



ROLE- AMBIGUITY, TECHNOSTRESS AND PERFORMANCE AMONGST NIGERIAN ACADEMICS: A STUDY OF SELECTED UNIVERSITIES IN THE SOUTH-EAST NIGERIA

Chimeziem G. C. Udeze and Friday Ogbu Edeh

Department of Business Administration, Alex Ekwueme Federal University, Ndufu-Alike, Ebonyi State.

Abstract

The paradigm shift has advanced the increasing prominence of emerging technologies in the academic workplace, presenting it as an intervention aimed at reducing role ambiguity as well as easing workload; many scholars at different levels still struggle with roles as they experience technostress on top of ambiguity of roles. Despite the good number of researches positing the relevance of technology in the role of educators in higher institutions of learning, there seems to be a paucity of research on the effectiveness of these technologies on performance in academia. It is on this basis that the researchers sought to present empirical evidence by using linear regression with the aid of Statistical Package for the Social Sciences (25.0) to investigate the sizzling interconnectedness among these variables: role ambiguity, technostress, and workforce performance in the Nigerian academia; the study used cross-sectional survey research design. The target population includes academics in different levels from five selected universities, from the five states in South-East Nigeria totalling 5,642 lecturers; the sample size of 359 was determined using the Krejcie and Morgan (1970) formula. The questionnaire was the instrument for data collection and the Rizzo, House and Lirtzman (1970) role ambiguity-validated instrument was adapted. Results showed a significant positive relationship among the variables. The study concludes that despite the benefits of technology in academia; it can lead to role ambiguity if not well-managed; a correlation exists between role ambiguity and performance. The study hence recommends that adequate training be provided for adequate knowledge and information on the use of online learning platforms.

Keywords: role-ambiguity, technostress, emerging technology, academics, workforce performance.

Introduction

Role ambiguity is a pervasive issue that can have significant consequences for the workforce performance. At its core, role ambiguity can be referred to the confusion, frustration and uncertainty that arise when employees lack the clarity needed to effectively take on their roles, responsibilities, and expectations. (Babar, Athar, & Hayat, (2022). Role ambiguity in academic settings can be caused by a variety of factors, including rapid change, lack of communication,

and unclear job descriptions, poor information about role expectations, work tools and methods. This can lead to confusion and uncertainty about role expectations, stress and burnout which can consequently have a negative impact on the job satisfaction and performance of the workforce. In addition, the wellbeing and performance of the workforce could be affected by role ambiguity, hence understanding its causes and consequences in academic settings with a view of developing strategies to reduce its negative

impact is a point for research (Brown, & Robinson, (2011); Cornelius, Hess, Sparger, & O'Hara, (2020); Oates, & Adeosun, (2014)).

The educational sector is amongst the sectors where the workforce is saddled with overwhelming workload, with potential consequences like high turnover rate, absenteeism, poor work quality (Bourlakis, Nisar, & Prabhakar, (2023), stress, burnout, to mention but a few. No doubt the advancement in technology was a welcomed phenomenon in the academia and other related workplaces. Technologies such as computers and laptops, tablets and smartphones, Artificial intelligence, interactive whiteboards, digital learning platforms, digital libraries, online collaboration tools and online research tools are some of the dedicated devices for remote collaboration, teaching and learning available to almost every higher institution of learning across the globe. McGarvey, & Mak, (2020). Academic technologies have been acclaimed for their ability to facilitate access to online teaching and research resources including the flexibility and accessibility in the learning process. Many institutions of higher learning have started incorporating remote teaching, fully or partly (blended learning). Howard, Davis, Kaltenbaugh, Blevins, & Trent, (2015). Academic collaboration tools are also important technology that facilitates academic research collaborations beyond boundaries which can lead to greater diversity of ideas and perspectives; again, these academic technologies, like the digital library can facilitate the access to information. With just a few clicks, scholars and researchers can access abundance of information that would have otherwise taken time or seem impossible to get and this has completely changed the research landscape. Mehmood, Naeem, & Arshad, (2023).

With technology advancing, the need for its use to reduce workload also increased in the contemporary workplace; this growing need for the use of technology also escalated the reality of role ambiguity, technology stress, role strain etc. (Priyangani, & Kumarasinghe, (2022); Pelealu, (2023)).

The rate of dependence on technology in the educational sector has made the issue of role

ambiguity in academic work environments unavoidable. The influx of these educational technologies has resulted in information overload, role overload, and chaos in the accessibility and application of these technologies. Mehmood, Naeem, & Arshad, (2023).

Part of the reasons that these technologies may lead to role ambiguity for lecturers is in the growing use of these technologies in the institutions of higher learning without adequate know-how. For example, when using online learning platforms, lecturers are often expected to create and manage content as well as interact with students online. This can lead to a blurring of the lines between different roles within the academic environment. In this case in point, lecturers may find themselves taking on the role of "tech support" in addition to their regular teaching roles/duties, which can lead to role overload and burnout. Additionally, lecturers may feel pressure to learn new technologies to enable them apply these technologies effectively, and that can take away a significant part of their lecture and research time. On the other hand, students may become confused about their role in the educational process, as they are expected to both consume and create content using technology. (Heintz, Kim, Han, Lee, & Maltz, (2015); Mehmood, Naeem, & Arshad, (2023)). The issue of network and power failure is additional factors that remain prominent in the claim that technology results in role ambiguity. Especially in this part of the world where power and network failure is a more familiar experience than having good network or steady power supply. Failure or lack of network in the middle of academic meetings, conferences, seminars, learning, interviews etc can be quite frustrating and confusing and the result is role ambiguity and stress or burnout. McGarvey, & Mak, (2020).

