Role of Meaningful Work in Interpreting the Connections between Motivational Mechanisms and Innovative Behaviour

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Abstract: Despite the significance of motivation in stimulating innovative behaviour, little is known about the mutual consequences of the numerous motivational mechanisms aimed at evaluating innovative behaviour. It is against this development that this study examined the unique impact of meaningful work on the connection between innovative behaviour and the numerous mechanisms of motivation. For this study, a total of 309 teachers were selected from Federal Colleges in North-Eastern Nigeria using convenient random sampling. The data was analysed using partial least square – structural equation modelling. The effect of
motivational mechanisms on the innovative behaviour of teachers was found to be more influential when teachers have high self-belief in their ability to produce creative outcomes. This was also evident when the teachers showed the desire to expend effort to benefit others than engaging in activities primarily because the job is interesting. The authors also found that a perceived sense of meaningfulness at work exerts a robust mediating effect on the motivational mechanisms.

**Keywords:** Innovative behaviour, motivational mechanisms, meaningful work, education system

1. **Introduction**

Employee innovative behaviour has been a significant dream of attainment in the modern work environment (Evans et al., 2017). The ability to generate ideas, solve problems, and think imaginatively have become an explicit demand for innovative personnel. This request is expected to soar in the future, providing organisations with the prospects and obligations to effectively preserve their competitive advantage by nurturing innovative behaviour (Grigorenko, 2019). As supported by Binnewies & Gromer (2012), employees’ innovative work behaviour is recognised as an essential performance outcome, which enables organisations to take advantage of opportunities, initiate new strategies, and adjust to shifting environmental conditions. With the emergence of the global knowledge society, Messmann, Mulder & Palonen (2018) argue that, not only do organisations need to innovate but also non-profit organisations, for example, educational institutes. This is because the environment in which educational systems operate also changes rapidly due to the society’s expectations of schools and expanding fields of knowledge (Thurlings, Evers & Vermeulen, 2015).

Therefore, given the emergence of the modern economy and the stresses placed on people and associations, the significance of innovative behaviour has never been higher (Tierney & Farmer, 2011). Numerous researchers have argued that innovative behaviour is a competitive weapon in the workplace (Devloo et al., 2015). It is responsible for creating approximately 80% of the novel ideas implemented in organisations (Newman et al., 2018). Furthermore, it encourages innovative employee behaviour, which is a significant notion among leaders, managers or administrators in the 21st century. Hence, given the strong evidence that innovative behaviour positively influences performance outcomes (Wang & Dass, 2017), researchers have focused on the predictors and antecedents of innovative
One of the critical determinants of individual innovative behaviour is intrinsic motivation. This key factor is also defined as the internal drive that stimulates an individual’s desire to be continuously engaged or committed to a job (Amabile, 2012). For instance, Yidong & Xinxin (2013) found a positive connection between intrinsic motivation and innovative work behaviour. Similarly, Devloo et al. (2015) reported that intrinsic motivation positively influences innovative behaviour.

Despite the insightful and valuable findings from previous research, current theoretical work on intrinsic motivation presents a compelling case that “motivation is not just intrinsic but has other manifestation” (Liu et al., 2016). Similar to the research output on intrinsic motivation and innovative behaviour, motivational research has drawn on creative self-efficacy (Bandura, 2011) and prosocial motivation (Grant, 2008) as alternative motivational constructs conducive to innovative behaviour. Notably, the three motivational mechanisms have generally advanced distinctly from each other. However, empirical studies are yet to investigate how each category of motivation supports innovative behaviour in a single study. This is challenging, considering the significant relationships between the three categories of motivation.

Current research on innovative behaviour examines individual or selected predictors simultaneously. Typically, the studies examine intrinsic motivation (Bhaduri & Kumar, 2011), creative self-efficacy (Tierney & Farmer, 2011), prosocial motivation and intrinsic motivation (Grant & Berry, 2011), and intrinsic motivation and self-efficacy (Klaeijsen et al., 2018). Although these empirical studies have made vital contributions to the literature on innovation, the studies have not highlighted whether the multiple mechanisms of motivational can operate correspondingly or otherwise to innovative behaviour. Moreover, there is a growing rate of research highlighting the status of meaningful work as a predictor of desirable employee outcomes. For example, the outcomes can include organisational commitment (Geldenhuys, Laba & Venter, 2014) and work engagement (Hoole & Bonnema, 2015). Lastly, the role of meaningful work on motivational mechanisms and innovative behaviour has not been examined in detail, especially in an education system.

