The puzzle of measuring job satisfaction among academic staff under remote working arrangements in higher education institutions in Tanzania: A systematic review of limitations and why understanding must come before measurement

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ABSTRACT

Understanding how remote work influences job satisfaction creates a prior measurement problem: researchers cannot measure confidently what they have not first understood clearly. In higher education institutions (HEIs), remote academic work can include online teaching, virtual student supervision, digital academic administration, platform-mediated communication, shifting work-home boundaries, and dependence on digital infrastructure that differs across institutions and locations. If these realities are poorly understood, established instruments may produce precise scores for an incomplete construct, and HEIs may then design flexibility, workload, monitoring, support, or performance practices around evidence that does not fully represent the work. Guided by the Job Characteristics Model (JCM) and Self-Determination Theory (SDT), this study systematically reviewed 30 studies published between 2022 and 2025 using structured search, screening, inclusion and exclusion, and thematic synthesis procedures across Google Scholar, Scopus, AJOL, Web of Science, ScienceDirect, Emerald Insight, and Taylor & Francis. The review found heavy reliance on self-reported surveys, incomplete adaptation of traditional scales to digitally mediated academic work, weak capture of changing work experiences, and important contextual differences between developed and developing HEIs. The review concludes that understanding must precede measurement: researchers should first identify how remote work changes academic work and job satisfaction, then operationalize those dimensions, validate them in context, and only then use the resulting evidence to guide institutional policy and practice.

Keywords: Academic Staff; Higher Education Institutions; Job Satisfaction; Remote Work; Measurement; Construct Validity; Tanzania.

I. INTRODUCTION

The most serious measurement problem may begin before the questionnaire is designed. HEIs are increasingly asking how remote work influences academic staff job satisfaction, yet that question assumes that the work itself is already clearly understood. Often, it is not. Remote academic work can move teaching, student supervision, meetings, communication, assessment, and administration across screens, platforms, homes, and campuses. The work remains academic, but its timing, visibility, feedback, collegial contact, autonomy, and resource demands can change. This creates the central principle of this review: what has not been adequately understood cannot be measured accurately. Established scholarship still matters because autonomy, meaningful work, feedback, and other job characteristics remain central to satisfaction (Armstrong & Taylor, 2023; Robbins & Judge, 2023; Spector, 1997). The challenge is to understand how those familiar dimensions are altered when academic work becomes digitally mediated.

Remote work does not simply relocate academic work; it can reorganise it. Kniffin et al. (2021) show that remote work changes communication, workload, social interaction, autonomy, and work-life dynamics, while Wang et al. (2021) identify work-home interference, communication difficulties, loneliness, monitoring, and workload as important remote-work challenges. Selwyn (2022) adds an educational perspective by showing that digital technologies reshape the people, practices, and institutional structures surrounding teaching. This matter in HEIs because formal flexibility can coexist with constant digital availability and apparent autonomy can coexist with dependence on platforms, connectivity, and institutional rules. A lecturer may be free from a physical office while still being tightly bound to online classes, student messages, virtual meetings, and digital reporting. If measurement captures only the formal arrangement and not the experienced work, the resulting job-satisfaction score may be neat but incomplete.

The institutional stakes make this more than a technical debate. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2023) shows that technology can expand educational opportunity, but its value

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depends on access, governance, appropriateness, and the conditions of use. In African higher education, Babalola and Genga (2024) similarly show that digital transformation is shaped by infrastructure, leadership, financing, equity, and policy, while the (Melhem et al., 202; Liu & Qiang, 2024) documents continuing inequalities in connectivity and digital development. The danger appears when implementation moves faster than understanding. An HEI can introduce online teaching expectations, digital monitoring, flexible-location policies, or new performance requirements and later evaluate them with measures that do not capture the actual conditions under which staff work. In that situation, a low satisfaction score may be interpreted as poor attitude when the underlying problem is workload, connectivity, weak support, or blurred work-home boundaries; a high flexibility score may also hide the fact that staff experience little practical control over when they are expected to be available.

