Predicting the Factors Affecting Academicians' Effectiveness: A Data-Driven Approach

By

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Abstract

Academician effectiveness evaluations are considered an effective mechanism for promoting growth in academia. This research aims to document literature concerning the factors that affect academician effectiveness. Academician effectiveness evaluations were implemented in thirteen Nigerian public universities spread over north-western Nigeria. The factors that predict academician effectiveness were examined in terms of the organization's motivation, social and communication climates through a PLS-SEM technique. To select an adequately representative sample, a two-stage random sampling approach was used. The participants of the study were 233 university lecturers and their 1665 students. Results indicated that motivation, social climate, communication climate were good predictors of academician effectiveness. Research on academician effectiveness should focus on methods, approaches, and effectiveness as experts and beginners see. Further, more consideration should be shown to solidifying academician effectiveness for the coming decades.

Keywords: Academician Effectiveness, Organizational Climate, Motivation, University, Self-Determination Theory

1.0   Introduction and Background

Academicians are prominent figures in the educational system both statistically and with their potential to influence educational outcomes Malik and Allam (2021). This is because scholars' effectiveness remains a topic that needed to be studied by scholars because of its ever-increasing relevance and importance to higher educational institutions Antony, Karamperidis, Antony, and Cudney (2019); Smith and Sheridan (2019) opined that educational research in institutions of higher learning around the world revealed that of all the school-related factors that impact student achievement, academician's effectiveness is the most significant Raza, Wan Mohd Noor, and Fareed (2020); Sadeghi, Richards, and Ghaderi (2020) also maintained the fact that educational institutions are said to be effective when the academicians are effective. Hence, academics globally invest quite a lot of energy and attention in understanding academician effectiveness and how numerous policies intended for the educational sector impact it in the short,

medium, and long term Edinger and Edinger (2018). Kim, Dar-Nimrod, and MacCann (2018) noted that academicians are the most crucial factor for instructing the future generation and are responsible for making a country incredible through their unparallel effectiveness. Addressing the issue of motivation is relevant to the topic of academician effectiveness. Many western countries, including the United States, Australia, and some European countries such as the United Kingdom, Germany, and Norway, have reported a shortage of academics Kyriacou and Kunc (2007). Also linked with academician effectiveness is the construct of organizational climate. According to Babu and Kumari (2013), "climate represents a composite of the mediating variables that intervene between the climate of an organization and the style and other characteristics of leaders and teacher performance, effectiveness, and satisfaction. However, few studies have examined the relationships between lecturer's motivation, lecturer's organizational climate, academician effectiveness, and even fewer in the specific context of Nigeria. The Social determination theory considers the integrative context of motivation, organizational climate, and academician effectiveness in this domain. Therefore, there is a research gap in investigating the OC, SC, and CC relationship among tertiary institutions academicians. This study aims to investigate the motivation and organizational climate of academicians in north-western Nigeria. The results of this study can provide valuable information for improving academician effectiveness.

2.0 Theoretical Framework

The theoretical debate about the links between MO, CC, SC, and AE began in the West in the late 1980s when AE was highlighted as an essential component in reform efforts to improve educational outcomes. As a result, although some studies supported this concept, others contested it with contradictory results. And there's no way of knowing whether this structure might be used in African countries like Nigeria. The following subsections will thoroughly evaluate the literature about the linkages between MO, CC, SC, and AE, respectively, and contextualize this theoretical framework in Nigerian educational settings in light of the perplexing patterns revealed by prior studies.

2.1 Literature Review

2.1.1 Academician Effectiveness

Ismail et al. (2018) defined academician effectiveness as the aggregated effects of a complex set of in-classroom academician's behaviors on students learning. Academician effectiveness is a multidimensional notion that refers to performance outcomes on specific educational goals that focus on activities in educational settings, such as schools, colleges, and universities Munir and Aboidullah (2018); Steinmayr, Weidinger, Schwinger, and Spinath (2019). Therefore, it is important to foster more significant student-teacher interaction as an essential and fundamental basis for teaching in a challenging learning environment. Hence the need to further interrogate this stream of thought in the academician effectiveness context.

2.1.2 Organizational Climate

Organizational climate is defined as the shared "meanings people attach to interrelated bundles of experiences they have at work" Bowen and Schneider (2014). According to Hofmann, Burke, and Zohar (2017) OC refers to a shared perception of the workplace that can influence critical organizational outcomes such as employee satisfaction, performance, productivity, and success. Rather than a disjointed and interconnected set of individual opinions or surveys, we

should focus on a collective understanding to enable managers to determine how climate affects outcome factors through a consensual method. In this study, OC is conceptualized as communication climate and social climate.

