

Perceived Inhibitors of Innovative E-Learning Teaching Practice at a South African University of Technology

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Abstract

This qualitative study explored the perceived inhibitors of e-learning teaching practice through the experiences of ten academics identified at a university of technology (UoT). Data were collected through in-depth interviews with participants traced through the snowball sampling technique. The interviews were audio-recorded and transcribed verbatim for content analysis through iterative and reflexive procedures. Five inhibitors to e-learning were identified in the study: technical problems, logistical issues, staff resistance to change, absence of e-policy and lack of staff motivation and training. This paper advances the notion that a clear exploration of the significant dimensions that inhibit the successful adoption of e-learning will contribute greatly towards the establishment of mitigating strategies to off-set this undesirable trajectory. The study adds to the body of knowledge in that it elaborates on the implementation of e-learning by identifying the structural and contextual variables that determine its rejection. This will provide management and academics with the impetus to establish policies and structures that minimise these inhibitors. It is also hoped that the study will provide guidance on the management of e-learning-based initiatives among higher education institutions (HEIs) in South Africa.

Keywords: E-learning, adoption, inhibitors, innovative teaching practice, University of Technology.

1. Introduction and Background to the Study

Since the days of Socrates, teaching has largely involved flesh-and-blood instructors lecturing to their students either beneath a tree or in a brick-and-mortar schoolroom. Today, however, through widespread access to the Internet, online education is enabling professionals to learn from afar, keeping pace with technological and managerial changes despite their heavy schedules. This paradigmatic shift has brought with it far-reaching implications for instructional design and pedagogy in universities (Koohang & Harman, 2005).

O'Hearn (2000:29) suggests that contemporary university structures must be adaptable in order to embrace new learning and communications technology, or face the consequence of "limiting students' direct access to global knowledge repositories that have the ability to extend higher education". Indeed, an array of transformational enablers exists to provide academics with adequate motivation for rethinking curricula. These may include globalisation (Varis, 2005), commercialisation and internationalisation of higher education (Shapiro, 2000), the inevitable shift from product-based to knowledge-based economies (Engelbrecht, 2003) and changing student profiles and learning styles (Alexander, 2001).

Garrison and Kanuka (2004) maintain that curriculum transformations that cater for emerging technologies play a pivotal role in the global competitiveness of universities. Supporting this view is the phenomenal growth evident in the integrated usage of information communication technologies (ICTs) in South African higher education institutions (HEIs). This growth has occurred because the traditional lecture is no longer appealing to the digital natives leading a lifestyle that is wired at anytime and anywhere (Czerniewicz & Brown, 2009). Fry (2001) underscores that, if universities are to compete in a global higher education market, they must utilise current technological advancements as a strategic tool,

capable of transforming educational and business practices. Many HEIs find themselves grappling with the threat of being overtaken by competitors. As in the business world, as the market continues to grow, new entrants will offer innovative world-class solutions at low cost, making it impossible for static or complacent providers of higher education to compete (Mapuva, 2009).

Keegan (2003:1) defines electronic (online) learning (henceforth referred to as e-learning) as the "provision of education or training electronically through the Internet", whereas Koochang and Harman (2005) portray e-learning as a confluence between Internet interfaces and software developments that produces education and learning that is ubiquitous and engaging. However, these definitions are limited to the Internet's ability to alter the cognitive abilities of users. Other scholars argue that real learning is an activity that changes one's perceptions and attitudes while simultaneously empowering one with both cognitive and physical skills (Rekkedal & Qvist Eriksen, 2003). In this study we conceptualise e-learning as all forms of authentic web-enabled teaching and learning that actively engage students in the process of knowledge construction.

E-learning has been adopted in South Africa as an inevitable part of progress in spite of the many challenges that are consequential toward its adoption by learners, academics, web developers and university management (Ravjee, 2007). This study focuses on e-learning challenges to full-time academics at a South African UoT.