Therefore, this paper seeks to highlight the impact of multiple motivational mechanisms for innovative behaviour along with the mediation of meaningful work between the two variables. The contribution of the present study is to provide a novel perspective for motivational theory and to enrich the predictors of individual innovative behaviour.
2. Literature Review and Hypotheses Development

2.1 Innovative Work Behaviour

Innovation has been reflected as human behaviour from the time when research on innovation extended from administrative, communication, and anthropological sciences to psychology and sociology in the 1980s (Bos-Nehles, Renkema & Janssen, 2017). Innovative behaviour at work is defined as an added role or behaviour essential for organisations to function successfully (Shanker et al., 2017). The innovative work behaviour (IWB) of employees is defined as the actions of individuals focussed on the development, processing, and application of fresh ideas. Typically, such ideas are about novel ways of undertakings, comprising new products, technologies, procedures or work processes to increase the efficiency and accomplishment of organisational procedures (Nijenhuis, 2015). Innovative behaviour is explained as the presentation and implementation of new opinions, products, processes, and procedures to a person’s workplace roles, operational units, or organisations (Darvishmotevali, 2019). While Scott & Bruce (1994) conceptualise innovative behaviour as a self-initiated activity that seeks to generate new or improve current ideas to change conditions.

However, for innovation to be fully realised, organisations typically depend solely on individuals at work to innovate. Individuals are the primary source of ideas and are responsible for the introduction and implementation of ideas, which are the basic requirements for innovation (Messmann & Mulder, 2014). The benefits and advantages of innovative behaviour include improving the performance of the individual and organisation (Agarwal et al., 2012). It also includes the provision of social benefits for employees such as work engagement, job satisfaction, role performance, high morale and commitment (De Jong & Den Hartog, 2010; Hughes et al., 2018). Over the years, researchers have placed significant emphasis on the private organisation or precisely for-profit organisations. Issues affecting the innovative behaviour of people at work have been extensively investigated (Thurlings et al., 2015). Klaeijsen et al. (2018) argued that only a few studies focus on the public sector, specifically on teachers’ innovative behaviour and its factors. Many existing studies on innovative behaviour are mainly focused on the service, industrial, and manufacturing industries (Chatchawan, Trichandhara & Rinthaisong, 2017), which is essentially the private sector. Besides, Thurlings et al. (2015) established that research on innovative behaviour among teachers has not hitherto received the thoughtful attention it merits in developing countries.
Earlier studies identified opportunity exploration, idea generation, championing and application as vital constructs of innovative work behaviour (De Jong & Den Hartog, 2010; Janssen, 2000; Scott & Bruce, 1994). Other scholars like Kaur & Gupta (2016) maintained that the instrument established by Messmann & Mulder (2012) is more suitable for measuring innovative behaviour, especially for teachers. It means that being innovative and reflecting on teaching practices enables teachers to find their strengths, weaknesses, and improve their capabilities (Messmann & Mulder, 2015). This implies that teachers can implement changes or improve their teaching practices by reflecting on their classroom experiences. Therefore, the need for reflection as the fifth dimension is imperative in this research. This approach can increase the innovative performance of teachers in terms of efficiency and effectiveness. Consequently, it is against this development that this study explored the innovative behaviour among teachers, whose duties and responsibilities are designed to nurture students with essential knowledge and skills for the future.

2.2 Motivation

Motivation in the workplace is an extensively researched subject. The concept of motivation examines the psychological aspects required to understand and explain human behaviour (Peters, 2015). The term motivation has been defined in different ways. According to Forgas et al. (2005), motivation was hitherto regarded as an entity that binds a person to action. However, current researchers have suggested diverse explanations of motivation. Heckhausen & Heckhausen (2018) viewed it as a predisposition for one to act in a purposive way to accomplish specific needs or the internal drive to satisfy (Itri et al., 2019); or the will to attain an unfulfilled need (Lazaroiu, 2015). Even though there are some disagreements on the meaning of motivation, there is an agreement regarding the fundamental notion that it is an individual sensation (Cook & Artino, 2016). According to Abraham Maslow (1943), motivation is defined as an intentional and multifaceted ideology (Miner, 2015). Furthermore, it is maintained that the purpose of motivational theories is to forecast behaviour. Therefore, the definition developed by the Society for Human Resource Management (SHRM) in 2010 was adopted in this study. SHRM (2010) considered motivation as the psychological forces that govern the manner of exertion and perseverance an individual requires to accomplish a given assignment (Lockwood, 2010).

