An X-ray of the Factors Influencing Individual Knowledge Sharing: A Confirmatory Factor Analysis

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Abstract

Knowledge and its management is a quintessential source of competitive edge. This is more precious and desirous in knowledge-intensive settings i.e. academes, where the stocks in trade (resources) are virtually knowledge driven. And for knowledge to be of essence, it must be transmitted (shared) among individuals. Accordingly, performance is maximized by giving individuals useful knowledge. The objective of this study is to empirically conduct a confirmatory factor analysis(CFA) of the dimensions of knowledge sharing(KS) among individual academic staff. A valid response rate of 391 was utilized in this study which was obtained from five hundred and ten (510) questionnaires administered to academic staff. Data collection was conducted in all 13 public universities in north central region, Nigeria. The findings reveal that the four factors – nature of knowledge, motivation to share, opportunities to share and working culture as theorized by Ipe (2003) were empirically affirmed to be dimensions of KS in that, the parameters of the CFA were sufficiently achieved given standard thresholds as suggested by scholars/experts. By implication, these factors shape the level of KS practices amongst individual academics in Nigerian public universities. It also reveals that the influence of KS is better predicted by appreciating how these factors interact to shape the KS practices amongst academics. Consequently, Ipe's factors may not be the only dimensions of individual knowledge sharing owing to the multidimensional nature of the construct. Hence, a call on future studies to replicate, affirm or modify the affirmation in a bid to widen the dimensionality of the construct by factoring in other possible relevant dimensions to minimize the degree of unexplained variance in the construct.

Keywords: knowledge, knowledge Sharing, Individual knowledge.

1. Introduction

Lately, the role of knowledge in the life of organizations has gained currency in the ambit of literature; it is being considered as the most crucial organizational resource (Alvesson & Karreman, cited in Ipe, 2003; Nahapiet & Ghoshal, 1998; Spender & Grant, 1996). However, right from the time immemorial, it had been considered as a treasurable asset in organizations, only in the recent past, has knowledge been recognized as the basic fountain for competitive edge as well as a resource for organizational sustainability and growth (Nonaka & Takeuchi, 1995; Stewart & Ruckdeschel, 1998). The contention that material resources are no longer the mainstay of organizations (i.e. knowledge is the pillar of the contemporary organizations) has attested to the necessity for processes that enhance the production, dissemination and harnessing of both individual, collective and organizational knowledge (Becerra-Fernandez & Sabherwal, 2001; Drucker, 2011). Many organizations have made series of efforts to design systems to effectively harness the knowledge they possess, and at the time there is a myriad of write-ups that underscore the relevance of knowledge, however, much is still there to be appreciated about how it is produced, harnessed, shared and utilized in organizations (Grover & Davenport, 2001; Tsoukas & Vladimirou, 2001).

In the 21st century, knowledge is conceived as one of the factors of production, hence the overriding resource in organizations (Sohail & Daud, 2009). Thus, the economy of the world is driven by knowledge. Previous studies disclosed that the accomplishments of economies in times to come would certainly be determined by the extent to which knowledge is exploited and leveraged; hence knowledge is crucial to organizations irrespective of its forms, especially institutions of higher education like universities (Sizer, 2001). Knowledge as possessed by institutions of higher education had better be managed in an efficient manner to usher in the achievement of set goals. Alon these lines, Knowledge management(KM) has become imperative for organizations. KM as widely conceived is an organized process of creating, collating and collecting, preserving, applying, disseminating (sharing) as well as recreating knowledge to facilitate performance and value addition. From this perspective of KM, it would be observed that knowledge sharing(KS) is enshrined in the spectrum of knowledge processing (i.e. KM) where it is created and harnessed i.e. KS is the nucleus of the entire process of KM (Shapira, Youtie, Yogeesvaran, & Jaafar, 2006). Accordingly, Madugu and Abdul Manaf, (2018) posit that "producing new knowledge over and over does not make for the success of any given organization but what does, is the extent of transmission i.e. knowledge sharing (KS)" p.5. Thus, the strategies of KM underscore the contribution of KS towards maximization of performance i.e. meeting organizational goals (Jain, Sandhu, & Sidhu, 2007). In this connection, the sphere of KM has traditionally been driven by ICTs and its paraphernalia (Davenport & Prusak, 1998; Gourlay, 2001). On the other hand, there is a growing recognition of the influence