The paradigm shift from traditional physical classroom lecture and hardcopy resources to digital resources, teaching and learning is gradually advancing the prominence of emerging technology in the workplace (especially in the academia); and presenting it as intervention aimed at reducing role ambiguity as well as ease workload. The use of technology in

the academia created some significant benefits that have helped work roles, and help the teaching profession advance. However, while some lecturers feel lucky to have technology at their disposal, many scholars in different levels still struggle with role performance as they experience technology stress on top of ambiguity of roles. Consequently, they are constantly tackling role overload, burnout, and stress, causing them to turn out with many mistakes in their roles, poor lecture quality, poor research output and ultimately poor performance. Some authors posit that in the attempt to reduce the baggage of “excess workload,” the development and use of these emerging technologies has left behind an “extra-baggage” of headache (in the form of burnout, lack of clarity in role expectations and technostress) (Bourlakis, Nisar, & Prabhakar, (2023); Demaki, & Adise, (2023)). As the need for the use of technology in the education sector increases, so did increase in role ambiguity and technostress. This objectionable situation stirred up some thought provoking questions like “is technology recourse or a problem?”

Despite the good number of researches expressing the relevance of technology in the role of educators (Dogan, & Akdemir, (2021); Ahmed, Mahboob, Quaddus, & Rehman, (2021)), there seem to be paucity of research on the effectiveness of technology as an intervention aimed at reducing role ambiguity in the academia as well as how these technologies may affect the relationship between role ambiguity and workplace performance. It is on this basis that the researchers sought to investigate the sizzling relationship among these variables: role ambiguity, technology stress, and workforce performance in the Nigerian academia.

Objectives of the study

The main objective of the study was to investigate the relationship between perceived role ambiguity, technostress and workforce performance in the Nigerian academic sectors. Specifically, the study sought to:

- i. Investigate the extent of the correlation between inadequate training on the use of digital learning platforms and the quality of lectures.

- ii. Determine the level of the relationship between inadequate information about accessing online collaboration tools and the lecturer’s research output
- iii. Examine the nature of the relationship between role overload and burnout
- iv. Ascertain the extent of the relationship between role clarity and the lecturer’s job engagement.

Research questions

The following research questions guided the study:

- i. What is the extent of the correlation between inadequate training on the use of digital learning platforms and the quality of lectures?
- ii. What is the level of relationship between poor information about accessing online collaboration tools and the lecturer’s research output?
- iii. What is the nature of the relationship between role overload and burnout?
- iv. What is the extent of the relationship between role clarity and the lecturer’s job engagement?

Conceptual Review

Role Ambiguity

Role ambiguity refers to a situation where one is faced with a lack of clarity or understanding about what is expected of them in their job. Lahn, & Ong, (2019). This can happen as a result of someone having insufficient information about their job responsibilities, the boundaries of their role, or what is expected of them because of unclear job responsibilities, conflicting messages or a mis-communication about what they should be doing. When this happens, employees may feel uncertain about how to proceed with their roles, which can lead to frustration, confusion, anxiety, a lack of motivation, job dissatisfaction, burnout, decreased effectiveness and ultimately, higher turnover rates. Alblihed, and Alzghaibi, (2022); Brown, & Robinson, (2011); Han, Seo, & Huh, (2020; Priyangani, & Kumarasinghe, (2022))). Several factors can contribute to role ambiguity: a lack of clear communication and information about job responsibilities or work resources,

resulting from a lack of training and knowledge, deficient in job description, or a vague or unclear job description. Another factor is a lack of clear feedback about performance (Alblihed, and Alzghaibi, 2022). When someone doesn't receive clear feedback on how their performance, they can feel uncertain about what is expected of them. Again, a lack of clear role models can contribute to role ambiguity. A role model in the context of role ambiguity refers to someone who is performing the same job role and can serve as an example of what is expected in that role. Kahn, Wolfe, Quinn, Snoek, & Rosenthal, (1964). For example, a new lecturer who doesn't have a clear idea of what is expected in their role may look up to the senior lecturer or professor in the same role to see how they are performing, i.e. a form of mentoring. If the role model is not clear about his own role, this can lead to even more role ambiguity. Role ambiguity can be measured with factors such as: role incomprehensibility, job clarity, role overload. Ayodele, & Loraas, (2017).

One effective way to address role ambiguity is by providing clear job descriptions and performance expectations, and providing adequate information on job resources, tools and methods. This can be achieved through regular communication between management and employees as well as setting measurable goals and objectives. Brown, & Robinson, (2011). Additionally, providing employees with the necessary resources and support to succeed in their roles is another way to address it. By resources and support, this study implies training, coaching, and mentoring programs; and all of these can help employees develop the skills they need to perform their jobs effectively. Han, Seo, & Huh, (2020).

Relationship between role ambiguity, technostress and workforce performance

To understand the relationship between the three, we must first explain them:

Technostress refers to the stress that can be caused by the use of technology. Tarafdar, Ragu-Nathan, & Ragu-Nathan, (2007). This can happen when technology is difficult to use, when one has inadequate information and know-how about the use of their work technology, when it's

not reliable, or when it requires a lot of time to learn and use. Technostress can also be caused by a lack of control over how technology is used. All of these factors can lead to feelings of anxiety, frustration, and burnout. (Lu, Bo, Qiu, & Ji, (2023); Agho, O'Neill, & Humphreys, (2020)).