This is why the measurement gap is conceptual before it is statistical. Widely used instruments such as the Job Satisfaction Survey (JSS), Minnesota Satisfaction Questionnaire (MSQ), Job Descriptive Index (JDI), and Job Diagnostic Survey (JDS) remain valuable because they capture established dimensions of work and satisfaction (Hackman & Oldham, 1975; Smith et al., 1969; Spector, 1985; Weiss et al., 1967). Yet these instruments were not developed around persistent online teaching, virtual supervision, digital administration, platform-mediated coordination, or work that repeatedly crosses the home-campus boundary. A measure can therefore be reliable in the psychometric sense and still be incomplete in the substantive sense. If the construct of remote academic work is too narrow, statistical precision cannot recover the parts of the job that were never included in the measure.

Context makes the problem sharper. A measure developed in a well-connected and well-resourced work environment cannot simply be assumed to carry the same meaning into an HEI where internet reliability, devices, technical support, digital competence, financing, and institutional readiness are less predictable (Babalola & Genga, 2024; UNESCO, 2023; Melhem et al., 2021; Liu & Qiang, 2024). This review therefore examines not only which instruments are used, but whether researchers understand the remote academic work they are trying to measure, which dimensions remain outside existing tools, and what can go wrong when incomplete evidence is used to guide institutional decisions. Systematic review methods are appropriate for this task because they make fragmented evidence visible and comparable across research traditions (Snyder, 2019; Tranfield et al., 2003). The paper ultimately argues for a simple sequence: understand the work, define the construct, measure it, validate the interpretation, and only then use the evidence to shape policy or practice.

1.1 Statement of the Problem

Although remote and digitally mediated academic work has become increasingly visible in Tanzanian HEIs, a more fundamental problem remains unresolved: how can its influence on academic staff job satisfaction be measured accurately when the nature of remote academic work and the pathways through which it shapes satisfaction are not yet fully understood? Existing scales remain useful, but they were largely developed for conventional workplaces and may not explicitly capture online teaching pressure, virtual supervision, digital administration, platform-mediated coordination, digital competence, technology dependence, work-home boundaries, and the institutional conditions that make remote work possible. This creates a danger of measuring an incomplete construct and then treating the resulting score as a complete account of staff experience. The consequence is practical as well as methodological. HEIs may use incomplete evidence to judge whether remote work is successful, allocate workload, design flexibility, introduce monitoring, identify staff support needs, or evaluate performance. When the influence of remote work has not first been understood, measurement can misdiagnose the problem and implementation can reinforce the very conditions that reduce satisfaction. This systematic review therefore examines what is currently understood, how job satisfaction is being measured, where important dimensions remain unmeasured, and why contextual understanding must precede the use of measurement evidence in Tanzanian and comparable African HEIs (Babalola & Genga, 2024; Selwyn, 2022; UNESCO, 2023; Wang et al., 2021; Melhem et al., 2021; Liu & Qiang, 2024).

1.2 Research Objectives

The purpose of this systematic review is to examine why understanding remote academic work must precede valid measurement of its influence on job satisfaction among academic staff in Tanzanian and comparable higher education institutions.

i. To identify the methods currently used to understand and measure job satisfaction in remote academic work.

ii. To analyse the limitations of existing measures, particularly where important dimensions of remote academic work are insufficiently understood before measurement.

iii. To examine the contextual factors and institutional risks that arises when remote-work policies or practices are implemented or evaluated using incomplete understanding and measurement.

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II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Job Characteristics Model (JCM)

The Job Characteristics Model (JCM), developed through Hackman and Oldham's work on job design and job diagnostics (Hackman & Oldham, 1975, 1976), explains work outcomes through five core job characteristics: skill variety, task identity, task significance, autonomy, and feedback. JCM remains useful for remote academic work because digitalisation does not remove job design; it changes where and how job characteristics are experienced. An academic may gain location flexibility yet receive slower feedback, perform fragmented tasks across several platforms, or experience less visible task identity when teaching, supervision, and administration are dispersed online. In African HEIs, infrastructure, financing, and institutional capacity can further shape whether digital systems support or obstruct meaningful work (Babalola & Genga, 2024; UNESCO, 2023; Melhem et al., 2021)). The theoretical lesson is important for measurement: researchers should not assume that 'autonomy', 'feedback', or 'task identity' have exactly the same practical meaning under remote academic arrangements. The model can guide measurement only after researchers understand how those job characteristics are actually being reorganised by remote work.

