

INFORMATION TECHNOLOGY AS A CATALYST FOR THE PROFESSIONALISATION OF ACADEMIC ADMINISTRATORS: A CASE STUDY OF A HEALTH SCIENCES FACULTY

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ABSTRACT

As academic administrators become a key staffing component of efficiently run universities, their role as knowledge workers is being reframed. This is especially evident as universities increasingly rely on information technologies and student information systems to process vast amounts of student data in the pursuit of improving student success and assisting senior management with future planning.

In this study, a qualitative research approach was employed to explore the enabling factors that contributed to academic administrators becoming central to various data quality management processes. Twenty-six (26) participants were purposively selected to participate in this study. Data collection strategies included the use of semi-structured interviews, focus groups, observations and documentary sources.

The findings demonstrate the interrelationship between the professionalisation of academic administrators and enhanced data quality management processes. The results reassert the argument for reconceptualising the role of academic administrators as knowledge workers. This position has implications for how such staff are perceived within the organisational structure of the university and the types of staff development and training required.

Keywords: higher education, student information systems, academic administrators, professionalisation, data quality management

INTRODUCTION

Data-driven information systems have become central to almost every business within modern society. This extends to the domain of higher education where Student Enrolment Management

Systems (SEMS) or Student Information Systems (SIS) have become a key area of growth and expansion (Toro and Joshi 2012; Jaleel 2014). The growth and expansion of SIS have resulted in staff such as academic administrators increasingly taking on new roles and responsibilities at the university (Ryttberg and Geschwind 2017).

In order to ensure better planning and monitoring, the Department of Higher Education and Training (DHET) has become the main consumer of data generated at universities in South Africa. The data universities collect from students, staff and infrastructure is transmitted to the Higher Education Management Information System (HEMIS) and is used to inform policy-level decision-making and funding allocations to higher education (Van Schalkwyk, Willmers, and Czerniewicz 2014; CHE 2016). Concerns about data integrity and quality have become especially significant for both the DHET and individual institutions. The consequences of poor data quality are grave, contributing to negative impacts on institutions (Marsh 2005), such as poor-decision making which could affect their bottom line (Van Schalkwyk et al. 2014). Various integrated student information systems applications are currently used in the daily operations of universities that have the ability process substantial volumes of student data (Soares 2013).

Academic administrators have become the primary users within this data supply chain at universities, thus making them the key workers who have the necessary knowledge, skills, and ability to use such information communication technology services appropriately (Czerniewicz, Ravjee, and Mlitwa 2006; Soares 2013; Ryttberg and Geschwind 2017). Despite the central role they continue to play in the university, limited scholarly attention has been accorded to exploring the diverse and expanding positions and functions played by academic administrators, especially given the acknowledged contribution they made towards data quality (DQ) and data quality management (DQM) (Wang and Strong 1996; Smout and Stephenson 2002; Cloete et al. 2011; Ryttberg and Geschwind 2017).

This article aims to respond to the limited empirical investigations into the role played by academic administrators and reports on a recent qualitative investigation that explored, what are the enabling factors that contributed to academic administrators becoming central to ensuring various data quality management processes in a particular faculty. Furthermore, the research sought to address the key question: what factors enable academic administrators in a health sciences faculty to enhance data quality and data quality management? The findings provide evidence that due to the type of activities, and role functions undertaken and fulfilled by academic administrators, they should be rightfully be seen as knowledge workers. Additionally, their position needs to be understood as essential for the effective and efficient production of data quality, and that of data quality management processes. The argument in this

article is that alongside the recognition of these staff as knowledge workers must come the commensurate of executive's management support for the professionalisation of the role of academic administrators. Such professionalisation can be enabled through the introduction of accredited positions or programmes with firm governance guidelines that enhances staff capacity to address data accuracy.

