ABSTRACT
Many organisations are known to operate a knowledge economy where individual and organisation performance, creativeness and innovativeness are improved by knowledge sharing. This study, therefore, examines the influence of knowledge sharing and its dimensions as predictive factors on innovative work behaviour. This study adopted a cross-sectional survey design using an ex post-factor design. Participants were 390 employees of selected Universities in Osun State, South-West Nigeria. The Universities were randomly selected while the participants were conveniently sampled. The participants are 212 (54.36%) male, and 178 (45.64%) female, 105 of the participants are academic staff, and 285 of them are non-academic staff, and 197 of the participants are in public university, and 193 of them are in private university. Data was collected using structured psychological scales. Results of the hypotheses analysis showed that knowledge sharing and its ten dimensions Anticipated extrinsic rewards, Anticipated reciprocal relationships, Sense of self-worth, Affiliation, Innovativeness, Fairness, Attitude toward knowledge sharing, Subjective Norm, Organizational Climate and Intention to share knowledge, jointly account for 9.8% of the total variation in innovative work behaviour. Furthermore, anticipated extrinsic rewards, anticipated reciprocal relationships and organisational climate have significant independent influence on innovative work behaviour. There is no significant difference in the innovative work behaviour of the participants based on their work type (academic and non-academic) and organisational type (public and private). The implication of findings is discussed in with sustainable competitive advantage, in a competitive knowledge economy.

Keywords: Knowledge sharing, innovative work behaviour, university employees

INTRODUCTION
Organisations, at the time of this study, exist in a rapidly competitive world of technological and economic innovations, global economic downturn and poor financial performance. Organisations are likely compelled to subject to an ever-growing demand to engage in creative behaviours to generate and deliver new products that will attain cutting edge sustainable competitive advantage. One of the precursors of
achieving this type of profitable competitive edge effectively, organisations typically rely increasingly on their employees to innovate (Ramamoorthy, Flood, Slattery, & Sardessai, 2005). Individual innovation can, therefore, be acknowledged as an optional behaviour which is in scientific literature regarded as extra-role behaviour (Katz, & Kahn, 1978).

Innovative work behaviour comprises assessment of opportunities and the generation of new ideas (creativity related behaviour), but could also consist of behaviours directed towards implementing change, applying new knowledge or improving processes to enhance personal and business performance (implementation oriented behaviour) (de Jong & Den Hartog, 2008). Most previous work, according to de Jong and Den Hartog (2008), focused on employee creativity and the generation of creative ideas. Theoretical approach on innovative work behaviour has often emphasised the assertion that innovation is much more far-reaching than only creativity but also includes behaviours needed to implement ideas and achieve improvements that will enhance personal and business performance (King & Anderson, 2002). Innovative work behaviour is therefore characteristically seen to incorporate a broad set of behaviours associated to the generation of ideas, creating support for them, and helping their implementation (e.g. Scott & Bruce, 1998; Jansen, 2000).

Innovative work behaviour is also enclosed mainly in the framework of how employees could facilitate the achievement of initiation and intentional introduction of new and useful ideas, processes, products or procedures (Farr & Ford, 1990). According to Scott and Bruce (1994), the introduction of new and useful perspectives does not generally run on a linear relationship, and hence, innovative work behaviour is construed as an acceptable multi-stage process. De Jong and Den Hartog (2008) therefore describe innovative work behaviour as an individual's behaviour that aims to achieve the initiation and intentional
introduction (within a work role, group or organisation) of new and useful ideas, processes, products or procedures. Furthermore, innovative work behaviour is examined from four interrelated sets of behavioural activities namely problem recognition, idea generation, idea promotion and idea realisation, which could enhance the employees' ability to innovate (de Jong & Hartog, 2010). The first two behavioural activities comprising of problem recognition and idea generation phase represents the creativity orientated work behaviour phase (Tze-Leong and Rasli, 2014). The last two behavioural events are referred to as implementation-oriented work behaviour wherein individuals try to promote a novel idea to potential colleagues and managers and to realise actual ideas that are ultimately applied within the work role, group or entire organisation (Tze-Leong & Rasli, 2014). Parker, Williams and Turner (2006) suggest that individuals who are willing and able to innovate extend their contribution beyond the scope of their job requirements and at the same time, realise a continuous flow of innovations.

