

The influence of openness to change on academics' research publication in public higher education institutions in Tanzania

Sinyati Ndiango

*Department of Business Administration and Management,
The University of Dodoma, Dodoma City, Tanzania*

Neema P. Kumburu

Department of Management, Moshi Cooperative University, Moshi, Tanzania, and

Richard Jaffu

*Department of Business Administration and Management,
The University of Dodoma, Dodoma City, Tanzania*

Abstract

Purpose – The major purpose of this paper is to examine the influence of openness to change on research publication in higher education institutions (HEI) in Tanzania.

Design/methodology/approach – With a sample of 247 academics, a cross-sectional survey design was used and questionnaires were the primary data collection tool. The collected data were tested using mean and standard deviations, and the causal-effect relationship between the independent and dependent variables was tested using simple linear regression.

Findings – The findings of this study revealed that openness to change positively and significantly influence research publication in higher education ($\beta = 0.598$ and $p < 0.001$).

Practical implications – The study recommends that HEI should consider openness to change value as one among criteria for hiring academics as well as developing good programs that will help academics develop the academics' self-awareness with regard to what takes for one to be a productive researcher.

Originality/value – This is the first study to examine the influence of openness to change as a personal value on academics' research publication in Tanzanian HEI. In this instance, the study contributes to the existing literature on the influence of academics' personal values in terms of openness to change on research publication.

Keywords Openness to change, Research publication, Higher education institutions, Academics, Journal articles, Tanzania

Paper type Research paper

1. Introduction

Worldwide, research publication has a significant role to both academics as well as higher education institutions (HEI) (Ocampo *et al.*, 2022). For academics, publication outputs affect their advancement and reputation in academia (Zhang, 2022). In higher education settings,



among the major criteria for recruitment of academic staff, provision and sustenance of tenure is research publication (Hemmings & Kay, 2010). On the other hand, the major factor for evaluation of an individual academic performance is research publication (Grant, 2006). Furthermore, the promotion of an academic staff from one rank to another rank depends largely on the number and quality of publications that one has (Mbambo, Olarewaju, & Msomi, 2022; Ismayilova & Klassen, 2019). Nevertheless, for higher learning institutions, research publication is among the key factors used to assess performance of the institutions (Jung, 2012). The ranking systems use research publications as the most significant factor in rating these institutions (Mbambo *et al.*, 2022; Truong *et al.*, 2021). Besides, the status and credibility of any higher learning institution is enhanced by the quantity and quality of research produced both domestically and globally (Nguyen, 2022; Vasiljeva *et al.*, 2020).

Despite the fact that research publication is critical to academic advancement and HEI in general, it has been discovered that research publication outputs among academics and HEI remain low (Makulilo, 2021; Uwizeye *et al.*, 2022). Africa continent for example, has been identified to have fewer researchers and produces less research output than individual countries in Europe, America and Asia, contributing only 2.6% of the world's research output (UNESCO, 2015). This is due to fact that majority of academics who are expected to engage in research focuses only on teaching (Mushemeza, 2016). Tanzania on the other hand, is found to be among African countries with relatively low research output (Ali & Elbadawy, 2021; Sangeda & Lwoga, 2017). The University of Dar es salaam, which is the leading higher education institution in the country, had a target of attaining at least 2000 publications in a year based on the Corporate Strategic Plan (2014-2023). Despite this, only 4,273 papers were published by its academics over an 8-year period, rather than the expected 16,000 papers (Makulilo, 2021). Besides, the majority of academics stay in the same academic position for an extended period of time because they fail to meet a criterion of research-based publications, which is used as one of the aspects of evaluating and assessing performance (Fussy, 2018; Makulilo, 2021).

As a result, several researchers and practitioners have expressed an interest in investigating the factors that influence research publication in HEI (Heng, Hamid, & Khan, 2020), whereas a number of these factors have been identified including individual characteristics of the researcher, institutional factors, governance factors as well as accumulative advantage (Valdivieso, Alecchi, & Arévalo-Avecillas, 2022; Truong *et al.*, 2021; Niles, Schimanski, McKiernan, & Alperin, 2020). However, prior literature focused mainly in developed context with limited studies relating to the developing context (Castillo & Powell, 2020; Heng *et al.*, 2020; Ismayilova & Klassen, 2019). Whereby, when compared to developed countries, developing countries have a resource-constrained environment, which may limit academics to engage research and publication (Walters, Mehl, Piraino, Jansen, & Kriger, 2022).