of individuals in the processes of KM – an upsurge in interest in the 'people centered approach' of knowledge in organizations (Earl, 2001; Stenmark, 2000), thus what determines success in deployment of KM is conceived to be engraved in the nature or type of relationships that exist between the individuals in organizations (e.g., Andrews & Delahaye, 2000). Central to the above, it is worthy to note that individuals possess knowledge that ought to transcend to group level and ultimately the organizational level where it is harnessed to enhance the attainment of goals (Nonaka, 1994). Accordingly, knowledge sharing is widely perceived as key to "knowledge creation, organizational learning and performance achievement"- flowing from this, is the widely held view that individuals always create and share knowledge, hence KS is reckoned to be a natural as well as automatic activity in organizations (Chakravarthy, Zaheer, & Zaheer, cited in Ipe, 2003). Knowledge as a subject of preoccupation exists at varied levels in organizations – individual, group and organizational levels (De Long & Fahey, 2000). Along these lines, this paper is preoccupied with the primary level (individual level) i.e. knowledge held by individuals. In that, sharing of individual knowledge is essential to the creation, transmission and harnessing of knowledge at all the other levels in organizations ((Ipe, 2003; Nonaka & Takeuchi, 1995). In line with this, Nonaka and Takeuchi (cited in Ipe, 2003 p. 340) submit that "organizations cannot create knowledge without individuals, and unless individual knowledge is shared with other individuals and groups, the knowledge is likely to have limited impact on organizational effectiveness."

KS is widely perceived as key vehicle for organizational productivity (Quigley, Tesluk, Locke, & Bartol, 2007). Knowledge resources can be managed efficiently provided individuals freely and willingly share with others what they know. Based on the study's context, it is imperative to appreciate` the factors influencing individuals' willingness to share their knowledge in order to enhance KS among academic staff and across institutions. Accordingly, there is a score of research on factors that may influence KS in organizations; however, most of these studies on influencing factors were conducted in commercial entities and were observed at organizational level – mostly conceptually based (e.g Hew & Hara, 2007; Land et al., 2009; Li, Zhu, & Luo, 2010; Brown & Brudney, 2003; Sandhu, Jain, & Ahmad, 2011).   That is, research focusing on KS and its determinant factors in the public organizations particularly universities is vastly limited (Sandhu et al., 2011; Yusof, Ismail, Ahmad, & Yusof, 2012). In addition, there is little research on the empirical confirmation of the dimensions/influencing factors of KS. Hence, this study attempts to fill these gaps in that, it is carried out in public setting i.e. public universities and observed at individual level – empirically based (i.e. this study examines the CFA of the factors that may influence or trigger individuals to willingly and freely share their knowledge with others). Thus, a confirmatory factor analysis (CFA) is conducted to confirm the dimensions of KS as theoretically established by previous studies particularly Ipe's study (2003).

Accordingly, this paper contributes to the understanding of KS in academes through empirical examination of CFA of the factors of KS at individual levels with a view to drawing on implications for individual academic staff, groups and institutions at large, knowledge management practitioners and researchers alike. This paper is designed in the following manners which runs from introduction to limitation and suggestion for future research.

2. Literature Review
2.1 Academic Staff
Academic staff consist of "all the employees in the academic institutions that are saddled with the basic functions of teaching, research and services" (Madugu & Abdul Manaf, 2018 p. 2). They are the bedrocks of academia (i.e. academic world).

2.2 Individual Knowledge(IK)
Individual knowledge is an aspect of organization's knowledge that dwells in the minds of individual. Broadly speaking, it means or rather incorporates the entire knowledge held by individual(s) that can be deployed freely to address specific forms of functions and problems. Given that, individuals have cognitive limitations in term of saving and deploying ideas or information, IK leans towards specialization and subject/discipline- specific.

2.3 Knowledge and its Typology
Knowledge is a word that has been conceived from varied perspectives by different scholars i.e. it has various imports but for the purpose of this discussion the following perspectives were considered: Davenport and Prusak,(1998) viewed knowledge as "a fluid mix of framed experience, values, contextual information, and expert insights that provides a framework for evaluating and incorporating new experiences and information; It originates in and is applied in the minds of knowers" (p. 5). In addition, Nonaka and Takeuchi's, (1995) perspective is more encompassing in that knowledge is conceived as "a dynamic human process of justifying personal belief toward the truth" (p. 58). Considering the above meanings, this study conceives knowledge as the ability to possess data, information, ideas, facts, truths or principles concerning events, fields, subject(s), happenings, scenarios, activities or phenomena, etc.

