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Investigating the Impact of Financial Resources, Academic Workload, and Data Accessibility on Scholarly Productivity: A Case Study of Accounting Lecturers in South African Universities of Technology

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Abstract: This paper sought to examine the impact of access to funding, teaching and administrative responsibilities, and access to research data on research outputs among accounting academic staff in South African Universities of Technology. Adopting a positivism paradigm and quantitative research approach, a data was gathered using survey from accounting academic staff in six South African Universities of Technology. A close-ended questionnaire, based on a 4-point Likert scale, was distributed to 96 respondents using census sampling. The measurement model had good fit indices, ensuring the strength of the constructs. Confirmation of measurement scales through exploratory factor analysis, discriminant validity, and convergent validity asserted the reliability of the constructs. Hypotheses testing using structural equation modeling confirmed positive causal relationships between access to funding, teaching/administrative responsibilities, access to data/research tools, and research outputs among accounting lecturers in Universities of Technology. Results show that sufficient financial resources greatly enhance research activities, while high academic workload is a limiting factor to productivity. The availability of relevant data is also found to be an important facilitator for scholarly output. The study concludes by providing recommendations for university policy changes with a view to streamlining resource allocation and support structures to create an environment supportive of research and innovation among accounting lecturers.

Keywords: access to data; funding and resources; research outputs; teaching load; Universities of Technology

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Introduction

The accounting profession plays a pivotal role in driving sustainable economic growth and promoting corporate accountability worldwide (Rodrigue et al., 2023). Within South Africa, accounting education and research are essential pillars for shaping the profession's future and aligning local practices with global standards (James, 2021). Accounting academics serve as key agents in advancing this mission, both as educators, through the development of competent graduates, and as researchers, by generating new knowledge

that informs policy and professional practice (Rossouw, 2022; Donelli & Panozzo, 2023). In recent years, South African higher education institutions, particularly the Universities of Technology (UoTs), have made progress in expanding research capacity through postgraduate training, publication incentives, and research development programmes (Moyo & McKenna, 2021; Damba et al., 2022). Despite these developments, research productivity among accounting lecturers at UoTs remains comparatively low, raising questions about the adequacy of institutional support and resources available for research (Rinaldi, 2023; Joubert et al. 2023).

Empirical studies have identified several determinants influencing research productivity, including access to funding, workload management, and availability of research data (Purwanto, 2020; Ibrahim et al., 2021). Increased funding allocations and policy interventions have improved access to research infrastructure in some institutions (Sarpong, 2022), while professional bodies such as the South African Institute of Chartered Accountants (SAICA) have promoted research engagement through academic collaborations and grants (National Research Foundation 2020). However, many UoTs continue to prioritize teaching and applied research, leaving limited institutional bandwidth for basic research activities (Musiige & Maassen, 2015; Gebreiter, 2022). Moreover, the balance between teaching and research responsibilities remains problematic. Heavy teaching loads and administrative duties make it hard to find time and motivation to do research (Sohnia et al., 2018; Ramirez-Montoya et al., 2023). Additionally, while access to financial and corporate data has improved in some traditional universities, UoT-based researchers often face barriers to accessing high-quality datasets due to subscription costs and data protection constraints (Joubert et al. 2023).

Much of the existing literature on academic productivity originates from developed economies such as the United States and Europe, where funding regimes, institutional cultures, and research incentives differ substantially from those in South Africa. The South African higher education system is characterized by constrained budgets, inequality, legacy imbalances, and ongoing transformation imperatives that shape institutional performance and academic output (Nnadozie and Chinomona 2024). Rapid growth in student enrollments without proportional increases in state funding has intensified teaching workloads and administrative pressures on academic staff, often to the detriment of research engagement. National initiatives such as the Staffing South Africa's Universities Framework (SSAUF) were introduced to build academic capacity, yet limitations persist in supporting early-career scholars and historically disadvantaged institutions (Hlatshwayo 2024; Hlatshwayo 2024). These realities point out the value of context-sensitive models of academic productivity, as frameworks imported from developed contexts often overlook institutional challenges related to transformation, governance, and resource inequality.