2.1.2 Self-Determination Theory (SDT)

Self-Determination Theory (SDT), developed by Deci and Ryan (1985) and advanced by Ryan and Deci (2000), argues that motivation and well-being are strengthened when three basic psychological needs are supported: autonomy, competence, and relatedness. These needs are especially revealing in remote academic work. Autonomy concerns meaningful control over how and where work is performed; competence includes the capability and confidence required to teach, supervise, communicate, and administer work through digital systems; and relatedness concerns professional connection with students, colleagues, and the institution. In Tanzanian and other African HEIs, these experiences are not produced by personal motivation alone. They can depend on access to technology, reliable connectivity, training, institutional support, and opportunities for professional interaction (UNESCO, 2023; Melhem et al., 2021)). SDT therefore reinforces the same sequence as JCM: before autonomy, competence, and relatedness can be measured as sources of satisfaction, researchers must first understand how remote work enables, constrains, or transforms them in the setting being studied.

2.2 Empirical Review

The empirical review follows the research questions and treats measurement as a chain rather than a single statistical act: remote academic work must first be understood, its relevant dimensions must then be defined, indicators must be selected, and only after that can scores be interpreted and used. The review therefore examines the methods used to measure job satisfaction, the dimensions that current approaches miss, and the contextual conditions that can change the meaning of those measurements in Tanzanian and comparable sub-Saharan African HEIs. This structure keeps the review focused on a central concern: a measure cannot compensate for a construct that was never clearly understood in the first place.

2.2.1 Methods Used to Measure Job Satisfaction in Remote Academic Work

Existing literature shows that job satisfaction is commonly measured through established survey instruments, but the first question should be whether the instrument reflects the work being experienced. Spector's (1985) Job Satisfaction Survey (JSS) measures pay, promotion, supervision, rewards, operating conditions, co-workers, the nature of work, and communication, yet it does not explicitly measure digital workload, online teaching pressure, or platform-mediated supervision. The Minnesota Satisfaction Questionnaire (MSQ) captures intrinsic, extrinsic, and general satisfaction (Weiss et al., 1967), but its original domains do not directly address internet reliability, digital competence, or the experience of remote flexibility. The Job Descriptive Index (JDI) focuses on work, pay, promotion, supervision, and co-workers (Smith et al., 1969), while the Job Diagnostic Survey (JDS) measures autonomy, feedback, task identity, task significance, and skill variety (Hackman & Oldham, 1975). These are valuable foundations, but they predate the digital conditions now shaping academic work. The review therefore identifies a need to understand remote academic work before adapting the measure: online teaching workload, digital platform use, virtual communication and supervision, work-life boundary management, digital competence, and institutional ICT support should enter the instrument only after their relevance and meaning have been established in the target HEI context.

The debate is not simply between old instruments and new ones; it is also about whether a method can reveal why remote work affects satisfaction. Structured surveys remain attractive because they allow consistent measurement and comparison across large groups (Robbins & Judge, 2023; Spector, 1985). Yet fixed-response scales can struggle to explain why two academic staff members with similar scores experience remote work very differently. Wang et al. (2021) demonstrate the value of combining qualitative interviews and survey evidence when examining remote-work

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challenges such as work-home interference, ineffective communication, procrastination, loneliness, monitoring, and workload. This is important because qualitative evidence can reveal dimensions that researchers did not know to ask about before a questionnaire was designed. Surveys should therefore remain part of the measurement toolkit, but exploratory and mixed-method approaches are especially valuable when the phenomenon itself is still being defined. This directly addresses RQ1 on how remote academic job satisfaction is currently understood and measured.