Moreover, there has been a consensus amongst experts in respect of knowledge classification (Ismail &

Chua, 2005). Despres and Chauvel, (2000) posited that there are two broad types of knowledge – 1) tacit knowledge (TK) and 2) explicit knowledge (EK). Explicit knowledge (EK) is defined as codified information or data that is held in print or hard copy form (Polyani, cited in Madugu & Abdul Manaf, 2018; Choi and Lee, 2003; Barth, 2000). Furthermore, it is also seen as written information /data, documented data/ records viz work schedules, databases, bulletins, periodicals, organograms, organizational manuals, journal or libraries (Madugu & Abdul Manaf, 2018). Tacit knowledge(TK) on the other hand, entails views, ideas, information, data, experiences etc held in individuals' minds. This is mostly referred to as thoughts, intuitions, view-points, expertise, images, horizons and it is largely uncodified (i.e. mind or mental laden information), while EK entails codified information in clear expression i.e. it has a print presence (Nonaka, 1994; Taylor & Wright, 2004). The explicit aspect of knowledge is shared through print stationery (hard form) or ICTs (soft form), whereas the tacit part entails mental attained information by means of training, work practices and experience; it (TK) is transmitted via application and observation (Choi & Lee, 2003). In the same breath, it is perceived as knowledge that resides in minds of individuals which is difficult to transmit or exchange (Barth, 2000). While Polyani (cited in Madugu & Abdul Manaf, 2018), views TK as a knowledge that is mainly individually driven which is incorporated in the day to day work schedules of individuals (Madugu & Abdul Manaf, 2018). In fact, the two types of knowledge are basically mutually complementary (Nonaka & Takeuchi, (1995). The work environments basically enhance explicit transmission of knowledge, as compared to the sharing of TK which by nature, is a preserve of individuals' willingness (Nenonen, 2004). TK is one of the leading ways of achieving competitive advantages at work environments (Chen & Edgington, 2018; Jashapara, 2003; López, 2005), especially in knowledge-based settings (Bryant, cited in Madugu & Abdul Manaf, 2018). Along these lines, it would be observed that TK is synonymous to individual knowledge (IK) while EK may be likened to group or organizational knowledge (GK or OK).

In this context, the preoccupation of this paper is anchored on how the influencing factors induce the sharing of IK as held by individual academic staff. Therefore, this paper empirically examines the CFA of the dimensions of IK amongst individual academic staff.

2.4 Knowledge sharing

KM is a prominent subject in intellectual discourse within the circles of academics and practitioners in this age (Ismail & Chua, 2005). The dissemination of knowledge among employees is the pivot of KM process. KM embraces the process of producing/creating, acquiring, storing, transferring and leveraging knowledge; in addition, the list of activities in the process has been broadened to include donating and collecting of information/ data (Hooff & Ridder, cited in Madugu & Abdul Manaf, 2018). In this connection, Tiwana (cited in Sohail & Daud, 2009) mainly classifies KM into three processes: knowledge acquisition, knowledge sharing and knowledge utilization. The acquisition explains the process of creating and honing ideas, insights, acumens and skills. The sharing incorporates the activities of transmitting knowledge that is already procured; and finally, the utilization entails putting the knowledge to use i.e. deploying knowledge to arrest problem(s) in organizations. KS is a vital component of the KM strategies. KS is conceived as exchanging ideas, thoughts, understandings, experiences or events on given phenomena or subject(s) with expectation to attaining more understandings/ insights. Willem (cited in Sohail & Daud, 2009); Sharratt and Usoro (cited in Sohail & Daud, 2009) viewed KS as the transmission of information between two or more individuals in a mutual manner giving room for remodeling and sense making of the information in the different context (Chen & Edgington, 2005). KS is the "process of capturing knowledge or moving knowledge from a source unit to a recipient unit" (Bircham-connolly, Corner, & Bowden, 2005). In addition, Jain et al., (2007) added that "it also occurs when an individual is willing to assist as well as to learn from others in the development of new competencies". Many academic organizations attain competitive edge via the stimulation of KS (Sohail & Daud, 2009). Thus, the factors vis-a-vis its potentials to influence sharing of IK amongst individual academic staff has globally attained prominence (Davenport, Long, & Beers, 1998). Accordingly, Steyn (cited in Madugu & Abdul Manaf, 2018) submitted that to exploit the determinant factors of knowledge in higher institutions of learning; structures, people and technology ought to be given equal emphasis. Thus, KS is a means to an end. Previous studies disclose that effective mix of influencing factors trigger off sharing of IK amongst individual academic staff. In the same vein, result of IK transmission breeds new knowledge and innovation which in turn stimulates the performance of organizations at large – most of the above conclusions were drawn conceptually which makes for the need to empirically confirm the dimensions of the KS (i.e. to conduct the CFA of the construct).