Based on the fact that research publication is an activity which is skill-oriented and energetic with high investment in time, it, therefore, requires an individual academic's commitment, passion and interest (Callaghan, 2014; Lai, Du, & Li, 2014). This implies that an individual's academic efforts play a crucial role in determining their productivity in research publication. With this regard, there is still a need to investigate more on what drives some academics to engage more in research publication while others do not. According to Schwartz (1992), the willingness for one to choose a certain goal is driven by his/her values particularly openness to change. These value focuses on self-interest and its motivational goal is the willingness to choose, create, explore as well as preference for novelty and change (Schwartz, 1992; Ros, Schwartz, & Surkiss, 1999). Thus, the decision for an academic to engage in research publication may be driven by his/her openness to change value.

However, previous studies on the role of openness to change on research publication are very limited (Callaghan, 2014, 2017), whereas more research is required so as to disclose the causal connection between openness to change and research publication (Callaghan, 2017). Besides, to the best of the researchers' knowledge, there is no study which examined the

influence of openness to change on research publication in developing countries such as Tanzania. Moreover, other studies also called up for a more investigation on research productivity in higher education in African HEI as it is still low and imbalanced (Uwizeye *et al.*, 2022; Nafukho, Wekullo, & Muyia, 2019; Muriithi, Horner, Pemberton, & Wao, 2018). Therefore, to respond to this gap, the current study aims at examining the influence of openness to change on research publication in HEI in Tanzania. The findings of the study might help managers in HEI to identify better criteria to be used when recruiting academics as well as determining good programs which will assist academics to develop their self-awareness with regard to what it takes one to become productive researchers.

2. Literature review and hypothesis development

This section includes a review of relevant literature, including both theoretical and empirical literature reviews, in order to develop the study hypothesis.

2.1 *The basic human values theory*

The current study is grounded on the basic human values theory which was developed by Schwartz (1992). The theory posits that values are necessary goals, which differ in importance and act as guiding principles in people's lives and affect their goals and actions. People are motivated to act in relation to the values they hold, and they seek consistency between what they believe and the actions and behaviors that express those values (Barni, Danioni, & Benevene, 2019), whereas these actions and behaviors help individuals achieve their goals and personal aspirations (Schwartz *et al.*, 2012). Generally, individuals rely on their values when deciding what is important and not important in their daily lives, choosing actions as well as justifying their behaviors (Levontin & Bardi, 2019). Thus, values are important drivers of actions in organizational settings (Purc & Lagun, 2019). Therefore, for academics in HEI, the decision and motivation to engage in research publication is assumed to be driven by the values that they hold (Cieciuch & Davidov, 2012). Based on Schwartz' theory, there are ten basic human values which are categorized into four groups which are openness to change, self-enhancement, conservation as well as self-transcendence (Schwartz, 1992). The current study will focus on openness to change, which, unlike other values, is thought to positively predict creativity and innovation, whereas research activity is also considered to be inherently creative and innovative (Purc & Lagun, 2019; Callaghan, 2014).

2.2 *Openness to change and research publication*

Openness to change expresses the motivation for novelty and challenge (Levontin & Bardi, 2019). Individuals who value openness to change find it important to be self-directed in thought and action and seek out pleasure and stimulation in their lives (Bojanowska & Urbanska, 2021). Despite the empirical evidence on the influence of values on many attitudes and behaviors (Sousa, Coelho, & Guillamon-Saorin, 2012), different workplace settings (Barni *et al.*, 2019; Lebedeva, Schwartz, van de Vijver, Plucker, & Bushina, 2019; Purc & Lagun, 2019) and education settings (Barni, Russo, & Danioni, 2018), the empirical evidence with regard to the influence of openness to change value on research publication in HEI is scarce (Callaghan, 2017). Regrettably, to the best of researchers' knowledge, this relationship is unexplored in developing countries such as Tanzania. Given the fact that research as an activity is considered inherently creative and innovative (Ocampo *et al.*, 2022; Callaghan, 2014), it demands one to be more creative and innovative in bringing up new ideas and developing them into a form that can be disseminated to others. Thus, it can be assumed that, academics with higher levels of openness to change are more likely to be productive in research publication. With high openness to change value, academics may come up with new