In the following section, a brief review of the literature is provided before the research design is described. The findings are then presented and this discussion focuses explicitly on the four key themes for the study, namely enrolment management, professionalisation of academic administrators, student administrative data management, and the effectiveness of communication and management. The discussion and conclusion highlight the interrelationship between the professionalisation of academic administrators, the efficient use of student information systems and data quality and data quality management processes.

LITERATURE REVIEW

The emergence of academic administrators

Historically, the role of administrative staff within the university was seen as a peripheral function and was connected to cohorts of loosely associated workers that were defined simply as “non-academic” (Hayward 1992; Bossu, Brown, and Warren 2018, 3). As Szekeres (2011, 684) notes, the use of such nomenclatures, for example, “non-academic”, “support staff”, “allied” and “assistants” has been a source of frustration and humiliation, especially when positioned in contrast or opposition to their more valued academic colleagues. Before the complete utilization of information technology systems at universities, the role and function of academic administrators were principally restricted to functional and operational areas such as academic administration, finance, personnel, and building infrastructure (Whitchurch 2004). These roles were stable and distinguishable from each other or through the specialization of their academic location, “such as generalist administrators (based as registry and secretariat staff) and specialist professionals (such as finance and personnel staff)” (Whitchurch 2004, 288). However, these functional and operational roles did not sufficiently account for the actual work completed by these staff. More recently, there has been some reclassification of these occupational titles from support staff to academic administrators, and lately, professional support staff (Ryttberg and Geschwind 2017; Whitchurch 2008).

The increase in student populations at universities, which were driven by massification factors in both international and the local South African contexts, and pressures emanating from the rapid rate of technological advancement have raised the demand for more accountability.

The need for information technology (IT) systems capable of processing large amounts of student data accurately has become a significant feature of the administrative landscape of the university (Mouton, Louw, and Strydom 2013). A consequence of these pressures has been the demand for academic administrators to respond swiftly to capture the required student data accurately and efficiently (CHE 2014). A corresponding development was the stronger reliance on information communication technology (ICT) administration processes to guide the core functions of the university (Krishnaveni and Meenakumari 2010). This resulted in the linking of ICTs with student admission, assessment and examination results, and student finance functions. These processes have intensified the central role of academic administrators to not only execute, but also maintain the quality and efficiency of these activities (Zainally 2008, 36; Krishnaveni and Meenakumari 2010).

The processes listed above were the key drivers that necessitated the creation of a new professional space for academic administration, premised on data knowledge and data work (Selwyn, Henderson, and Chao 2018). According to Nabavi and Jamali (2015), researchers acknowledge that limited attention has been assigned to the functionalities of academic administrators, despite a growing dependency on ICT and an increased demand for data production, processing, and storage.

Transforming academic administrators into HE knowledge workers

Harrigan and Dalmia (1991) posit that the creation of a knowledge economy requires a different type of workforce, one that can rightfully be called knowledge workers. Knowledge workers are employees who can use critical knowledge, skill and information to contribute meaningfully to an organization's efficiency (Harrigan and Dalmia 1991; Castells 2001). The emergence of a knowledge economy has been coupled with an emphasis being placed on capital and knowledge-based workers as a source of natural wealth (Abugre 2018; Chatterji and Kiran 2017). Unlike manufacturing workers, knowledge workers are supported by a different type of infrastructure, namely information technology. This ultimately enables them to generate large amounts of information or data (Köksal, Batmaz, and Testik 2011; Soares 2013). The move from a past dominated by "tangible" paper-based activities to a future of more "intangible" virtual technologies with data-driven operations, has prompted the demand for workers with particular technical skills (Czerniewicz et al. 2006). These shifts have allowed for the creation of new specializations within university administration, including roles and functions such as marketing, student enrolment services, ICT and the importance of data quality (Toro and Joshi 2012; Jaleel 2014; Rytberg and Geschwald 2017).