2.5 Influencing factors on Individual Knowledge Sharing Practices in the Academes

Appreciating KS is encapsulated in understanding prevailing factors, situations, conditions, scenarios, activities, techniques, systems etc that shape dissemination of IK (Jennex, 2008). Literature review divulges different kinds of factors on KS though most of the categorizations examined the factors vis-à-vis its impacts on KS at organizational level. Hence, this study is aimed at examining factors that stimulate the sharing of IK via a

confirmatory factor analysis (CFA). Some of these classifications are 'positive and negative factors'; 'encouraging and discouraging factors'. In addition, there is a classification that captures: 'human or individual factors, organizational factors and information technology factors' (Jain et al., 2007; Bulan & Sensuse, 2012). Consequent on the literature reviews, KS in this paper is conceptualized by the key factors that induce the exchange of knowledge(i.e. IK) between individuals in organizations as submitted and affirmed in the following studies: (Ipe, 2003; Sohail & Daud, 2009; Cheng, Ho, & Lau, 2009; Titi Amayah, 2013; Wang & Noe, 2010; Daud & Abdul Hamid, 2006): the nature of knowledge, motivation to share, opportunities to share, and working culture.

2.5.1 Nature of Knowledge

Basically, knowledge is of two forms – "tacit knowledge and explicit knowledge" (Ipe, 2003). The TK denotes information held in individuals' minds while the EK refers to information that is codified or documented i.e. hard copy presence (print presence). On the other hand, the upsurge in the recognition of the significance of knowledge in organizations triggered off the discrepancy in value attachment to different forms of knowledge within organizations. The two attributes of the nature of knowledge i.e. tacitness and explicitness of knowledge, in addition to the value attached to knowledge have a substantial influence on how knowledge is transmitted or rather exchanged amongst individual academic staff and within academic institutions (Lam, 2000; Weiss, 1999; von Hippel, 1994; Polanyi Michael, 1966). Although the influence of nature of knowledge on KS has been conceptually/theoretically established, empirical evidences establishing the affirmation of 'nature of knowledge' as one of the dimensions of individual knowledge sharing are limited to draw authoritative conclusions. Thus, the following hypothetical proposition is tendered:

H1: Nature of knowledge is indeed one of the dimensions of individual knowledge sharing.

2.5.2 Motivation to Share

Ultimately, TK is connected to personalities of individuals and as such, it does not circulate freely within organizations (Davenport & Prusak, 1998). Furthermore, Stenmark, (2000) maintains that individuals within work environments are not always predisposed to share their knowledge without some kind of complexes (i.e. inter-personal influence, connections or motivation). Specifically, the motivating force that stimulate individuals to share their knowledge with others is categorized into two (2) -- intrinsic and extrinsic factors. The former includes the perceived leverages associated with possession of knowledge and the gratification that accompanies its dissemination; while the latter entails twin scenarios – first, it does with the relationships or interactions between knowers and recipients on one hand, and on the other hand, the interaction with accompanied benefits or rewards for disseminating (Madugu & Abdul Manaf, 2018). Previous studies have made frantic efforts to discuss the factors that trigger KS; although most of which was conceptually conducted at organizational level, empirical evidences confirming the factors as dimensions of KS are limited. Therefore, the following hypothetical statement is presented:

H2: Motivation to share is indeed one of the dimensions of individual knowledge sharing.

2.5.3 Opportunities to Share

Opportunities to share include favourable conditions prevailing in work settings that stimulate the ways in which information is being transmitted. The opportunities are largely categorized into two -- formal and informal. Formal opportunities are training programs, work teams, workshops and ICT-based systems that drive and enhance knowledge dissemination. Accordingly, Bartol & Srivastava (cited in Ipe, 2003) conceived these as formal interactions, while Rulke & Zaheer (cited in Ipe, 2003) called them "purposive learning channels" — these are created to basically distribute knowledge, p. 349. Informal opportunities are inter-personal relationships and social networks that trigger off and boost learning and the dissemination of information. Rulke & Zaheer considered "the informal opportunities as relational learning channels in which confidence and trust are built among parties involved" (cited in Madugu & Abdul Manaf, 2018, p.6). Based on the above discussion, this study hypothesizes that:

H3: Opportunities to share is indeed one of the dimensions of individual knowledge sharing.

2.5.4 Working Culture

While, the above-mentioned factors are part and parcel of the influential toolkit in driving how knowledge is being transmitted between individuals in organizations, the entire factors are determined by the prevailing working culture. This factor is seen as the leading driving force that dictates the effectiveness or otherwise of KS (Sohail & Daud, 2009; Ipe, 2003; Cheng et al., 2009). Organizations are culture oriented and therefore, irrespective of the KM strategy adopted by organizations, the influences of working culture are far reaching. Furthermore, Schein (cited in Ipe, 2003) viewed culture as a pattern of basic assumptions that is built by a set of individuals as they strive with solutions for daily problems. Assumptions get transferred to new employees when proven effective, as conventional ways of arresting problems. Schein elaborated that the main aspect of every culture is a collection of assumptions about how to detect what is substance and how individuals react to it, how individuals identify vital information, and when they have sufficient of it, to ascertain when to act and what to do etc. Therefore, culture is reflected in organizational norms, values, and practices; whereas values are mirrored in