researchable ideas and they may be willing to take risks so as to succeed in their research and publication process. On the other hand, higher levels of openness to change may help academics to adopt and try new things with regard to research for example new technologies which may facilitate the research and publication process. In light of the above evidence, the following hypothesis is posed:

- H1.* Openness to change positively and significantly influences academics' research publication in HEI.

3. Methodology

3.1 Study area and research design

The study has been conducted in four public HEI in Tanzania including, Nelson Mandela Institution of Science and Technology (NM-AIST), Sokoine university of Agriculture (SUA), Muhimbili University of Applied and Allied Sciences (MUHAS) and the University of Dar es salaam (UDSM). UDSM has been selected as it is the oldest and leading higher education institution in the country (Makulilo, 2021). SUA and MUHAS have been selected based on the uniqueness of the programs offered which are more related to health and agriculture (TCU, 2019; Sangeda & Lwoga, 2017). NM-AIST was selected as it offers postgraduate and postdoctoral studies as well as research in science, engineering and technology and majority of its academics are lecturers, senior lecturers, associate professors and professors who served the purpose of the study. This study used a cross-sectional research design, whereby data were obtained at a single specific point in time (Creswell, 2012). This design allowed the researcher to gather data from several academics in four HEI in Tanzania at once. Additionally, a cross-sectional design is both faster and less expensive (Saunders, Lewis, & Thornhill, 2019).

3.2 Sampling and data collection

In the current study, data were obtained from 247 academics from four HEI. Structured questionnaires were used as the main data collection method, where out of 283 questionnaires which were distributed, only 247 had complete responses. Questionnaires are simple and useful tool for assessing and measuring personal feelings and subjective concepts (Kim, Ku, Kim, Park, & Park, 2016). On the other hand, a random sampling technique was used to obtain respondents in HEI who were in groups of associate professors, senior lecturers and lecturers. These groups were selected because, despite other criteria, research and publication carries much weight for them to be promoted from one rank to another. A random sampling technique allowed each element in the sample to have an equal chance of being selected and assured that each subgroup of interest is represented (Saunders *et al.*, 2019). Additionally, before data collection, the questionnaire was pre-tested to see if the contents and format are clearly understandable and all changes were made basing on the feedback obtained.

3.3 Measurement of study variables

Previous validated scales have been used to measure variables in the current study. Specifically, the Portrait Value questionnaire 21- items (PVQ-21) was used to measure openness to change. The scale consists of six items. The respondents had to indicate on a five-point Likert scale ranging from one "1-strongly disagree" to "5-strongly agree" how much they agree or disagree on the descriptions relating to their openness to change value. This tool was used because it is not challenging and has been identified to be suitable for all people (Ciecuch & Davidov, 2012). The tool has also been used in previous studies to measure openness to change (Jacobs, 2022; Koscielniak & Bojanowska, 2019; Purc & Lagun, 2019).

On the other hand, research publication output based on the total number of research articles authored by respondents and published in peer-reviewed journals. Peer-reviewed journal articles were considered because they are subjected to a more rigorous review process (Uwizeye *et al.*, 2022) and are thus regarded as the primary contributions on research productivity in HEI (Hemmings & Kay, 2010). Similarly, studies such (Nguyen, 2022; Kwiek, 2018; Callaghan, 2017) have used the same approach to measure academic research publication. Reliability and validity of the instruments were ensured through pre-testing (Rothgeb, Willis, & Forsyth, 2007). This helped to determine if the questionnaires are clearly articulated and valid enough to collect the data required to complete the study (Saunders *et al.*, 2019). Furthermore, the Cronbach's alpha coefficient was used to test the internal reliability of openness to change. The Cronbach's alpha coefficient value for this variable was 0.908, indicating that reliability was achieved because the value was greater than the acceptable range of 0.7 (Taber, 2018; Tavakol & Dennick, 2011; Cronbach, 1951).