In this regard, people who are internally motivated to perform their duty are usually self-applied without any noticeable external rewards such as pay or bonuses (Cherry, 2016).
Consequently, this study focuses on the internal factors of motivation, namely: creative self-efficacy, intrinsic motivation, and prosocial motivation. Therefore, intrinsic motivation is a measure of how people are involved in an activity mainly to determine if it is exciting, pleasing or inspiring (Amabile & Pillemer, 2012). Creative self-efficacy was derived from Bandura’s general concept of self-efficacy (Bandura, 1977). Self-efficacy is one of the essential ideas in psychology research (Lunenburg, 2011). It is described as the judgment of people’s abilities to accomplish selected tasks or attain a particular performance level (Bandura, 1986). On the other hand, the origins of prosocial motivation could be traced to the 1980s, when Batson (1987) described it as the eagerness to benefit others through spending energies. Grant (2007) improved the Batson definition by describing prosocial motivation as the yearning to significantly influence other people or social cooperatives voluntarily.

2.2.1 Motivational Mechanisms and Innovative Behaviour

Numerous motivational researchers have maintained that internal motivational mechanisms underlie innovative behaviour (Amabile & Pratt, 2016; Liu et al., 2016). Based on the self-determination theory, Devloo et al. (2015) investigated the relationship between intrinsic motivation and innovative work behaviour over time. Besides, the facilitating role of intrinsic motivation in the connection between the fundamental needs of satisfaction and innovative work behaviour was examined. The findings revealed that intrinsic motivation mediates the relationship between the fundamental needs of satisfaction and innovative work behaviour. Notably, Gorozidis & Papaioannou (2014) confirmed that intrinsic motivation is essential for teachers. The authors found that high levels of intrinsic motivation influence the positive attitudes of teachers and the implementation of an innovative curriculum. However, researchers such as Fidan & Oztürk (2015) found that private school teachers in the Ankara province have higher levels of intrinsic motivation and are more creative than the teachers in public schools. Similarly, Klæijsen et al. (2018) observed that intrinsic motivation among teachers is not suggestively connected to innovative behaviour. Nevertheless, these empirical studies are related to the present research as it seeks to examine the connection between intrinsic motivation and the innovative behaviour of teachers.

H1: There is a significant relationship between intrinsic motivation and innovative behaviour among teachers.
Conversely, individuals can have high levels of intrinsic motivation in their work or are prosocially motivated to help others by initiating new ideas. Bandura (2011) argued that without self-efficacy beliefs, individuals might fail to effect change in behaviour, which in turn affects their abilities to execute the courses of action required to achieve a goal. Given this, there is evidence from empirical studies showing that inventive self-efficacy is connected to innovative behaviour. Recently, Klaeijsen et al. (2018) examined the motivational processes (i.e. intrinsic motivation and occupational self-efficacy) that contribute to the innovative behaviour of teachers. The findings revealed that occupational self-efficacy strongly supports the innovative behaviour of teachers compared to intrinsic motivation.

Similarly, Ng & Lucianetti (2016), Tierney & Farmer (2011) and Malik, Butt & Choi (2015) found that high levels of self-efficacy stimulate the innovative behaviour of individuals (i.e. idea generation, dissemination and implementation of the new idea). Previous studies were conducted in countries using different population, sample sizes, methods and statistical analysis. However, these studies are relevant to the present study as it intends to examine the link between inventive self-efficacy and innovative behaviour of teachers.

H2: There is a significant relationship between creative self-efficacy and innovative behaviour among teachers.

Prosocial motivation is still an emerging construct given the limited studies that have explored the connection between prosocial motivation and innovative work behaviour. Nonetheless, previous studies from diverse cultures have linked prosocial motivation to creativity. For instance, Grant & Berry (2011) examined the connection between intrinsic motivation and creativity, along with the moderating role of prosocial motivation. The findings of the study revealed that the connection between intrinsic motivation and creativity is supported by prosocial motivation. However, the correlation between creativity and prosocial motivation is corroborated by Li & Bai (2015). Furthermore, Jaekel (2017) observed that prosocial motivation has a positive impact on the innovative behaviour of civil servants in Russia. Based on these findings, it is assumed that prosocial motivation will likely have a unique contribution to the innovative behaviour of teachers.
H3: There is a significant relationship between prosocial motivation and innovative behaviour among teachers.

2.3 Meaningful Work

Work accounts for the most substantial part of an individual’s working day. Therefore, it is not possible to isolate work from the rest of humanity (Bailey & Madden, 2016). If there is any essential personal transformation that would occur, then it is more likely to take place at work (Benefiel, Fry & Geigle, 2014). Today, employees seek more than just economic compensation (money) for their work (Steger, Dik & Duffy, 2012). Some workers want their work to have meaning rather than just a way of making money (Shea-Van Fossen & Vredenburgh, 2014). Consequently, the work is viewed as an essential context where workers engage themselves in goal-oriented activities that provides meaning in their lives (Ahmadi, Nami & Barvarz, 2014). Meaningful work is described as employees’ perceptions that a specific job is valuable and worthwhile. Meaningful work, therefore, means an inclusive state of being and a medium through which people derive meaning and purpose through the respective jobs that comprise most of their waking hours (Geldenhuys et al., 2014). Hence, meaningful work is any work that is not trivial or valuable but somewhat evocative.