The inclusion of knowledge workers as a new specialization of student information

systems has changed the very nature of higher education (Krishnaveni and Meenakumari 2010; Oni, Gonese, and Matiza 2014). SIS are thus a major catalyst, changing the type of employees needed within the university and increasing the demand for staff with specific IT knowledge and skills (Ryttberg and Geschwald 2017). In the South African university context, despite these significant changes, academic administrators still lack professional bodies to promote or advocate this vital role and function within the sector. The research reported here takes as its premise the value of viewing academic administrators as knowledge workers. Also illustrated is how the work they perform, specifically with respect to ensuring data quality and efficient data quality management processes, correctly assigns them as knowledge workers.

RESEARCH DESIGN AND METHODOLOGY

The overarching research design of this study was guided by qualitative research approaches that also used participatory strategies. The research sought to understand the contribution made by academic administrators to data quality and data quality management processes within a specific faculty at a South African higher education institution. The research attempted to address the main research question: what factors enable the academic administrators at a health sciences faculty to enhance data quality and data quality management?

A qualitative research design was utilised as it ensured that data collection could be conducted within the natural setting of a Higher Education Institution (HEI), therefore considering the ways in which contextual factors impact on research participants (Maxwell 2013). Additionally, such an approach was compatible and reinforced normal faculty work practices.

Data collection and sampling

The primary data collection strategies used were semi-structured interviews, focus groups, observations, and documents such as reports and emails. This data collected allowed the research to tap into the experiences and perceptions of participants within the faculty setting (Maxwell 2013; Gill et al. 2008).

The majority of research participants worked in the health sciences faculty. Given the qualitative nature of the research design, non-probability sampling methods were employed. A combination of convenience and purposive sampling was used (Pietersen and Maree 2016). As an employee of the faculty, the researcher had ready access to the research site, and this also facilitated the use of data collection methods such as participant observation and focus groups of faculty staff. The purposive sampling ensured that staff with particular occupational roles and functions, i.e. academic administrators and those who had SEMS/SIS experience,

responsibilities and knowledge, were included as research participants. 26 faculty staff took part in the research (see Table 1 for an overview of the sample and data collection strategies used).

Table 1: Overview of data collection strategies and sample

Data collection technique	Sample	Reason for selection
Interviews	9	Senior personnel, years of experience with rich intuitional knowledge.
Observation	8	Academic administrators executing routine SEMS duties.
Focus group	9	Mixture of the above groups, to capture diverse views and understandings.
Documents: Reports and emails as data	Two annual reports and 150 e-mails	Used to access rich data sources.
Total	26 research participants	

Interviews were conducted with nine (9) participants, selected for their extensive institutional knowledge, experience in resource and staff management, and familiarity and use of the SIS/SEMS. Many of these interviewees either participated or contributed to various governance structures, i.e., faculty, senate and university council committees at the university. Observations were conducted with eight (8) administrators who had specific knowledge of the faculty's activities and their daily occupational tasks required interaction with the university's SEMS. Finally, focus group participants were drawn from six (6) faculty officers and three (3) academic administrators from the research site. These research participants were all actively engaged in the daily administrative operations of the faculty, which involved servicing student and academic queries using the SEMS. The documentary sources used were two faculty annual reports and email correspondence. These sources offered insights into official reports of enrolment practices, changes, challenges, faculty viewpoints about the role and function of academic administrators, and the integration and evaluation of the efficiency of the SEMS/SIS.

Data analysis

The Braun and Clark (2006) six-step process of thematic analysis informed the data analysis approach of this research study. The process sets out six distinct phases for analysis activities. These consist of (1) familiarisation with the data, (2) generation of initial codes, (3) search for an expression of the pre-defined themes, (4) review of the themes in relation to the findings, (5) definition and labelling of the findings, and (6) production of report (Braun and Clark 2006). Interview transcripts, observation records and documentary sources were manually coded after the researcher reviewed the documents and made reflective analytical notes (Strauss and Corbin