2.1.3 Communication Climate

Communication climate is defined as "an experienced subjective quality of the internal environment of an organization: the concept embraces a general cluster of inferred predispositions, identifiable through reports of members perceptions' of messages and message-related events occurring in the organization" Larosiliere and Leidner (2012). Whether academics absorb communication climate due to their self-categorization as teachers might reinforce their desire to maintain a positive impression by demonstrating positive behaviors as efficacious academics. However, there has been minimal scholarly effort dedicated to studying how academics respond to institutional challenges associated with communication climate.

2.1.4 Social Climate

The term "social climate" refers to the atmosphere, ethos, standards, social systems, and resources that strive to make students feel a sense of purpose in learning process Hartog (2009). According to Larosiliere and Leidner (2012), the social climate is linked to social belonging, teacher esteem, teacher support, and other factors like depressive symptoms, school drug use norms, and friend drug usage. Once the social climate is established, it frequently takes on its personality due to two-way perceptual interaction between the participating person and the surroundings (Mayhew, Grunwald, & Dey, 2006).

2.1.5 Motivation

George and Jones (2012) define communication as "the psychological forces within a person that determine the direction of the person's behavior in an organization, effort level, and persistence in the face of obstacles". Motivation, on the other hand, is critical for reaching maximal organizational goals. It is because an academician can finish work in accordance with set standards if they are motivated. The importance of both internal and external motivation in the learning and teaching process cannot be overstated. A teacher's creativity and activity in the classroom can be enhanced by a strong sense of work motivation, leading to greater efficacy in the classroom. Herzberg's two factor theory of motivation, containing, as a motivational factor, elements of recognition, responsibility, advancement, achievement, and growth (Noor, Fareed, & Isa, 2018)

2.2 Communication Climate and Academician Effectiveness

Okoli (2017), suggested that effective communication depends on one's capacity to convey oneself through speech effectively, precisely, and fluently. There is a significant link between the climate in the classroom and the contents, such as student work, behaviour, achievement, social and emotional development, management styles, the teacher, the level of educational reforms, and the overall quality of school life, according to educational research Previous research has found a relationship between students' initial knowledge state and the effectiveness of academics. As a result, academicians must first comprehend how these elements affect teaching effectiveness before putting that knowledge into practice when developing a teaching curriculum.
Based on the previous body of evidence, the following hypothesis is posited:
H1: CC will significantly affect AE

2.3 Social Climate and Academician Effectiveness

The quality of academics and the teaching climate for students in higher educational institutions is influenced by the perceived social climate Rahman, Hussein, and Aluwi (2015); Ramsden (1979). Alternative or complementary modalities of instruction (face-to-face, mixed, and online) are becoming more common in colleges, influencing students' social climate experiences. College is, by its very nature, a competitive environment. However, it is unclear what the possible outcome of social climate would be on academicians if tested on this model.

Based on the above postulations, the following hypothesis is posited:

H2: SC will significantly impact AE.

2.4 Motivation and Academician Effectiveness

Motivating academicians have been linked to contextual elements such as school support in empowering acts (e.g., developing self-awareness and comprehension of group dynamics) Davis and Wilson (2000). As a result of the existing evidence, it is clear that teacher work motivation can influence a variety of school outcomes Haiyan, Walker, and Xiaowei (2017). It is therefore normal to expect that teacher work motivation can influence academician efficacy, based on the theoretical discussion and practical evidence.

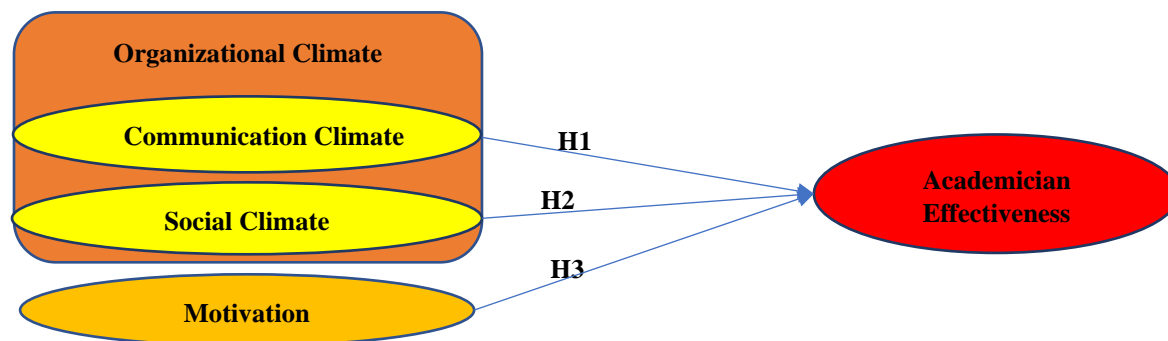Based on these empirical findings, we expect that, H3: MO will significantly impact AE