2.3.1 Meaningful Work as a Mediator

The core state of psychology is a critical factor that features prominently in the theory of job design (Hackman, 1980). It is also evident in the cognitive element of empowerment (Spreitzer, 1996), psychological condition for job engagement (Kahn, 1990), and fundamental motivation for identity construction (Pratt & Ashforth, 2003). The meaningful work construct was previously identified as an essential psychological state within of itself. According to Steger et al. (2012), meaningful work is a predictor of desirable work outcomes. For example, job satisfaction (Allan et al., 2018), work engagement (Hoole & Bonnema, 2015), job satisfaction (Allan et al., 2018), work engagement (Hoole & Bonnema, 2015), decrease in absenteeism (Benefiel et al., 2014) and reduction in staff turnover (Steger & Dik, 2010). However, when employees experience an absence of individual meaning in the workplace, adverse outcomes such as stress (Isaksen, 2000) and cynicism are exhibited (Cartwright & Holmes, 2006).

However, researchers have not empirically examined the effect of meaningful work and the mechanisms of motivation on the innovative behaviour of teachers. Numerous studies have discovered the mediating part of meaningful work using different variables in various
sectors and contexts based on theoretical contributions. For example, Pradhan and Jena (2019) observed that meaningful work positively mediated the affiliation between transformational leadership and innovative work behaviour. Similarly, Nawrin (2018) revealed that meaningfulness ultimately facilitates the connection between trustworthy leadership and unselfish behaviour. Sagnak and Kuruöz (2017) reported that the connections linking organisational job, personal resources, and work engagement were partly facilitated by meaningful work. However, the outcomes that link meaningful work and the changes that occur in the workplace have highlighted the relevance of the research findings. Based on the findings, attaching meaning to work with motivation may likely boost a person to engage in extra-role activities and perform beyond expectations, which demonstrates innovative behaviour. The experience of meaningful work that includes a person’s discernment of profiting from a superior-good (Steger et al. 2013). The skill could also increase the preparedness of teachers to use their capabilities and energies to invent new teaching policies that will engage and motivate the students to learn. Also, teachers may be more likely to engage in innovative activities for the benefit of the students and the school at large by finding significance and purpose in their teaching jobs. Therefore, this study proposes a significant connection between meaningful work, motivational mechanisms and the innovative behaviour of teachers. It can be hypothesised that:

H4: Meaningful work mediates the relationship between intrinsic motivation and teachers’ innovative behaviour.

H5: Meaningful work mediates the relationship between creative self-efficacy and teachers’ innovative behaviour.

H6: Meaningful work mediates the relationship between prosocial motivation and teachers’ innovative behaviour.

H7: There is a significant relationship between meaningful work and teachers’ innovative behaviour.

3. Methods

A total of 309 teachers from 12 Federal Colleges in North-eastern Nigeria participated in this survey. The participants in the research consisted of the researcher(s) and responsible staff within the colleges, who were provided with cover letters, questionnaires, and return addressed envelopes. Moreover, the confidentiality of all the contributors was guaranteed ab initio. Using identification numbers, each item on the questionnaire was coded so that all the
respondents’ responses could be harmonised for the consequent analyses of the data. The completed questionnaires were returned at the end of the exercise. The return rate of the questionnaires was 87%, which revealed the high rate of interest from the respondents to partake in this survey. The mean age of the sample was 35.5 years, with about 69% of male participants. Approximately 75% of the target group possessed an undergraduate degree. The participants had taught students for seven years and above, on average, with a minimum salary of ₦50,000.

For this study, eighteen (18) items were measured for the teachers’ innovative behaviour developed by Messmann and Mulder (2012). The intrinsic motivation required seven (7) items on the interest/enjoyment subscale developed by Ryan and Deci (2000). The creative self-efficacy required six (6) items on the scale developed by Karwowski (2011). However, the prosocial motivation required the four-item scale developed by Grant (2008), and ten (10) items were used for meaningful work as developed by (Steger et al. 2012). The replies were established on the five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Statistical package for the social science (SPSS) and partial least squares – structural equation modelling (PLS-SEM) were used for the analysis. SPSS was used for the preliminary analyses, whereas the measurement and structural models were evaluated using PLS-SEM.