Although prior studies have explored factors influencing research productivity, limited scholarly attention has been devoted to the specific institutional conditions of South African UoTs. Most existing research focuses on traditional universities or aggregates data across institution types, masking the unique challenges of UoTs, which operate within applied teaching missions, limited funding structures, and lower research visibility (Rossouw, 2022; Moyo & McKenna, 2021). Policy dialogues on research and innovation in South Africa, including those led by Universities South Africa's Research and Innovation Strategy Group, often privilege research-intensive institutions, leaving the needs of technology-oriented universities underrepresented. Without deeper understanding of how UoTs differ in governance, mission, and access to research resources, policies risk being too generic and misaligned with their realities. Furthermore, while many productivity studies consider overall academia, the accounting discipline, accounting lecturers within UoTs remains significantly under-researched (James, 2021; Donelli & Panozzo, 2023). Their professional demands, reliance on industry-linked data, and limited research infrastructure create distinct conditions that are seldom addressed in broader higher education research.

Although government and institutional policies such as internal research grants, incentive schemes, and research support units have been implemented to promote scholarly productivity, their effectiveness remains unclear. Evidence suggests that application procedures are often complex, funding amounts minimal, and benefits unevenly distributed, especially among early-career academics. Moreover, performance-based incentives may prioritize publication quantity over quality, encouraging superficial output rather than meaningful scholarly contribution (Damba et al., 2022; Rinaldi, 2023). Rigorous evaluation of these interventions is essential to identify bottlenecks and optimize research support mechanisms. Persistent debate also surrounds the relative influence of institutional structures versus individual motivation in shaping research output. Some scholars argue that workload redistribution and reduced teaching responsibilities are key to enhancing productivity (Gebreiter, 2022), whereas others highlight the centrality of intrinsic motivation, collaboration networks, and research

culture (Purwanto, 2020). Divergent findings across studies illustrate a lack of consensus, which hampers coherent policy and institutional reform.

Despite these challenges, research output at South African universities of technology has been increasing, though growth is uneven across disciplines, with accounting lagging behind the national average Mbambo et al. (2022). Consequently, this study seeks to examine the influence of variables such as funding, teaching and administrative duties, and data accessibility on the research productivity of accounting lecturers at South African universities of technology.

Literature review and hypotheses development

Quality of research output in one of the determinants of global university rankings (Surname et al. 2016). However, other factors such as access to funding, teaching and administrative duties, as well as access to research data could be potential factors that can affect research output (Iroaganachi & Izuagbe, 2018). This section reviews literature on the effect of access to funding, teaching and administrative duties, and access to research data on research output.

Access to funding and research output

Goodell (2020) indicated that research funding is a key determinant of research output. Securing adequate funding is vital for researchers in higher education. It helps build infrastructure, gives people the tools they need to collect and analyze data, and makes it easier for people to work together (Goodell, 2020; Nafukho et al., 2019). Funding empowers researchers to delve into novel concepts, challenge established norms, and make noteworthy advancements in their respective fields (Goodell, 2020; Coles and Mensah 2017). Various factors influence access to funding in higher education. Institutional policies, grant availability, competition for funds, and alignment with funding priorities are some of these factors (Nafukho et al., 2019). Researchers' track records, credibility, and the potential impact of their work also play a role. Additionally, external factors such as economic conditions and government funding policies can affect the availability of research funding (Oladipo, 2024). The availability and adequacy of funding directly impact research output in higher education. Ample funding allows researchers to conduct comprehensive studies, recruit proficient research assistants, access cutting-edge technology, and disseminate their findings through conferences and publications (Nafukho et al., 2019). Conversely, limited funding can hinder research progress, limit the scope of projects, and inhibit the ability to attract top talent. Regarding funding and resources allocation, prior studies found a significant relationship between research funding and research output (Bland et al. 2005; Hedjazi and Behravan 2011). Nafukho et al. (2019) as well as Wills et al. (2011) found that funding has a significant effect on research activities. Albers (2015) stated that efficient allocation of resources to support research activities in universities leads to increase in research output. Rodgers and Neri (2007), Carayol and Matt (2003), and Albers (2015) also discovered that funding and resource allocation have significant influence on research output. Additionally, Wills et al. (2011) also discovered a significant effect of funding and resources on research output. Armijos et al. (2021) also found that the funding and resources have a significant effect on research output. However, Payne and Siow (2003) discovered that research funding increases the volume of research but reduces its productivity. Alghanim and Alhamali (2011) concluded that lack of funds and resources affect research output negatively. This study argues that the availability of research funding and other resources will serve as an incentive for the Technology Universities to enhance their scientific research output. Based on these arguments, the following hypothesis was formulated and tested:

H_1: The access to funding and resources has a significant effect on the research outputs among accounting lecturers.