Figure 1: Research Model

3.0 Method

3.1   Sample and Procedure

Participants in this research consist of students and lecturers drawn from 13 public universities in northwestern Nigeria. Typically, the nature of the relationship between students and their lecturers is in the form of a lecturer who plays the role of an advisor, supervisor, or department head. Students and lecturers were asked to rate their relationship with one another in this study. The usable sample consisted of 233 students and lecturers from various departments aggregated and paired, yielding a response rate of 43.6 per cent for students and 43.3 per cent for lecturers, respectively. The number of people who responded to each team varied from three to five, with four being the average.

3.2   Instruments

For this study, three instruments were used to measure the study variables. All items were rated using a 7-point Likert-type scale (1 = strongly disagree, 7 = strongly agree). Academician effectiveness was measure by 12 items that were constructed based on measures used in research Marsh and Roche (1993). In measuring motivation, an abridged version of the motivation

instrument was developed by Curtis, Upchurch, and Severt (2009) with 12 items used to measure motivation. The measure has an adequate internal consistency of 0.920. Considering the seven-point scale, 1 = strongly agree, 7= strongly disagree. Respondents, therefore, indicated the level of agreement with the motivation statements. organizational climate measures were proposed using 8 items Vartia (1996). According to the factor analysis, the two scales were formed and labelled "Communication climate" and "Social climate". Both scales had good internal consistency (Cronbach's alpha 0.83 and 0.81). Based on a seven-point scale whereby 1 = strongly agree, and 7 = strongly disagree, respondents.

Table 1: Result of Convergent Validity

Constructs	Items	Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)
Academician Effectiveness	AE1	0.738	0.943	0.951	0.616
	AE10	0.836			
	AE11	0.829			
	AE12	0.770			
	AE2	0.833			
	AE3	0.798			
	AE4	0.761			
	AE5	0.746			
	AE6	0.810			
	AE7	0.765			
	AE8	0.764			
	AE9	0.762			
Communication Climate	CC1	0.875	0.786	0.876	0.703
	CC2	0.917			
	CC3	0.710			
Motivation	MO1	0.915	0.955	0.962	0.719
	MO10	0.921			
	MO2	0.875			
	MO3	0.884			
	MO4	0.809			
	MO5	0.827			
	MO6	0.854			
	MO7	0.875			
	MO8	0.885			
	MO9	0.881			
Social Climate	SC1	0.810	0.900	0.926	0.715
	SC2	0.852			
	SC3	0.833			
	SC4	0.866			
	SC5	0.866			

4.0 Results

4.1 Descriptive Statistics and Correlations

The study conducted descriptive statistics and correlations among the study variables using SPSS version 20 Morgan, Katsikeas, and Vorhies (2012). The exogenous latent constructs were significantly and positively correlated with each other (see Table 2) Rahman et al. (2015). Based on the above descriptive statistics (Table 2), the mean value for academician effectiveness is 6.1538, which is relatively higher than the remaining variables. The descriptive analysis also shows that motivation has the lowest value of 5.417. The mean score for social climates of 6.0300 is relatively lower than the mean score for communication climate of 6.1488.

4.2 Measurement Model

The measurement model (MM) measures the composite reliability (CR), convergent reliability (CR), average variance extracted (AVE) and discriminant validity (DV). Consistent with the rule of thumb of outer loading claimed by Vartia (1996), the outer loading must be 0.50 and above. Therefore, the AVE must be more than 0.50. Vinzi, Trinchera, and Amato (2010) recommended that the values that factor loading below 0.50 will be deleted beginning from the lowest value. The AVEs were between 0.616 and .719 and confirmed the convergent validity described by Cheung and Wang (2017).

In addition, the results of the highly recommended technique for diagnosing DV of the Heterotrait monotrait ratio (HTMT) were below the commonly accepted limit of 0.85. Kline (2015) confirmed that the measurement was DV (see Table 4). Taken together, these findings show that in the present study, common method bias is not a threat.

