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The Perceptions of Research Supervisors on the Academic Rating Index (ARI) in Transforming Postgraduate Supervision at Selected South African Universities

Brian Majonga[1]

48392855@mylife.unisa.ac.za

University of South Africa

Marcia Mkansi[2]

University of South Africa

Research Article

Keywords: Research supervision quality, UTAUT, 7Cs Framework, Academic Rating Index, Digital transformation

Posted Date: November 11th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11396684/v1

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Additional Declarations: Competing interest reported. The authors declare that they have no financial or commercial competing interests in relation to this study. However, the second author co-developed the Academic Rating Index (ARI), which is at the centre of this study and is affiliated with the institution where the study was conducted. The study also formed part of a supervised degree programme at the same institution. We are disclosing these relationships to ensure transparency. They do not constitute a competing financial interest. The authors are aware that the second author's role in creating the ARI and their institutional link could have affected how participants viewed the study. This was addressed by ensuring that the second author was not directly involved in the data collection process. Secondly, only UNISA was mentioned as the developer of the tool. Participation in the study was voluntary, and participants were clearly informed about the purpose of the study, possible risks, and the option to withdraw at any time. The participants were not promised any incentives for participation. The researchers used a semi-structured interview guide and encouraged participants to provide both positive and critical opinions of the ARI. The researchers paid attention to their personal beliefs about the usefulness of the ARI system so as not to interfere with coding and thematic analysis. A credible qualitative data analysis system (ATLAS.ti 24) was used for coding and analysing the data, ensuring that the evidence spoke for itself. Nevertheless, the authors concede that total complete separation from the research context was impossible. Therefore, this positionality is explicitly recognised as a consideration in interpreting the findings.

Abstract

This qualitative study employed the UTAUT model to investigate the adoption of the Academic Rating Index (ARI) as a tool for enhancing research supervision quality, as perceived by research supervisors at selected South African universities. Data were collected through semi-structured individual interviews with 10 research supervisors at two residential universities in South Africa, recruited using purposive and snowball sampling. The data were analysed thematically using ATLAS.ti-24. Performance Expectancy and Effort Expectancy showed potential to influence research supervisors' acceptance and use of the ARI. Social Influence had a limited impact. Participants perceived the ARI as a valuable tool for reflection and improvement in research supervision because of its comprehensiveness, accessibility, simplicity, and clarity, but it required power and stable internet connectivity. Any potential negative effects of the ARI could not outweigh its benefits, especially the improved quality of research supervision. Participants expressed a strong willingness to adopt the ARI, provided their universities implemented it and created conditions that encouraged its use. The strength of Facilitating Conditions depended on the sustained availability of electricity and stable internet, the anonymity of ratings, and training. This study reinforced the UTAUT's application in the area of evaluation and feedback systems in higher education, particularly research supervision. The research shows that the adoption of the ARI can improve supervisory relationships, influence supervision policies, and reinforce the digital transformation agenda at the selected universities. It is recommended that future research involve a larger, more varied sample from multiple institutions, including students, research managers, and IT staff to provide insights into the ARI's effectiveness and the ethical issues arising from its use.

Introduction

Universities continue to face persistent challenges in developing postgraduate students' research skills, partly due to shortcomings in the quality of supervision (Alshehri, Rutter, & Smith, 2019). Research supervision is not a marginal component of postgraduate education. Instead, it is the fundamental means of ensuring that postgraduate students develop research competency and academic independence. Consequently, weak supervision has far-reaching implications student experiences as well as the institutional throughput rate, research output, and reputation.

Research supervision quality is influenced by diverse factors which may be student-, supervisor-, or institution-related. Student-related factors include prior knowledge, sincerity, commitment, socioeconomic conditions, communication skills, and time management (Ghadirian et al., 2014). Institutional conditions encompass cooperation, availability of guidance and support, budget, infrastructure and facilities (Puri, 2023). Supervisor-related factors such as disciplinary and research expertise, approachability and keenness in student development (Nair, Bothra & Nair, 2025) also influence supervision quality. Not paying attention to these variables may result in weak communication, low motivation and poor research project management.

According to Mahlangu (2021), some universities do not have enough doctoral-level staff to supervise postgraduate students, creating challenges in pairing students with suitable supervisors. Consequently, students get assigned to novice supervisors who lack the necessary expertise in their specific academic field or research methods. Such circumstances compromise the quality of postgraduate research, hamper students' academic development, demotivate students, delays progress, and ultimately diminish the institutional research output. The supervisory relationship significantly influences academic success, affecting completion rates, attrition, and overall students' satisfaction with their programme (Schmidt & Hansson, 2023). Furthermore, a strong and reliable supervisory relationship is essential for a distinctive research supervision process (Murararaneza et al., 2020; Ngulube, 2021). Conversely, negative or dysfunctional relationships often emerge from supervisor-student expectation gaps, where the parties have divergent priorities and understandings of the supervisory process (Schmidt & Hansson, 2023), and they dampen morale in the research environment.

Despite the critical role of supervision in postgraduate education, sustaining quality supervision continues to be a significant institutional challenge. Constraints include limited supervisory time, a lack of trust and a shared understanding of the purpose of the supervisory relationship, and scarce ongoing support and engagement from leadership (Rothwell et al., 2021). The challenge is exacerbated by inadequate preparation of postgraduate supervisors, issues within the supervisory relationship, and student-related difficulties (Helfer & Drew, 2019; Tlali et al., 2022). For novice supervisors, the inadequate preparation can mean simultaneously learning to supervise while attempting to teach research skills to their students, creating a "parallel learning" process that can compromise the quality of student research supervision (Mhlongo, 2024). Moreover, universities' drive to rapidly expand postgraduate supervision can result in early-career academics assuming supervisory responsibilities before they have developed sufficient conceptual, methodological and pedagogical expertise (Maistry, 2017).

That being said, the research supervision arena is devoid of a universal code of conduct to guide and standardise research supervision (Tangen, DiAnne-Borders & Fickling, 2019). In the absence of such common standards, supervisory practices may become highly dependent on individual supervisors, disciplinary cultures, institutional practices and informal norms. This creates considerable variability in students' supervisory experiences, both within and across institutions. These inconsistencies present significant quality assurance challenges because students undertaking comparable postgraduate qualifications may receive considerably different levels and forms of academic support.

Access to timely, consistent, and appropriate supervisory support is a fundamental determinant of research success. Evidence indicates that some supervisors are insufficiently prepared for the demands of postgraduate supervision, continue to rely predominantly on traditional face-to-face practices, and provide feedback that may be inconsistent in quality, timing, and usefulness (Murararaneza, Mtshali, & Bvumbwe, 2020). Untrained supervisors often depend on personal experience rather than established supervision theories (Richards & Fletcher, 2020). Misaligned assumptions and unclear expectations further complicate supervisor–student interactions, especially as students typically have little say in supervisor selection or the way the supervisory relationship is conducted (Thomas, Packer & Dolan, 2024). Heavy academic workloads, committee obligations, limited supervisory experience, and insufficient office hours restrict availability and constrain supervisors' capacity to provide sustained mentorship (Pather, 2023). Inadequate incentives and burdensome administrative duties can similarly reduce the time and institutional capacity available for meaningful educational and research support (Abulsaoud, 2020).