1990). This process resulted in 22 code categories that were transformed into four major themes. These initial researcher-generated themes were then subject to a naming process with the focus group participants which result in the following themes for the study, namely, enrolment management, professionalisation of academic administrators, student administration data management and lastly, effectiveness of communication and management. The characteristics of these themes were further described and explained through the application of concept analysis consisting of antecedence, attributes and consequences (Tofthagen and Fagerström 2010). These concepts are described by Tofthagen and Fagerström (2010) as *antecedence*, which is regarded as events or phenomena that have previously related to the theme or concept. Moreover, the *attributes* are clusters of characteristics that make it possible to identify situations that can be categorised under the concept, and the *consequences* are the result of using the concept in a practical situation.

FINDINGS

Four themes that emerged from the data namely, enrolment management, professionalisation of academic administrators, student administration data management, and effectiveness of communication and management is presented with imbedded attributes and consequences, highlighting the participants' views, understanding and experiences.

Enrolment management: Impact of increased student numbers

Enrolment management is described by participants as follows:

“A vision to integrate, to make it a fully holistic, totally integrated system to encourage the complete student lifecycle, from applications right through to alumni.” (Participant 8).

Participants also described enrolment management as the key processes that contributes toward the production of student data and how to give feedback on those processes (Participant 4). Increased student numbers were attributed to the unintentional increases in student data errors, as noted by Participant 4 when they say that “Sometimes technology is to blame, and sometimes human beings are to blame when there are inconsistencies and when their integrity is at stake.”

As a result, administrators reverted to lengthy manual checking activities, which introduced duplication into their administrative tasks. The significance of this issue was also reported as an efficiency concern in the faculty report of 2015/2016. Using these manual procedures was said to increase the risk of human errors, which then had the consequence of further data quality issues in the SEMS/SIS.

“Yes, exactly, if you make a mistake at registration for instance, students are registered incorrectly and it’s not picked up, it could pull through. So, it is important for staff to be aware of that. Also, for the manager to have oversight to ensure that staff are aware of that and for the manager to intervene.” (Participant 5).

The automated online registration process is favoured, in the belief that the minimization of human intervention would act to increase the quality of data on the SEMS. Even though the faculty had increased student numbers and placed a stronger reliance on technology systems, human error was still identified as a concern.

“... an example for the enrolment applications for our undergrad applications we’ve seen from past experiences, we’ve learnt that when you extract information from the system, it’s not always accurate and it doesn’t have the matric scores, so we actually have a manual process with our selections.” (Participant 5).

Notwithstanding increased student numbers and the impact of human error, the technology-driven enrolment management process is complex and multi-layered, as Participant 7 ascertains that “... each kind of broad process would have numerous sub-processes as well ... the list having almost reached about 400 processes”. The volume and extent of student data produced from these processes point to the need for specialist knowledge and skills by the academic administrators responsible.

Professionalisation of academic administrators: Staff training and staff workload

Professionalisation is described by this participant as:

“Professionalisation has got to do with a profession and certain skills that you must obtain, you must be able to understand what you’re doing ... you can professionalise issues but if your training is not geared at professionalisation, there’s nothing you can do.” (Participant 1).

Participants commented that “the systems training does not reflect reality” because “the skills that they trying to develop has already been developed ... the feedback we provide should also inform the training, but that is not happening ...” (Participant 9). This happens when introducing new technologies where it is accompanied by adequate levels of training or training that was deemed appropriate and relevant to the tasks required.

Participants perceive staff workload as being “additional administrative tasks” because of the use of “new technology” and the “increased student numbers”. These factors were also

attributed to increases in the number of administrative errors, which correspondingly resulted in increased levels of dissatisfaction and frustration experienced by administrative staff. This sense of frustration caused by additional workload demands is emphasized by Participant 4's explanation:

“Because it's one person now capturing and vetting the marks, which wasn't designed in that way ... errors will obviously arise and that ... the amount of mark adjustments in that process is basically the evidence.” (Participant 4).