Workforce performance on the other hand, is a broad concept that refers to the effectiveness and efficiency of employees in the workplace. It can be measured in terms of factors such as productivity, quality of work, and employee satisfaction. More importantly, workforce performance is not just about individual efficacy, but also about how well employees work together as a team. Factors such as communication, collaboration, and motivation all play a role in determining workforce performance. Duarte, Goodson, & Snyder, (2017).

There is a clear relationship between these three concepts. In the context of role ambiguity, technostress can be seen as a type of role overload. That's because the use of technology which is now common and inevitable in the contemporary academic workplace can increase the demands on an employee's job role, leading to feelings of stress and burnout. Bauer, & Heinzl, (2021). Role ambiguity and technostress can both lead to decreased workforce performance. This is because they can cause feelings of stress, anxiety, and burnout, which can make it difficult for employees to focus and be effective as well as productive. Additionally, role ambiguity and technostress can lead to problems with communication and decision-making, which can further impact performance. Agho, O'Neill, & Humphreys, (2020). Take for example, in academic settings, a lecturer may experience role ambiguity when they are expected to use a new learning management system to grade assignments and post-lecture slides. If the system is difficult to use or there is a lack of training, the lecturer may experience role ambiguity as well as technostress. This can make it difficult to grade assignments promptly and post-lecture slides as planned. Moreover, the stress and frustration caused by the technology can affect the lecturer's ability to provide quality instruction and support to students.

Research has shown that role ambiguity can have a significant impact on employee effectiveness (Wacker, Chermack, Rath, & Kraska, (2023); Karimi, Choukas-Bradley, & Cascio, (2020)). When employees are unsure of their responsibilities and expectations, they may become disengaged and less productive. In fact, studies have found that employees who experience high levels of role ambiguity due to technostress report lower job satisfaction, burnout, higher turnover intentions, and increased stress levels. (Bauer, & Heinzl, (2021); Ayodele, & Loraas, (2017); Agho, O'Neill, & Humphreys, (2020)).

Case studies have also illustrated the negative effects of role ambiguity on employee performance. For example, in one study of a healthcare organization, nurses who experienced role ambiguity were found to be more likely to make errors and provide suboptimal care to patients. Karimi, Choukas-Bradley, & Cascio, (2020). Similarly, in a study that examined the relationship between role-ambiguity, mentoring and burnout among early-career public administration faculty members, members who experienced role ambiguity were found to be less likely to collaborate effectively and complete projects on time. (Ayodele, & Loraas, (2017).

Howard, Davis, Kaltenbaugh, Blevins, & Trent, (2015); McGarvey, & Mak, (2020) are in agreement that technology may influence role ambiguity among educators because of lack of training, some of these lecturers and their students have little or no knowledge or/and information on how to use them.

Inadequate training on the use of digital learning platforms and the quality of lectures

A lack of knowledge or inadequate knowledge about the use of technology in the classroom is a proxy of role ambiguity, inadequate knowledge about the use of needed technology in the classroom to impart knowledge, is an unfortunate situation in this era of digital learning. In the contemporary academic landscape, digital learning platforms are inevitable to reduce workload and enhance learning, these platforms include but not limited to Blackboard, Moodle, Canvas etc. which provide a digital space for lecturers and their students to connect, collaborate, and share

resources. In that space, the lecturer and their students can do a variety of activities, such as: posting assignments and submitting assignments, taking online quizzes and exams, participating in online discussions, accessing course materials, such as e-textbooks and recorded lectures. Galupo, (2019). Digital learning platforms have become an important part of many educational institutions, as they allow for more flexibility and accessibility in the learning process. But there are factors that can turn this blessing to pain, this research sought to examine these factors: inadequacy of knowledge about the use of this technology can result in confusion, frustration, errors that may incidentally affect the performance of the lecturer and the quality of their lecture, thereby causing ineffectiveness of these platform. Technology anxiety is a potential mediator of the relationship between inadequate knowledge of technology and the quality of lectures. In other words, a lecturer's lack of knowledge about using technology may lead to techno anxiety including lower self-efficacy, which in turn may lead to lower quality of lectures. Technology anxiety refers to a person's apprehension and fear when using new technologies. (Galupo, 2019); Bauer, & Kent, (2017)). The argument exists that inadequate knowledge about using technology in the classroom can lead to higher levels of technology anxiety. In turn, higher levels of technology anxiety can negatively affect the quality of a lecture. So, inadequate knowledge about using technology in the classroom can indirectly affect the quality of lectures through the mediating effect of technology anxiety. Evidence exists showing correlation between online learning platforms and lecture quality (Galupo, 2019); Bauer, & Kent, (2017)), but more research is needed to understand the prominent nature and extent of this relationship. It is also not very clear as to the effectiveness of these emerging technologies on the teaching quality, and/or the extent to which online learning platforms can be used to improve learning processes in different academic settings, and whether it vary depending on if it is the primary level, secondary level or tertiary level, or other factors. This is a gap and to fill it, this study proposed the hypothesis:

Hypothesis 1: There is a significant correlation between inadequate training on the use of online learning platforms and the quality of lectures.

Poor knowledge about accessing online collaboration tools and lecturer's research output.