Teaching load and administrative duties and research outputs

Higher education faculty members juggle both teaching and research responsibilities. Balancing these commitments can be challenging since teaching requires significant time and energy. However, effective time management and institutional support can help strike a balance and allow for meaningful research contributions. Teaching load and administrative duties can impact research output in higher education (Sohnia et al., 2018). A heavy teaching load may limit the time available for research activities, such as data analysis, literature reviews, and manuscript preparation. However, manageable teaching loads and supportive institutional environments can create opportunities for faculty to engage in quality research, leading to enhanced research output. To manage

the teaching load and enhance research output, higher education institutions can implement strategies such as workload redistribution, mentoring programs, and sabbaticals (Nguyen et al., 2021; Negash et al., 2018). Reducing administrative burdens, providing research assistants, and fostering interdisciplinary collaborations can also alleviate the impact of teaching responsibilities on research output (Sohnia et al., 2018; Armijos et al., 2021; Olarewaju & Msomi, 2024). Additionally, professional development opportunities for faculty can enhance their teaching efficiency and enable them to allocate more time to research pursuits. About teaching loads and administrative duties and research output, prior studies found a significant relationship between teaching loads and administrative duties and research output (Sohnia et al., 2018; Armijos et al., 2021). Wills et al. (2011) found that teaching loads and administrative duties have a significant effect on research output. Albers 2015 stated that efficient allocation of resources to support research activities in universities leads to an increase in research output. Rodgers and Neri (2007), Carayol and Matt (2003), and Albers (2015) also discovered that teaching loads and administrative duties have significant influence on research output. Additionally, Wills et al. (2011) also discovered a significant effect of teaching loads and administrative duties on research output. However, Willmott 2014 discovered that teaching loads and administrative duties reduce research output. Hassan et al. (2008) as well as Dobele et al. (2014) opined that an effort to maximise research output results in a decrease in the teaching load and administrative duties. Kwiek (2016) also added that too much teaching load and administrative duties decreases research output. Ramirez-Montoya et al. (2023) found that teaching load and administrative duties have insignificant effect on research output. Nur-tegin et al. (2020) discovered that more teaching load and administrative duties improves research output. Sohnia et al. (2018) concluded that teaching load and administrative duties have a significant impact on research output. Alghanim and Alhamali (2011) indicated that researchers who are busy with teaching load and administrative duties affect research output negatively. This study argues that the availability of research funding and other resources will serve as an incentive for the Technology Universities to enhance their scientific research output. Based on these arguments, the following hypothesis was formulated and tested:

H_2: The teaching load and administrative duties have a significant effect on the research outputs among accounting lecturers.

Access to data and research tools and the research outputs

Data access is the ability of a researcher to locate key data or services at reasonable cost, in reasonable time and with reasonable ease to conduct a scientific study (Cole et al. 2020; Goroff et al., 2018; House of Commons, 2013). It is the ability of research to get the needed data for a study (Owen et al., 2015). Access to data is essential for executing thorough and evidence-based research in higher education (Hoelzemann et al., 2022; Nagaraj et al., 2020; Williams, 2021). Data provides the foundation for analysis, validation, and the generation of new knowledge (Xu & Markum, 2021; Zyontz & Thompson, 2018). It enables researchers to identify trends, validate hypotheses, and make informed policy recommendations (Angrist *et al*., 2020; Snilstveit et al., 2016). Higher education researchers often encounter challenges and barriers when accessing data. These may include restricted access to sensitive data, limited availability of relevant datasets, and bureaucratic processes for obtaining data permissions (Konkiel, 2020). Additionally, issues related to data ownership, privacy regulations, and data sharing agreements can create barriers to accessing data (Konkiel, 2020). Limited access to data can hinder research output in higher education (Konkiel, 2020; Starr et al., 2015). It can restrict the scope of research studies, limit the ability to replicate findings and hinder interdisciplinary collaborations. Moreover, inadequate data access can impede the development of evidence-based policies and practices, leading to suboptimal decision-making in higher education institutions (Piwowar et al., 2018; Cabello Valdes et al., 2017; Laakso & Björk, 2012).