Additional areas of tension in the training regime were also evident, with participants identifying areas of bias between academic and administrative structures.

“... there are two different structures within the institution: one is the admin and support structure and the other one is the academic structure. The academic structure is more about the 'I' factor, where the academics are for themselves in terms of their own research, blowing their own whistle. Well, the admin that supports them ... they do not support you (or) what you have to do.” (Participant 1).

These tensions expressed itself through academic privilege in the provision of staff development, training and progression, which were seemingly denied to administrators. One participant noted that “Yeah ... from the academic side, for [arguments] sake, they are giving a lot of benefits to staff to complete [PhD's], but that's not coming from the admin side. They are not supporting the admin side to improve their qualifications” (Participant 1).

The belief that staff development and training should not only be for academics, but a common practice for all university staff was a constant assumption held by many of the research participants.

Student administration data management: Availability of technology and data accuracy

The findings from this theme draw attention to the interrelationship between increased reliance on information technology systems and the capacity to ensure data quality for student administration processes.

Participants pointed out how frequently the information system did not function as it should, which required administrators to intervene manually to correct “certain aspects” or system errors, resulting in a system that “promises a lot but delivers inconsistent results” (Participant 9). Such perceptions were reinforced through occasional inconsistencies in the performance of the information systems. These inconsistencies were also noted in the faculty

report which reported that “Online registration was not 100% user friendly, especially for first years who are not aware of their modules” (CHS reflective report 2015/2016). The ideal vision put forward by university management that increased use of automated IT systems would help to eliminate human error and thus increased data quality has not been fully realised. This realisation is supported by participant perceptions, as captured by Participant 5 when commenting on the SEMS system and noted that “SASI’s not always reliable ...” Another participant questioned the utility of these systems, noting that “shortcomings of the system often feel like the system causes more manual work than it should” (Participant 9).

While the notion of the “availability of technology” was acknowledged as a key means whereby academic administrators were able to contribute to data quality and data quality management systems, the importance of error-free data was reiterated. The system would perpetuate error as Participant 8 explains.

“The old concept of garbage in, garbage out ... applies now. This means that if any faculty gives us information that is inaccurate, we haven’t got control over that, that’s the unfortunate part. So maybe that question you must pose to those guys that feed it into the system because whatever we get, we process that, and not manually. It is all automatic, all electronic, all through the system.” (Participant 8).

The attributes needed to ensure data accuracy identified by participants included “improved administrative processes”, “timeous acquisition of data” and “relevant and reliable data sources/sets” (Participant 9). There was also the recognition of how these attributes contributed to improved data integrity, which meant fewer student complaints and a decrease in the number of programme amendments.

When considering the accuracy of data, participants understood that acquiring data timeously was essential to ensuring efficacy, while data relevancy and reliability were also recognised as key components of data accuracy. This recognition is expressed when Participant 1 states, “you cannot just use data elements and when you don’t know what you have to do ... you need to understand the data elements to create data sets”.

Participants noted the importance of understanding the consequences of data accuracy when working with data, stating that “information needs to be captured correctly in order for accurate information to be made available”. They further suggest how crucial it is for users to be aware that when human input is involved, the possibility of human error exists; thus “whoever is capturing should make sure that the information is correct and accurate” (Participant 4).

Understanding the administrative processes and their relationship to data accuracy was

thus identified as crucial (see commentary from Participant 1 above). Human error was seen as a major threat to data accuracy, and the impact of human intervention and its role in compromising data integrity was also regarded as important considerations.

Effectiveness of communication and management: Effective communication, management changes and governance

In discussing this theme, particular emphasis is placed on how areas of effective communication, management changes and governance either enhance or impinge on data quality and data quality management.

For participants, effective communication in the workplace helps ensure increased productivity and improved standards when completing their daily tasks. Participants regarded effective communication as a central tenant of the standard-checking protocols staff were required to apply. These measures were also seen as an indicator of the operational structure in place within the faculty.