norms which in turn shape specific practices in organizations (Cheng et al., 2009). In this context, academic institutions are supposed to have right working culture that supports and stimulates KS. Conjecturally, transmission of knowledge is more free, easy and effective in academia than any other environment (s) because "academic culture is the culture of knowledge" (Madugu & Abdul Manaf, 2018, p. 9). Thus, based on the foregoing paragraphs, this study presents the following hypothetical proposition:
H4: working culture is indeed one of the dimensions of individual knowledge sharing.
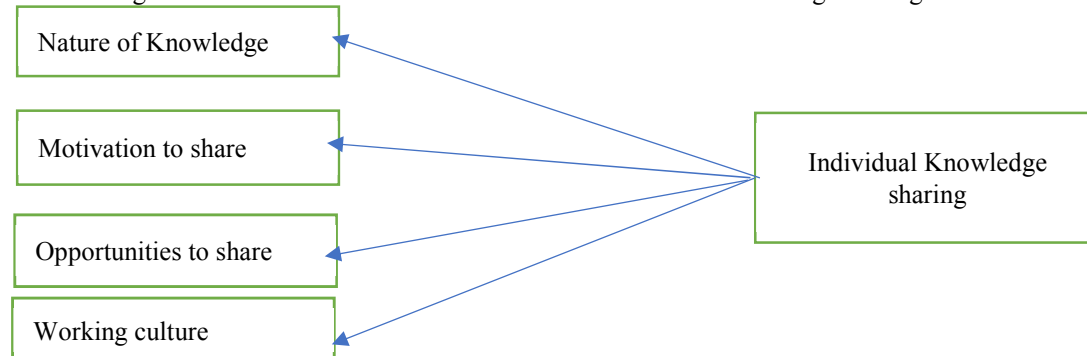

Figure 1. A reflective second - order individual knowledge sharing construct with 4 dimensions

3. Methodology
The unit of analysis for this study is made up of academic staff of public universities in the north central region, Nigeria. The region has thirteen public universities and 510 academics were drawn as the sample size for this study deploying quota sampling technique. The questionnaire was self-administered, and it is composed of five-point Likert scale– "1 – 'strongly disagree', 2 – 'disagree', 3 – 'neutral', 4 – 'agree', to 5 – 'strongly agree'". The instrument is composed of 34 items to evaluate the CFA of the construct. The survey questionnaire basically comprises two (2) aspects. The first part draws demographics of the respondents i.e. "public universities type, gender, age, qualification, present status (rank), working experience, and marital status".

The second comprises items concerning the evaluation of the construct. Drawing on previous studies, the construct (i.e. individual knowledge sharing) is represented by four dimensions – i.e. motivation to share, nature of knowledge, opportunities to share, and working culture (Ipe, 2003). Thus, the dimensions were reflected by a set of indicators. To conduct the CFA of the construct, high-order construct is deployed to test for the fit/ wellness of items vis-à-vis the dimensions on one hand, and on the other hand, dimensions versus the construct.

This study deployed Partial Least Squares -Structural Equation Modelling (PLS-SEM) technique while using the appropriate software i.e. Smart-PLS 3.0 (Ringle, Wende, & Becker, 2015). In a nutshell, CFA known as the outer model assessment was carried out to test the hypothesized factor structure. In addition, it is referred to as the measurement of the path between items and the construct which was primarily carried out to ascertain the construct's wellness.

4. Results and Analysis
The response rate for this study is 82% which accounted for 416 questionnaires completed and returned out of the total number of 510 distributed to the academic staff. However, 18% representing 94 questionnaires were not retrieved. Out of the total number of completed and returned questionnaires, 391 questionnaires (77% approximately) were valid and usable for analysis. To clean the data, the study used SPSS to find out the presence of errors - outliers, missing value, common method bias (CMV) in the data (Hair, et al., 2014). Thus, the dataset for this research was tested for some abnormalities. The outcome reveals that no error(s) in the dataset constituted threat to expected results. Having achieved data cleansing, we proceeded to the assessment of the construct in this study– this includes measurement model evaluations i.e. CFA.