Collectively, these conditions demonstrate that improving postgraduate supervision requires more than increasing the number of supervisors; it requires systematic mechanisms for establishing, monitoring, evaluating, and continuously improving the quality of the supervisory relationship.

Several strategies have been suggested to mitigate the challenges bedevilling the research supervision arena. These include establishing written supervision agreements and explicit expectations at the beginning of the supervisory relationship (UK Council for Graduate Education (UKCGE), 2024), managing caseloads and strengthening institutional clarity regarding supervisory responsibilities (Krumsvik et al., 2024), building wellbeing into supervision meetings and know campus mental-health resources; quality relationships buffer stress (Mavrogalou-Foti, Kambouri & Cili, 2024), training supervisors in emotion regulation, feedback and difficult conversations (Han, Jin & Yin, 2025), formalising research-integrity and providing authorship training (Van den Hoven & Van Loon, 2023), and promoting inclusive supervision practices (Bach, Armstrong & Jones, 2023). Although these interventions address essential dimensions of supervisory quality, they are not specifically designed for postgraduate students to evaluate and communicate their experience of supervision. This is a critical shortcoming because postgraduate students are not simply recipients of supervision, but active participants in an interactive and developmental process in which the quality of communication, feedback, academic support and supervisor accessibility directly affect their research journey. Beyond guiding supervisors, a systematic student-centred instrument through which key dimensions of supervision can be evaluated, reflected upon, monitored, and improved over time is imperative.

Existing higher-education quality instruments provide an important foundation for evaluating educational service quality (Al-Tit & Almohaimmeed, 2022). Such instruments include SERVQUAL (Parasuraman, Zeithaml & Berry, 1988), the HiEdQUAL (Annamdevula & Bellamkonda, 2016), Tripod's 7Cs (Ferguson & Danielson, 2014), COURSEQUAL (Vajda, Farkas, & Málovics, 2015), and the HEdPERF (Rodríguez-González & Segarra, 2016). Nevertheless, the applicability of these instruments to postgraduate research supervision is limited. For example, HiEdQUAL evaluates broad dimensions of higher-education quality, including academic excellence, administration, library functionality, supportive services, and career opportunities, rather than specifically measuring the quality of the research supervision relationship (Handayani et al., 2021). Such broad quality-service instruments may not adequately capture the distinctive relational, developmental, and research-specific dimensions of postgraduate supervision. Pertinently, these conventional approaches do not provide an integrated digital mechanism specifically designed to support continuous evaluation of research supervision.

In view of the shortcomings of these models the University of South Africa Academic Rating Index (ARI), a digital supervisor rating tool that builds on earlier conceptual frameworks, particularly the Tripod's 7Cs Framework. Mkansi, Mokole, and Akenroye (2024) describe the ARI as a comprehensive digital supervision evaluation tool that integrates techniques from the Fourth Industrial Revolution (4IR) technologies and time-driven activity-based costing (TDABC) to support more efficient assessment and monitoring of supervision activities. Thus, the research process is tracked from start to completion.

The significance of the ARI therefore lies not merely in digitising an existing evaluation process, but in establishing a structured mechanism through which the quality of postgraduate research supervision can be made more visible, measurable, and responsive to the experiences of research students. The ARI evaluates supervisor performance against the fundamental elements of the Tripod's 7Cs Framework, namely Care, Confer, Captivate, Clarify, Consolidate, Challenge, and Control. An overview of how the questions in the ARI are posed and the categories and indicators they fall under is shown in Table 1. The indicator represents the high-level intent the question aims to assess, and the category is the family of association within the 7Cs framework (Mokole, 2021).

Table 1: Overview of the ARI App (Source: Mokole, 2021)

Category	Indicator	Sample Question
Care	Building relationships	Is the supervisor courteous, mindful, and rational with all students?
	Addressing learning needs	Does the supervisor sustain an academically and candidly secure environment?
Captivate	Designing stimulating lessons	Is the supervisor responsive to students' interests, backgrounds, and questions?
	Facilitating active participation	Does the supervisor utilise diverse strategies to enhance interaction among students?
Challenge	Pressing for rigorous thinking	Does the supervisor probe students to think critically?
	Pressing for quality work	Does the supervisor press for high-quality work and growth in their self-confidence?
	Pressing for persistence	Does the supervisor constantly require all students to engage?
Clarify	Explaining clearly	Does the supervisor adequately explain key concepts and use relevant examples where necessary?
	Checking for understanding	Does the supervisor regularly ascertain understanding by asking questions and reviewing students' work
	Providing constructive feedback	Does the supervisor give precise, rich input to students' work in line with the guidelines and criteria for su
Consolidate	Reviewing and summarising	Does the supervisor review and summerise session discussions and underscore connections among tho
	Connecting ideas	Does the supervisor explain associations between current and previous lessons, thoughts, and concepts
Confer	Respecting perspectives	Does the supervisor collaborate with students to create a learning environment that permits expression c
	Promoting discussion	Does the supervisor avail opportunities for students to contribute their thoughts toward the supervision p
	Inviting input	Does the supervisor allow students to contribute their perspective of how they want to learn?
Control	Managing activities	Does the supervisor elucidate, demonstrate, and potray routines and methodologies to organise the rese
	Managing behaviour	Does the supervisor elucidate, demonstrate, and potray routines and measures that educe positive stude

A caring supervisor shows concern for students' issues, captivating them by inspiring curiosity and interest (Afzal & Rafiq, 2022). To confer and consolidate, the supervisor should invite students' ideas, integrate them, and promote discussion to deepen understanding (Phillips, Ferguson & Rowley, 2021). The supervisor is also expected to clarify concepts to minimise confusion. The supervisor should also challenge students by inculcating the means of handling new ideas in critical situations, while at the same time exercising control over the group of students whom he/she is responsible for by correcting waywardness and reinforcing expected behaviour (Afzal & Rafiq, 2022).

The instrument uses a five-point Likert scale with qualitative comments, combining quantitative ratings with student-generated explanatory feedback. Using the Wilson score equation, the scores are calculated across three levels, namely category level, indicator level, and the entire framework level and aggregated to provide an overall indication of supervisory performance (Mokole, 2021). The advantage of using the Wilson score interval is that it never produces impossible bounds below 0 or above 1, and maintains accurate coverage probabilities even with extreme data or small sample sizes (Mokole, 2021).

The accompanying comments provide contextual information that can assist in interpreting the numerical ratings through sentiment analysis. Sentiment analysis refers to the use of natural language processing to decide if a piece of text contains emotional data and the sort of abstract information it communicates into neutral, positive or negative opinions (Zhang, Wang & Liu, 2018). It follows that behavioural context can be extracted from an assortment of words, documents, or sentences, and accurately classified using natural language processing techniques (Mokole, 2021).