By understanding the important role of institutional theory and its application to access to funding, teaching load, and data access, we can identify areas for improvement and develop strategies to enhance research output in higher education. Addressing these factors will contribute to increased research output. With regard to access to data and research output, prior studies found a significant relationship between access to data and research output (Owen et al., 2015). Xu and Markum (2021) found that access to data has a significant effect on research output. Albers (2015) stated that efficient allocation of resources to support research activities in universities leads to increase in research output. Access to research data has significant influence on research output. Additionally, Sooryamoorthy (2016) also discovered a significant effect of access to research data on research output. Molloy (2011) also added that access to research data is likely to influence research output. Zyontz and Thompson (2018) found that access to research data has insignificant effect on research output. Other studies uncovered

that increased access to high-quality data is an important factor driving the increase in the quality of research output (Angrist et al., 2020; Brodeur et al., 2020). Nagaraj et al. (2020) concluded that access to research data can result in increase in research output. This study argues that access to research data will serve as an incentive for the technology universities to enhance their scientific research output. Based on these arguments, the following hypothesis was formulated and tested:

H_3: Access to data and research tools has no significant effect on the research outputs among accounting lecturers.

Theoretical framework

Institutional theory provides a conceptual lens for analyzing the impact of formal and informal regulations, norms, and structures on organizational behavior (Peters, 2022; Munir, 2015; Willmott 2015). In the field of higher education studies, the institutional environment plays an important part in influencing access to financial resources, teaching commitments, administrative responsibilities, and access to data, all of which in turn influence research productivity (Nguyen et al., 2021; Nafukho et al., 2019; Negash et al., 2018). In the context of universities, institutional theory clarifies the systemic and contextual factors causing differences in research productivity (Bégin-Caouette, 2016; Slaughter, 2014). The availability of funds is configured by external forces and the prestige of the institutions, with more prestigious institutions typically having more resources at their disposal (Goodell, 2020; Atieno et al., 2021; Unger & Polt, 2017). Teaching load policies, determined by institutional expectations and norms, have a significant influence on how time and resources are allocated to research activities (Nguyen et al. 2021; Nafukho et al. 2019; Negash et al. 2018). The availability of data, whether internal or external, is influenced by institutional structures, governance practices, and the level of transparency within data-sharing agreements (Chetty and Friedman 2019; Abowd, 2018; Iroaganachi & Izuagbe, 2018). Through the use of institutional theory, researchers can recognize specific strategies aimed at promoting funding equity, streamlining workload management, and enhancing data accessibility. Previous research within the accounting discipline (Iroaganachi & Izuagbe, 2018; Stensaker et al., 2014; Tuttle & Dillard, 2007) illustrates the applicability of this framework in identifying systemic constraints and informing reforms for boosting scholarly productivity.

Methodology

This research project adheres to a positivism philosophy and employs a quantitative research strategy within a cross-sectional survey framework. The data collection spanned from May 2022 to August 2022, utilizing a testing hypothesis approach. The primary data collection method involved the administration of a closed-ended questionnaire using a 4-point Likert scale. The study focuses on six Universities of Technology in South Africa, adopting the census sampling method to gather information from the accounting academic staff members. The choice of census sampling aligns with the definition provided by Hu et al. (2021), characterizing it as the collection of information from a defined population group with shared interests. The questionnaire was distributed to staff emails within the accounting cluster departments, accessible through the UoT's website. Prior to questionnaire completion, participants were required to provide consent after being directed to a screen through a participation link. Upon agreement, participants were granted access to the questionnaire, created using QuestionPro for electronic completion. Out of the initially targeted 100 accounting academic staff members, 96 respondents actively participated, with four submissions remaining unanswered. The data analysis was based on the 96 completed questionnaires. The questionnaire was relatively concise, requiring approximately 20 minutes to complete, yet it maintained clarity and directness of questions to facilitate participant responses. The design of the questionnaire prioritized anonymity and the confidentiality of participant identities. Ethical clearance for this study was obtained from the DUT research committee, ensuring adherence to ethical standards. Additionally, the research instrument underwent a pre-test involving five academic staff members within the accounting cluster at DUT, validating and ensuring the reliability and correctness of the supplied data. These methodological choices collectively contribute to the robustness and ethical soundness of the research design and data collection process.