4.1 Confirmatory factor analysis (CFA)
It commenced by carrying out a confirmatory factor analysis (CFA) of the items in question which is directed towards achieving the reliability and validity of the construct. This incorporates convergent validity and discriminant validity. Hair et al., (2014) posits that the convergent validity is established via items' loadings, average variance extracted (AVE), and composite reliability. The convergent validity was weighed taking into cognizance the conventional thresholds namely; the loadings should be > 0.7 or > 0.5; Composite reliability should be > 0.7 and AVE > 0.5 (Hair et al., 2014). In Figure 2, it is obvious to note that this study theorized individual knowledge sharing as second-order construct (SOC) with four dimensions. As depicted in Table 1, all the indicators' loadings satisfied the required threshold except some indicators were deleted partly due to low loadings and also to meet the parameters of other measures of the CFA (i.e. MS02, MS03); the values of the AVE

and composite reliability were greater than 0.5 and 0.7 respectively. In other words, some items with loadings between the range of 0.40 to 0.70 were removed from the scale in that, their removal enabled the achievement of AVE and other related parameters (Hair, Hult, Ringle, Sarstedt, & Örtenblad, 2017). Thus, Convergent validity is confirmed to be sufficient as the measures of measurement model were all above the conventional thresholds.

Consequent on validation of the Convergent validity, the study proceeded to evaluate the discriminant validity utilizing the parameter of heterotrait-monotrait ratio (HTMT) (Henseler, Ringle, & Sarstedt, 2015). According to Kline, (2015), a sufficient discriminant validity should be less than 0.85 (< 0.85), but for Gold, Malhotra, & Segars, (2001), the discriminant validity is achieved if the HTMT values are below 0.90 (< 0.90). As shown in Table 2, the values of the HTMT are below the suggested benchmarks i.e. < 0.85 or < 0.90 (Kline, 2015; Gold et al., (2001) implying that the extent of differentiation among the variables is sufficient. In a nutshell, it is concluded that indicators vis-à-vis the constructs as deployed in the study show sufficient Composite validity and discriminant validity (i.e. the CFA is achieved).
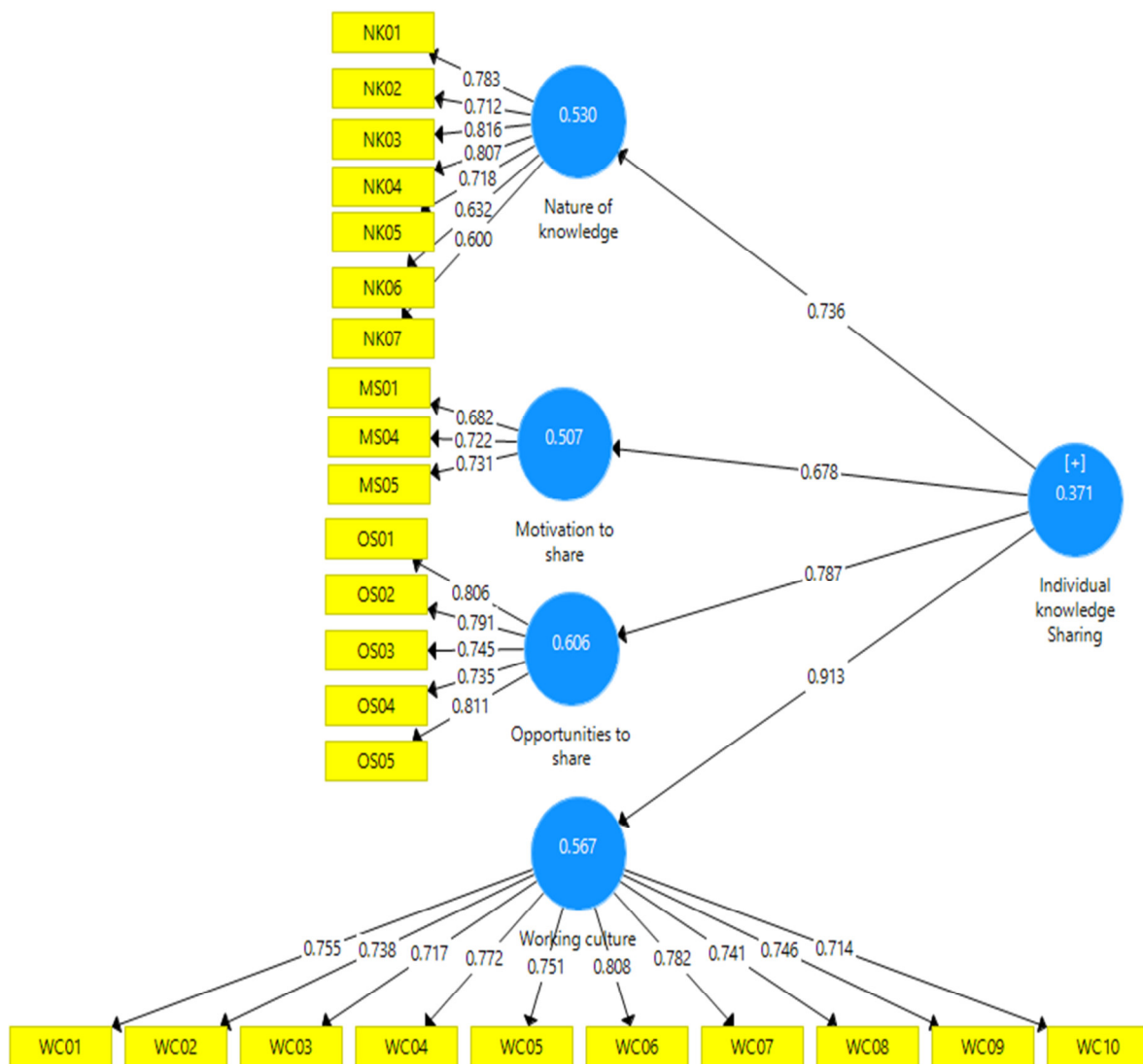