4. PLS

From the initial analysis stage, the validity of the construct (convergent and discriminant validity) and the consistency of the study items were examined. Both the convergent and discriminant validity was computed through the average variance extracted (AVE) and composite reliability (CR). The factors were determined according to the suggested terms CR > 0.70 and AVE > 0.50 developed in the literature (Hair, Black & Babin, 2010). In this study, the results revealed that the terms CR and AVE for the entire study parameters were significantly higher than 0.70 and 0.50, respectively. Besides, the coefficient of Cronbach’s alpha was regarded as satisfactory for the parameters based on the end point mark, as presented in Table 2.
<table>
<thead>
<tr>
<th>Items</th>
<th>Factor Loadings</th>
<th>t- value</th>
<th>AVE</th>
<th>CR</th>
<th>Cα</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teachers’ Innovative Behaviour</strong> <em>(Messmann &amp; Mulder, 2012)</em></td>
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<tr>
<td>I promote new ideas for the administrator to gain active support.</td>
<td>0.686**</td>
<td>16.375</td>
<td></td>
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<tr>
<td>I promote the application of the new solution within the school.</td>
<td>0.732**</td>
<td>22.236</td>
<td></td>
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<tr>
<td>I make plans on how to put an idea into practice.</td>
<td>0.727**</td>
<td>18.388</td>
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<tr>
<td>I introduce colleagues to the application of a developed solution concerning teaching and learning.</td>
<td>0.729**</td>
<td>19.724</td>
<td></td>
<td></td>
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<tr>
<td>I analyse evolving solutions on unwanted effects when putting teaching activities into practice.</td>
<td>0.704**</td>
<td>17.330</td>
<td></td>
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<tr>
<td>I express personal evaluations of a problem regarding teaching.</td>
<td>0.682**</td>
<td>19.654</td>
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<tr>
<td>I address issues related to teaching practices that must change.</td>
<td>0.694**</td>
<td>17.040</td>
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<tr>
<td>I express new ideas concerning teaching and learning in school.</td>
<td>0.716**</td>
<td>18.803</td>
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<tr>
<td>I suggest improvements in expressed ideas in the school.</td>
<td>0.701**</td>
<td>16.037</td>
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<tr>
<td>I keep myself informed about new concepts within my professional field.</td>
<td>0.682**</td>
<td>13.894</td>
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<tr>
<td>I assess the progress of students while putting ideas into teaching practices.</td>
<td>0.737**</td>
<td>23.400</td>
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<tr>
<td>I reflect on my teaching experiences from the classroom to improve my shortcomings.</td>
<td>0.742**</td>
<td>23.274</td>
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<tr>
<td>I identify triggers for change in the school.</td>
<td>0.720**</td>
<td>18.634</td>
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<tr>
<td><strong>Intrinsic Motivation</strong> <em>(Ryan &amp; Deci, 2000)</em></td>
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<tr>
<td>I enjoy my work as a teacher.</td>
<td>0.837**</td>
<td>42.214</td>
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<tr>
<td>I would define working as a teacher as very interesting.</td>
<td>0.855**</td>
<td>44.954</td>
<td></td>
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</tr>
<tr>
<td>Teaching is a fun job.</td>
<td>0.631**</td>
<td>12.801</td>
<td></td>
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<tr>
<td>Teaching is an exciting job.</td>
<td>0.858**</td>
<td>41.796</td>
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<tr>
<td>Teaching as a job is quite enjoyable.</td>
<td>0.851**</td>
<td>47.550</td>
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<tr>
<td>While I am teaching students in the classroom, I was thinking about how much I enjoyed it.</td>
<td>0.724**</td>
<td>19.040</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Teaching as a career holds my attention</td>
<td>0.837**</td>
<td>44.060</td>
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<tr>
<td><strong>Creative Self-Efficacy</strong> <em>(Karwowski (2011)</em></td>
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<tr>
<td>I can solve problems efficiently, even complicated problems.</td>
<td>0.770**</td>
<td>19.993</td>
<td></td>
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<tr>
<td>I trust my creative abilities.</td>
<td>0.715**</td>
<td>15.327</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Compared to my friends, my ideas are outstanding.</td>
<td>0.737**</td>
<td>17.832</td>
<td></td>
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</tr>
<tr>
<td>Many times, I proved I can find at least one solution for any difficult situation.</td>
<td>0.818**</td>
<td>28.755</td>
<td></td>
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<tr>
<td>I can deal with problems requiring creative thinking.</td>
<td>0.767**</td>
<td>21.601</td>
<td></td>
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</tr>
<tr>
<td>I am good at proposing original solutions to problems solutions.</td>
<td>0.697**</td>
<td>17.406</td>
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</tr>
</tbody>
</table>
Prosocial Motivation (Grant, 2008)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>I get energized with teaching when I have the potential to benefit students.</td>
<td>0.816** 27.531</td>
</tr>
<tr>
<td>I do my best in teaching when my job contributes to the well-being of students.</td>
<td>0.877** 56.444</td>
</tr>
<tr>
<td>My teaching job allows me to have a positive impact on my students.</td>
<td>0.856** 37.963</td>
</tr>
<tr>
<td>I need to do good for students through my work.</td>
<td>0.776** 22.847</td>
</tr>
</tbody>
</table>