Therefore, the ARI functions as a supervision quality benchmarking tool for universities, a reflexive tool for supervisors, and a voice and microscope for postgraduate students (Mkansi et al., 2024). It enables the allocation of scores that rate the supervisor and accurately approximates the behaviours and preferences of a general population or sample data. Compared to the instruments mentioned earlier, the ARI benefits from being embedded within the supercomputer and its algorithmic power, which processes and aggregates the global ratings of a supervisor throughout their academic career (Mkansi et al., 2024). The system provides a real-time channel for feedback, review, and sentiment analysis between postgraduate students and supervisors. It helps improve supervision quality by aggregating ratings a supervisor receives from the postgraduate students under their supervision over a given period to identify areas of improvement and their strengths as well.

However, acceptance of the ARI by researchers has not been ascertained. Like any other technology, the effectiveness of the ARI can only be determined once it is accepted by the intended users (Jiang et al., 2024), in this case, research supervisors. Therefore, this study, which is underpinned by the UTAUT model, aimed to capture the perspectives of research supervisors in South Africa regarding the ARI as an instrument to enhance supervision service quality. Specifically, the study sought to answer the questions: How do supervisors perceive the ARI as a tool to enhance research supervision quality? How do research supervisors perceive the difficulty of using the ARI system? How would the research supervisors respond to perceived social influence towards their acceptance of the ARI? How do research supervisors perceive the conditions in their universities to facilitate their acceptance of the ARI?

Theoretical framework

This study employed the Unified Theory of Acceptance and Use of Technology (UTAUT). The UTAUT model was developed in 2003 by Venkatesh et al. (2003) through a systematic evaluation and integration of the concepts from previously developed models including the Theory of Reasoned Action (TRA), the Theory of Planned Behaviour (TPB), the Technology Acceptance Model (TAM) and the extended TAM (ETAM), the Motivational Model (MM), the Social Cognitive Theory (SCT), the Diffusion of Innovation Theory (DoI), and the Technology-Organisation-Environment model (TOE) (Lai, 2017; Sergeeva et al., 2025). The integration of these prominent theories in the UTAUT model has significantly enriched the literature by providing an empirical understanding of technology acceptance, thus preempting conflicting or limited viewpoints on the subject (Marikyan & Papagiannidis, 2023). For example, TRA overlooks cognitive biases, TAM ignores the social influence on adoption of technology, SCT chiefly focuses on usage, performance and adoption issues, while some models like DOI prioritise system features over practical outcomes, lacking clear definitions for their variables (Nyimbili & Chalwe, 2023; Sergeeva et al., 2025).

Figure 1 depicts the structure of the UTAUT framework. In the UTAUT model, four core constructs–performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FCs) are essential in influencing individuals' intentions to adopt a technology, subsequently impacting their actual usage behaviour (Sergeeva et al., 2025). The model also has four moderators: age, gender, experience, and voluntariness (Duarte & Pinho, 2019). Through extensive validation and application in diverse technological settings, the model displays its efficacy in predicting technology acceptance.

PE denotes how an individual user perceives technology as assisting him/her to complete their tasks, while EE denotes the ease of use of a system (Tamilmani, Rana & Dwivedi, 2020). SI represents the value of other people's opinions on the benefits of using the new system, and FC represents how an individual perceives the availability of technical and organisational infrastructure as supporting the use of the technology (Puriwat & Tripopsakul, 2021). However, as reported by Batunan et al. (2022); Sangeeta and Tandon (2021), well-established infrastructural support in educational institutions can enable behavioural intention, particularly about new technologies.

According to Bayaga and du Plessis (2024) and Pagán and Hernandez (2021) SI, FC, and PE possess significant influence on the intention of higher education lecturers to use LMSs. PE has often stood out as the most dominant predictor of behavioural intentions to adopt technology in educational settings (Hakimi, 2023; Fearnley & Amora, 2020). To that effect, Kim, Chun & Lee (2014) urged policymakers and practitioners to focus on the usefulness of innovations, specifically in terms of the benefits obtainable through their utilisation to stimulate faster adoption. Almaiah, Alamri and Al-Rahmi (2019) applied UTAUT in their study and found that EE was impactful in the adoption of learning-related technology, especially at the university level. However, Pagán and Hernandez (2021) revealed a subdued impact of EE on lecturers' acceptance of Moodle, which could have been linked to design factors, accessibility, or interactivity of the system. Although the participants in the current research had their initial interface with the ARI courtesy of this study, their perceptions of the effort required to use the system were vital in determining its acceptance.

Contrary to the findings of Venkatesh et al. (2003), Sukandi & Ariyanti (2022), and Zwain (2019), which confirmed the importance of social influence in technology acceptance, other researchers, such as Bervell & Umar (2017), Gunasinghe et al. (2020), Abbad (2021), and Osode, Lautenbach & Goto (2024), have reported different results. Studies by Im, Hong & Kang (2010), Elangovan et al. (2021), and Ndebele and Mbodila (2022) report that FC significantly influences the use of educational technology. The importance of the relationship between FC and Use Behaviour calls for essential equipment, legislation, regulation, support, and commitment to ICT-based teaching (Kim et al., 2014). Similarly, having such conditions at the selected universities would encourage acceptance of ARI. When the surrounding environment is supportive, users are more likely to be motivated to use it (Abbad, 2021). Therefore, these conditions help reduce the perceived burden of using technology.

Methods

This qualitative study explored the adoption of the ARI by research supervisors at two universities in South Africa. The study was underpinned by constructivist philosophy. Constructivist researchers seek to understand the subjective world of human experience (Guba & Lincoln, 1994). Constructivism enabled us to capture supervisors' perceptions of being evaluated by their students using the ARI. We adopted an exploratory research approach, drawing participants from various faculties of two universities in South Africa, to examine their acceptance of the Academic Rating Index (ARI). Exploratory research gives researchers flexibility and helps establish a foundation for further research (Saka, Osademe & Ononokpono, 2023). One of the selected universities had a postgraduate student enrolment of 3,109 and 854 academic staff members, 330 of whom hold doctoral degrees. The other university had 1,581 postgraduate students and 257 academic staff members. Research supervisors at both universities are based at their respective campuses, while research students only visit for consultations, meetings, and seminars. Universities worldwide are engaged in digital transformation initiatives to optimise systems and processes, enhance student services, improve the student experience, and increase administrative efficiency, thereby creating a digitally enabled academic and corporate environment (Dhameria et al., 2025). This trend applies equally to the two universities examined in this study.

Data collection

Participants' perceptions were collected through semi-structured individual interviews. Magaldi and Berler (2020) characterise semi-structured interviews as exploratory sessions guided by a framework, usually centred on the main topic and outlining an overall pattern. A protocol consisting of 14 questions, derived from the UTAUT questionnaire (Venkatesh, 2003), was created and pilot-tested with three colleagues before full-scale data collection. Pilot testing helps to refine the research design, develop and test data collection instruments, identify methodological challenges and surprises, assess feasibility, clarify the study focus and refine research questions, address ethical considerations, test transcription and analysis processes, and develop reflexivity (Kimotho, 2025). In addition to serving as a training platform for the researcher, the pilot test also resulted in refinement of the interview questions, thus eliminating ambiguity. Because self-awareness contributes to minimising distortions in the findings (Ahmed, 2024), the researchers bracketed their biases toward the ARI to maintain an objective position during data collection, analysis, and interpretation.