Figure 2. Loadings of the second-order confirmatory factor analysis
Note: MS – Motivation to share; NK- Nature of Knowledge; OS – Opportunities to share; WC- Working culture.

Table 1. Convergent validity

FOC	SOC	Item	Loadings	AVE	CR
Nature of Knowledge		NK01	0.783	0.530	0.886
		NK02	0.712		
		NK03	0.816		
		NK04	0.807		
		NK05	0.718		
		NK06	0.632		
		NK07	0.600		
Motivation to Share		MS01	0.682	0.507	0.755
		MS04	0.722		
		MS05	0.731		
Opportunities to Share		OS01	0.806	0.606	0.885
		OS02	0.791		
		OS03	0.745		
		OS04	0.735		
		OS05	0.811		
Working Culture		WC01	0.755	0.567	0.929
		WC02	0.738		
		WC03	0.717		
		WC04	0.772		
		WC05	0.751		
		WC06	0.808		
		WC07	0.782		
		WC08	0.741		
		WC09	0.746		
		WC10	0.714		
	Knowledge Sharing	Nature of Knowledge	0.736	0.614	0.863
		Motivation to Share	0.678		
		Opportunities to Share	0.787		
		Working Culture	0.913		

Note: FOC - first-order construct; SOC - second-order construct; AVE -average variance extracted; CR – Composite reliability.

Table 2. Discriminant validity(HTMT) of the construct

	MS	NK	OS	WC
MS				
NK	0.663			
OS	0.794	0.471		
WC	0.698	0.563	0.698	

Note: MS - Motivation to share; NK -Nature of knowledge; OP - Opportunities to share; WC - Working culture.

4.2 Findings, Discussion and Implications

The objective of this paper is to x-ray a confirmatory factor analysis (CFA) of the factors influencing individual knowledge sharing. The CFA is conducted to affirm the dimensions of KS as theorized in Ipe's study (2003). The findings of this study have empirically established that the 4 dimensions i.e. nature of knowledge, motivation to share, opportunities to share and working culture are indeed the dimensions of individual knowledge sharing (i.e. the factors that influence the transmission of knowledge between individuals). In terms of validity, this study has evaluated internal validity, construct validity, convergent validity, and discriminant validity. The parameters were confirmed to be valid, as they transcended all the conventional thresholds mooted by various experts.

The results of the study revealed that nature of knowledge is indeed one of the dimensions of individual knowledge sharing (IKS); therefore, H1 was confirmed as empirically disclosed by the results of the CFA. Second, H2 was upheld i.e. it is confirmed that motivation to share is also one of the dimensions of IKS. Third, opportunities to share has also been confirmed as one of the dimensions of IKS, H3 was affirmed. Four, working culture as a factor is empirically established as one of the dimensions of IKS, hence, H4 was upheld along the other three. Therefore, the four hypothetical propositions concerning the construct as a second - order were all confirmed and upheld based on achieving or satisfying the parameters of CFA – internal consistency, factorial

loadings, average variance extracted (AVE), Heterotrait-Monotrait Ratio(HTMT) (see Table 1&2 and Figure 2). That is, the construct validity which incorporates both convergent and discriminant validities met the conventional thresholds as presented in Table 1 & 2 and Figure 2. The results of this study have confirmed the theorization of the construct (Ipe, 2003) which is similar to some past studies, (e.g. (Henttonen, Kianto, & Ritala, 2016; Muda & Yusof, 2015; Dokhtesmati & Bousari, 2013; Bulan & Sensuse, 2012; Uchendu, Osim, & Akuegwu, 2012; Akram & Bokhari, 2011; Wang & Noe, 2010b; Cheng et al., 2009; Jain et al., 2007; Quigley et al., 2007; Osunade, Phillips, & Ojo, 2000). Therefore, it is established empirically that individual knowledge sharing is a reflective second-order construct (RSOC) made up of 4 first-order reflective variables, viz, nature of knowledge, motivation to share, opportunities to share and working culture. The results revealed that working culture (WC) is the most overriding contributor (influence) to individual knowledge sharing construct with the largest standard loading of 0.913, followed by opportunities to share (0.787), nature of knowledge (0.736) and motivation to share (0.678). By inference, it denotes that the working culture dimension exerts the most influence on the extent of knowledge sharing between individuals in the academia while at the other end, motivation to share appears to have the least influence, which may suggest that the motivational efforts made in the study area are not well organized and coordinated, above all, not sufficient.