Knowledge sharing, according to van den Hooff and de Ridder (2004), is a "process where individuals mutually exchange their implicit (tacit) and explicit knowledge to create new knowledge". De Vries, van den Hooff and de Ridder (2006) further expantiate that every knowledge sharing behaviour consists of the supply of new knowledge and the demand for new knowledge (Wabwezi, 2011). In line with Van Den Hooff and de Ridder's stance, de Vries, van den Hooff, and de Ridder (2006) describe knowledge sharing as comprising of two central behaviors which are knowledge donating, as communicating one's personal intellectual capital to others and knowledge collecting, as consulting others to get them to share their intellectual capital (Wabwezi, 2011). De Vries, van den Hooff, and de Ridder (2006) maintain that both behaviours as distinguished above are active processes either actively communicating to others what one knows or actively consulting others to learn what they know. They elucidate that both behaviours have different nature and can be expected to be differentially influenced by different factors (Wabwezi, 2011).
Haas and Hansen (2007) claim that knowledge sharing has been shown to improve individual and organisation performance and innovativeness. They add that knowledge sharing is a practice that has become increasingly important to organisations as most organisations are now considered to operate in a knowledge economy. Knowledge sharing in an organisation not only occurs at the individual level but also the collective level (Obembe, 2010). Obembe (2010) added that an Organisation’s capacity for knowledge sharing is crucial as a factor in the ability to generate new knowledge as well as its ability to utilise the resources and capabilities of its members. Knowledge sharing affects not only tacit knowledge but all phases of the knowledge creating a process (Wabwezi, 2011).

Several studies have linked knowledge sharing with performance indices such as innovation capability, absorptive capacity, innovativeness and innovative work behaviour (Akram, Lei, Haider & Hussain, 2018; Hau, Kim, Lee & Kim, 2013; Radaelli, Lettieri, Mura & Spiller, 2014; Yesil & Dereli, 2013). Raykov (2014) describes innovation as "a process through which economic or social value is extracted from knowledge, through the creation, diffusion and transformation of knowledge to produce new or significantly improved products or processes that are put to use by society”. In Akram, Lei, Haider, and Hussain, (2018) are assertion; therefore, "innovation is an essential competitive strategy and advantage for any firm’s survival and keeping itself differentiated”. Hu, Horng and Sun (2009) also found that knowledge sharing is established to help people in quickly expanding their knowledge range and increase their problem-solving ability, innovativeness and work output. In a related study, Radaelli, Lettieri, Mura and Spiller (2014) found evidence suggesting that the act of knowledge recombination and translation embedded in knowledge sharing eventually exerts the most positive effect on innovative work behaviours. In Alhady, Idris, Sawal, Azmi and Zakaria (2011) findings also, the organisation that support its employees for contributing knowledge (within groups and organisations) is expected to create new and
better ideas and encourage new business opportunities, hence enabling organisational innovation activities.

Such organisations may, therefore, need to inculcate an innovative mindset among its employees to deliver more value creation to sustain its longer-term survival and success (Prahalad & Ramaswamy, 2012). Getz and Robinson (2003), for instance, demonstrate in their research, that employees initiate eighty per cent of the ideas in an organisation. Innovative behaviours are seldom spelt out in the job analysis and job responsibilities of employees hired to work in organisations. It is evident that organisations globally are in a continuous strive to maintain existence first and then relevance, amidst competitors that are also striving for the same. It is, therefore, very important for innovation to thrive within organisations to sponsor relevance through cutting edge creativity. Akram, Lei, Haider, and Hussain (2018) asserts that this is organisational survival and competitiveness in a global economy (Lin, 2007; Raykov, 2014).

In Nigeria, at the time of this current study, there are 43 federal universities in operation and 52 State-owned universities (Bolaji, 2019); both federal owned universities and state-owned universities are termed public universities. Interestingly over some decades, private universities owned by individuals, corporate bodies and religious bodies (Ministry of Education Nigeria, 2011) were introduced into the scene, amounting to 79 private universities (Bolaji, 2019). The cost of running these schools are burdensome and more so for the private universities that are not sponsored by government. The environments these universities operate in are, to a large extent, financially hostile. The federal universities are almost free in comparison to the private universities that are struggling for recognition, relevance and keeping up despite a perceived high rate in tuition and other amenities. It is evident, therefore, that there is a need for private universities to place innovation very high on their priority. The public schools, even though they are
sponsored by the government and are not at risk of folding up like private universities, also need to maintain relevance in society. Maintaining relevance for public universities is necessary to maintain their status. It is also evident that public universities need to place innovativeness high on their priority as well. In the current global era of a knowledge economy, knowledge is considered as a major competitive advantage and hence, knowledge sharing (Lu, Lin & Leung, 2012) for creativity and innovative work behaviour.