By allowing follow-up questions to clarify points, semi-structured interviews enable the researcher to gain deeper insights than those previously identified (Ruslin et al., 2022). The interviews can be carried out face-to-face, over the telephone, through text/email, or either individually or in groups (DeJonckheere & Vaughn, 2019). However, in this study, the principal researcher conducted individual face-to-face interviews with all ten research supervisors in their respective campus offices. After securing permission to access the campuses, the researcher approached each supervisor individually between 15 and 30 May 2024, with each interview lasting between 30 and 47 minutes. Six supervisors from the rural university (U1) and four from the urban university (U2) voluntarily participated in the study, recruited through snowball sampling. Most of the supervisors initially approached declined to participate due to busy schedules. As a result, the researcher resorted to snowball sampling. Snowball sampling is widely recognised as an effective technique for accessing hard-to-reach populations and enhancing participation through social connections (Ting et al., 2025). The sample of 10 supervisors was within the saturation range of nine to seventeen interviews (Hennink & Kaiser, 2022), which was also supported by the length of the interviews (Mwita, 2022), as no new themes emerged (Naeem et al., 2024).

Their biographical information is summarised in Table 2. The sample included both senior and novice supervisors. To enhance confidentiality, pseudonyms SP1 to SP10 were used irrespective of the institution to which the participant belonged.

Table 2: Biographical information of supervisors interviewed

Supervisor Identity	Age (Years)	Academic Title	University	Faculty	Supervision experience (Years)
SP1	50-55	Male	Associate Professor	Science and Agriculture	15
SP2	50-55	Male	Mr	Management and Law	10
SP3	60-70	Male	Doctor	Science and Agriculture	30
SP4	25-30	Male	Mr	Management and Law	1
SP5	50-55	Male	Doctor	Management and Law	7
SP6	25-30	Female	Ms	Humanities	1
SP7	35-40	Male	Mr	Management and Law	2
SP8	55-60	Male	Doctor	Management and Law	20
SP9	45-50	Female	Ms	Science, Agriculture & Engineering	1
SP10	45-50	Male	Mr	Management and Law	15

To initiate the trial of the ARI, the researcher shared a trial link with the supervisors, who then shared it with postgraduate students under their supervision. A week-long orientation period was allowed for them to use the system and be able to provide an objective perspective. The role of the postgraduate students was limited to scoring their supervisors so that the latter would assess the tool and its functionalities from a practical perspective as opposed to just evaluating it based on face value. In line with the requirements of the ethics clearance and the permission to conduct research granted by the participating universities, both the participating supervisors and postgraduate students signed informed consent forms after reading the information sheet provided.

Ethics approval and consent to participate

This study was approved by the College of Economic and Management Sciences - College Research Ethics Review Committee (CRERC) at the University of South Africa (Unisa), South Africa, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. It also adhered to South African legislation, professional codes of conduct, institutional guidelines and scientific standards, particularly the Protection of Personal Information Act, no 4 of 2013. Informed consent was obtained from all the participating research supervisors and postgraduate students signalling their informed voluntary participation in the study. The informed consent signed by the participants included the possibility that their anonymous data may also be used for journal articles and conference proceedings.

Data analysis

Qualitative data analysis encompasses various methodologies, including content analysis, thematic analysis, grounded theory, narrative analysis, conversation analysis, and discourse analysis (Archer, 2018). The data for this study were examined using thematic analysis. In this approach, researchers systematically organise and analyse complex data sets, identifying themes through careful reading and re-reading of the transcribed data (Dawadi, 2020). The analysis was conducted following Creswell's (2014) qualitative data analysis framework, which involves preparing and organising text transcripts for analysis, reducing them into themes via coding, condensing the codes, and ultimately presenting the data in figures, tables, or through discussion. Open coding was conducted using ATLAS.ti-24. This process entails the continuous creation or opening of codes and the re-evaluation of data segments to determine their relevance to the research questions (Corr & Davidson, 2023). Open coding provides the benefit of capturing meaning and generating codes (Mkansi & Nsakanda, 2023), which, in this study, illustrated the supervisors' perceptions regarding their adoption of ARI through the framework of UTAUT.

The data were coded according to the determining constructs of UTAUT's Behavioural Intention (BI), namely performance expectancy, effort expectancy, and social influence. Given that the ARI had not been fully deployed, the influence of facilitating conditions was focused on BI. The recorded interviews were transcribed concurrently with data collection, then read several times for familiarisation to accurately understand the supervisors' perceptions. Key terms, words and phrases contained in the participants' explanations were identified and labelled as codes that related to each construct's dimensions. Related codes for each question were grouped into categories, which then formed themes. The coding process was peer-reviewed by a postdoctoral candidate as a way of challenging the data, codes, emerging themes and interpretations.

The degree of trustworthiness of qualitative research can be measured by ensuring the credibility, transferability, dependability, and conformability of research design, process, and action (Kakar et al., 2023). Self-awareness contributed to minimising distortions in the findings, thereby enhancing research credibility (Ahmed, 2024). As such the researchers bracketed their biases toward the ARI to maintain an objective position during data collection, analysis, and interpretation. To enhance transferability, we provided detailed contextual information to enable readers to assess the similarities between their context and the study and critique findings' applicability and relevance to their own settings or situations (Ahmed, 2024). Dependability was ascertained through an audit trail (Kakar et al., 2023). This involved recording decisions made during the study, such as changing the sampling method and chronicling the process of accessing data centres and participants, from obtaining ethics clearance to consent. To enhance Confirmability, we involved a postdoctoral candidate during data analysis, particularly to review the coding process and development of themes.

Findings

Utilising a constructivist approach facilitated the interpretation, description, and analysis of data by considering the perspectives of different research participants (Kiger and Varpio, 2020). The findings are presented according to the UTAUT constructs, from which the research questions and the semi-structured interview guide questions were derived. These are performance expectancy, effort expectancy, social influence and facilitating conditions.

Performance Expectancy (PE)

The findings on PE are structured along its five dimensions, namely perceived usefulness, extrinsic motivation, job fit, relative advantage, and performance expectations. The findings revealed that using the ARI could lead to superior supervisor performance because it provides robust, prompt, real-time feedback on the service they render. Using that feedback, the supervisors would identify the weaknesses in their work as perceived by the clients they were servicing, that is, the postgraduate students. Working on the identified shortfalls had the potential to strengthen the supervisor-student relationship.

The participants appreciated the ARI's potential to streamline the research process through its efficiency, relationship-centeredness, wide scope, and clear structure, thus making it a potent communication tool between the supervisor and the student. It can facilitate a better understanding of the research process by identifying weaknesses and clarifying the research process.