“There are always checks and balances in place to make sure information is accurate and that is why we have manual records. I suppose checks and balances should be put in place. That is currently happening, but I mean like I said; you always have to leave room for human error that happens every day ... I like to cross-check and I always double-check on information I receive from the faculty ... if for instance I get information from staff members regarding say, pass rates. I will cross-check, double-check against QA, check with what I have ... specifically talking about data input or quality checks.” (Participant 5).

Opportunities to share information and work experiences also constituted efforts to create an environment where communication between colleagues was prioritized. Such information sharing practices were further seen as a primary way in which colleagues benefitted and were able to grow professionally, and as Participant 7 mentions, “it is all about your personal growth as well”.

The ability to adhere to and comply with operational tasks can easily be scuppered when communication quality is poor. For example, Participant 8 notes recalling how the information would only be completely reviewed against students who applied for residency, while with “the other 90% of students, that information would never be checked” and administrators would only realise incorrect information when it is communicated.

Participants also understood that it is essential that data or information is interpreted “the way it is intended ... consistently aligned with the business processes and the business processes must be kept up to date regularly” (Participant 6).

Participants further noted the consequences of poor or problematic communication

practices:

“What I feel is that a lot of people actually sit in their offices, they’re too scared to ask, they’re too scared to communicate. It might be that they feel that they will be regarded as a lesser employee, whatever the case.” (Participant 7).

There was a clear perception that effective communication systems were vital for the efficient use of the SIS or SEMS processes. Thus, continual communication between administrative staff also promoted teamwork that allowed for issues with technology to be “raised” and then “sorted out” (Participant 3).

Management reforms and the adoption of specific management styles were also mentioned as factors affecting the changeover to the IT-driven processes and whether it would improve the efficacy of data quality and data quality management.

The faculty and the university had encountered many management changes at various stages. Like Participant 1, many of the other participants with a lengthy history at the institution had the following to share:

“Since 1984, the university attempted to become financially independent and therefore we joined the SAPSE system – the South African Post-Secondary Education system. It’s a manual from the government where we have to supply information. It’s about 44 pages of student data that had to be completed, those years, manually. I was responsible for completing all those data manually for students until 1999 when it started to automate,” (Participant 1).

Alongside technological and administrative changes, there were also shifts in management style that escalated the use and reliance on technology-driven administrative processes.

“We want to integrate MAS completely into SASI which means it’s going to be a module within SASI, not a stand-alone system. The same with ... the committee management system now a subset of SASI, it is easy because now that committee management system and SASI will be in the same language” (Participant 6).

Therefore, these changes to the management style were perceived to be necessary and assisted in the smooth transition to the increased adoption of information technology to drive administrative processes. These changes were thus seen as making an essential contribution to data quality and data quality management at the faculty.

Governance was also seen as an important supporting factor to data quality controls. For participants, governance matters included conditions such as having “well- documented rules, laws, practices, procedures and processes of the university” but also “adhering to all policies”.

Institutional and faculty structures, alongside management style were referred to by

participants as some of the conditions in which the governance was operationalized. Thus, the manner in which regulations, rules, practices, procedures and policies were communicated and applied productively. Some participants expressed a more cautionary view, indicating their worry that a blind adherence to policy or rules allows little room for staff agency or exercising professional discretion.

“... the university now has become what we call a bureaucracy machine where the rules dominate everything and there’s no discretion that should be allowed and that is the concern that I have ... a university is regarded as a professional bureaucracy because there’s a lot of professionals working here.” (Participant 1).

Participants in the faculty showed an appreciation for the relationship between strong governance structures and the ability of both faculty and university to produce quality data, which in turn helped uphold the data validation and reliability across the educational system in the country.