Despite extensive literature covering innovative work behaviour and knowledge sharing among employees of organisations in America, Europe, China and Asia as a whole, there is a dearth of literature covering innovative work behaviour and knowledge sharing among public and private universities in Nigeria. Cutting edge technology, for instance, is a priority for many developing nations like India and emerging economies like China; this is not yet the case in Nigeria. Technology in Nigeria still occupies a back-row seat in comparison with other nations that were previously rated as being on the same level as Nigeria in terms of sustainable development. It is important that the Nigerian universities embrace cutting edge innovation that will, in turn, push Nigeria into global economic relevance. This study aims to investigate dimensions of knowledge sharing as predictive factors of innovative work behaviour among academic and non-academic employees of public and private universities in South-West Nigeria.

From the ongoing, the following hypotheses are created to guide the direction of the research study:

1. The dimensions of knowledge sharing, Anticipated extrinsic rewards (AER), Anticipated reciprocal relationships (ARR), Sense of self-worth (SSW), Affiliation (AFF), Innovativeness (INN), Fairness (FAI), Attitude toward knowledge sharing (ATK), Subjective Norm (SUN), Organizational Climate (OC) and Intention to share knowledge (ISK) will significantly jointly predict innovative work behavior.
2. There will be significant difference in the innovative work behaviour of employees based on their work type (academic and non-academic).

3. There will be significant difference in the innovative work behaviour of employees based on their organizational type (public and private).

METHODOLOGY

Design: This study adopted a cross-sectional survey design utilising an ex post-factor design to examine the influence of knowledge sharing and its dimensions as predictive factors of innovative work behaviour among employees of some selected public and private universities in Osun State, Nigeria. The independent variable is knowledge sharing, while the dependent variable is innovative work behaviour.

Population Sample: There were 576 employees surveyed on this study from selected Universities in Osun States of South-West Nigeria. Only 390 (67.71%) of the questionnaires returned were complete and useful for the study. The Universities were randomly selected while the participants were conveniently sampled based on availability and willingness to participate in the study. Of the 390 that were selected for the survey, 212 (54.36%) of the participants are male, and 178 (45.64%) of them are female. The Educational Qualification distribution shows that 45 (11.53%) of the respondents have ordinary diploma (OND or NCE), 46 (11.79%) have Higher National Diploma (HND), 120 (30.77%) have Bachelor’s (BSc) degree, 125 (32.06%) have Masters (MSc) degree and 54 (13.85 %) hold PhD degrees. 105 (26.92%) of the participants are academic staff, and 285 (73.08%) of them are non-academic staff, and 197 (50.51%) of the participants are in public universities, and 193 (49.49%) of them are in private universities.

Instruments: Two different instruments were employed to collect data from the participants. A section of the survey collected demographic data which included age, gender and educational qualification. The
other two sections include two different standardised instruments to measure Innovative Work Behavior and Knowledge Sharing.

**Innovative Work Behavior Scale (Janssen, 2000):** The Innovative Work Behavior Scale implemented in this study is developed by Janssen (2000), consisting of 9 items, each of which is followed by a 7-point responses scale ranging from 1 (Very strongly disagree) to 7 (Very strongly agree). The Innovative Work Behavior (IWB) scale consists of 3 components: idea generation, idea promotion, and idea realisation. Sample items included “Creating new ideas for difficult issues,” ”Mobilizing support for an innovative idea,” and ”Introducing innovative ideas into the work environment in a systematic way.” The original reliability of this scale is measured with Cronbach's alpha (α= .91).

**Knowledge Sharing Scale (Bock, Zmud, Kim, and Lee, 2005):** The Knowledge Sharing Scale was adapted by Bock et al. (2005) from Fishbein and Ajzen's (1975) research and then validated. This is a 38 item scale with ten dimensions which are Anticipated extrinsic rewards (AER), Anticipated reciprocal relationships (ARR), Sense of self-worth (SSW), Affiliation (AFF), Innovativeness (INN), Fairness (FAI), Attitude toward knowledge sharing (ATK), Subjective Norm (SUN), Organizational Climate (OC) and Intention to share knowledge (ISK).

