%	0.08%
	Between 36 and 40 years	69	17.2%	0.052%
	Between 41 and 50 years	56	13.96%	0.042%
	Above 51 years	10	2.5%	0.008%
	TOTAL	401	100%	0.3%
Education	Certificate or below	80	20%	0.06%
	Diploma	118	29.4%	0.089%
	Bachelor's degree	162	40.4%	0.122%
	Master's degree	37	9.2%	0.03%
	Doctorate	4	1%	0.003%
	TOTAL	401	100%	0.3%

Table 4: Internet and e-services usage

DEMOGRAPHICS		PARTICIPANTS	% SAMPLE
Internet proficiency	Poor	7	1.7%
	Satisfactory	10	2.5%
	Fairly good	22	5.5%
	Good	75	18.7%
	Very good	156	38.9%
	Excellent	130	32.4%
	TOTAL	401	100%
Frequency of internet use	2 months ago	5	1.2%
	1 month ago	8	2%
	2 weeks ago	5	1.2%
	1 week ago	21	5.2%
	Today	362	90.3%

	TOTAL	401	100%
e-Filing experience	Yes	245	61.1%
	No	156	38.9%
	TOTAL	401	100%
E-filing done by?	Self	137	34.2%
	Accountant	199	49.6%
	Third party	65	16.2%
	TOTAL	401	100%
Other digital government services?	Yes	53	13.2%
	No	348	86.8%
	TOTAL	401	100%

Almost 40% of the SMEs do not have e-filing experience, although they submit tax returns through e-filing and are fairly comfortable with using the internet. The proportion (38.9%) of those with no e-filing experience is quite significant. There is therefore a need for taxpayer clinics and well-coordinated training. Illiteracy may not apply in this case since all the respondents are educated and have relatively high levels of internet proficiency.

Most of the e-filing is done by accountants (49.6%), followed by the SME owners (34.2%). Only 16.2% of the e-filing is conducted by third parties or tax agents. This finding can help the government to plan for appropriate training for SMEs. Only 13.2% of the respondents use other digital government services, which largely include electronic company registration and e-pensions. Despite the availability of these digital services, some respondents prefer to submit their returns using the traditional manual methods.

Reliability of the model

The overall Cronbach's alpha of the proposed AMfEF model was excellent, as shown in tables 5 and 6.

Table 5: Overall Cronbach's alpha for e-filing

Cronbach's alpha	Cronbach's alpha based on standardised items	N of items
.980	.980	41

Table 6: Individual construct reliability

Construct	Items	Cronbach's alpha (internal consistency)	Reliability status of construct (Gliem & Gliem, 2003)	Item-total correlation
SCALE 1: Electronic filing service				
Performance expectancy (PEEf)	4	.90	Excellent	.68 – .78
Effort expectancy (EEEf)	4	.89	Good	.69 – .83
Social influence (SIEf)	4	.77	Acceptable	.48 – .71
Facilitating conditions (FCEf)	5	.83	Good	.49 – .71
Behavioural intention (BIEf)	4	.90	Excellent	.71 – .83
Usage behaviour (UBEf)	4	.89	Good	.66 – .88
SCALE 2: Cultural construct				
Spirituality (SP)	4	.78	Acceptable	.41 – .68

The reliability coefficients for all the constructs are above 0.7 (Awang, 2012) and are therefore acceptable, demonstrating internal consistence. The Cronbach's alpha for each construct shows that the scale items for each construct are highly correlated and, since the constructs are reflective constructs, the items are interchangeable. This implies that dropping a scale item would still preserve the conceptual meaning of a construct (Kline, 2015). For this reason, scale items EEEf3 (“learning to operate an e-filing system is easy for me”), EEEf4 (“it would be easy for me to become skilful at e-filing”) and FCEf5 (“the availability of the tax portal helps me to file on time”) were dropped to improve the model and to attain an acceptable model parsimony (refer to figure 3).

Assessing the moderating effect of spirituality on SI → BI

The moderating effect of spirituality on the relationship SI → BI, represented by H₆, was assessed. To provide clarity, this relationship was extracted from the overall model in figure 1 and presented separately in figure 2 since Hayes process model 1 (moderation) only has one moderator (interactive variable), one focal predictor and one outcome variable. Figure 2 and its associated regression weights show that the p-value of *** (***) indicates that the regression weight for SI in the prediction of BI is significantly different from zero at the 0.001 level (two-

tailed)) for this relationship, which tests hypothesis H₆, is significant. In short, SI influences individuals' BI to use digital government services. The extent to which spirituality moderates this relationship was empirically examined.