Table 2: Discriminant Validity HTML

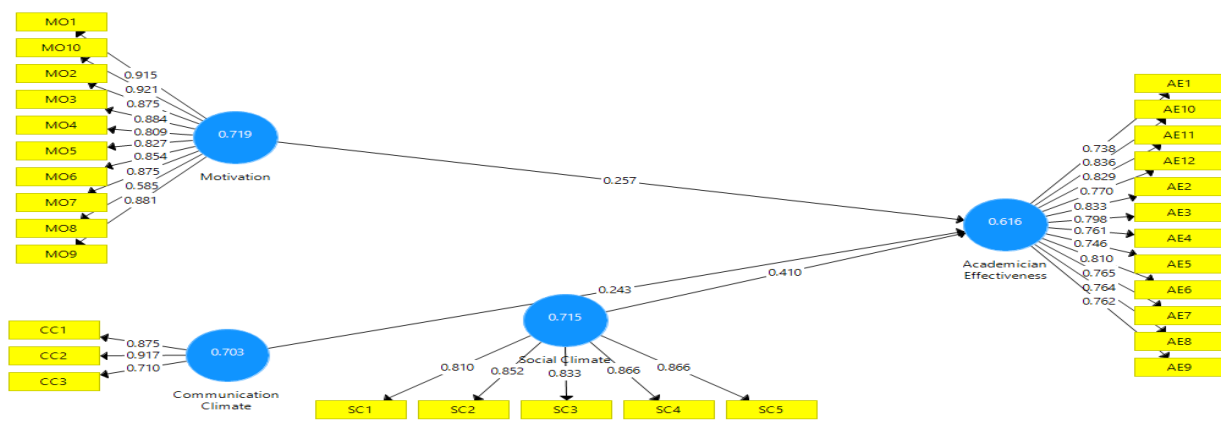|	Academician Effectiveness	Communication Climate	Motivation	Social Climate
Academician Effectiveness				
Communication Climate	0.713			
Motivation	0.598	0.451		
Social Climate	0.773	0.822	0.597	

Figure 2: Measurement Model

4.4 Structural Model and hypothesis testing

The results of the three tested hypotheses were shown separately in Table 8 and figure 3. The PLS was used for the direct relationship analysis. Rasoolimanesh and Ali (2013) indicated the increased use of PLS in academic research; the models were examined. Details show the positive and significant effect of CC for AE (β = 2.43, T-value 3.632, p < 0.000), MO for AE (β = 257, T-value 5.565, p < 0.000), and SC for AE (β = 410, T-value 5.987, p < 0.000), The following hypothesis: H1, H2, and H3 were all supported. Details are available from the results of the direct analysis in table 8.
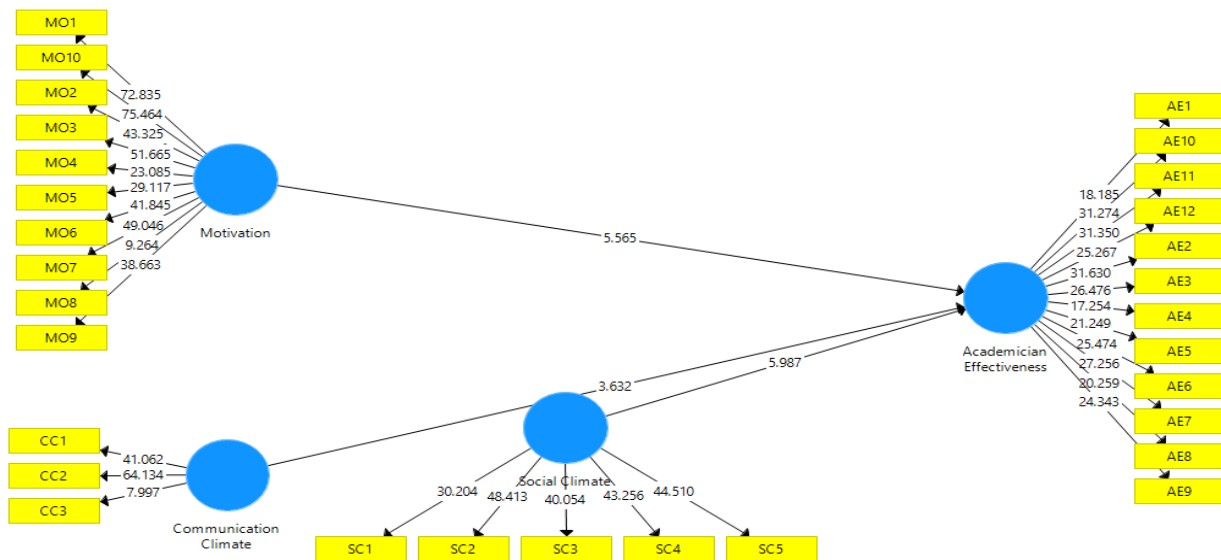

Figure 3: Structural Model.