Table 3: A summary of Findings on the perceived usefulness dimension

Codes	Categories (Sub-codes)	Themes	Dimension
Assesses supervisor's work ethic; assessing supervisor performance; supervisor self-correction; ensure supervisor service delivery; supervisor behaviour change; promote transparency; students get assisted better	Assesses supervisor's performance	Supervisor-student relationships improvement	Perceived usefulness
Assessing lecture effectiveness; supervisor develops new methods; enhance research performance; ensure supervision improvement; ensure supervisor's continuous improvement; more attention on students' work; push supervisors to improve; quick correction of weaknesses; better service for the future	Enhances supervisor performance		
Facilitate supervisor accessibility; enhance supervisor accessibility	Makes supervisors accessible to students		
Supervisor-student conflict resolution; better supervisor-student accommodation; build supervisor-student relationship; enhanced student-supervisor communication; improve supervisor-student relationship; know what to expect from supervisor; knowing the supervisor better; maintain a sound working relationship; students communicate challenges; supervisor-student relationship improvement; improved supervisor-student relationship	Improves supervisor-student relationship		
Supervisor's weakness identification; identify supervisor's strengths; highlight supervisor weaknesses; identify areas of improvement; identify supervisor weaknesses; early detection of supervisor weaknesses	Assists in identifying supervisor's weaknesses		
Student weakness identification; student weakness identification; minimise student anxiety; improvement in student performance	Improves students' performance and welfare		
Accelerate research process; ensure timely completion of research; fast-track research process; expedite research process; instil urgency in students; meet research deadlines; minimise feedback delays from supervisor; minimise procrastination; research completion within prescribed time; research process expedition; time saver; work faster	Effective time management	Accountability and effective time management	
Ensures supervisors accountability; brings about students' sense of responsibility; eliminate blame-shifting; eliminate laziness; supervisor reflection; supervisor reflection on own conduct	Brings about accountability		
Effective system design; speed and efficiency of technology	Bring about technological advantages		
Students express themselves freely; feedback on supervisor performance; getting feedback from students; provides real-time feedback; know students' concerns with supervisor; more feedback than verbal communication; rating of supervisors' performance by students	Supervisors receive feedback on their performance		
Invites management intervention; management involvement	Ensures management intervention		
Reveal challenges in the research process; simplify academic life; simplify the research process; promote efficiency	Streamlines the research process		

All (10) the participants believed in the ARI's potential to improve research supervision. To this end, some participants asserted:

SP1: "Getting feedback is always a positive thing, so that you can re-evaluate and readjust yourself so that you can improve year in and year out as you go along, so I think it's an important concept, and I would recommend it. The App. provides us the opportunity to learn from the truthful students' feedback to be a good supervisor."

SP5: "*Because the feedback is real-time, if there is a need for improvement or if there is an area that needs attention, one can quickly do that."*

SP4: *"I think it will enhance it because feedback is always designed to make you get better as it enables you to reflect and continually improve yourself."*

In addition, the ARI was considered valuable in identifying supervisor training needs to enhance their performance, productivity and efficiency, yet some saw it as a supervisor-student relationship builder. For example, SP8, SP9, SP2, and SP6 asserted:

SP8: "*Isn't it that through that system I think my weaknesses will be able to be identified and I will make sure that they are improved on because through the system. It's like a needs analysis kind of exercise wherein you see where you have to really close the gaps that you have identified so that you can be able to be more productive and perform more as compared to how you used to do before you got that kind of training, maybe if there is training that you went through. Again, I think the employer can also step in by sending us for training and such kind of things. So there can be improvement."*

SP9: "*I think I should perform better. I should have a good relationship with the students. I think that were I must start to have a better relationship with my students."*

SP2: *"I think it will help me perform better and develop a good relationship with the students."*

SP6: *"I would say the way it has been structured and how it has been designed will enhance that relationship between the supervisor and the student, and technically, it would make the research process much more efficient."*

Furthermore, the system was perceived as supervisor-growth-focused and prioritised postgraduate students' satisfaction because feedback was central to the research. However, the effectiveness of the ARI rested on the objectivity and truthfulness of the students during the evaluation of supervisors. However, for the intended outcome of using the ARI to be attained, objectivity was key.

SP3: "I think it's a good thing because in every work that you do, there must be a performance evaluation where you get looked at by the people that you are servicing based on what you are doing with them, or what you are doing for them."

SP9: "*Since I believe that each and every student who will be rating me through the App will be true to themselves. So that will help to understand that these students they are saying their honest truth so that if I'm not a good supervisor, then I will have to learn from the results of the App. If I am good supervisor, it means that I will have to increase my effort on supervision.*"

SP2: *"The App. provides us the opportunity to learn from the truthful students' feedback to be good supervisor."*

In comparison to other higher education academic evaluation tools known to the participants, the ARI was credited for its accessibility, clarity, continuity, speed, and student-centeredness. As a digital tool, the ARI was perceived as superior, well-structured and potentially with a high return rate.

SP3: "This being in electronic format makes it more accessible to students and everyone, unlike the paper-based questionnaires that we have been using. Some students either don't submit or don't truthfully complete it because the supervisor is present. I believe anonymity is also built into this one."

SP7: "When I look at the other models that we have adopted, it's like we may use them to measure progress which is like progress reporting. But this one actually can be something that you use almost on a regular basis to check how you are doing as a supervisor, how the student is fairing or the experience of the student during the supervision process."

SP6: "T*he supervisor becomes more accessible to students if one is having any issue with him/her in the process eliminate delays from both ends."*

Strikingly, seven of the interviewed supervisors, all four from U2 and three from U1 indicated that they had never been evaluated by their research students, nor where they aware of the existence of a tool for that purpose. In this respect, some participants stated:

SP2: "F*or the past nine years I have been here, I haven't come across any evaluations tool being used save for emails and meeting between the supervisor and students."*

SP4: "*This is my second year as a supervisor, and I haven't gone through any evaluation system with the students, and I am not aware if any exist in the institution."*

SP10: *"I have never evaluated by a research student. We just do the work and then when they finish they go and that's it. There has never been any kind of maybe evaluation conducted on how we have been really walking on this journey together."*

Effort Expectancy (EE)

Effort Expectancy codes and themes emerged based on its dimensions; perceived ease of use, complexity, and ease of use. Figure 4 is an extract of the findings on EE. Evidence showed that using the ARI did not require much effort from the users, as participants found it accessible and straightforward. Most of the interviewed supervisors concurred that the ARI was very simple to understand and user-friendly, whether the user was tech-savvy or not. The use of mobile and other electronic devices in everyday communication made it even simpler to understand how the ARI works.

Table 4: An extract of codes and themes emerging on the Effort Expectancy

Codes	Categories	Themes	Dimension
Easier than paper-based; easy; easy interpretation; easy interpretation; easy to use; understandable; accessible; user-friendly; simple; straightforward	Easy	Effortless	Perceived ease of use
Not much involving; effortless; no hassles; not demanding; not difficult	Effortless		
Fast; efficient; saves time; time-saving	Fast		

The majority of participants expressed no difficulties when using the application.

SP9: "Most of what we do these days is on the cell phone, electronic stuff on the computer, so the effort is not as great as if you have to have a hard copy, so I think it's effortless."

SP5: "On a scale of one to five, I would give it three and a half or four. I can easily use it effectively without having to go through a learning process, so it's easy to understand."

SP6: *"It's very efficient and it's very easy. According to how I have seen it, there are no hustles."*

However, there was a relative difficulty understanding and using the ARI attributed to the supervisor's predisposition to criticism, especially when it comes from a person who is expected to be subordinate, in this case, research students. One participant felt that although they did not have any issues with being evaluated by the research students, the tool demands a lot of time for the students to complete it objectively. To the other, the ARI is too long, but of great value in the research supervision process. The sentiments portraying such hesitation to accept the ARI came from the older participants.