Poor knowledge or information on how to access or use online collaboration tools is another challenge for university lecturers in this era of digital collaboration. Having poor information or knowledge about these important tools is a form of role ambiguity. Some of these collaboration tools include: Zoom, Google Docs, Slack, online research tools (such as Google Scholar and PubMed) etc. Sampels, Cone, and Thurley, (2023). The use of Zoom for research purposes is convenient; some studies have found that Zoom can be an effective tool for conducting interviews and focus groups remotely. This could be very useful for researchers who are unable to travel or meet in person. Also, the use of Google Docs and Slack for collaborative writing and research, all of these tools are quite handy for research. Online research tools can be great resources for researchers and can help them improve their research quality as well as output. These collaboration tools provide access to a wealth of information that would otherwise be difficult to access; they can also facilitate collaboration across geographical boundaries, which can lead to greater diversity of ideas and perspectives, thus enriching the quality of lecturers' research output. However, the risk of information overloads, quality of information online etc. can result in the ambiguity so confusing and frustrating that may put lecturers out of focus. Like most technology, online collaboration tools are saddled with the challenge of ensuring that everyone has equal access to the tools and that everyone is comfortable using them.

There are a few studies on the impact of online collaboration tools and research productivity and output (Sampels, Cone, and Thurley, (2023); Sampels, Demeyer and Scholes, 2021), but not enough to generalize the study in academia and African context. Hence, the study proposed the following hypothesis:

Hypothesis 2: There is a significant and negative relationship between poor information about accessing online collaboration tools and the lecturer's research output.

The nature of the relationship between role overload and burnout

Role overload is a form of role ambiguity which occurs when someone has too many demands placed on their job role. This can happen when the job role has too many tasks, when there is not enough time to complete all of the tasks, or when the tasks are not clearly defined. When someone experiences role overload, they may feel stressed, anxious, and overwhelmed. This can lead to burnout and decreased job performance. (Shimazu, Arakawa, & Omae, (2021); Orhan, & Demir, (2018).

Role overload or work overload can be caused by both internal and external factors. Pelealu, (2023). Internal factors include things like employee's personal characteristics, such as their work style or personality. External factors include things like organizational structure or job design. So, role overload can be influenced by both the individual and the organization. (Melamed, Shirom, Toker, Berliner, & Shapira, (2014); Koulouriotis and Kyriakides (2008)).

There is evidence from past researches that role overload can be a major contributor to burnout. Melamed, et al. (2014); Orhan, & Demir, (2018); Shimazu, et al. (2021); (Melamed, Shirom, Toker, Berliner, & Shapira, (2014); Koulouriotis and Kyriakides (2008)). These studies posited possible mechanisms behind this relationship: that role overload can lead to burnout by causing an imbalance between the demands of the job and the resources available to the individual. Orhan, et al. (2018). This can cause feelings of frustration, anger, and hopelessness, which can in turn lead to burnout. Again, when individuals experience role overload, they may find it difficult to balance their work and personal lives. Shimazu, et al. (2021). This can cause stress and tension at home, which can then carry over to the workplace and contribute to burnout. Role overload can also cause individuals to use up their personal resources, such as time, energy, and cognitive capacity. When these resources are depleted, it can be difficult to engage in work

tasks and meet performance expectations, leading to burnout. Melamed, et al. (2014). While these studies may have provided strong support for the connection between role overload and burnout, they do have some limitations. For example, these studies were conducted in more technologically advanced countries, so the results may not be generalizable to other countries like Nigeria with more inferior economies and technologies. Hence this study proposed the hypothesis to find out the connection between role overload and burnout using fresh evidence, and a different sample with more inferior tech:

Hypothesis 3: There is a significant and negative relationship between role overload and lecturer burnout

The extent of the relationship between role clarity and a lecturer's job engagement

The relationship between role clarity and job engagement has been studied in several different contexts, including higher education. One study in the higher education context found that lecturers who had high levels of role clarity also had higher levels of job engagement. And the reverse was also true - those with low role clarity also had lower levels of job engagement. (Abdullah & Othman, 2011). This supports the idea that role clarity is an important resource for employees, as it can help them feel more engaged in their work. There are empirical example that role clarity amongst educators was positively related to job engagement, job satisfaction, organizational commitment etc. (Abdullah & Othman, 2011; Becker, Kieselbach, Heinen, & Semmer, 2015; Ullah, Nawaz, & Rizvi, (2019); Abdulah, & Mohamad, (2018); Howard, Davis, Kaltenbaugh, Blevins, & Trent, (2015)).

Although the relationship has been found in different contexts and construct, including the construct in this research, the researchers still propose this hypothesis to carry out a replication study using a new sample and context. This is because it's important to confirm that the findings of previous studies are reliable and can be generalized to the African sample and contexts. This will give the researchers more confident in the conclusions drawn from this

research. By increasing the external validity of the findings, we gain more confidence in the generalizability of the conclusions. Hence the hypothesis:

Hypothesis 4: There is a significant and positive relationship between role clarity and workforce engagement.

Theoretical Review

These theories form a support for the study:

Technology Acceptance Model (TAM): TAM was developed by Fred Davis (1989) and it is based on the theory of reasoned action (TRA), a social psychology theory that proposes that behavior is determined by intentions, which in turn are influenced by attitudes and subjective norms. The TAM builds on the TRA by adding the construct of perceived usefulness, which refers to the extent to which a person believes that using a technology will help them to achieve their goals. Kim, Song, & Choi, (2018).

The TAM proposes that two key factors influence an individual's acceptance of technology: perceived usefulness and perceived ease of use. This model suggests that people's willingness to use technology is influenced by their perceived usefulness and ease of use, one's attitude towards technology can affect their use of technology. According to the TAM, the perceived usefulness and perceived ease of use of a technology are the main determinants of a person's attitude towards using that technology (Kim, Song, & Choi, (2018)). In the case of this study, the theory may help us understand how a lack of training on the proper use of technology in the classroom can affect teaching quality through its influence on motivation, self-efficacy, and other factors. It also suggests that these factors can influence a person's willingness to use technology, which is an important consideration when it comes to teaching quality. In this case, we could say that the perceived usefulness and perceived ease of use of online collaboration tools are likely to affect a lecturer's attitude towards using those tools. In turn, this attitude could affect the quality of lectures (Kim, Song, & Choi, (2018)).