2. Inhibitors of E-Learning Adoption in HEIs

Research discloses several impediments to academics' participation in e-learning innovations (O'Neill, Singh & O'Donoghue, 2004). While lack of institutional support is a major inhibitor (Czerniewicz & Brown, 2009), Gibbs and Gosper (2006) note that non-integration of e-learning initiatives in a university's overall business strategy, coupled with lack of an e-learning culture, is an e-learning impediment. Additionally, the exclusion of academics from the preview and development of e-learning programmes is itself often a barrier. The findings of Macpherson, Homan and Wikinson (2005) indicate that there is sufficient evidence for the significant role played by an institution's culture and staff members in the acceptance (or not) of e-learning. Laurillard (2004) argued that new ways of learning required new forms of institutional management. In other words, the benefits of e-learning usage are best realised if university management supports a culture of innovative thinking in teaching, learning and assessment (TLA). Undertaking e-learning requires dramatic transformations and commitment by university management to conveying the potential benefits of e-learning technologies to academics (Childs, Blenkinsopp & Walton, 2005).

The attitudes of staff members, organisational inertia and increased staff resistance typically result in colossal resistance and ultimate rejection of the systematic uptake of e-learning strategies by HEIs (Gibbs & Gosper, 2006). These attitudinal variables usually defeat the synergistic efforts of HEIs, leading to an inability to integrate e-learning into the curriculum and to limited co-operation among departments, software developers and facilitators (Childs *et al.*, 2005). Czerniewicz and Brown (2009) cite the absence of bottom-up change driven by e-learning champions or innovators as being the principal disabler of e-learning in institutions. Furthermore, pedagogical strategies which create a climate that resists networking and collaborations can also divert organisations from effective e-learning (Meyer, 2003). In this case, educators may view online learning as a cost rather than an investment.

The shift in teaching content from traditional platforms to Internet communication software often presents challenges and frustrations (Macpherson *et al.*, 2005). The absence of e-content development skills may prevent academic staff from participating in e-learning transformations. Lecturers are no longer mere instructors as they assume the role of content experts, instructional designers, web graphic designers and programmers (Varis, 2005). Some academics lack appropriate skills in integrating e-learning technology with curriculum content and pedagogy and must make cumbersome decisions about which modules or content should go online and how these should be delivered. Moreover, the malfunctions associated with e-learning platforms are usually a source of cognitive dissonance among academics, who may be expected to develop adeptness at troubleshooting problems while offering online instruction (Childs *et al.*, 2005). The problem is further compounded if computers do not respond quickly or information access and retrieval is slow. Coupled with this challenge is the time required to engage fully in the development of active e-learning content. Facilitators become de-motivated when they are not provided with adequate training to enhance their technological proficiency (Meyer, 2001). Thus, the e-learning experience, IT skills and technological robustness are clearly linked.

While there is no reason why e-learning should be less effective than traditional education or existing distance learning (Gibbs & Gosper, 2006), issues of instructional design, technology and pedagogy create tensions between cost and quality that must be balanced for e-learning to contribute to the corporate university framework (Macpherson *et al.*,

2005). Currently, there is evidence that e-learning is providing open and real-time access to a largely generic curriculum, broadening access to a wider constituency, but it is unclear how that is influencing behaviour and strategic contribution; hence the paucity of uptake among higher education institutions.

3. Motivation for the Study

In its Draft White Paper on E-education in South Africa (2003:44), the Department of Education recommended that e-learning should become a "mainstream activity" in HEIs. This recommendation corresponds to the department of education's development plans (2004) for reaching the millennium goal of "*education for all by 2020*". Regardless of these policy structures, real e-learning development beyond projects initiated by HEI innovators has so far been modest (Salmon, 2005). Most institutions are still struggling to engage a significant percentage of students and staff on e-learning platforms, while the few technology champions who may exist are rarely directed toward pedagogical innovation, nor are they sufficiently self-motivated to create radical transformations through e-learning.

The question of why academics decide to reject particular technology is an issue that merits investigation. This study is designed, therefore, to explore the inhibitors of e-learning through the experiences of the academic staff. The authors undertook consultations with academics to assist in determining the variables that influence non-adoption decisions, with a view to condensing these constructs while developing a framework for e-learning inhibitors within the setting of a UoT.

4. Methodology

4.1 Research Design

In accordance with Henning, Van Rensburg and Smit (2004), a qualitative, interpretive research design was adopted for the study in order to solicit detailed information regarding the inhibitors of e-learning. We envisaged that such information would expand our knowledge and understanding beyond what is already known, enabling us to render a detailed account of the experiences of academics and provide clear explanations of their decisions to reject e-learning in spite of its numerous advantages.