“Let me put it to you this way, nationally, there are certain data that you have to submit annually to the government and not only to the government, but to the South African Qualifications Authority (SAQA), where they register each person’s qualifications against the National Learner Register. So, you can go to SAQA and say in 20 years’ time, ‘what qualifications did I complete?’ ... They can give you a printout of what you completed. So ... there is an improvement in data validation and data reliability in the last 5 years.” (Participant 1).

DISCUSSION

The increase in student numbers has been facilitated by massification drivers in higher education (Mouton et al. 2013; Castells 2001). The result of such changes has placed greater strain on organisational processes and systems. Institutions have also seen the shift to the utilization of more automated and IT-driven student administrative processes (Hossler and Kalsbeek 2013). This shift from using manual, paper-based enrolment management systems to automated, technological student information systems in higher education is experienced globally (Hossler 2015). These developments have facilitated the establishment of SEMS/SIS. In the university context, these processes have generally become the domain of academic administrators (Baltaru and Soysal 2018; Bassnett 2004). The findings of this research point to the interrelationship between massification and move towards the use of IT to manage SIS/SEMS processes in the faculty of Community and Health Sciences. These changes are also borne out in international contexts (Sebalj, Holbrook, and Bourke 2012). This study reveals how the interrelationship of these factors are the main catalyst for the transformation of the academic administrators’ role into that of knowledge workers (Castells 2001). As knowledge

workers, academic administrators are now regarded as possessing the necessary capabilities to take on data quality and data quality management processes productively and efficiently (Köksal et al. 2011; Soares 2013). The emergence of IT to drive SIS/SEMS are essential to this role shift (Checkland 2012).

As is evident across most local and international higher education institution systems, such information technologies are now dominant across all aspects that track student data in the system, i.e., from initial applications to selections and registrations and beyond (Hossler and Kalsbeek 2013; Jaleel 2014; Hossler 2015). Undoubtedly, it highlights the integrated dependencies of these processes and their capacity to generate volumes of student data. This increased reliance and generation of student data facilitated by these integrated IT systems means that intangible resources of knowledge and skills, as epitomized by the notion of the “knowledge worker”, are becoming more significant (Cai and Zhu 2015). Such reframing has not only stressed the need to refocus and redefine the roles of academic administrators tasked with SIS/SEMS functions, but also place them at the centre of data quality and data quality management practices. The findings confirm similar processes evident in the research site, especially the shifts in work function for academic administrators, as SIS/SEMS processes become part of the daily operations at the university.

The push to recognise academic administrators as knowledge workers requires a complementary need for the professionalisation of this job function (Whitchurch 2008). The findings show areas of tension in a shift towards professionalisation – notably because of increased workloads and the misframing of training and staff development needs for academic administrators. For participants in this study, the increased reliance on SIS/SEMS processes has increased their workloads accordingly, which has led to rising frustration and a particular point of challenge for administrative staff.

The findings also indicate how the unique environment of higher education produces a further area of challenge in the passage to professionalising academic administrator roles, namely the dominance of discourses that position administrators differently than academics. The findings show evidence of these discourses and staff perceptions, and how this acts to stymie the provision of relevant and timely staff development opportunities for academic administrators. While there have been advances towards professionalisation, most notably the establishment of the Association for Academic Administrators; the findings, however, point to continued areas of difficulty and resistance to this ideal (Naidoo 2015). This identifies an obvious area requiring managerial intervention. At the same time, it also suggests the need for advocacy to shift attitudes of academic administrators to embrace their professional role and designation as knowledge workers through the creation of new professional spaces, such as

“expertise in information systems” or SIS, with the focus on data quality and data quality management (Whitchurch 2008, 381). The obvious tension provoked by the reframing of administrators as knowledge workers is the response by academics who have traditionally been the sole recipients of this title. As Szekeres (2004; 2011) acknowledges, historically, academics in higher education have had very little regard for the growth of academic administrators. As expressed by research participants, academic staff are perceived as having more privilege and influence than academic administrators. This assumption is regularly manifested through unequal access to opportunities for career progression and staff development and training.