5.0 Discussion

This study was undertaken to examine factors influencing the academician effectiveness of students and their faculty academic lecturers at public universities in the northern-western region of Nigeria. As indicated by the study results, the relationship between the student and their lecturers can positively influence academician effectiveness. The three supported hypotheses underscore this. From a theoretical standpoint, this research adds to the body of knowledge by identifying and proving a link between organizational climate (communication climate and social climate), motivation, and academician effectiveness, which is consistent with earlier research Edinger and Edinger (2018); Larosiliere and Leidner (2012); Okoli (2017). The findings confirm the roles of communication climate, motivation, and social climate in enhancing academician effectiveness. This indicates that organizational climate (communication climate and social climate) and motivation are critical factors influencing academician effectiveness. The results generally supported the model suggested by SDT Ryan and Deci (2000) in both groups (Students and lecturers) as included in the study. Students' communication and social climates contributed uniquely and positively to academician effectiveness. Also, the motivation of lecturers, in turn, contributed to academician effectiveness outcomes. Furthermore, rather than the more commonly utilised self-report data, this effect is proved using student ratings of their professors. According to the findings, if schools wish to improve their lecturers' efficacy, they should focus on improving

classroom climates, motivating teachers, and emphasising the value of teacher-student collaboration.

Schools must identify chances for students and lecturers to work together more closely. Goodenow (1993) found that teachers' most significant challenge in collaboration with students and other peers is finding time to collaborate. Schools can dedicate specific time slots in regular schedules towards encouraging collaboration among their teachers and rewarding them. According to Goodenow (1993)"collaboration does not happen on its own through administrative mandate or peer pressure, but requires commitment on the part of each individual to a shared goal, demands careful attention to communication skills, and obliges participants to maintain parity throughout their interaction". As a result, instructors must be convinced of the value of cooperation, collaboration, friendship, solidarity, empathy, and support for them to take an active role in such activities. As discussed initially, the effectiveness of academics in the Nigerian education system is a matter of concern Salami and Suhaimi (2019). Given the importance of academicians in shaping the nation's future, all efforts must be made to ensure that teachers are effective and able to influence student learning to the greatest extent possible. The study's findings reveal that a teacher's motivation has a beneficial impact on their efficacy in delivering instruction, interacting with students, and managing their learning. Thus, to improve a teacher's efficacy, it is critical to focus on creating a more supportive environment as well as enough incentive. For a country like Nigeria, where there is a scarcity of monetary resources and physical infrastructure at public universities, academicians' efficacy has suffered.

5.1 Theoretical Implication

The current study has added to social-psychological and educational research on school organisational atmosphere and motivation, emphasising the importance of psychological elements for academic performance for both students and lecturers. The current contribution aims to evaluate a model based on SDT, with the inclusion of organisational environment (social and communication), motivation, and academician efficacy, to fill a vacuum in the literature of SDT on students-lecturer relationships.

5.2 Limitation of Study

First and foremost, this study would have benefited from data from other schools. More schools would have increased the statistical model's capacity and possibly allowed for studying students' perceptions of academician success. secondly, this study, like the majority of school climate studies, was neither longitudinal nor experimental. This is difficult for the study because no causal inferences can be made Wang and Holcombe (2010). Future research with treatments or a long-term design is undoubtedly needed to investigate causal links Arthur Jr, Tubré, Paul, and Edens (2003). Thirdly, the current study's conclusions are based on correlational analysis of self-reported data. The associations between variables in the model should be viewed as a possible causative relationship rather than a definite one. A future study could use accurate or quasi-experimental research to investigate more definitive causal links between those variables.

6.0 Conclusion

This study aimed to gain a better understanding of how student and staff views affect academician effectiveness. The findings support organisational environment (social and communication climates) and motivation in academician effectiveness. This study aimed to figure

out what psychological factors underpin the link between organisational atmosphere, motivation, and academician effectiveness. This goal was partially met, as all three latent variables accurately predicted academician effectiveness.

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