Analysis and results discussion

Prior to conducting structural equation modelling in AMOS, we undertook scale validation through a series of analyses, including exploratory factor analysis (EFA), discriminant validity, and convergent validity. The analysis of the data was executed using SPSS version 21 and AMOS version 20. To assess sample adequacy, the

Kaiser-Meyer Olkin (KMO) measure and Bartlett's Test of Sphericity were employed. The sample in the study satisfied the recommended criteria, as indicated by a Kaiser-Meyer-Olkin (KMO) value of 0.620, an approximate chi-square of 1676.969 with 190 degrees of freedom, and a significance level (p-value) below 0.001 as reported by Eze et al. (2021) along with Rana and Joshi (2020). Additionally, in accordance with Baistaman et al., (2022), Bartlett's Test of Sphericity significance was established at $p < 0.05$, and the KMO statistic exceeded the threshold of 0.5. Utilizing Varimax Rotation for factor analysis, the rotation converged after eight iterations, explaining 70.841% of the total variance. In alignment with Bagozzi and (1988), items TLA2, TLA4, ADR5, ARO3, and ARO4 were omitted due to factor loadings below 0.6.

The measurement model was estimated using Maximum Likelihood Estimation (MLE), as suggested by Adegoke et al. (2022). Convergent validity was assessed through measurement model fit indices, reliability, standardized factor loadings, critical ratios, and average variance extracted (AVE). The measurement model demonstrated a favorable fit (TLI .916, GFI .915, AGFI .963, CMIN/DF 2.217, NFI .954, RMSEA .068 and CFI .928). According to Yuksel et al. (2010), a satisfactory model should have a $\chi 2$/DF within the 0–5 range, with lower values indicating a better fit. Furthermore, Aigbavboa et al. (2025) emphasized that values of AGFI, TLI, NFI, GFI, and CFI should approach 1, while RMSEA must fall between 0.05 and 0.10 for satisfactory fit. In Table 1, all constructs exhibited Cronbach's alpha (α) and composite (CRel) reliabilities above the 0.6 cutoff (Chikazhe and Nyakunuwa, 2022). Standardized factor loadings (λ) for all items exceeded the recommended threshold of 0.6 (Aghimien et al., 2023). Critical ratios (CRs) were both large and significant at $p < 0.001$, and individual item reliabilities (IIRs) surpassed 0.5, as suggested by Xu and Markum (2021). Moreover, all constructs achieved averages (AVEs) greater than 0.5, in line with Götz et al. (2009). Furthermore, discriminant validity was assessed by comparing the AVEs against squared inter-construct correlations (SICCs). Table 1 demonstrates that all AVEs surpassed their corresponding SICCs, meeting the stipulated conditions (Xu and Markum 2021).

Table 1. λ, IIR, CR, α and CRel

Constructs	Items	λ	IIR	CR	α	CRel
Funding and Resources	FUR1	.951	.914	-		
	FUR2	.758	.580	7.938***	.825	.812
	FUR3	.672	.555	11.429***		
	FUR4	.710	.508	10.252***		
	FUR5	.640	.513	11.513***		
Teaching Load and Administrative Duties	TLA1	.625	.529	-		
	TLA3	.640	.513	12.616***		
	TLA5	.949	.910	15.361***	.728	.832
Access to Data and Research Tools	ADR1	.677	.562	-		
	ADR2	.659	.511	14.973***		
	ADR3	.637	.509	13.271***		
	ADR4	.685	.573	11.827***	.744	.620
Research Outputs among accounting lecturers	ARO1	.675	.559	-		
	ARO2	.769	.601	10.339***		
	ARO5	.746	.562	11.251***	.711	.621