Meaningful Work (Steger et al., 2012)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Factor Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>My teaching serves a greater good.</td>
<td>0.751** 20.816</td>
</tr>
<tr>
<td>My teaching profession makes a difference in the world.</td>
<td>0.685** 14.742</td>
</tr>
<tr>
<td>Am aware my teaching job makes a positive difference in the world.</td>
<td>0.753** 23.875</td>
</tr>
<tr>
<td>I view my teaching career as contributing to my personal growth.</td>
<td>0.764** 20.866</td>
</tr>
<tr>
<td>My teaching job helps me better understand myself.</td>
<td>0.791** 31.549</td>
</tr>
<tr>
<td>My teaching job helps me make sense of the world around me.</td>
<td>0.751** 22.659</td>
</tr>
<tr>
<td>I have found a meaningful job</td>
<td>0.704** 18.334</td>
</tr>
<tr>
<td>I understand how my teaching job contributes to my life’s meaning.</td>
<td>0.784** 32.339</td>
</tr>
<tr>
<td>I have a good sense of what makes my teaching job meaningful</td>
<td>0.713** 18.684</td>
</tr>
<tr>
<td>I discovered teaching as a satisfying purpose.</td>
<td>0.766** 28.874</td>
</tr>
</tbody>
</table>

Note: all items measured by a 5-point Likert scale

Furthermore, the results also revealed that the innovative behaviour of teachers has factor loadings between 0.686 and 0.742; intrinsic motivation has 0.631 to 0.858; creative self-efficacy has 0.697 to 0.818; prosocial motivation has 0.776 to 0.877, and meaningful work has 0.685 to 0.791. The results also indicated that all the factor loadings were considered significant because the loadings were above 0.5, whereas all items with factor loadings < 0.4 were removed from the model according to the recommendation of Hair et al. (2014). Besides, the model converged after small iterations below the suggested 300 maximum requirement (Wong, 2013). Based on the findings, the measurement models in this study achieved convergent validity.
Table 2: Discriminant Validity using the Fornell and Larker Criterion

<table>
<thead>
<tr>
<th></th>
<th>CSE</th>
<th>IBC</th>
<th>IM</th>
<th>MMW</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE</td>
<td>0.752</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IBC</td>
<td>0.741</td>
<td>0.712</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IM</td>
<td>0.643</td>
<td>0.648</td>
<td>0.803</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMW</td>
<td>0.669</td>
<td>0.727</td>
<td>0.724</td>
<td>0.747</td>
<td></td>
</tr>
<tr>
<td>PM</td>
<td>0.694</td>
<td>0.719</td>
<td>0.626</td>
<td>0.696</td>
<td>0.832</td>
</tr>
</tbody>
</table>

Note: IBC – Teachers’ innovative behaviour, IM – Intrinsic motivation, CSE – Creative self-efficacy, PM – Prosocial motivation and MMW – Meaningful work.

Table 2 presents the discriminant validity using the Fornell and Larker Criterion. The values indicate the square root of average variance explained (AVE) figures introduced transversely in the shaded bolded italics. However, the other figures inserted horizontally and vertically indicate the correlation between the constructs of the study. Based on the results, PM has the highest square root of AVE at 0.832 above its highest correlation of 0.719 with the other constructs. In ascending order, the square roots of the AVEs of IM, CSE, MMW and IBC are above the highest correlation with other constructs at 0.724, 0.741, 0.724 and 0.741, respectively. Therefore, the discriminant validity was achieved based on the criterion of Fornell & Larcker (1981).