Response format is a five-point Likert scale ranging from 1 (extremely unlikely) to 5 (extremely likely). Sample items included “I receive additional points for promotion in return for my knowledge sharing”, “My Knowledge sharing would expand the scope of my association with other members of the association” and “My department encourages suggesting ideas for new opportunities.” Cronbach’s alpha values ranged from 0.71 to 0.95

**Ethical Consideration:** A thoroughly informed consent letter was presented and explained to the participants before the questionnaires were handed to them. Their anonymity and confidentiality were also guaranteed.
RESULTS

The results for the three hypotheses tested for this study are presented in this section. The statistics include the t-test for independent samples and multiple linear regression analyses.

Hypothesis One

The dimensions of knowledge sharing, Anticipated extrinsic rewards (AER), Anticipated reciprocal relationships (ARR), Sense of self-worth (SSW), Affiliation (AFF), Innovativeness (INN), Fairness (FAI), Attitude toward knowledge sharing (ATK), Subjective Norm (SUN), Organizational Climate (OC) and Intention to share knowledge (ISK) will significantly jointly predict innovative work behavior.

Table 1

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SS</th>
<th>df</th>
<th>Mean Sq</th>
<th>F</th>
<th>P-value</th>
<th>R</th>
<th>R2</th>
<th>Adj R2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4618.923</td>
<td>12</td>
<td>348.910</td>
<td>3.403</td>
<td>.000</td>
<td>.313</td>
<td>.098</td>
<td>.069</td>
</tr>
<tr>
<td>Residual</td>
<td>42639.921</td>
<td>378</td>
<td>113.103</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47258.844</td>
<td>390</td>
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</table>

Predictors: (constant) Knowledge sharing, Anticipated extrinsic rewards (AER), Anticipated reciprocal relationships (ARR), Sense of self-worth (SSW), Affiliation (AFF), Innovativeness (INN), Fairness (FAI), Attitude toward knowledge sharing (ATK), Subjective Norm (SUN), Organizational Climate (OC) and Intention to share knowledge (ISK)

The result in Table 1 shows a correlation coefficient (R) of 0.313, which is a good level of prediction on the dependent variable. The R square (0.098), shows that the dimensions of knowledge sharing jointly account for 9.8% of the total variation in innovative work behaviour. Table 1 also reveals that analysis of the multiple linear regression data produced a statistically significant F-ratio value at \( F(12,378) = 3.40, P<05 \) (P value = .000).

Table 2

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge sharing</td>
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<tr>
<td>Anticipated extrinsic rewards (AER)</td>
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<tr>
<td>Anticipated reciprocal relationships</td>
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<tr>
<td>Sense of self-worth (SSW)</td>
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<tr>
<td>Affiliation (AFF)</td>
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<tr>
<td>Innovativeness (INN)</td>
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<tr>
<td>Fairness (FAI)</td>
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<tr>
<td>Attitude toward knowledge sharing (ATK)</td>
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<tr>
<td>Subjective Norm (SUN)</td>
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<tr>
<td>Organizational Climate (OC)</td>
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<tr>
<td>Intention to share knowledge (ISK)</td>
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</table>
The results further indicate that when analyzed singly, only three out of the 10 dimensions of knowledge sharing which are Anticipated extrinsic rewards (AER), $(β= -0.15$, $t= -2.46$, $p<0.01)$, Anticipated reciprocal relationships (ARR), $(β=-0.19$, $t= -2.06$, $p<0.05)$ and organizational climate $(β= -0.14$, $t= -1.89$, $p<0.05)$ have significant influence on innovative work behaviour. The results taken together indicate that Knowledge sharing and its dimensions significantly predict innovative work behaviour; hence, hypothesis one is therefore supported.

Hypothesis Two

There will be a significant difference in the innovative work behaviour of employees based on their work type (academic and non-academic).