Note: - CR is fixed; *** $p < 0.001$

Table 1 presents the measurement properties of the constructs, including factor loadings (λ), item-to-construct correlations (IIR), composite reliabilities (CR), Cronbach's alpha (α), and construct reliability (CRel). In the "Funding and Resources" construct, all factor loadings are substantial, ranging from .640 to .951, indicating a strong relationship between the latent construct and its corresponding items. The item-to-construct correlations (IIR) provide additional evidence of the items' alignment with the construct, with values ranging from .508 to .914. The composite reliability (CR) is not reported, but Cronbach's alpha (α) for this construct is .825, demonstrating good internal consistency. Construct reliability (CRel) is also high at .812, further supporting the reliability of the "Funding and Resources" measure.

To test hypotheses H1, H2, and H3, we employed the structural equation modelling (SEM) technique in AMOS Version 20, utilizing Maximum Likelihood Estimation (MLE) for the structural model estimation (Asosega et al.,2022). SEM was chosen for its ability to determine relationships and simultaneously assess the overall fit between the research model and observed data (Xu & Markum, 2021). The structural model exhibited favorable fit indices (CMIN/DF 2.932, GFI .931, AGFI .938, NFI .937, TLI .918, CFI .973, RMSEA .064). The results of hypothesis testing are presented in Table 4, confirming the support for H1, H2, and H3. This substantiates

the positive influence of funding and resources, teaching load and administrative duties, and access to data and research tools on the research outputs among accounting lecturers in UoTS.

Similarly, in the "Teaching Load and Administrative Duties" construct, factor loadings range from .625 to .949, indicating robust relationships between the latent construct and its items. IIR values range from .513 to .910, reinforcing the items' alignment with the construct. The reported α is .728, indicating acceptable internal consistency, while CRel is high at .832, affirming the reliability of the "Teaching Load and Administrative Duties" measure. For the "Access to Data and Research Tools" construct, factor loadings range from .637 to .685, and IIR values range from .509 to .573. The reported α is .744, suggesting good internal consistency, and CRel is .620, indicating satisfactory reliability.

Finally, in the "Research Outputs among accounting lecturers" construct, factor loadings range from .675 to .769, and IIR values range from .559 to .601. The reported α is .711, demonstrating acceptable internal consistency, and CRel is .621, supporting the reliability of the "Research Outputs" measure. These results suggest that the measurement model is robust, with strong factor loadings, item-to-construct correlations, and reliability coefficients for each construct, providing confidence in the validity and consistency of the measurement instruments used in the study.

The results presented in Table 2 provide a comprehensive overview of mean scores (M), standard deviations (SD), Average Variance Extracted (AVE) and Squared Inter Construct Correlations (SICCs) for various constructs related to academic environments. The construct "Funding and Resources" exhibited a mean score of 4.281 with a standard deviation of 0.826, indicating a relatively high level of agreement among respondents. The AVE for this construct, highlighted in bold on the diagonal, is 0.688, suggesting that approximately 68.8% of the variance in the measured items is attributable to the latent variable. Moving to "Teaching Load and Administrative Duties," a mean of 4.234 and an AVE of 0.516 indicate moderate agreement among participants. Notably, the SICCs between constructs reveal interrelationships, with values such as 0.529 and 0.537 suggesting potential connections between "Teaching Load and Administrative Duties" and "Funding and Resources" or "Access to Data and Research Tools," respectively.

Table 2. Mean (M), standard deviation (SD), AVEs and SICCs

Construct	M	SD	FUR	TLA	ADR	ARO
Funding and Resources	4.281	.826	**.688**			
Teaching Load and Administrative Duties	4.234	.858	.516	**.529**		
Access to Data and Research Tools	4.399	.846	.332	.352	**.537**	
Research Outputs	4.372	.774	.479	.428	.376	**.514**

Note: Diagonal elements in bold represent AVEs

Table 3 provides critical insights into the relationships between key constructs and their influence on "Research Outputs" within the academic context. The standardized regression weights (SRW) and critical ratios (CR) serve as robust indicators of the strength and significance of the hypothesized connections. Hypothesis 1 posits a positive correlation between "Funding and Resources" and "Research Outputs," a proposition substantiated by a robust SRW of .882 and a critical ratio of 4.511, signifying statistical significance at $p < 0.001$. This outcome is in accordance with extant research (Goodell, 2020) consistently illustrating the favorable influence of augmented funding and resources on research productivity among academic professionals. The findings align with the works of Rodgers and Neri (2007), Carayol and Matt (2003), and Albers (2015), reinforcing the credibility and dependability of the conclusions drawn. Support and defense for this correlation are underscored by the wealth of evidence from the aforementioned studies, providing a comprehensive foundation for the observed positive impact on research productivity. Furthermore, it is essential to acknowledge that these results are consistent with prior research, contributing to the coherence and reliability of the identified relationship.