4.2 Sample

The purposive sampling method was used to select the respondents with data relevant to the study (Marshall, 1996). The process commenced with a single participant. More respondents were traced through the snowballing technique, ensuring that only participants with the required information were included. New participants were continually brought into the study until, after ten participants, no new information was being added. This signified completeness of the data-collection process (Charmaz, 2003; Groenewald, 2004; Henning *et al.*, 2004).

4.3 Research instruments and data collection

Semi-structured interviews were used to collect research-specific data. The process of the qualitative interviews entailed preparing the interview guide based on the research questions, getting acquainted with the interviewee, the actual interview sessions and recording of the interviews (David & Sutton, 2004). The interviews were conceptualised as planned social interactions between equals (interviewer-interviewee). This created a relaxed atmosphere of trust between the interviewer and participants, enabling the latter to provide the best narration of their experience, thoughts and feelings with regard to e-learning inhibitors.

The interviews were documented through audio-recordings and notes for further analysis. Field notes formed part of the data and not only served as a measure of triangulation, but were also used to record interviewees' facial expressions and ease (or uneasiness) during the interview sessions. Such mannerisms were compared with the participants' responses and used during data analysis to detect any mismatch between the respondents' words and non-verbal cues. Field notes were also used during the coding process to record the products of coding, further explore the codes, establish the relationship between categories and identify gaps in the constructed categories (Dooley, 2002; Charmaz, 2003).

5. Data Analysis

Data were iteratively and reflexively analysed (Srivastava & Hopwood, 2009). Following the procedures of a qualitative investigation, as suggested by Henning *et al.* (2004) and Ezzy (2010), data were organised and rearranged. The audio-recorded interviews were transcribed verbatim. The researchers listened to each audio-taped interview, re-read the transcripts several times, line by line, ensuring familiarity with the data and further determining data quality (Hopkin & Lee, 2001; Holliday, 2007). Moreover, constant reference was made to the research questions to keep the analysis focused. The data were then compiled, labelled, separated and organised through a process called coding.

Phrases and words pertinent to answering the research questions were identified. Phrases that carried similar or related meanings were grouped together. Each group of related phrases was then labelled with a single phrase capturing the gist of the phrases. (Belawati & Zuhairi, 2007; Hopkin & Lee, 2001). During the data analysis, the researchers were guided by what the data conveyed, what the researchers wanted to know and the dialectical relationship between what the data was telling them and what the researchers were investigating. This served to align the data analysis procedure with the research objectives, refining the focus of the investigation while linking it to the research question (Srivastava & Hopwood, 2009).

5.1 Credibility

Maritz and Visagie (2010) indicated that research credibility is about truth-value and truth in reality. Accordingly, a coherent description explaining and justifying the choice of the research method and techniques employed to collect and analyse the data was provided (Morse, Barrett, Mayan, Olson & Spiers, 2002). A clear and defensible link was provided for each step of the research from the raw data to the reported findings. We further presented information coherently and interpreted it in light of the empirical findings, avoiding personal assumptions and pre-conceived ideas that could influence the outcomes of the research (Creswell & Miller, 2000).

5.2 Ethical considerations

Ethical clearance was obtained through the Ethical Research Committee of the UoT, under whose auspices the study was conducted. Participation in the study was voluntary and respondents were free to withdraw at any stage without victimisation. None withdrew, however. Informed consent was obtained by revealing the purpose of the investigation to all participants in writing and verbally. Assurance was given to participants that they would remain anonymous and the collected data would not be used for any purposes other than to "advance scholarly research and improve academic practice" (Shammo & Resnik, 2009).

6. Results and Discussion of the Findings

Data were collected from ten participants, code-named R₁ to R₁₀. The respondents believe that adopting ICTs within HEIs is inevitable as digital communication and information models become the preferred means of storing, accessing and disseminating information. However, the academics' voices were beset with undertones of under-preparedness with regard to teaching within a blended learning domain and using e-learning platforms without the necessary facilitating conditions.

From the interviews it emerged that the LMS system would often break down (*technical problems*) or that the process of registering to use the system at the UoT was cumbersome (*logistical issues*). It further emerged that using e-learning was a de-motivator for an academic populace not trained to use it (*lack of motivation and training*). Furthermore, the interviewees indicated that the academics were often unable to make use of e-learning since there was no management support or clear e-policy (*absence of e-policy*). Consequently, most of the academics were attached to the traditional way of teaching (*resistance to change*). Table one exhibits the five major themes, subthemes and operational definitions developed in the study.