Table 3: Structural Model Results

<table>
<thead>
<tr>
<th>Paths</th>
<th>Beta Value (β)</th>
<th>Standard Error</th>
<th>T-Statistics</th>
<th>P-Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct Path</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IM -&gt; IBC</td>
<td>0.081</td>
<td>0.052</td>
<td>1.566</td>
<td>0.117</td>
<td>Not Supported</td>
</tr>
<tr>
<td>CSE -&gt; IBC</td>
<td>0.336</td>
<td>0.067</td>
<td>5.051</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>PM -&gt; IBC</td>
<td>0.244</td>
<td>0.055</td>
<td>4.425</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>IM -&gt; MMW</td>
<td>0.408</td>
<td>0.056</td>
<td>7.318</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>CSE -&gt; MMW</td>
<td>0.194</td>
<td>0.061</td>
<td>3.181</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>PM -&gt; MMW</td>
<td>0.306</td>
<td>0.059</td>
<td>5.194</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>MMW -&gt; IBC</td>
<td>0.274</td>
<td>0.066</td>
<td>4.150</td>
<td>0.000</td>
<td>Supported</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indirect Specific Effects</th>
<th>Beta Value (β)</th>
<th>Standard Error</th>
<th>T-Statistics</th>
<th>P-Values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM -&gt; MMW -&gt; IBC</td>
<td>0.112</td>
<td>0.032</td>
<td>3.473</td>
<td>0.001</td>
<td>Supported</td>
</tr>
<tr>
<td>CSE -&gt; MMW -&gt; IBC</td>
<td>0.053</td>
<td>0.021</td>
<td>2.482</td>
<td>0.013</td>
<td>Supported</td>
</tr>
<tr>
<td>PM -&gt; MMW -&gt; IBC</td>
<td>0.084</td>
<td>0.026</td>
<td>3.190</td>
<td>0.001</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Note: IBC – Teachers’ innovative behaviour, CSE – Creative self-efficacy, PM – Prosocial motivation, IM – Intrinsic motivation, and lastly MMW – Meaningful work.

Based on data shown in Table 3, the study found the following direct effects. The intrinsic motivation revealed a negative causal impact on teacher’ innovative behaviour (β=0.081; t=1.566; and p=0.117). The results also show that the t-statistics and p-value are below and above the minimum and maximum required threshold of 1.96 and 0.05, respectively. However, both creative self-efficacy (β=0.336; t=5.051; and p=0.000) and prosocial
motivation ($\beta=0.244; t=4.425; \text{and } p=0.000$) have positive and significant direct effects on teachers’ innovative behaviour. Similarly, meaningful work showed a positive and significant impact on teachers’ innovative behaviour ($\beta=0.274; t=4.150; p=0.001$). Similarly, the study found that the three motivational mechanisms have a direct positive and significant impact on meaningful work. This included the effects of intrinsic motivation on meaningful work ($\beta=0.408; t=7.318; p=0.000$), creative self-efficacy on meaningful work ($\beta=0.194; t=3.181; p=0.001$), and prosocial motivation on meaningful work ($\beta=0.306; t=5.194; p=0.000$). In conclusion, the results show that all the direct paths have a significant causal influence on their endogenous constructs, except the path leading IM to IBC (i.e. intrinsic motivation to teachers’ innovative behaviour).

Conversely, the study found all the three indirect effects are positive and significant. The intrinsic motivation through meaningful work on teachers’ innovative behaviour is significant ($\beta=0.112; t=3.473; p=0.001$), creative self-efficacy through meaningful work teaches’ innovative behaviour is significant ($\beta=0.053; t=2.482; p=0.013$), and prosocial motivation through meaningful work on teachers’ innovative behaviour is also significant ($\beta=0.084; t=3.190; p=0.001$). Overall, the findings validate and support the hypothesis that meaningful work and its relationship with inherent motivation can underlie the innovative behaviour of teachers.

5. Discussion

In this study, only two motivational mechanisms; creative self-efficacy and prosocial motivation showed a direct positive impact on teachers’ innovative behaviour compared to intrinsic motivation. The findings of the present study are consistent with Tierney and Farmer (2011), and Grant and Berry (2011). The authors observed that individuals have a high level of belief in their creative ability and the desire to help others. Such individuals are more than likely to engage in innovative behaviour compared to others who find the job interesting. Likewise, the findings support the findings of Fidan and Oztürk (2015) that indicated that intrinsic motivation is not significantly linked to the innovative behaviour of teachers in public schools.

Moreover, meaningful work was found to mediate the effect of the trio of motivational mechanisms (i.e. intrinsic motivation, creative self-efficacy and prosocial motivation) on teachers’ innovative behaviour. When the feeling of meaningfulness or purpose on the job was high, intrinsic motivation had a significantly stronger influence on teachers’ innovative behaviour than the direct link between intrinsic motivation and teachers’
innovative behaviour. Therefore, the results confirm that teachers with a high sense of purpose or who find their jobs valuable or worthwhile are more likely to have more interest in the job. Lastly, confidence in the teachers’ creative abilities and the desire to benefit others to engage in innovative behaviour also feature prominently.

5.1 Theoretical Contribution

The present study has made several noteworthy contributions to the current literature on the facilitating impacts of meaningful work and the connections between the mechanisms of motivation and innovative behaviour. First, a theoretical contribution was made by evaluating the mutual effects of the three motivational mechanisms on innovative behaviour using teachers in an educational sphere. The present study also explored whether any of the three motivational mechanisms contributed significantly to the innovative behaviour of teachers. Consequently, the authors replied to the researchers demand to observe the degree to which the three mechanisms of motivation influence the creative and inventive work results (Liu et al. 2016). Although previous studies have examined how one or a few motivational mechanisms may encourage individuals at work to exhibit higher levels of creativity and innovative behaviour. These studies explored the roles of intrinsic motivation (de Jesus et al. 2013), rewards (Byron & Khazanchi, 2012), and creative self-efficacy (Newman et al. 2018) among others. However, the present study is the first to examine whether the three motivational mechanisms mutually affect individuals involved in additional innovative work.