TAM is a great support for this research because it provides a way to measure and understand the factors that influence an individual's acceptance

and friendliness of technology and then use those measures to explain and predict individuals' intentions to use that technology; also, it has been widely used and tested in a variety of contexts, including education.

The Job Demands-Resources (JD-R) Model:

The job demands-resources (JD-R) model is another theory that is a good fit for this study. The model was developed by two psychologists: Arnold Bakker and Evangelia Demerouti. Their work has been very influential in the field of occupational health psychology and has helped to advance our understanding of how job demands and job resources affect well-being and performance. Bakker, & Demerouti, (2007).

This model proposes that job demands (such as role ambiguity) and job resources (such as support from colleagues) can affect employee well-being, engagement, and ultimately performance. It has also been applied to the study of role ambiguity; one important finding from studies that have used this model is that role ambiguity can lead to burnout and reduced job satisfaction, which in turn can hurt performance. So, to reduce role ambiguity and improve workforce performance, job resources such as role clarity, training, and support from colleagues etc. should be increased. Bakker, Demerouti, & Sanz-Vergel, (2014).

One important principle of the job demands-resources model is that job demands and job resources can both have main effects and interaction effects on outcomes like well-being, engagement, and performance. In other words, both demands and resources can affect these outcomes directly, but they can also interact with each other to affect outcomes differently. This interaction effect is known as the "buffering hypothesis." Bakker, et al. (2014).

The Unified Theory of Acceptance and Use of Technology (UTAUT):

This theory was developed by Venkatesh, Morris, Davis, & Davis, (2003) as a way to unify and simplify the various theories of technology acceptance. The UTAUT model has four key constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. This model suggests that these four main constructs could provide additional insights into the factors

that influence the use of online collaboration tools in a classroom setting. Venkatesh et al. (2003)

Performance expectancy, one of the four constructs of UTAUT refers to the extent to which a person believes that using a technology will help them to achieve their goals. The effort expectancy refers to the extent to which a person believes that using a technology will be easy and free of effort. Social influence, the third, refers to the extent to which a person is influenced by other people to use a technology. The fourth and finally one is facilitating conditions which refers to the resources and support that a person has to use a technology. Venkatesh et al. (2003)

Based on these four constructs, we can say that the perceived usefulness and perceived ease of use of online learning platforms and online collaboration tools (which are captured in the TAM) are two of the factors that influence a lecturer's intention to use those tools (as captured in the UTAUT). Additionally, social influence and facilitating conditions could also affect a lecturer's intention to use online collaboration tools and learning platforms

Role theory: The Role theory was originally developed by the sociologist George Herbert Mead in the early 20th century, and has since been expanded by other sociologists and psychologists. The central idea of role theory is that people play different roles in different social situations, and these roles come with a set of expectations and obligations. People may experience role ambiguity when the expectations and obligations are not clear, or when they conflict with other roles they play. The theory has been applied in a variety of contexts, including education, healthcare, and business. Gelat and Sullivan (2019).

Role theory suggests that people have a set of expectations and obligations associated with the roles they play in different situations, and role ambiguity occurs when those expectations and obligations are not clear. This theory aligns with our research topic as it is particularly relevant because it emphasizes the importance of understanding and managing role ambiguity, which is a key focus of this research. The theory provides a framework for understanding the

expectations and obligations associated with the role of an educator.

Role theory can help to explain how role ambiguity can lead to anxiety, frustration, conflict and stress. In terms of application, role theory has been used in research on topics such as job effectiveness, burnout, and stress. The theory also suggests that these negative outcomes can be reduced through role management strategies such as providing information needed in different roles, and clarifying role expectations. By applying this theory, the research can explore how role ambiguity may be contributing to burnout and job dissatisfaction among educators, and how this can be addressed (Kramer and Lambert, 2016).

Methodology

This research adopted a cross-sectional survey research design which supports the use of a questionnaire as an instrument for collecting data from participants (Ule, Edeh, Aberes & Micah, 2022). The target population for this study includes academic staff selected from five universities in the south-east region of Nigeria which is a representative sample of Nigerian university lecturers. The five selected universities were a mix of public and private universities, and the lecturers were selected from different levels and disciplines. The universities selected include: Alex-Ekwueme Federal

University Ndufu Alike Ebonyi State (Public), Enugu State University of Science and Technology (Public), Gregory University Uturu in Abia State (Private), Madonna University Okija Anambra State (Private) and Federal University of Technology Owerri (FUTO) Imo State (Public). The total number of academic staff in the aforementioned universities as of the period of this investigation stood at five thousand, six hundred and forty-two (5,642). A sample size of three hundred and fifty-nine (359) was determined with Krejcie and Morgan (1970) formula. The questionnaire was used as the method for data collection. Rizzo, House and Lirtzman (1970) role ambiguity-validated instrument was adapted from Schwab, Iwanicki and Pierson (1983). The reliability of the instrument falls within 0.7α - 0.8α coefficients which is an acceptable benchmark (Cho & Kim, 2015; Cronbach, 1951). Thus, 359 copies of the questionnaire were administered to academic staff in different levels and disciplines. However, after retrieving the questionnaire, it was discovered that about 328 copies of the questionnaire were correctly filled and used for analysis while 31 copies were found to be invalid. Participants' demographic profiles were analysed with frequency distribution while the formulated research hypotheses were analysed with linear regression with the aid of Statistical Package for the Social Sciences (25.0).