Table 1

Methods Used to Measure Job Satisfaction in Remote Academic Work

Author(s)	Measurement Tool/Approach	What It Measures	Limitation in Remote Academic Work	Gap Created
Spector (1985)	Job Satisfaction Survey (JSS)	Pay, promotion, supervision, rewards, operating conditions, co-workers, nature of work, and communication	Cannot fully capture digital workload, online teaching pressure, and platform-mediated supervision	Difficulty in measuring how digital systems affect academic staff satisfaction
Weiss et al. (1967)	Minnesota Satisfaction Questionnaire (MSQ)	Intrinsic and extrinsic satisfaction	Cannot adequately explain digital competence, internet access, and remote work flexibility	Uncertainty in measuring satisfaction under technology-dependent work conditions
Smith et al. (1969)	Job Descriptive Index (JDI)	Work, pay, promotion, supervision, and co-workers	Cannot fully capture virtual collegiality, online supervision, and reduced face-to-face interaction	Gap in understanding social and supervisory experiences in remote academic work
Hackman & Oldham (1975)	Job Diagnostic Survey (JDS)	Autonomy, feedback, task identity, task significance, and skill variety	Cannot sufficiently address fragmented digital platforms, remote feedback delays, and platform-based work control	Limitation in measuring how digital work design affects academic staff control and satisfaction
Spector (1985); Robbins & Judge (2023)	Large-scale quantitative surveys	Reliable measurement and comparison across academic populations	May overemphasise measurable satisfaction levels and underrepresent lived experience	Limited understanding of professional identity, collegial interaction, and academic autonomy
Selwyn (2022)	Qualitative/lived-experience perspective	Lived experiences of digitally mediated academic work	Surveys alone may not capture identity changes, collegial interaction, and autonomy concerns	Need for deeper understanding of remote academic experiences
Snyder (2019)	Systematic literature review / synthesis	Organises and synthesises fragmented evidence across studies	Does not itself measure individual job satisfaction or lived experience	Useful for mapping measurement gaps, but primary validation is still required

Source: Synthesised by the author from reviewed literature, 2026.

Note. Surveys dominate measurement practice, but mixed-method and context-sensitive approaches may provide richer insight into job satisfaction in remote academic work environments.

2.2.2 Limitations in Measuring Job Satisfaction among Academic Staff

The literature identifies a recurring weakness in remote-work measurement: measurement often begins before the full influence of remote work on the job has been conceptually mapped. The JSS and other self-reported tools are efficient and well established, but self-report measures remain open to subjective interpretation and response effects (Spector, 1985, 1997). Kniffin et al. (2021) show that remote work changes communication, workload, autonomy, and work-life dynamics, while Wang et al. (2021) identify work-home interference, ineffective communication, procrastination, loneliness, monitoring, and workload as distinctive remote-work challenges. Selwyn (2022) adds a specifically educational perspective by showing that digital technologies reshape the practices, structures, and labour surrounding teaching and institutional work. The central limitation is therefore not that traditional scales measure nothing useful; it is that researchers may be measuring familiar job-satisfaction dimensions before identifying the additional mechanisms created by digitally mediated academic work. What is not understood is easily left outside the questionnaire, and what is left outside the questionnaire cannot later be recovered by statistical analysis.

This limitation has produced an important debate. Robbins and Judge (2023) and Spector (1985) support the continued relevance of core satisfaction dimensions such as meaningful work, supervision, recognition, and organisational conditions. Their position is persuasive because remote work does not make these factors disappear. Selwyn (2022), however, shows why digitally mediated education adds new layers of institutional and technological experience that older instruments were not designed to capture. Wang et al. (2021) reinforce this point by demonstrating

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that remote work can involve work-home interference, communication difficulties, loneliness, monitoring, and workload pressures. Kniffin et al. (2021) further show that remote-work experiences can evolve as work practices and organisational expectations change, whereas cross-sectional studies record satisfaction at only one moment. The measurement challenge is therefore multidimensional: researchers must understand both the stable drivers of job satisfaction and the new conditions through which academic staff experience them. This directly addresses RQ2 by showing that measurement weakness often begins with incomplete understanding of the work itself.