Theoretically, this study has redisclosed, confirmed and revalidated the four dimensions of individual knowledge sharing as theorized in Ipe's study and similar studies (Ipe, 2003). Along these lines, this study empirically reveals that KS is better predicted by appreciating how these factors/influences collectively trigger the transmission of knowledge among individuals in organizations particularly in academic environments i.e. the influences on KS as dimensions were specifically put to test in academic context, hence, adding to the literature on KM in academia. Second, almost all the previous studies were preoccupied with the theorization of KS (Sohail & Daud, 2009; Jain et al., 2007; Cheng et al., 2009; Titi Amayah, 2013; Wang & Noe, 2010b; Daud & Abdul Hamid, 2006). Thus, there is a dearth of previous studies that go on the way of confirming the dimensions of KS as theorized by Ipe (Ipe, 2003). This study is geared towards filling this gap by tendering a CFA of all-encompassing determinants as dimensions of knowledge sharing (KS). This study expands the frontiers of literature on KS by empirically affirming and corroborating the dimensions and measures of the construct (i.e. KS). Third, this study conceptualizes, operationalizes as well as empirically confirms the variable as a reflective second-order construct (RSOC)). Fourth, this study methodologically contributes to the cases of empirical studies on the subject matter in that, majority of the past research were conceptually oriented. Finally, this study is presumed as one of the pioneers to confirm the dimensions of KS as theorized by Ipe (2003).

Practically, this study offers some important implications for various stakeholders – managers at academic settings, academic leaders, academics, and the researchers alike that these factors as theorized by Ipe (2003) would serve as sought-after conditions to boost exchange of information, hence the affirmation of these factors as dimensions of individual knowledge sharing among academic staff. Succinctly, the confirmation of the dimensions of KS in this survey can be employed by universities' managers/administrators to ascertain the extent of KS among academics in their environments. It is observed from the foregoing that the most influencing dimension is the working culture, that is, if management of institutions would provide the right working culture, other dimensions would automatically flow then the individuals specifically academic staff would freely transmit their knowledge.

5. Conclusion
In a nutshell, the four dimensions of KS as theorized by Ipe (2003) are confirmed to be diverse and well connected to necessitate the accurate measurement of the construct(KS). The CFA embodies a sufficient evaluation of the dimensions of KS. In addition, the current findings imply that the confirmation is a step in the right direction, however, replications and further affirmation of Ipe's dimensions/factors of KS would possibly result in more precise evaluation and, hence, appreciation of individual knowledge sharing. This endeavor also contributes to growing literature on KM by offering construction into the factors that shape KS among academics in universities. By default, Ipe's factors may not be the only dimensions of individual knowledge sharing owing to the multidimensional nature of the construct. Hence, a call on future studies to replicate, affirm and modify the confirmation in a bid to widen the dimensionality of the construct by factoring in other possible relevant dimensions to minimize the degree of unexplained variance in the construct.

6. Limitations and directions for future research
This study is constrained by some limitations which offer opportunities for future studies. In the first place, the population of the study comprised of academics in public universities in north-central, Nigeria. This may suggest strength in terms of internal validity, however, caution ought to be taken when making generalization of the findings as to its impacts on other settings -- the influence may be stronger or weaker on some other settings. Thus, this study makes a call on future studies to be conducted in varied settings to lend credence to the findings of this study i.e. to make for the generalization of the dimensions of KS. Second, given that only factors of KS

are evaluated in the study as the components of the construct (KS), future studies can deploy an exclusive qualitative research approach i.e. in-depth interviews with academics to unearth additional perspectives on the influences of knowledge sharing among individual academic staff, thereby reducing the unexplained bias in KS. Third, Ipe's factors may not be the only dimensions of individual knowledge sharing owing to the multidimensional nature of the construct. Therefore, a call on replication, affirmation and modifications of this study in future research to widen the dimensionality of the construct by factoring in other possible relevant dimensions to minimize the degree of unexplained variance in the construct. In addition, while confirming the dimension of KS in future research, a comparative survey may be undertaken between the academic staff in public and private universities respectively to find out whether KS factors vary substantially between the university types, given that private universities are basically profit driven entities.

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