Table 1: Themes, subthemes and operational definitions for the study

Theme	Subthemes	Operational Definitions
Technical problems	<ul style="list-style-type: none"> No compatibility between the LMS with large student numbers Poorly designed LMS content (software) Absence of skilled IT personnel Software licensing challenges Copyrights and plagiarism management problems Inadequate computers on campus (hardware) Internet failures 	Inevitable technological and support-based malfunctions on e-learning platforms
Logistical issues	<ul style="list-style-type: none"> Institution-wide inertia Red tape Lack of e-learning integration across the curriculum LMS accessibility anomalies 	Macro-level anomalies related to management, flow of resources and e-learning administration at the UoT
Lack of motivation and training	<ul style="list-style-type: none"> Limited (if any) awareness of activities directed at promoting e-learning Absence of top-down communication regarding e-learning Absence of e-learning competence training programmes for staff members 	The absence of developmental training on e-learning dispels academics' impetus to adopt the instructional learning tools
Absence of e-policy	<ul style="list-style-type: none"> Limited e-culture support from management No clear e-learning vision and mission No e-learning policy No e-quality assurance strategy 	The absence of institutional policies, documents, structures, statements and budgets
Resistance to change	<ul style="list-style-type: none"> Conservativeness of academics Fear of the unknown Resistance to change Staff inertia 	Unwillingness and unpreparedness of staff to adopt e-learning technology to advance TLA activities

6.1 Technical problems

In cases where e-learning was utilised, users complained that the network was extremely slow and that the university experienced constant Internet service disruptions. This not only disrupted the teaching and learning process, but also made it extremely difficult to download web content. Other technical hindrances to the use of e-learning included installation problems, slow connection, maintenance challenges, constricted LMS software content, copyrights and plagiarism management problems, coupled with e-security challenges (Childs *et al.*, 2005). This finding concurred with the observation of Campanella *et al.* (2008) that unforeseen technical problems may compromise e-learning adoption among HEIs.

Respondents further indicated that simultaneous accessing of the institution's LMS by large numbers of students often caused system overload, leading to Internet server crashes, greatly inconveniencing both the students and the lecturers. It further emerged that, while several technical problems were experienced, the UoT scantily had dedicated IT personnel at its disposal, to respond swiftly to these technical anomalies, much to the frustration of academic personnel. The words of R₉ epitomise the respondents' majority view:

R₉ "Sometimes I feel that I shouldn't use the LMS because an increase in workload and student numbers causes the server to crash"... [and]... "there are no dedicated and responsive IT personnel to fix the system."

Another key technical issue relates to inadequate functionalities on the LMS used by the UoT. Proprietary software programs such as Blackboard and Web CT are awash with diverse functionalities to foster effective TLA whereas other non-proprietary (open-source) software programs such as Moodle, Sakai and KEWL tend to be limited. In the words of R₆,

R₆ "There are inadequate functionalities and features on the e-learning system."

However, despite the technical challenges cited by faculty members, respondents indicated that e-learning systems were better received by the IT, engineering and graphic design departments than by management-based disciplines. This finding accords with O'Connell (2002), who proposes that academics from non-technical backgrounds

and those more accustomed to face-to-face learning environments usually experience problems integrating course material into e-learning platforms. Similarly, Holley (2002) suggests that e-learning initiatives are more compatible with the curricula of practical-based subjects rather than theory-based modules. Indeed, respondent R₆ in the faculty of management sciences, explaining his lack of enthusiasm for e-learning, stated:

"E-learning initiatives are not very useful for me because I do not offer practical assessment in my subjects"... [and]... "I only use e-learning for non-modular content such as announcements, chats and information services."

Additionally, R₂ from the engineering department, echoing the sentiments of R₃ and R₄ from the IT and graphic design departments respectively, indicated that, in spite of the challenges he faced in using e-learning, subject content in engineering and drawing subjects lent itself to e-learning.