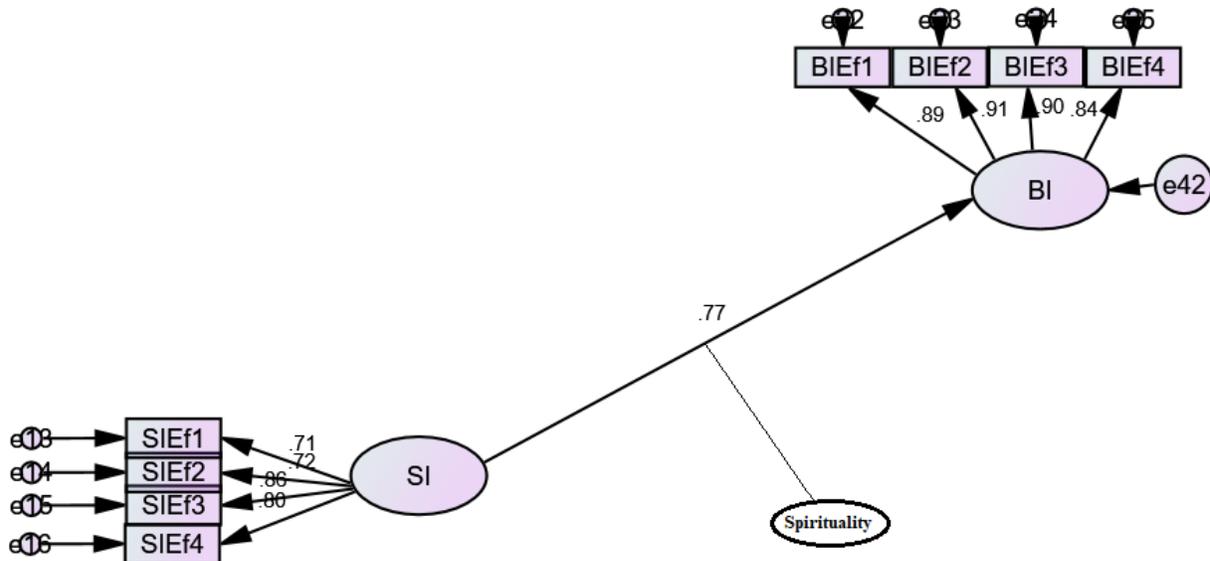


Figure 2: Influence of SI on BI

Model 1 of Hayes’ process macro in SPSS 26.0 was used, focusing on the interactive variable, Int_1, to understand the moderating effect and its direction.

A brief outline of the results of the causal moderation of spirituality are presented below.

- Outcome or dependent variable Y: BIEf
- Independent variable or focal predictor X: SIEf
- Moderator variable W: SP
- Interactive variable Int_1: (X*W)

Table 7: Hayes process macro results for model 1 – moderation

	Coeff	se	p
Constant (a)	2.2108	.6038	.0003
SIEf	.240	.113	.033
SP	-.1293	.1684	.4431
Int_1	.1020	.0392	.0097

Table 8: Model summary

R	R-sq	MSE	F	df1	df2	p
.7644	.5843	.2552	185.9857	3.0000	397.0000	.0000

Overall model = $F(3,397) = 185.98$, $R^2 = .58$, $p < .001$ Int_1 (b) = .102 $p = .01$ shows positive significant results at the level of confidence of 95% for all confidence intervals in the output.

Table 9: Conditional effects of the focal predictor at different values of the moderator

SP	Effect	se	t	p	LLCI	ULCI
3.0000	.4719	.0506	9.3237	.0000	.3724	.5714
4.0000	.5739	.0462	12.4251	.0000	.4831	.6647
5.0000	.6759	.0692	9.7712	.0000	.5399	.8119

Interpretation

At low levels of SP, SIEf $b = .472$, $t(397) = 9.32$, $p < .01$; the result shows that social influence on e-filing accounts for 47% of SMEs' intention to use e-filing. At average levels of SP, SIEf $b = .574$, $t(397) = 12.4$, $p < .01$; the result shows that social influence on e-filing accounts for 57% of SMEs' intention to use e-filing digital services. At high levels of SP, SIEf $b = .676$, $t(397) = 9.77$, $p < .01$; the result shows that social influence on e-filing accounts for 68% of SMEs' intention to use e-filing.