Table 3. Hypotheses tests results

Hypothesis	Hypothesized relationship	SRW	CR	Remark
H_1	Funding and Resources → Research Outputs	.882	4.511***	Supported
H_2	Teaching Load and Administrative Duties → Research Outputs	.639	1.952***	Supported
H_3	Access to Data and Research Tools → Research Outputs	.553	3.609***	Supported

Notes: SRW = standardized regression weight, CR = critical ratio, *** = significant at $p < 0.001$.

In a manner consistent with scholarly inquiry, Hypothesis 2, which investigates the impact of "Teaching Load and Administrative Duties" on "Research Outputs," is substantiated by a substantial standardized regression weight (SRW) of .639 and a critical ratio of 1.952. This discovery aligns with extant literature that recognizes the intricate interplay between teaching and administrative responsibilities and their effect on research productivity. Within the academic realm, prior investigations have emphasized the imperative of maintaining a delicate balance between these obligations to enhance scholarly output, thereby offering supplementary corroboration for the findings of the present study (Sohnia et al., 2018; Armijos et al., 2021). Moreover, Hypothesis 3, positing an association between Access to Data and Research Tools and Research Outputs, is validated through a noteworthy, standardized regression weight (SRW) of .553 and a critical ratio of 3.609. This outcome corresponds with an expanding corpus of literature underscoring the crucial role of affording researchers' adequate access to data and research tools in augmenting their scholarly contributions. The confluence of outcomes across various studies fortifies the importance attributed to this association in fostering heightened levels of research productivity (Konkiel, 2020; Starr et al., 2015).

The consistent significance at $p < 0.001$ across all hypotheses not only underscores the robustness of these relationships but also emphasizes their relevance for academic institutions. This suggests that strategic resource allocation and workload management are vital considerations for institutions seeking to optimize research outcomes among accounting lecturers, aligning with the broader body of research in academia.

Theoretical implications and recommendations

The amalgamation of institutional theory and empirical investigation has yielded profound insights into the determinants of research productivity among accounting lecturers in South African UoTs. Institutions can proactively engage in strategic resource allocation, leveraging their reputational standing to address funding disparities that substantially impact research outcomes. The establishment of a transparent and equitable resource allocation system emerges as a crucial avenue to foster a more supportive research environment. Recognizing the influence of institutional prestige on funding accessibility allows institutions to align their resource distribution with the research priorities and capabilities of faculty members, ultimately enhancing the overall research ecosystem. Acknowledging the pervasive impact of teaching load and administrative duties on research productivity, institutions are encouraged to implement targeted workload management strategies. These may include the redistribution of teaching responsibilities, the establishment of mentoring programs, and the provision of sabbaticals to alleviate the burden on faculty members. A concerted effort towards balancing teaching and administrative commitments can significantly augment the capacity of faculty members to make meaningful contributions to research. This strategic approach not only addresses the immediate challenges faced by lecturers but also promotes a conducive environment for sustained scholarly pursuits. Institutional support for improved access to research data and tools emerges as a critical factor in fostering a research-conducive environment. Recognizing the influence of institutional factors on data accessibility, institutions can play a pivotal role in streamlining processes, establishing data-sharing agreements, and providing the necessary infrastructure to empower researchers. By actively facilitating enhanced data access, institutions contribute to the removal of barriers that impede research progress, thereby creating an environment conducive to rigorous and impactful scholarly endeavours.