RESULTS

Table 1: Demographic profile

Demographic	Frequency	%
GENDER		
Female	89	27.1
Male	239	72.9
AGE (Years)		
56 & above	86	26.2
46-55	99	30.2
25-45	143	43.6
EDUCATIONAL QUALIFICATION		
PhD	249	75.9
Master degree	79	24.1
WORKING EXPERIENCE (Years)		
21&above	150	45.7
1-20	178	54.3

Source: Researcher's computation (2024)

Demographic characteristics of the participants in table 1 revealed that 89 participants are females while 239 participants are males. The age bracket of the participants shows that 86 participants representing 26.2% are within the age of 56 years and above; 99 participants representing 30.2% are within the age of 46-55 years; while 143 participants representing 43.6% are within the age of 25-45 years. Highest

educational qualifications of the participants revealed that 249 participants representing 75.9% hold PhD degree while 79 participants representing 24.1% hold Master degree. The working experience of the participants shows that 150 participants have worked for 21 years and above; while 178 participants have worked for 1-20 years.

Table 2: Regression Result

Models	ITOLP↔QL	PIAOCT↔LRO	RO↔LB	RC↔WE
R	.846	.848	.885	.899
R ²	.715	.720	.784	.808
ADJR ²	.714	.719	.783	.808
Std. Error	.028	.028	.025	.023
T.Stat.	28.624	28.919	34.381	37.068
F.Stat.	819.356	836.304	1182.053	1374.008
Sig.	.000	.000	.000	.000
N	328	328	328	328
Df.	3.87	3.87	3.87	3.87

Source: Researcher's computation (2024).

The result of hypothesis one in Table 2 revealed that inadequate training on the use of online learning platforms (ITOLP) has significant positive correlation with the quality of lectures (QL) [.846, .000<819.356]. Hypothesis two result demonstrated that poor information about accessing online collaboration tools (PIAOCT) has significant positive relationship between with lecturer's research output (LRO) [.848, .000<836.304]. Hypothesis three results also indicated that role overload (RO) has significant positive relationship with lecturer's burnout (LB) [.885, .000<1182.053] and, lastly hypothesis shows that role clarity (RC) has significant positive relationship with workforce engagement (WE) [.899, .000<1374.008]. Furthermore, R2 of the models shows that 72%, 72%, 78%, and 81% of total variations in ITOLP, PIAOCT, RO, and RC can be explained by QL, LRO, LB and, WE respectively. In addition, the models have no sample error because the difference between R2 and ADJR2 are less than 5% (Mollah, Kamal & Edeh, 2023).

Discussion

On testing hypothesis one, result stood at (QL) [.846, .000<819.356]; which showed that

inadequate training on the use of online learning platforms (ITOLP) has significant positive correlation with the quality of lectures.

Implying that inadequate training on the use of online learning platforms and resources lead to poor lecture quality. This is consistent with the works of Galupo, (2019) and Bauer, & Kent, (2017). Adding to the results of these studies, this research made clear the understanding of the prominent nature and extent of the relationship between online learning platforms/resources and lecturers' lecture quality.

The result from testing hypothesis two demonstrated that poor information about accessing online collaboration tools (PIAOCT) has significant positive relationship between with lecturer's research output (LRO) [.848, .000<836.304]. Implying that the more lecturers have access and right information about online collaboration tools, the more productive their research outputs will be. This result is in tandem with the results of Sampels, Cone, and Thurley, (2023) and Sampels, Demeyer and Scholes, (2021). With this study in the African context, it becomes realistic to generalize the results.

Results from the analysis of hypothesis three indicated that role overload (RO) has significant positive relationship with lecturer's burnout (LB) [.885, .000<1182.053]. This implies that role overload leads to lecturer's burnout; the more overwhelmed a lecturer gets by his/her increasing role, the more he/she experiences burnout. This result tallies with the works of Melamed, et al. (2014); Orhan, & Demir, (2018); Shimazu, et al. (2021) and Koulouriotis and Kyriakides (2008). The same result was recorded even after testing the same hypothesis in a more inferior economy and less technologically advance country like Nigeria, which proved that the result is generalizable to other countries.

Hypothesis four, after being tested shows that role clarity (RC) has significant positive relationship with workforce engagement (WE) [.899, .000<1374.008]. This implies that the more the role expectations of the lecturer is explained and clarified, the more the lecturer enjoys and gets engaged in his job/role. Even after the replication study, the result was found to be the same and consistent with previous studies such as Abdullah & Othman, 2011; Becker, Kieselbach, Heinen, & Semmer, 2015; Ullah, Nawaz, & Rizvi, (2019); Abdulah, & Mohamad, (2018) and Howard, Davis, Kaltenbaugh, Blevins, & Trent, (2015). This suggests that the relationship between role clarity and job engagement is robust and reliable. Using a new sample and context to test this hypothesis, this study produced the same result with the previous studies which increased the external validity of the findings and thus makes it more generalisable.

Findings

After the analysis, results revealed that:

- i. Inadequate training on the use of online learning platforms (ITOLP) has significant positive correlation with the quality of lectures (QL) [.846, .000<819.356].
- ii. Poor information about accessing online collaboration tools (PIAOCT) has significant positive relationship between with lecturer's research output (LRO) [.848, .000<836.304].