SP7: "For a person who is not used to that situation, it is difficult, and it can even intimidate one to be afraid of proceeding with supervision."

SP3: *"The system is a bit too cumbersome; that is, there are several questions there. And our students generally have little attention span, so by the time they are halfway through, I'm sure they will be tired of answering questions."*

SP1: *"I would see it as more demanding. It's more demanding, but in an informed manner but I have a feeling that if say, a person get used to it, there are certain concepts which you will find towards the end that you had already dealt with without being aware of."*

Social influence (SI)

The factors determining the impact of SI on behavioural intention include subjective norm (Table 5), social factors, and image. All the participants expressed their willingness to adopt the ARI, regardless of any influence, whether positive or negative, from the university community. The participants regarded being evaluated by students using the ARI as progressive and would portray them as being responsible and pro-student.

Table 5: An extract of codes and themes emerging on the Social Influence construct

Codes	Categories	Theme	Dimension
Adopt for transparency and improvement; collaborate with positivity; evaluation motivates positive individuals; focus on benefits not opinions; remain undeterred; gladly accept; system highly beneficial; welcome initiative to enhance learning; accept encouragement; encouraging; adopt a futuristic view; commend positive-mindedness; supported by university management; important to accept the system; go along with those in support	Positive minded	Have a progressive mindset	Subjective norm
Believe in value of oversight; high performers are pro-evaluation; no influence anticipated; they believe self-introspection; want transparency and improvement; benefits both student and supervisor; similar experiences among colleagues; they value good supervisor-student relationship; obey authorities; respect supervisor superiority; they want to make supervisors aware of their weaknesses; allows students to evaluate supervisors	Progressive		
Advocate adoption by institution; advocate its implementation; conscientise them; convince them of benefits; eliminates face-to-face meetings; encourage acceptance of the system; everyone must accept the system; share best practices with colleagues; share importance of AI; institution attuned to educational technology	They need to be educated about befefits of the system	Not familiar with the system	
Depends on leadership approach; free to make own decision; have personal issues; it's an individual choice; mixed feelings; negativity a personal human quality; no need to consult; supervision is subjective	Free to choose		
Arrogant towards criticism; arrogant supervisor discourage acceptance; counter-progress; lack appreciation of 4IR; resistance counter-progress; supervisors want to cover own incompetence	Arrogant	Negative mindset	
Question motives; question discouragement; ignore negativity; surprised with opposition; unhappy with them	Negative		
Biased due to fear; fear of victimisation; anonymity to prevent victimisation; some managers lack experience in research; students get prejudiced	Sceptical		

SP2: *"We should accept it because I think that many students at some point are victims to their supervisors at some point."*

SP9: *"I just think that many students have been victims to their supervisors, at some point. So I think using this App will help because some students are being disadvantaged by supervisor. Although we know that some students are not serious with their research, but some are just being disadvantaged by the supervisor who do not do their work on time. You might find that students are supposed to register, maybe for many years based on the supervisor who is not there, who is not reading their work, who is not giving feedback. So I just think that the app might assist on that particular help."*

As it is an online system, the ARI was praised for providing instant and ongoing feedback which enhanced transparency in the research process, minimising physical movement and meetings. For example, SP1 stated:

SP1: *"I think I would still use it as it assists. It has immediate feedback so I don't have to go around questioning students if they are happy with the way I am interacting with them or not. So the App assists with that."*

SP5: *For me if they want to be transparent and improve throughput, they should adopt it.*

There was strong encouragement for participants to accept the ARI beyond the trial supported by with clear support from management, because the tool was simple and quick to use, while also enabling the collection of extensive data on the supervisor's performance. However, it needed to be used objectively.

SP4: "If the feedback is good, then I guess I already don't need to motivate much to my line managers as to why I am a good supervisor. And I think that as students give feedback, it means even they themselves talk, so in that sense, it will reflect you as a good supervisor if the ratings are good, or if they are bad, you will be seen as a bad supervisor through the communication that goes around. But I guess, in whichever way it goes, if we use it for the purpose for which it is intended, it will be a good thing. If you are to be rated as a bad supervisor, then improve on things that you need to improve."

SP3: *"Because of the simplicity, and because of the amount of information that you will be able to gather quickly through the system, then I would use it too."*

Although being linked to the supervisors' line managers also made the ARI appealing to the interviewed supervisors, its success depended on the personalities of the managers and the subordinate supervisors because its use could lead to victimisation, corruption and toxicity in the workplace. In that regard, SP7 explained:

SP7: *"When a person is a position of power, sometimes, depending on what leadership style he has adopted relating to the character of that particular person, he might want to impose or to force what he wants on those who are under him. And some use what we call a participative kind of approach wherein they will invite inputs and they you move from there. So it will depend on the kind of character of your boss and the colleagues that you are working with how they are. Because that's something that we were talking. If you are a supervisor but some people have money than you, you know what kind of person you are dealing with when he knows that you are poorer than him. So you see. Your authority may not sometimes really be shown, might not be seen, because this person will be undermining you. So there are a lot of things I think that go along with that, that influence whether you should accept."*

It also emerged that research students need to be adequately inducted into the purpose of ARI so that they can do their evaluation objectively. This would minimise distortion of the outcomes and ultimately the image portrayed about the supervisors. SP7 also cautioned:

SP 7: *"When you give students that liberty, it might be problematic for some reasons. Rather, when you are to involve students, you must also try to make sure that they understand at which stage you are involving them; otherwise, it may not be an actual true reflection of what you need to find.*

Facilitating conditions

The influence of FC on research supervisors' behavioural intention towards the ARI was explored through the three dimensions, that is, perceived behavioural control, facilitating conditions and capability. Poor or no Internet connectivity, lack of data, power failure, and frequent system failures were identified as the technical factors that would hinder the use of the ARI by supervisors. These factors had the potential not only to discourage research students from rating their supervisor, but also to have reports not read by the supervisor and his/her line manager as expected.

SP 2: *"With technology, anything can happen, and then you cannot continue because maybe the network, or you don't have data; all that may serve as a hindrance. From within, the challenge would be if the university refuses to adopt it for whatever reason. The challenges you may run into from outside the university system would probably be, if the program itself, the ARI system, is not stable, that is, it often crashes and things like that. Buying data, I don't think that it's a serious challenge."*

The participants believed that endorsement of the ARI and the establishment of relevant policy for its use, Table 6, would persuade them to accept it readily. Availability of appropriate infrastructure capable of hosting the ARI and integration with existing systems was also critical to the acceptance of the system.

SP8: "I think that if the university establishes it as one of the tools for evaluation, that would be easy for people to accept. Those who are reluctant will be persuaded to make use of the ARI."