Table 2

Limitations in Measuring Job Satisfaction among Academic Staff

Author(s)	Main Argument	Limitation Identified	What the Limitation Creates
Spector (1985)	Self-reported tools such as JSS are useful for measuring job satisfaction across job facets	Response bias, social desirability, and subjective interpretation of satisfaction indicators	Concerns about the accuracy of reported satisfaction levels
Kniffin et al. (2021)	Remote work changes autonomy, communication, workload, and work–life balance	General job satisfaction indicators may not fully reflect remote work realities	Gaps in measuring digitally mediated work experiences
Wang et al. (2021)	Remote work creates work-home interference, ineffective communication, procrastination, and loneliness	Traditional scales weakly capture psychological and social experiences	Limitations in understanding remote work's social and psychological effects
Selwyn (2022)	Digital academic work involves platform use, online teaching demands, digital pressure, and technology-mediated control	Conventional instruments may overlook remote academic work dimensions	Uncertainty about whether traditional scales represent remote academic realities
Robbins & Judge (2023); Spector (1985)	Core drivers such as autonomy, organisational support, recognition, and meaningful work remain stable	Traditional frameworks may remain useful but are not fully remote-specific	Support for continued use of conventional scales, but with caution
Selwyn (2022)	Digitally mediated work brings digital monitoring, platform-based coordination, constant connectivity, and blurred boundaries	Existing scales were not designed for these digital work conditions	Concerns about whether traditional tools reflect remote academic realities
Kniffin et al. (2021)	Remote work experiences evolve as employees adapt to digital systems	Cross-sectional designs measure satisfaction at one point only	Difficulty in observing how job satisfaction changes over time
Limited qualitative approaches	Qualitative evidence is often underused in job satisfaction measurement	Professional isolation, digital fatigue, identity changes, and management relationships are poorly captured	Gaps in understanding lived academic experiences

Source: Synthesised by the author from reviewed literature, 2026.

Note. Existing measurement approaches remain useful but limited because they may not fully capture digital workload, virtual supervision, technological fatigue, online teaching pressure, and lived academic experiences.

2.2.3 Contextual Factors in Measurement of Job Satisfaction

Context determines what a job-satisfaction score actually means. Kniffin et al. (2021) show that remote work can enhance flexibility and autonomy when technological and organisational conditions are supportive, but their review was not designed to validate a job-satisfaction scale for African HEIs. Selwyn (2022) similarly provides a critical account of how technology reshapes educational institutions and teaching rather than a psychometric validation study among Tanzanian academic staff. These sources are valuable because they identify conditions that may matter; they also demonstrate why local understanding is necessary before those conditions are converted into measurement items.

Babalola and Genga (2024) bring this debate directly into African higher education by identifying digital infrastructure, leadership, financial costs, diversity and equity, policy, and external conditions as important dimensions of institutional digital transformation. UNESCO (2023) and Liu and Qiang (2024) add broader evidence on technology access, connectivity, digital divides, and institutional capacity. Together, these sources show why measures used in Tanzania and comparable HEIs should not treat infrastructure or institutional support as background conditions. They may be part of the mechanism through which remote work becomes satisfying, frustrating, empowering, or exhausting.

The question is therefore not whether Western-developed instruments are unusable in African HEIs, but whether they can be applied without contextual validation. UNESCO (2023) and Liu and Qiang (2024) show that digital access, affordability, infrastructure, and institutional capacity remain uneven across settings, while Babalola and Genga (2024)

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show that African HEI digital transformation is also shaped by leadership, financing, equity, and policy. These conditions can alter how academic staffs interpret workload, flexibility, support, competence, and fairness. A measure that assumes stable digital access may understate dissatisfaction caused by infrastructure or support problems, while a measure that treats formal flexibility as actual autonomy may overstate the benefits experienced by staff. This creates an implementation risk: decision-makers may act on a score that describes the instrument more accurately than it describes the work.

Institutional governance, national digital policy, financing, and differences in staff digital competence further shape how academic staffs understand workload, fairness, autonomy, and organisational support. Measurement cannot therefore be separated from the institution and region in which it is applied. For Tanzanian and comparable African HEIs, contextual validity should be treated as part of measurement quality, because weak contextual understanding can lead not only to weak research conclusions but also to poorly targeted institutional responses. This directly addresses RQ3 on the risks of implementing or evaluating remote-work arrangements using incomplete evidence.