3.4 Data analysis

Statistical package for social sciences (SPSS) version 21 was used for data analysis in this study, and the tool allowed for both descriptive and inferential statistics to be performed as data analysis procedures. Descriptive analysis included assessment of mean, standard deviations, kurtosis and skewness values as recommended by (Pallant, 2020). On the other hand, inferential statistics included the simple linear regression to determine the relationship between openness to change and academic research publication. The linear regression analysis assists in determining the cause-and-effect relationship between the independent variable and one continuous dependent variable (Uyanik & Güler, 2013). Thus, given that the study's main objective was to test the relationship between openness to change and academic research publication, as measured by the number of published articles, a linear regression analysis appears to be appropriate for establishing this cause-and-effect relationship.

4. Results and discussion

This section presents and discusses the results in relation to the collected data and the main study objective.

4.1 Descriptive statistics of study's variables

The descriptive statistics of items measuring openness to change as well as the overall mean and standard deviation were calculated as indicated in Table 1. The results show that all items are having a mean score of above 3.0 which ranged from 3.69 to 4.02. The variable has a grand mean of 3.775. These results indicate that academics in these institutions agreed with

S/N	Items	N	M	SD
1	Thinking up new ideas and being creative is important to me	247	4.02	1.014
2	Making my own decisions about what I do is important to me	247	3.72	1.056
3	I think it is important to do plenty of different things in life	247	3.66	1.046
4	I like to take risks	247	3.78	1.049
5	I look for every chance I can to have fun	247	3.78	1.002
6	For me enjoying life's pleasures is important	247	3.69	0.997
7	Overall mean	247	3.775	1.429
	Number of journal articles		4.230	

Table 1.
Descriptive statistics of
openness to change
research publication

Note(s): Italics indicate the overall mean value of all items related to openness to change
Source(s): Survey data (2022)

the items measuring their openness to change. Furthermore, the mean score for research publication was 4.23, while standard deviation was 1.429.

4.2 Inferential statistics for testing relationship between study's variables

A linear regression model was used to test the relationship between openness to change and research publications among academics at the surveyed public HEI.

4.2.1 The model summary. Table 2 shows that the coefficient of determination values for R -square and adjusted R -square are 0.358 and 0.355, respectively. Based on the value of adjusted R -square, the findings show that about 35.5% of variation on the dependent variable (research publication) is explained by the independent variable (openness to change) included in the model. Therefore, openness to change as an independent variable contributes to explaining the variance of academic research publication as a dependent variable. It should be noted that the remaining 64.5% is accounted for by other variables not included in the model.

4.2.2 ANOVA. The analysis of variance (ANOVA) results as presented in Table 3 on the relationship between openness to change and academic research publication revealed that the independent variable (openness to change) has a significant influence on academic research publication because the p -value (0.001) is less than the required statistical value of 0.05. These findings suggest that the coefficient of openness to change is at least not equal to zero. Hence openness to change contributes significantly in explaining variation of research publication.

4.2.3 The influence of openness to change on the academic research publication. The findings in Table 4 show the influence of openness to change as a predictor variable on academics' research publication in terms of the number of published articles as an outcome variable. The findings show that there is a positive significant relationship between openness to change and academics research publication as the p -value is less than 0.001 and beta

Model	R	R square	Adjusted- R square	Std Error of the estimate
1	0.598 ^a	0.358	0.355	1.053

Note(s): "a" in Table 2 reflects openness to change which is a predictor variable

Source(s): Survey data (2022)

Table 2.
Model summary

Model	Sum of squares	Df	Mean square	F	Sig
Regression	151.153	1	151.153	136.430	0.000 ^b
Residual	271.438	245	1.108		
Total	422.591	246			

Note(s): "b" reflects openness to change which is a predictor variable

Source(s): Survey data (2022)