6.2 Logistical issues

Logistical issues were cited as a major deterrent to the adoption of e-learning at the institution. The respondents indicated that staff members were unable to use e-learning without going through a cumbersome and time-consuming registration procedure. While the faculty members were reluctant to go through the registration process, those already registered were discouraged from using the system because of lack of IT support coupled with the paucity of e-support material (Childs *et al.*, 2005). To further exacerbate the e-learning implementation problem at the UoT, almer mater was not registered online timeously, as the university could not access the LMS until mid-semester every year. The participants' concerns were captured by R₅, who stated that:

"...there are tedious registration problems before an academic can obtain access rights on the LMS... as a lecturer I feel that I have limited accessibility rights on the LMS"... [and]... "some students may be omitted from the e-platform if there is incongruence between the institution's online system and student enrolment services."

Furthermore, a majority of the respondents voiced concern about the lack of collaboration between academics and online enrolment services personnel. Noble (2002) suggests that departmental synergies and university buy-in are necessary to ensure that both learners and staff members are enrolled on the online platform and obtain uninterrupted access to the LMS.

6.3 Lack of motivation and training

The importance of training and development has been highlighted by Schuler and Jackson (2006), who view these as initiative tools that can be employed to enhance the knowledge and skills necessary for e-learning effectiveness. They emphasise that for these initiatives to bear fruit, motivation of the incumbents is of paramount importance. Volery (2000) maintains that technical proficiency is of little value unless the academics conceive satisfactory means to utilise e-learning. Some of the respondents admitted that they possessed limited knowledge about e-learning and its contribution. This was a very interesting finding since e-learning aptitude plays a fundamental role in providing the impetus for academics to utilise e-learning in their teaching practice (Meyer, 2001). Suffice it to say, the academics who were computer proficient demonstrated greater confidence and perceived ease of e-learning use. In contrast, respondents with minimal skills were reluctant to use e-learning, as highlighted by R₁₀:

"I am expected to use online learning tools yet I have not been trained in what the e-learning platform can help me to achieve in terms of teaching and assessment."

This finding accords with Rekkedal and Qvist Eriksen's (2003) assertion that lack of skills and IT competencies contribute significantly towards the non-adoption of e-learning. Charlesworth (2002) adds that contemporary lecturers are not resistant to training in the use of technological applications; they are simply confused as to how to integrate the tools in their formal teaching methods. In a finely balanced e-learning process, inadequately trained lecturers can become an obstacle, leading to problems in perception, application and usage (Volery, 2000). Training of staff should therefore be seen as an invaluable motivational tool for enhancing the confidence of academics in e-learning. Proficient training includes both technical and conceptual issues, and, if executed correctly, will generate increased support for e-learning (Shapiro, 2000).

Similarly, Macpherson *et al.* (2005) observed that appropriate skills and ability to use e-learning platforms generate

increased user satisfaction, closely related to active participation and commitment. Without understanding the importance of a particular technology and its contribution to the achievement of goals, successful integration of technology is difficult (Meyer, 2001).

6.4 Absence of e-policy

Mapuva (2009) discusses the absence of institutional leadership that channels HEIs towards e-learning adoption. The success of e-learning implementation depends on the institutional structures (created by institutional leaders) aimed at improving the effectiveness of pedagogical methods that lecturers use in disseminating material to learners through technological innovations. E-policy documents are indispensable tools through which institutions can avoid a laissez-faire proliferation of e-learning activities lacking a planned, developmental e-learning framework (Czerniewicz & Brown, 2009). These documents include systematic TLA e-documents, strategic documents, e-quality assurance documents and manuals that guide university processes towards uptake of ICTs (Department of Education, 2004). The institution under review is currently establishing e-learning policy documents for the first time since its re-organisation from a technikon to a UoT in 2004.

Some respondents highlighted the importance of appointing faculty-based e-learning managers dedicated to tailoring the e-learning packages to discipline-specific needs and regularly updating faculty documents and e-policies. The university is currently pursuing a strategic mission that integrates ICT usage in TLA, but has not established core institutional policies on ICT usage or specific faculty-based IT managers. Some participants have noted that this apparent absence of frameworks governing the use of e-learning has often hindered the adoption of e-learning technologies by academics at the UoT.

Moreover, some academics believe that management's decision to exclude them from the policy development process leads to a contestation against the adherence toward e-learning (Sesemane, 2008). Academics feel that they are being coerced by management directives into adopting e-learning, often leading to flawed pedagogical practices that service the e-technology rather than facilitating learner progression (O'Neill *et al.*, 2004). This has left staff perplexed as to the prospects of achieving their teaching and learning objectives. Consequently, the absence of e-policies and the corresponding exclusion of staff members from their development have almost certainly resulted in the *ad hoc*, fragmented and uncoordinated adoption of e-learning at the institution. Supporting this notion, R₇'s responses best epitomised the frustrations of the other respondents in this regard.