Table 3

Independent t-Test for the Innovative work behaviour scores of employees based on work type
The *t*-Test scores in Table 3 shows that 105 of the respondents are academic staff and 285 of them are non-academic staff, and they have mean of 46.22 and 46.93 respectively on their innovative work behaviour scores with a standard deviation of 10.99 and 11.04 respectively. The P-value associated with this test was .571. The *t*-Test \( t(388) = -0.567, p = .571, \alpha = .05 \) failed to reveal a statistically significantly reliable difference between the mean of the innovative work behavior scores that the academic employees have (\( M = 46.22, \ SD = 10.99 \)) and that of the non-academic employees (\( M = 46.93, \ SD = 11.04 \)). It can be therefore concluded that the innovative work behaviour of the academic employees is not different from that of the non-academic employees of universities. The hypothesis was, therefore rejected.

**Hypothesis Three**

**There will be significant difference in the innovative work behaviour of employees based on their organizational type (public and private).**

**Table 4**

Independent *t*-Test for the Innovative work behaviour scores of employees based on organisational type

<table>
<thead>
<tr>
<th>ORGANISATIONAL TYPE</th>
<th>N</th>
<th>( \bar{X} )</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td>197</td>
<td>45.88</td>
<td>11.03</td>
<td>-1.556</td>
<td>&gt;.05</td>
</tr>
<tr>
<td>PRIVATE</td>
<td>193</td>
<td>47.62</td>
<td>10.97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The *t*-Test scores showed that 197 of the respondents are public university staff and 193 of them are private university staff and they have mean of 45.88 and 47.62 respectively on their innovative work behaviour scores with a standard deviation of 11.03 and 10.97 respectively. The P-value associated with this test was...
.121. The t-Test \( t (388) = -1.556, p = .121, \alpha = .05 \) failed to reveal a statistically significantly reliable difference between the mean of the innovative work behavior scores that the public university employees have (M = 45.88, SD = 11.03) and that of the private university employees (M = 47.62, SD = 10.97). It can be therefore concluded that the innovative work behaviour of the public university employees is not different from that of the private university employees. The hypothesis was, therefore rejected.

**DISCUSSION**

The findings of hypothesis one shows that knowledge sharing and its 10 dimensions Anticipated extrinsic rewards (AER), Anticipated reciprocal relationships (ARR), Sense of self-worth (SSW), Affiliation (AFF), Innovativeness (INN), Fairness (FAI), Attitude toward knowledge sharing (ATK), Subjective Norm (SUN), Organizational Climate (OC) and Intention to share knowledge (ISK) jointly and significantly predict Innovative work behavior. This finding corroborates the findings of (Akram, Lei, Haider & Hussain, 2018; Hau, Kim, Lee & Kim, 2013; Radaelli, Lettieri, Mura & Spiller, 2014; Yesil & Dereli, 2013) that got a positive relationship between knowledge sharing and eventual innovation. Knowledge sharing behaviour is shown to contribute to innovative work behaviour. Furthermore, three dimensions which are anticipated extrinsic rewards, anticipated reciprocal relationships and organisational climate have a significant independent influence on innovative work behaviour. It means that employees psychologically feel free to generate new ideas and also implement the new ideas. The employees get regular feedback and are rewarded with extrinsic incentive for their knowledge sharing in an organizational climate that activate employees to improve mutual interpersonal relationships with others through their knowledge sharing. Organisations where innovation thrive will enjoy sustainable competitive advantage, over their peers in the industry, in the competitive knowledge economy. The University is the citadel of research; earth-breaking innovation by its employees should then be its hallmark.
The findings of hypothesis two indicated that there is no significant difference in the innovative work behaviour of the employees based on their work type (academic and non-academic).

The findings of hypothesis three indicated that there is no significant difference in the innovative work behaviour of the employees based on their organisational type (public and private).

**IMPLICATION**

Generally, knowledge sharing is essential for innovative work behavior. Specifically, extrinsic rewards are important for employees to manifest innovative work behavior. Reciprocal relationships among university employees are also necessary for innovative work behaviour. Furthermore, effective organisational climate drives innovative work behaviour.

**RECOMMENDATIONS**

To maintain and sustain competitive advantage, in a competitive economy, all universities both private and public; should train their academic and non-academic employees for specific knowledge, skills and abilities. Management of each university should recognise and reward employees as at when due. Irrespective of work type (academic and non-academic) all employees of each university should reciprocate responsibilities and support among themselves.

University policies should allow psychological feel and organisational climate that gives room for employees to express creativity and innovative work behavior for competitive advantage and sustainability.

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