The model results show that spirituality, at p -value = 0.0097, is a significant moderator of the relationship between social influence and intention to use digital government services. The conditional effects, presented in table 9, imply a positive coefficient of spirituality. However, the coefficient for spirituality (SP), presented in table 6, is negative, implying that its influence is in a negative direction.

Testing the remaining hypotheses

SEM in SPSS AMOS 25.0 was used to test the other hypotheses postulated in the theory and hypothesis section.

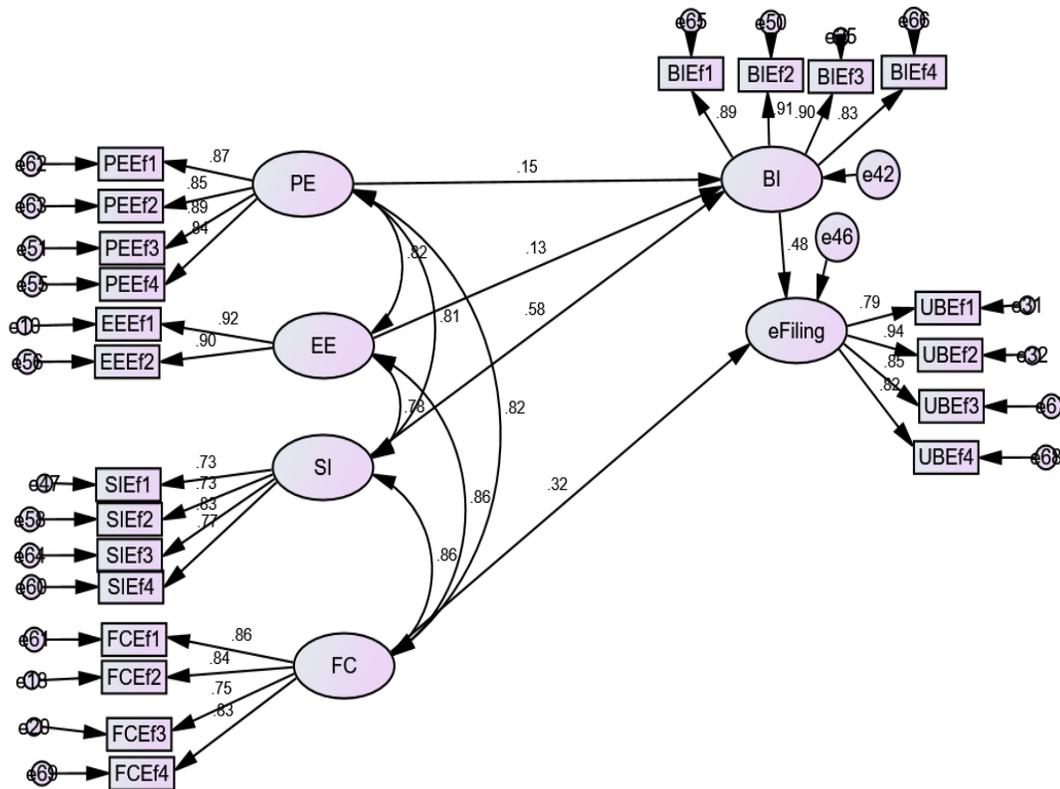


Figure 3: Path diagram for AMfEF

N=401; CMIN/DF= 3.697; GFI=.845; AGFI= .802; CFI=.933; IFI=.934; RMR=.034; RMSEA=.080; p = .000

The SEM results show that the AMfEF model in figures 1 and 3, based on UTAUT, exhibits superior fit indexes (Khalil & Nadi, 2012), confirming the validity of the inferences. The correlation coefficients for each of the relationships is significant, with a p value < .05, as shown by regression weights in table 10.

Table 10: Regression weights

Relationships	Estimate	S.E.	C.R.	p
BI <--- SI	.654	.153	6.593	***
BI <--- EE	-.200	.100	-2.000	.046
BI <--- PE	.215	.096	2.241	.025
e-Filing <--- BI	.497	.085	5.837	***
e-Filing <--- FC	.333	.085	3.931	***

Validation of hypotheses

Based on the path diagram presented in figure 3 and the associated correlation coefficients or regression weights presented in table 10, the results indicated in table 11 were obtained.