Secondly, previous studies have demonstrated that the different motivational mechanisms are valid for specific ground-breaking behaviour (Devloo et al. 2015). However, existing studies are yet to examine the significance of stimulating meaningful work among individuals that exhibit high degrees of creative self-efficacy, prosocial motivation, and intrinsic motivation. This could be achieved through optimum levels of innovativeness or commitment to innovative behaviour. Therefore, the present study addressed this challenge by initially testing the multiple tools of motivation and their connections to forecast the innovative behaviour of the teachers. As such, the present study identified the critical factors at the specific levels that nurture the conception along with the presentation of novel concepts within the teacher’s job roles. Hence, this allows researchers to also respond to the calls of scholars to take on additional tasks on the mediation variables, which affect the linkage amongst motivational mechanisms and innovative behaviour (Amabile & Pratt, 2016).
Lastly, the present study also considerably validates the literature on educational management by instituting the motivational factors that nurture innovative behaviour among teachers. Building on the research that examines the direct influence of intrinsic motivation on teachers’ innovative behaviour (Klaeijsen et al. 2018), the present paper recommends the immediate consideration of the meaning and purpose teachers attach to their jobs. This viewpoint is crucial when determining the effectiveness of internal motivational mechanisms, as this is prospective and hence it is better not to assume it is generally important for all teachers.

5.2 Practical Contribution

Organisations are consistently calling for individuals to be innovative in their job roles. Considering that monetary rewards are not readily available, particularly in the public sector, schools, policymakers, stakeholders and researchers are eager to distinguish the mechanisms that can effectively boost teachers’ innovative behaviour. The outcomes from the present study serve as a tool to provide information to practitioners and researchers about the profuse attributes of creative self-efficacy, prosocial motivation, and intrinsic motivation towards innovative behaviour. Schools can draw on the insights from the componential theory of creativity and innovation (Amabile & Pratt, 2016), social cognitive model (Bandura, 2011) and prosocial motivation (Grant & Berry, 2011) to propose mediation policies to fuel all the motivational mechanisms. This study also recommends that encouraging job autonomy is effective in stimulating intrinsic motivation. However, the existence of interesting or multifaceted jobs can practically increase creative self-efficacy while providing supportive leadership that can enable prosocial motivation. This is because teachers will prospectively and positively respond to the support and reassurances provided by the administrators of the school. Ultimately, this notion will initiate imaginative solutions and discover opportunities identified within the teaching jobs. Therefore, the degree to which these factors can favour innovative behaviour are measured, so school administrators are encouraged to keep track of the changes in teachers’ motivation.

5.3 Limitations and Recommendations

Several limitations must be addressed in future research. First, although we adopted similar techniques reported in previous literature for data collection and eliminated any prejudices likely to impact on the overall results, it is suggested that future research might consider gathering data from multiple sources to evaluate the innovative behaviour of teachers and the
principals. Secondly, the study is cross-sectional; hence the oversimplification of the results makes it difficult to establish causation. Accordingly, it is suggested that future research should deliberate on performing a parallel survey to evaluate the motivational mechanisms and their impacts on teachers’ innovative behaviour over some time. Likewise, since the study was performed in Federal Colleges in North-Eastern, Nigeria, this could limit the potential to generalise the results. Therefore, it is recommended that future research accounts for further segments of the Nigerian society. Moreover, future research could consider examining other variables such as psychological empowerment or extrinsic motivational factors to add credence to the findings. In conclusion, future research could also re-examine the outlined restrictions, simultaneously performing experimental studies on the connection between motivational mechanisms and the innovative behaviour of teachers in the Nigerian context.

6. Conclusions
The present study examined whether meaningful work mediates the motivational mechanisms and the innovative behaviour of teachers. Therefore, this study recommended that if meaningful work is high, the consequence of the three motivational mechanisms on teachers’ innovative behaviour will be stronger. The findings submit that school administrators are responsible for providing a conducive work environment where teachers can attach meaning, purpose, and significance to their jobs. Such conditions could inspire teachers with high intrinsic motivation, creative self-efficacy, and prosocial motivation to engage in innovative behaviour. Lastly, the conditions can encourage the teachers to exploit and identify opportunities, initiate new ideas, and implement novel strategies for active learning.

7. Declaration of Conflicting Interests
The authors declare that there are no potential conflicts of interest.

8. Funding
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9. References


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