Table 6: Code and themes emerging on the facilitating conditions dimension

Codes	Categories	Themes	Dimension
Formalisation; management support; collaborative environment; training; unversity endorsement; promotion of research and postgraduate studies	Acceptance and university support	Enabling environment	Facilitating conditions
ICT infrasructure capacity; reduced workload	Infrastructure		
Good motive; openness	Intention of users		

Furthermore, the interviewed supervisors believed that transparency in the use of the ARI, which is driven by good and ethical intentions, was vital for the system's acceptance. When used objectively, the ARI was perceived as an invaluable tool for ensuring continuous improvement in research supervision. As a digital tool, it was in sync with the 4IR trajectory.

SP4: "When relationships are not good, and the motives that others might have in terms of using the system. If you are in a hostile environment, a student, at times, can rate just for the sake of not doing their part; there will be those disagreements, and they try and be nasty to you. How the management is going to take it depends on your relationship."

SP6: "We are getting more focused on online things. It's a good thing that is cost-effective, and it means a person can view the report immediately, attend to other things."

Discussion

This study explored how research supervisors viewed the Academic Rating Index (ARI) regarding the factors that affect its acceptance through the lens of the UTAUT framework. The results show that the ARI is largely viewed as a valuable and timely digital tool to tackle long-standing issues in postgraduate research supervision in South Africa. Reflecting the global shift towards digital transformation in higher education, the ARI presents an innovative and organised way to enhance the quality of supervisory practices, mentoring relationships, and accountability.

Performance Expectancy stood out as a predictor for the potential adoption of the ARI, backing up earlier UTAUT-based findings that emphasise perceived usefulness as the key factor in technology acceptance (Kim et al., 2014; Hakimi, 2023; Fearnley & Amora, 2020). Supervisors expressed that the ARI could boost their ability to oversee their supervisory practices by providing continuous, real-time feedback from students. This supports the idea that effective supervision hinges on structured, transparent communication and clear expectations (Rothwell et al., 2021; Schmidt & Hansson, 2023). The ARI was also perceived as addressing a significant gap; the lack of a standardised framework for evaluating supervision (Tangen et al., 2019). Its digital format and connection with the 7Cs Framework allowed for a systematic evaluation of relational, pedagogical, and professional aspects of supervision, reinforcing the importance of reflective practice. Supervisors pointed out that the feedback generated through the ARI could help uncover supervisory shortcomings, enhance students' academic experiences, and ultimately lead to better throughput and research output. Ultimately, the ARI aligns with institutions' strategic goals to boost postgraduate efficiency and supervisory excellence.

Effort Expectancy (EE) showed high potential in influencing the supervisors' acceptance of ARI. The supervisors found the ARI easy to navigate, intuitive, and in sync with their usual digital interfaces. This aligns with the findings of Almaiah et al. (2019), who emphasise that when technology is user-friendly, it tends

to be embraced more readily in educational settings. However, some older supervisors expressed discomfort stemming more from emotional disposition towards being evaluated by students than the design and functionality of the ARI itself. This points to a cultural aspect of supervisory relationships and the longstanding hierarchy in postgraduate supervision, where the resistance would stem not from the complexity of the tool, but rather from the shifting dynamics of power in the feedback process. This resonates with literature that warns how performance evaluations can sometimes undermine autonomy or perceived authority in academic environments (Maistry, 2017; Richards & Fletcher, 2020). The length of the ARI was found to potentially affect the quality of the feedback sought from the research students, resulting in frustration and poorly completed they rating. However, these concerns did not diminish the value of the ARI in enhancing research supervision quality.

Contrary to many UTAUT studies in higher education (Venkatesh et al., 2003; Sukandi & Ariyanti, 2022), Social Influence (SI) exhibited weak influence on supervisors' willingness to adopt the ARI. The supervisors indicated that they would use the ARI regardless of peer pressure against it should it arise. This suggests that the acceptance of the ARI would be more about the individual supervisor's motivation and perceived professional benefits than about social influence, confirming the strength of voluntariness in the acceptance of technology championed by UTAUT (Venkatesh et al., 2003). However, clear and constructive implementation of the ARI would boost its acceptance by research supervisors. At the same time, supervisors pointed out the importance of properly orienting students to prevent biased or emotionally charged ratings. Feedback systems might unintentionally penalise supervisors due to interpersonal conflicts, unclear expectations, or unresolved academic disagreements (Schmidt & Hansson, 2023; Thomas, Packer & Dolan, 2024).

Facilitating Conditions was anticipated to play a crucial role in how supervisors would embrace the ARI, reinforcing its influence on BI as reported by Batucan et al. (2022). The rollout of a digital feedback App such as the ARI accelerates the broader automation of postgraduate administrative tracking. However, such transformative initiatives could be thwarted by challenges such as power blackouts, unstable internet connectivity and potential system failures. To this end, Ndebele and Mbodila (2022) and Elangovan et al. (2021) emphasise the importance of having the right infrastructure and a strong organisational commitment towards effectively adopting digital systems. While these issues didn't diminish the perceived value of the ARI, their occurrence would present practical implementation hurdles if they were not addressed proactively.

Supervisors emphasised the necessity for policies that prevent misuse, manipulation, or unfair representation, while also highlighting the importance of credible governance and fair evaluation. The ARI also needs to be integrated with existing platforms as part of a broader drive towards digitising academic administration and performance assessment (Dhameria et al., 2025). As universities face growing demands for accountability and pressure to enhance postgraduate completion rates, digital monitoring tools provide scalable ways to boost supervisor accountability, standardise evaluation processes, amplify postgraduate student voices, and encourage reflective professional development. Because the ARI allows students to flag issues impacting their research journeys promptly and directly, institutional management will be alerted timeously and can identify supervisors who consistently receive poor ratings. The interventions that ensue will rescue postgraduate students from vulnerability at the hands of their supervisors. Policies may have to be rewritten to mandate key performance activities, including timelines for feedback and quality supervision.

The ARI's anonymous rating system serves as a whistle-blowing tool. Therefore, relevant policies may be developed to encourage postgraduate students to objectively flag bad supervision without fear of retribution. The ARI metrics are heavy on soft skills. As such, its use in research supervision will be handy in developing supervisor and postgraduate training programmes incorporating emotional intelligence, communication, and constructive feedback mechanism to help transition from manual to automated performance tracking. This will minimise resistance from supervisors who may not only be intolerant of change but also sceptical of the new bottom-up feedback system being ushered in by the ARI.

Unlike the reactionary, general traditional evaluation methods such as HiEdQUAL (Handayani et al., 2021) and other exit surveys, the ARI allows institutions to identify supervision bottlenecks and neglected students in real time. Remedial action can be instituted immediately and restore the research process to the intended path. Thus, the ARI is not just a technological upgrade; it signifies a shift towards greater transparency, data-driven decision-making, and a rebalancing of supervisory relationships. If it receives the right support and becomes embedded within institutions, it could be a turning point for enhancing the quality of postgraduate research supervision. Given the ARI's potential to significantly enhance the quality of postgraduate research supervision, broad implementation strategies are an imperative.