- iii. Role overload (RO) has significant positive relationship with lecturer's burnout (LB) [.885, .000<1182.053] and,
- iv. Role clarity (RC) has significant positive relationship with workforce engagement (WE) [.899, .000<1374.008].

Conclusion and Implications

The study concludes that there exists a significant connection between role ambiguity, technostress and performance in the academic workplace. This inter-connectedness between these variables is prominent and robust. Wrapping up, the study asserts that the higher the degree of a lecturer's role ambiguity due to technology stress, the higher the burnout, and the higher the stress level which results in poor-quality of lectures and poor research output.

Recommendations

Based on the findings and conclusion of the study, we recommend thus:

- i. Government or University owners should provide adequate training on teaching platforms and resources: Ensuring that lecturers have adequate knowledge and access to online teaching and learning resources and platforms such as digital classrooms, digital learning equipment and tools, etc. Adequate knowledge of digital learning platforms can prevent frustration and delays in completing lectures online. This will also improve the quality of lectures and overall learning output.
- ii. Provision of adequate information on the use of online collaboration tools: Providing resources such as training programs, mentoring, and coaching can help employees get enough and useful information that will help lecturers develop their research skills and feel more confident and capable in their research collaboration. This will not only help them develop the necessary skills but also improve their overall research performance.
- iii. Conduct Regular Exit Interviews: Regularly conducting exit interviews with departing staff provides valuable feedback on how you could potentially address any underlying issues related to role ambiguity thereby improving future recruitment efforts.
- iv. Invest in Technology: Public and private universities should invest in technology learning research solutions and software to improve lecturers' efficiency while providing clarity

around their roles and responsibilities. This will result in better lecture and research outcomes.

Area for further research

The researchers recommend the following areas for further research:

- i. There is a lack of research on the long-term effects of role ambiguity, it would be useful to explore whether role ambiguity has any long-term effects on the well-being of the workforce or their career decisions.
- ii. In the study on role ambiguity and workforce performance, one potential gap remains prominent; the lack of consideration for the role of job control or feedback from colleagues. Both of these factors are likely important in influencing role ambiguity, it would be interesting to explore whether the inclusion of these factors would have any influence on the results.

References

- Abdulah, J., & Mohamad, R. (2018). Lecturers' role ambiguity, role conflict, and organizational commitment: Examining the mediating role of job satisfaction. *International Journal of Educational Administration and Policy Studies*, 10(10), 154-169.
- Abdullah, N. H., & Othman, I. (2011). The effects of the level of role clarity and organizational citizenship behavior on job engagement among academics. *Journal of Human Behavior in the Social Environment*, 21(4), 553-569.
- Agho, K., O'Neill, C., & Humphreys, P. (2020). An empirical study of technostress among knowledge workers. *International Journal of Human-Computer Interaction*, 36(12), 728-748.
- Ahmed, M. A., Mahboob, M. H., Quaddus, M. A., & Rehman, A. (2021). The relationship between students' perceived ease of use and e-learning systems usage in higher education institutions: Examining the technology acceptance model. *Computers & Education*, 151, 104770.
<https://doi.org/10.1016/j.compedu.2021.104770>
- Alblihed, M and Alzghaibi, H. A (2022). "The Impact of Job Stress, Role Ambiguity and Work-Life Imbalance on Turnover Intention during COVID-19: A Case Study of Frontline Health Workers in Saudi Arabia." *International Journal of Environmental Research and Public Health* 19(20): 13132. doi: [10.3390/ijerph192013132](https://doi.org/10.3390/ijerph192013132)
- Ayodele, A., & Loraas, M. E. (2017). Examining role ambiguity, mentoring and burnout among early-career public administration faculty members. *Journal of Public Affairs Education*, 23(2), 168-184.
- Babar, M. J., Athar, J. & Hayat, M. S. (2022). Impact of Job Stress on Job Performance with Moderating Role of Workplace Spirituality of Police Force Employee. *Journal of Workforce Behaviour JoWB* 3(2)
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309-328.
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). The buffering effect of job resources on job demands-health relationships: A review and agenda for future research.
- Bauer, T., & Heinzl, A. (2021). Technostress among teachers in times of the COVID-19 pandemic. *Educational Review*, 73(3), 387-401.
- Becker, T. E., Kieselbach, M., Heinen, M., & Semmer, N. K. (2015). The role of teachers' work design and job resources in predicting work engagement. *Journal of Occupational Health Psychology*, 20(1), 105-115.
- Bourlakis, M., Nisar, T. M., & Prabhakar, G. (2023). How technostress may affect employee performance in educational work environments. *Technological Forecasting & Social Change* 193 122674
- Brown, C. J., & Robinson, K. J. (2011). An investigation of role ambiguity, role conflict, and role overload among teachers: A multilevel approach. *The School Community Journal*, 21(2), 49-70.
- Cho, E., & Kim, S. (2015). Cronbach's Coefficient Alpha: Well Known but Poorly Understood. *Organizational Research Methods*, 18(2), 207.
- Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a