Table 3.
ANOVA

Model		Unstandardized coefficients		Standardized coefficients		Sig
		B	Std. Error	Beta	t	
1	(Constant)	2.094	0.187		11.194	0.000
	Openness to change	0.455	0.039	0.598	11.680	0.000

Source(s): Survey data (2022)

Table 4.
The influence of
openness to change on
research publication

coefficient of 0.598. These findings support the [H1](#), and hence, the study accepts the hypothesis that openness to change is positively and significantly related to academics' research publication. The results further imply that a unit increase in openness to change leads to 59% increase in research publication in terms of number of published articles. Therefore, openness to change as among personal values significantly determine the number of articles that academics publish in order to contribute toward research publication. Based on these findings, the collected data support the study's hypothesis that openness to change value has a positive and significant influence on research publication.

The plausible explanation for this link to exist relies on the fact that individuals with a higher level of openness to change are considered to be creative, willing to choose their own goals and willing to take action to achieve their goals. Therefore, academics who are motivated by this value are more likely to be productive in research publication because they are willing to make the decision to engage in research activities and will always dare to overcome challenges associated with the publication process. On the other hand, research as an activity necessitates creativity in the generation of new researchable ideas, their development, and dissemination to others. As a result, academics who are more open to change are more likely to be productive because they are creative, willing to try new things and take all risks to achieve their goals. These findings contrast with those of ([Callaghan, 2014](#)), who discovered that openness to change was not related to higher levels of research productivity. They did, however, respond to the call of [Callaghan \(2017\)](#) by establishing a causal link between openness to change and research publication. Furthermore, this study supports previous research that found that openness to change value influences creativity-based activities ([Purc & Lagun, 2019](#); [Sousa & Coelho, 2011](#)).

5. Conclusion and study implications

5.1 Conclusion

The primary objective of this research, which was grounded on Schwartz's theory of fundamental basic human values, was to evaluate the influence of openness to change on research publication in HEI in Tanzania. Whereby, based on the findings, openness to change has been identified that it positively and significantly influences research publication. An individual that embodies these traits is one who is self-directed, autonomous and curious, with the ability to choose and execute actions in order to achieve a particular objective ([Lebedeva et al., 2019](#)). According to the results, it has been shown that academics who place a greater value on being open to change have a greater chance of being productive in research publication. This is the case due to the fact that publishing research requires a lot of effort and perseverance; consequently, an academic member should be willing to invest his or her time and efforts to develop ideas that are amenable to research and transform those ideas into a form that can be shared with other people.

5.2 Implication of the study

The findings of this study have both theoretical and managerial contributions. First of all, the findings widen the applicability of Schwartz's theory of basic human values in HEI in developing economies. Second, the findings of the current study extend the limited literature on openness to change and research publication in developing countries like Tanzania. Third, by responding to calls from other researchers on the need to investigate more on the factors influencing research productivity in developing countries for example ([Uwizeye et al., 2022](#)). Thus, the study presented an investigation on how openness to change influence research publication in HEI, whereby basing on the findings it has been noted that openness to change contributes much on research publication among academics.

On the other hand, with regard to the findings, the study has managerial implications to practitioners in higher education. Given the fact that the findings revealed that openness to change influences research publication, higher education managers may consider this value in the recruitment and selection process. Employing and retaining academics with high levels of openness to change value may increase research publication in HEI. Moreover, HEI may design different training programs for academics to help them develop their self-awareness with regard to what it takes for one to be more productive in research publication.

6. Limitations and future research directions

This study provides some research directions that can be explored in the future. First, the scope of the study is limited to public HEI only. Future studies may replicate the findings to include private institutions. Second, the study considered research publication in one aspect only that is journal articles in refereed journal. Future studies should include other forms of publication such as books, book chapters and conference papers. Third, openness to change has been considered in a unidimensional form. However, according to Schwartz (1992), openness to change is made up of different values including self-direction, stimulation and hedonism; therefore, future research should consider each of these values independently to see how they influence research publication.

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Corresponding author

Sinyati Ndiango can be contacted at: ndiangosinyati@gmail.com

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