Limitations and recommendations for future research

This study examines research supervisors' views on the Academic Rating Index (ARI) but has some important limitations. The sample included only ten supervisors from two South African universities, making it difficult to capture the moderating effect of age, gender, and educational level, thereby weakening the generalisability of the findings. The research relied on interviews, which could be biased, as supervisors might have provided socially acceptable answers. Participants had limited experience with the ARI (one week), potentially affecting their understanding of its long-term impact. The study also did not include perspectives from postgraduate students or institutional administrators, which restricts a complete understanding of the ARI. Therefore, future longitudinal research should involve a larger, varied sample from multiple institutions and consider both rural and urban contexts. Due to the limitations of the sample size, this study could not capture the impact of the UTAUT moderators. A larger sample, including students, research managers, and IT staff, could provide insights into ARI's effectiveness and ethical issues. Therefore, a mixed-method approach and longitudinal studies are recommended to assess attitudes toward the ARI over time and its effect on supervision quality.

Conclusion

This study investigated research supervisors' perception of the Academic Rating Index (ARI) and the factors that affect its adoption using the UTAUT model. Through the UTAUT, this study entrenched the theory's application area of evaluation and feedback systems in higher education, particularly research supervision. The findings indicate that the ARI is perceived as a timely transformative innovation in postgraduate research supervision in South Africa. For supervisors, the ARI is a tool that delivers structured, continuous, student-led feedback to reinforce accountability, reflective practice, and the supervisor-

student relationship. Performance Expectancy and Effort Expectancy turned out to be significant influencers of ARI acceptance by research supervisors. Social Influence was relatively weak in terms of influencing adoption intentions.

The results also support the need for favourable institutional settings for the successful integration of ARI, including strong technological infrastructure, policy support, training and ethical considerations to ensure fairness and transparency. The study contributes to the increasing body of knowledge on digital transformation in higher education and points to how tools such as the ARI can help bridge gaps in supervisory quality, standardisation and student experience. Finally, the ARI presents an opportunity for universities to modernise supervision practice, build research capacity and optimise postgraduate outcomes. However, its success hinges on strategic rollout, institutional support and a commitment to building a culture of constructive evaluation, not punitive judgement.

Declarations

Ethics approval

This study was approved by the College of Economic and Management Sciences - College Research Ethics Review Committee (CRERC) at the University of South Africa (Unisa), South Africa, in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The research project also adhered to South African legislation, professional codes of conduct, institutional guidelines and scientific standards, particularly the Protection of Personal Information Act, no 4 of 2013. Permission to conduct research was obtained from the Research Ethics Committees of the two participating institutions before the commencement of data collection.

Informed Consent to participate

Informed consent was obtained from participating research supervisors and postgraduate students. A comprehensive information sheet was shared with prospective participants, that is, research supervisors and postgraduate students, before they volunteered to participate in the study, and they signed informed consent. Data collection (semi-structured interviews) conformed to the guidelines and regulations of reporting data involving humans or human data.

Consent to publish

Informed consent to publish was obtained from all the participants through the informed consent that the participants signed, which contained this statement indicating that anonymous data may also be used for other purposes, such as a research report, journal articles and/or conference proceedings. The original statement: “Please note that your anonymous data may also be used for other purposes, such as a research report, journal articles and/or conference proceedings. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report since only pseudonyms will be used at all times.”

Corresponding author: Brian Majonga

Email address: 48392855@mylife.unisa.ac.za; bmajonga@gmail.com

Clinical Trial number: Not applicable

Availability of data and material

The datasets generated and analysed during this research are available in the Unisa Institutional Repository at: UnisaIR at: https://ir.unisa.ac.za

Confidentiality

All transcripts for this study posted in the Unisa Institutional Repository are code-named in adherence with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment to ensure the confidentiality of all the participants.

Competing interests

The authors declare that they have no financial or commercial competing interests in relation to this study. However, the second author co-developed the Academic Rating Index (ARI), which is at the centre of this study and is affiliated with the institution where the study was conducted. The study also formed part of a supervised degree programme at the same institution. We are disclosing these relationships to ensure transparency. They do not constitute a competing financial interest.

The authors are aware that the second author’s role in creating the ARI and their institutional link could have affected how participants viewed the study. This was addressed by ensuring that the second author was not directly involved in the data collection process. Secondly, only UNISA was mentioned as the developer of the tool. Participation in the study was voluntary, and participants were clearly informed about the purpose of the study, possible risks, and the option to withdraw at any time. The participants were not promised any incentives for participation.

The researchers used a semi-structured interview guide and encouraged participants to provide both positive and critical opinions of the ARI. The researchers paid attention to their personal beliefs about the usefulness of the ARI system so as not to interfere with coding and thematic analysis. A credible qualitative data analysis system (ATLAS.ti 24) was used for coding and analysing the data, ensuring that the evidence spoke for itself. Nevertheless,

the authors concede that total complete separation from the research context was impossible. Therefore, this positionality is explicitly recognised as a consideration in interpreting the findings.

Funding

This research was partially self-funded and partially funded by the University of South Africa.

Authors' contributions

Author 1: Conducted the research, the conceptualisation, literature review, methodology development, data collection, data analysis, interpretation of findings, and preparation of the original manuscript.

Author 2: Provided academic supervision, contributed to the refinement of methodology and theoretical framework, and critically reviewed the manuscript.

Acknowledgements

Heartfelt gratitude to:

- Dr Ernest Asiedu for peer reviewing and guidance during data analysis.
- The institutions that opened their doors to allow us to conduct the study at their premises with their staff.
- To the participants, for their time and contribution to this study
- Unisa for providing funding and supervision.
- Reviewers and editors for their opinions, suggestions and support of this research.

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Figures

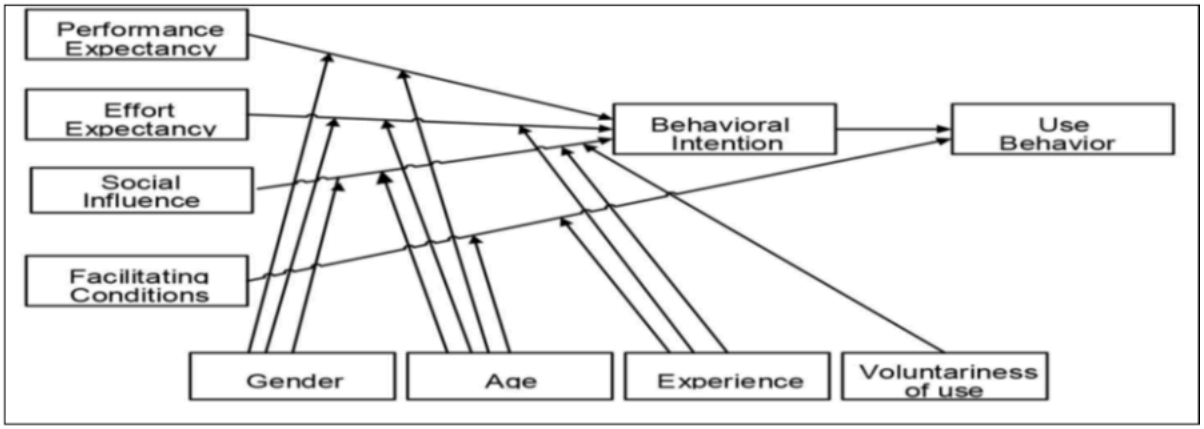


Figure 1

The UTAUT Model (Source: Venkatesh et al., 2003; Batucan et al., 2022)