The interrelationship between the use of IT systems and the ability to maintain high levels of data quality for SIS/SEMS processes is a key insight from this research. While universities have completely embraced the use of such technologies for all student administrative functions, the complexity involved in maintaining data inquiry is often not fully appreciated (Gürkut and Nat 2017). The findings point to how crucial it is that academic administrators have a clear understanding of administrative processes and their relationship to data accuracy. Human error was identified as a major threat to data accuracy. Moreover, the impact of human intervention and its role in compromising data integrity was stressed as important considerations for the data management of student administration. The centrality of academic administrators in these processes was therefore clearly demonstrated in the research, thus supporting Gelbstein’s (2011) assertion of the primary role played by administrators in capturing data accurately and consistently, ensuring its validity.

The leading role played by effective communication in all management functions, especially the pursuit of establishing data consistency, accuracy, and completeness for student administrative systems in the university context was clearly demonstrated in the research findings. The findings show how for participants in the research site, the type of organisational communication, management approaches and style, and governance systems either enhanced or impinged on data quality and management processes. With respect to its role in mitigating uncertainty for academic administrators when performing their work, the findings confirm the views of Castells (2009) and Burnes (2005) who stress the impact of effective communication in promoting positive organisational change and directing success (Kitchen and Daly 2002).

The appropriate management of governance issues were enabling factors that promoted the transition towards an increased reliance on SIS/SEMS processes in the research site. The findings support the role played by the effective introduction of mechanisms to ensure administrator adherence to policy guidelines. In the research site, such measures were able to provide staff with the necessary tools, processes, activities, and principles that could help them understand how the organisational shifts towards stronger reliance on ICTs act as a key means

of achieving organisational goals (Al-Mudimigh, Zairi, and Al-Mashari 2001). The study therefore confirmed the central role played by governance mechanisms as an essential contributor to the improvement of data quality and data quality management at the faculty level.

RECOMMENDATIONS

As information technologies are becoming central to SIS in universities, the need to improve the quality and integrity of this data has become more pressing. The professionalisation of academic administrator roles and functions should be given priority at all institutional levels. Faculty and institutional managers should be at the forefront of advocating for such professionalisation. Administrators should be encouraged and incentivised to join the Association for Academic Administrators.

Specialist staff development and training courses and programmes should be developed that cater specifically for topics that address the SIS/SEMS processes. Specific topic inclusion that address data quality and data quality management processes should be offered alongside more technical skills training.

Policy guidelines and directives that pertain to SIS/SEMS and delineate levels of authority for academic administrators should be clarified. The implementation and advocacy of such guidelines should be mainstreamed at all institutional levels.

CONCLUSION

While academic administrators are at the forefront of processes to achieve this goal, limited empirical attention has been paid to this vital function and how they perceive their contribution to data quality. The empirical investigation sought to address this limitation and used interviews, observational and documentary data sources. The research provides evidence of the impact of massification on the push to increase the reliance on student information systems. The findings also highlight and reinforce the significance of professionalising the role of academic administrators and the importance of timely and relevant staff development opportunities for this staff cohort. While the introduction of SEMS/SIS has had a relatively smooth path at universities in South Africa, the complexity of maintaining high levels of data quality persists. Meeting these challenges are dependent on the skills and foresight of academic administrators and their ability to fully understand and appreciate the vital role they play in data quality management systems. Governance and managerial competency were furthermore found to be essential to improving organizational communication which had the consequence of improving the productivity and efficiency of academic administrators. The investigation was limited to a single faculty at a specific university and the findings cannot be generalized to the

entire South African sector. However, the findings do contribute to and confirm key understandings in the literature, thus offering a degree of internal generalizability. Future areas of research might include a wider sample, but also consider how staff workloads and relevant staff development and training might contribute to improved data quality and integrity. A further research area might place firm attention on the factors that either promote or hinder drives towards the professionalisation of this occupational role and explore how the unique context of the university complements this goal.

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