Table 11: Results of tested hypotheses

Code	Tested hypotheses	Supported?	Predicted direction?
H ₁	<i>PE positively affects individuals' BI to use e-filing services in Zambia</i>	YES	YES
H ₂	<i>EE positively affects individuals' BI to use e-filing services in Zambia</i>	YES	NO
H ₃	<i>SI positively affects individuals' BI to use e-filing services in Zambia</i>	YES	YES
H ₄	<i>FC will have a positive influence on e-filing service usage behaviour</i>	YES	YES
H ₅	<i>BI positively influences usage behaviour of e-filing services</i>	YES	YES
H ₆	<i>The positive influence of SI on BI to use e-filing services is moderated by spirituality</i>	YES	YES, and in a negative direction

The results show that H₁ is supported. SMEs were motivated to complete their tax returns using e-filing, based on the understanding that the e-filing service would improve performance.

H₂ was also significant and, therefore, supported, though in a negative direction. Effort expectancy was seen to have a negative effect on SMEs' BI to use e-filing services in Zambia. This result is consistent with the demographic data, which shows that 40% of the respondents were uncomfortable with using e-filing services.

The results also show that H₃ is supported. Social influence was seen to have a positive influence on the respondents' intention to use e-filing services. Through H₆, this influence was moderated by spirituality, as demonstrated earlier. The study thus rejected the null hypothesis, H₀, which

states that there is no statistically significant moderator between SI and BI because the positive influence of SI on BI to use e-filing services is negatively moderated by spirituality.

H₄ and H₅ are also supported, demonstrating that, generally, SMEs have facilitating conditions to enable them to adopt and use e-filing services.

CONCLUSION

The study primarily investigated the moderating influence of spirituality on digital government services (e-filing) adoption among SMEs in Zambia. The study showed that spirituality had a moderating influence on the adoption and usage of e-filing.

Spirituality, which should be understood in a context beyond religion and that encompasses beliefs, values, traditions and ways of thinking, moderates SMEs' intention to adopt digital government services to a great extent. The conditional effects of the focal predictor at different values of the moderator (spirituality) reflected in table 9 show that the greater the levels of spirituality entrenched in SME owners, the lower the resultant influence of the focal predictor (social influence) on the adoption or use of digital government services. This is so because spirituality was found to be a negative moderator, as indicated in table 7. This finding is significant in addressing issues that affect digital government and consequently hinder sustainable development in low-income countries. Deliberate policies and regulations, targeted at encouraging social and cultural practices that encourage the usage of digital government services, and a strong change management programme are key to assuring sustainable development in respect of ICT, especially in low-income countries.

The findings also suggest that the over focus on factors such as infrastructure, software licences, skilled human resources and financial resources should be reconsidered when the implementation and adoption of digital government services in low-income countries is evaluated. It is equally important to measure the influence of context-specific softer cultural issues such as spirituality that are deeply rooted in the indigenous cultures of African communities and societies.

Implementers of digital government services, especially in low-income countries, should undertake a thorough review of both hard and soft issues that could potentially affect the implementation and adoption of digital government services. While hard issues may be easier to

address, tackling soft issues takes longer. Therefore, knowledge of the existence of beliefs and values such as spirituality is critical. The findings presented in this paper provide insight into the more salient cultural aspects that influence digital government programmes in low-income countries in Africa.

The results also emphasise the need for more thoughtful training programmes whenever a new digital government artefact is released.

RECOMMENDATIONS AND FUTURE WORK

This study makes a contribution to literature on information and communication technology for development (ICT4D) and digital government. The study develops theoretical insight into digital government adoption and delves into cultural constituents that provide context in appraising digital government models in low-income countries.

The researchers recommend that a similar study be undertaken in another low-income country. Other research designs such as interpretive studies are recommended to elicit other indigenous social and cultural influences and to get deeper insights into causal relationships.

In respect of practice and policy, the researchers recommend that policies and programmes that address contextualised indigenous cultural dispensations be developed and implemented.

RESEARCH LIMITATION

Generalisability from a single study represents one limitation of the research. A qualitative method can also be triangulated with the research findings to deepen insight into the influence of spirituality on the acceptance of e-filing. The study purposely focused on SMEs who actively use the internet. The time horizon considered was cross-sectional rather than longitudinal. Collecting data over a period of time to synthesise behavioural patterns in relation to the use of digital government services may reveal clear trends, which may provide more insight. In this study, a survey was used for data collection. A case study or a narrative inquiry applying an interpretivist philosophy could be used in future studies to gain a deeper insight into spirituality and its effects on digital government.

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