Based on the empirical findings of this study, several targeted actions are proposed to enhance research productivity among accounting lecturers at South African UoTs. The recommendations are presented in two categories: those directly supported by the study's results and broader strategic suggestions drawn from the literature and theoretical considerations. The results demonstrated significant positive relationships between access to funding, manageable teaching loads, and access to research data with research productivity. Accordingly, institutions should develop transparent and equitable funding allocation systems that align with the research priorities and capacities of accounting lecturers, ensuring that financial resources are sufficient to support infrastructure, data acquisition, and dissemination of findings. Given the demonstrated impact of teaching and administrative duties on research output, UoTs should redistribute teaching responsibilities, offer sabbaticals, and establish mentoring programs to create more time for research activities. Furthermore, institutions should streamline bureaucratic processes, establish formal data-sharing agreements, and invest in the infrastructure necessary to enable lecturers to obtain and utilize relevant research data effectively. In addition to the evidence-based recommendations, the study draws on literature and theoretical insights to suggest broader strategies for fostering a research-conducive environment. Encouraging collaboration across departments can expand research capacity, diversify perspectives, and enhance the scope of research projects. Allocating research assistants to lecturers can help reduce

administrative and preparatory workloads, enabling greater focus on analysis and writing. Offering targeted training in research methods, data analysis, and academic writing can improve lecturers' research efficiency and quality. Finally, institutions should periodically reassess teaching and administrative workload expectations to ensure alignment with evolving academic goals and sector standards.

Conclusion

In conclusion, this study empirically examines the determinants of research outputs among accounting academic staff in South African UoTs using a robust quantitative research design. The investigation centers on the influence of access to funding, teaching and administrative duties, and research data on the scholarly contributions of accounting lecturers. The analysis reveals several key findings pertaining to the factors influencing research outputs among accounting lecturers. Firstly, there is robust evidence (SRW = 0.882, CR = 4.511, $p < 0.001$) supporting the positive impact of access to funding and resources. Adequate financial support not only facilitates the development of essential infrastructure but also aids in resource acquisition and collaborative efforts, creating a conducive environment that fosters impactful research endeavors. Secondly, the study affirms (SRW = 0.639, CR = 1.952, $p < 0.001$) the significant influence of teaching load and administrative duties on research outputs. Effectively managing these responsibilities, coupled with supportive institutional environments, proves pivotal in providing faculty with opportunities to engage in high-quality research, ultimately enhance their scholarly productivity. Lastly, the research substantiates (SRW = 0.553, CR = 3.609, $p < 0.001$) the hypothesis that access to data and research tools positively contributes to research outputs. Adequate access to data is deemed crucial for conducting rigorous and evidence-based research, empowering researchers to identify trends, validate hypotheses, and make informed contributions to their respective fields.

The study contributes to the existing literature by providing empirical evidence within accounting academics, shedding light on the nuanced interplay of these determinants. The results underscore the importance of strategic resource allocation, effective workload management, and improved access to data and research tools for optimizing research outcomes in higher education institutions. This study is subject to some limitations. First, the sample size was relatively small, comprising only 96 accounting lecturers, which may restrict the generalizability of the findings. Second, the use of self-reported data introduces the potential for response bias, as participants' perceptions and recollections may not fully reflect actual conditions. Third, the cross-sectional research design limits the ability to draw causal inferences between the variables examined. Future research could address these limitations by employing longitudinal designs to track changes over time, incorporating qualitative methods to gain deeper insights into contextual factors, and conducting comparative studies with traditional universities to explore potential differences in research productivity determinants.

Table 4. Sample size

Name of universities	No of staff	Frequency
Mangosuthu University of Technology	14	15%
Cape Peninsula University of Technology	16	17%
Central University of Technology	15	16%
Durban University of Technology	26	24%
Tshwane University of Technology	13	14%
Vaal University of Technology	12	13%
Total	96	100%

Source: Author's own computation (2025).

Declarations

Interdisciplinary Scope: This study adopted an interdisciplinary framework, integrating insights from accounting, education management, and organizational studies to provide a holistic understanding of factors influencing research productivity among accounting academics in South African Universities of Technology. By drawing concepts from finance (access to funding), education (teaching and administrative workload), and information management (access to research data and tools), the study offers a comprehensive perspective on the institutional and structural determinants of research outputs. This integrative approach enhances the interpretation of findings and supports evidence-based policy recommendations aimed at strengthening research capacity and innovation within higher education environments.

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