"Students and staff members are thirsty for e-learning but the haphazard (lack of e-policy) implementation and support structures are a problem"... [and]... "I wish we could have an e-learning manager to help us within our faculty."

6.5 Staff resistance to change

The dilemma of staff attitudes impinging on the uptake of e-learning cannot be understated in this study. Ravjee (2002) asserts that commitment and a positive attitude towards e-learning by lecturers helps to create an environment conducive to the successful implementation of e-pedagogy, which would subsequently also yield positive results for students. Many universities in developing countries have been the worst hit by technological innovations, given their deeply entrenched traditional pedagogical experiences based on "talk-and-chalk" teaching methods (Mapuva, 2009). This inherent resistance to and lack of experience with ICTs usually initiates a series of reactions among academics, including ambiguity towards future technology strategy. These sentiments were captured by participant R₃ and echoed by R₉:

".....I am comfortable with my (traditional) way of teaching."

"I would not want to move from one teaching method to another because the face-to-face contact is working very well for me."

Academics at the UoT tend to value the physical brick and mortar contact with their students and, therefore, view technology as just another aid to teaching and learning (Ravjee, 2007). This attitude, coupled with their lack of knowledge of online teaching, inevitably contributes to their lukewarm reception of e-learning at the institution.

The respondents further indicated that the duality of job roles involved in using e-learning often contributed to their decisions not to adopt e-learning. For instance, although not experts in IT, the respondents revealed that they performed the roles of technical experts, content developers and IT technicians simultaneously. These multiple roles not only robbed them of their teaching time but also considerably increased their workload, contributing negatively to their

performance (Childs *et al.*, 2005). The respondents concluded unequivocally that e-learning technology was too intimidating and time-consuming to use. In R₆'s words:

"E-learning is time-consuming... the lecturer is expected to perform the roles of technical specialist and content developer"... [and]... "with e-learning everything is the responsibility of the lecturer."

The restructuring of course designs, reduction in autonomy, administrative monitoring and increased teaching time (for chat rooms, discussion groups, e-mail, virtual office hours) often rob academics of control over their working lives, the product of their labour and, ultimately, their means of livelihood (Noble, 2002). This inadvertently leads to inertia in implementation of innovative technologies for TLA. The authors contend that it is the duty of university management to remedy the attitude of academics towards e-learning by providing adequate technology support and training.

7. Recommendations and Implications for Future Study

In light of the findings of this investigation, it is recommended that institutional leadership direct its focus to e-learning solutions and, where possible, support blended learning strategies, e-skills training and development in order to empower academics. There is a need to launch e-learning awareness programmes, which should be implemented in line with management-driven e-quality assurance strategies.

Care must be exercised in developing institutional policies that recommend e-learning interventions. Merely providing ongoing e-learning training for academics is insufficient. It is imperative that academics are exposed to current literature on e-learning to avoid erroneous perceptions that e-learning could replace teacher interaction with students and to avoid making unrealistic demands on students based on the assumption that all students are technologically literate. The social context of academics and the expertise of both staff and students should therefore be considered before adopting e-learning in the curriculum.

The authors also envisage an important role for IT support personnel in developing e-learning through providing support and support materials; training, managing and providing access to online resources; and developing e-learning packages for academics. Ultimately, collaboration between content, pedagogy and technology is fundamental prior to the full integration of e-learning across the curriculum. Institutional policies should focus on scenarios where e-learning can be used with consideration for the needs of both academics and students. Future studies can identify the importance of institutional leadership as a key driver of e-learning uptake by academic staff.

8. Conclusion

This qualitative study explored the inhibitors of e-learning through the experiences of academics at a UoT. It emerged that, despite the evident benefits of e-learning, academics had misgivings over the uptake of e-learning technologies. The respondents were unanimous in thinking that e-learning is an appropriate method of conducting TLA activities although it presents several challenges, of which five are most prominent: technical problems, logistical issues, lack of training and motivation, absence of e-policy, and staff resistance to change. It is the authors' conviction that the systematic consideration of these inhibitors will contribute greatly to opening up a forum for academic and managerial discourse on the most practical measures for alleviating the identified problems, while effectively realising the benefits of e-learning in the UoT.

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