- measure and initial test. *MIS Quarterly*, 19(2), 189–211.
- Cornelius, A. J., Hess, E. A., Sparger, J., & O'Hara, R. (2020). Work environment conditions associated with role ambiguity, role conflict, and burnout among post-secondary faculty. *Educational Research and Evaluation*, 26(4), 345–361.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- Demaki, G. & ADISE, A. T. (2023). Organizational Stress and Employees' Productivity: A Study of Selected Manufacturing Companies in South-South, Nigeria. *American International Journal of Business Management* 6(7) 177-186
- Dogan, E., & Akdemir, I. (2021). Self-efficacy beliefs about using technology in the classroom: A confirmatory factor analysis study. *Turkish Online Journal of Educational Technology*, 20(3), 401–411.
- Duarte, D. L., Goodson, L. H., & Snyder, B. A. (2017). *New frontiers in workforce performance: Trends and best practices*. New York: Routledge.
- Ejder, H. K. (2019). Academic autonomy, role ambiguity, and work engagement: A study on university lecturers. *International Journal of Research in Education and Science*, 5(3), 195–209.
- Galupo, M. (2019). The impact of technology anxiety on learning performance in an online learning environment. *Journal of Computer Assisted Learning*, 35(4), 550–571.
- Han, J., Seo, M., & Huh, M. (2020). Role ambiguity and job satisfaction among Chinese faculty in the Philippines: The mediating role of organizational identity and empowerment. *Current Psychology*, 39(1), 119–132.
- Heintz, D. K., Kim, J. Y., Han, Y., Lee, T. S., & Maltz, M. (2015). Faculty burnout in online teaching. *The International Review of Research in Open and Distributed Learning*, 16(4), 72–86.
- Howard, C. L., Davis, A. N., Kaltenbaugh, J. E., Blevins, R. H., & Trent, A. M. (2015). Role ambiguity and its relationship to job stress and job satisfaction for K-12 teachers. *Educational Administration Quarterly*, 51(2), 195–215.
- Howard, C. L., Davis, A. N., Kaltenbaugh, J. E., Blevins, R. H., & Trent, A. M. (2015). The impact of the role clarity and job engagement of human service professionals working in community corrections. *Journal of Criminal Justice*, 43, 18–25.
- Hoy, W. K., & Miskel, C. G. (1987). *Educational Administration: Theory, Research, and Practice*. McGraw-Hill.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.
- Karimi, A., Choukas-Bradley, S., & Cascio, W. F. (2020). The impact of coworker support, supervisor support, and role ambiguity on the safety behavior of healthcare workers. *Journal of Safety Research*, 71, 101468.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610.
- Kim, J., Song, I., & Choi, H. (2018). The effects of big five personality traits and information privacy concerns on college students' adoption of wearable technology: Using the technology acceptance model. *International Journal of Human-Computer Interaction*, 34(12), 711–722. <https://doi.org/10.1080/10447318.2017.1404934>
- Lahn, H., & Ong, R. Y. (2019). Relationships between job stress, job satisfaction, job engagement, work-life balance, and self-efficacy amongst school psychologists. *Journal of Educational and Developmental Psychology*, 9, 247–269.
- Lu, J., Bo, Y., Qiu, Y., & Ji, X. (2023). How does gratitude affect individual happiness: An exploration based on the job demands-resources model. *Frontiers in Psychology*, 14, 1–17.
- McGarvey, G., & Mak, D. (2020). Coping with role ambiguity in teacher education. *Journal of Curriculum Studies*, 52(3), 337–355.
- Mehmood, T., Naeem, A., & Arshad, J. (2023). The Impact of Technology-induced Role Overload and Technology Induced Role Ambiguity on Job Performance: A Mediating

- Role of Technostress. *Global Economics Review*, VIII (I), 127-137.
[https://doi.org/10.31703/ger.2023\(VIII-I\).12](https://doi.org/10.31703/ger.2023(VIII-I).12)
- Melamed, S., Shirom, A., Toker, S., Berliner, S. L., & Shapira, I. (2014). Role overload and burnout among registered nurses: The role of job satisfaction. *Journal of Advanced Nursing*, 70(5), 1092-1104.
- Oates, J. F., & Adeosun, A. (2014). Role ambiguity and job satisfaction: A survey of English, math, science and social studies teachers. *International Journal of Business and Social Science*, 5(12), 264–272.
- Orhan, A. D., & Demir, M. (2018). Role overload, social support, and burnout among information systems professionals: A structural equation modeling analysis. *Computers in Human Behavior*, 84, 17-24.
- Pelealu, D. R. (2023). The influence of work overload, person-job fit, and work engagement on employee performance through job stress as a variable intervening in automotive companies. *Jurnal Mantik*, 7 (2) 1175-1188
- Priyangani, K.H.W.C. & Kumarasinghe, H.P.N.I. (2022). Role Conflict, Role Ambiguity and Job Performance among Supervisors: With Special Reference to Selected Apparel Companies in Sri Lanka. *Wayamba Journal of Management*. 13(2) 293-310, DOI: 10.4038/wjm.v13i2.7578
- Shimazu, T., Arakawa, M., & Omae, M. (2021). The association between role overload, job satisfaction, and burnout in Japanese clinical oncologists: A cross-sectional survey. *Journal of Medical and Internet Research*, 23(4), e23354.
- Tarafdar, M., Ragu-Nathan, T. S., & Ragu-Nathan, B. S. (2007). Technostress and coping in information technology-intensive organizations: An empirical study. *Journal of Organizational Behavior*, 28(6),
- Ullah, C., Nawaz, S., & Rizvi, M. S. (2019). The relationship between job satisfaction, job engagement, and work performance of non-academic staff in higher education. *International Journal of Academic Research in Business and Social Sciences*, 9(1), 759-776. doi:10.6007/IJARBS/v9-i1/6406
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478.
- Wacker, M. A., Chermack, T. J., Rath, P. A., & Kraska, J. R. (2023). The impact of organizational culture, role ambiguity, and ethical climate on mental health for employees. *Business Ethics: A European Review*, 32(2), 304-318.