Table 3

Contextual Factors in Measurement of Job Satisfaction

Author(s)	Main Argument	Limitation Identified	What the Limitation Creates
Kniffin et al. (2021)	Remote work can improve autonomy, flexibility, and work–life balance when strong technological and institutional support is available	Not designed as a scale-validation study for African HEIs	Need for direct validation evidence in African HEIs
Selwyn (2022)	Digital academic work depends on institutional conditions, digital systems, and platform-based work arrangements	Critical book-based analysis rather than a Tanzanian psychometric validation study	Need for locally validated measurement approaches
Babalola & Genga (2024)	Digital transformation in African HEIs is affected by limited infrastructure, unequal technological access, and institutional resource constraints	The study does not focus specifically on remote academic job satisfaction measurement	Gap in understanding how contextual barriers shape academic staff satisfaction
UNESCO (2023); Liu & Qiang (2024)	Technology use and higher-education connectivity depend on access, infrastructure, and institutional conditions.	Broad institutional evidence rather than a remote academic job-satisfaction validation study.	Need to include ICT support, access, and infrastructure in contextual validation.
Ngulube (2023)	Transparent data analysis and reporting strengthen the credibility of educational research.	The study does not develop or validate a remote academic job-satisfaction scale.	Need for transparent reporting of how constructs and measures are selected.
UNESCO (2023); Liu & Qiang (2024)	Digital participation and benefits depend on access, affordability, infrastructure, and institutional capacity.	Generic job-satisfaction items may not explicitly represent these contextual conditions.	Risk of misreading contextual constraints as individual attitude or motivation problems.
Babalola & Genga (2024); UNESCO (2023)	Digital transformation is shaped by governance, leadership, policy, financing, equity, and conditions of use.	Formal digital-work arrangements may differ from how staff experience them in practice.	Need to distinguish formal flexibility and support from experienced flexibility and support.
Babalola & Genga (2024); UNESCO (2023)	Policy and institutional governance shape how digital systems are introduced and supported.	Measurement cannot be separated from institutional and regional context.	Need to include contextual indicators before using scores to guide institutional decisions.

Source: Synthesised by the author from reviewed literature, 2026.

Note. Job satisfaction measurement in remote academic work is shaped by institutional and regional contexts.

III. METHODOLOGY

3.1 Research Design

This study adopted a systematic literature review design guided by an interpretivist research philosophy. The design was appropriate because the study did not seek a single pooled effect; it sought to examine how remote academic work has been understood, how job satisfaction has been measured under those arrangements, where conceptual and contextual gaps remain, and what those gaps imply for institutional interpretation and action. An interpretivist orientation supported attention to meaning, setting, and lived academic experience, while the systematic review design provided a transparent route for searching, screening, extracting, appraising, and synthesising evidence. The review

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therefore combined interpretive depth with replicable procedures for study identification and analysis (Snyder, 2019; Tranfield et al., 2003).

3.2 Search Strategy

The literature search covered Google Scholar, Scopus, Web of Science, ScienceDirect, Emerald Insight, Taylor & Francis Online, and African Journals Online (AJOL) in order to capture relevant evidence across higher education, organisational behaviour, digital work, and remote work. Search terms included combinations of job satisfaction, remote work, academic staff, higher education, online teaching, digital work, and related terms, linked with Boolean operators (AND/OR). The search procedure was informed by established systematic-review guidance (Booth et al., 2016; Kitchenham & Charters, 2007; Snyder, 2019). The core search window was 2022–2025 so that the final evidence set reflected recent developments in digitally mediated academic work.

Table 4

Databases Used for Literature Search

Database	Records Identified
Google Scholar	60
Scopus	25
Web of Science	18
ScienceDirect	15
Emerald Insight	12
Taylor & Francis	10
AJOL	10
Total	**150**

Source: Synthesised by the author from reviewed literature, 2026.

Foundational theories, classic measurement instruments, methodological sources, and authoritative institutional reports published outside the 2022–2025 core search window were used only to frame and interpret the review. They were not counted among the 30 core studies included in the final synthesis.

3.3 Inclusion and Exclusion Criteria

Clearly defined inclusion and exclusion criteria were applied to strengthen transparency and reduce selection bias (Booth et al., 2016; Snyder, 2019). The core evidence set included English-language, peer-reviewed journal articles published between 2022 and 2025 that addressed job satisfaction or its measurement in remote or digitally mediated academic work within higher education. Non-academic publications, studies unrelated to job satisfaction or remote work, non-English articles, and studies outside higher education were excluded from the core review. Foundational theory, measurement manuals, methodological guidance, and authoritative policy or institutional reports were retained only as supporting sources for interpretation and were not counted within the final 30 studies.

Table 5

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Peer-reviewed journal articles	Non-academic sources
Studies published between 2022-2025	Articles not written in English
Studies on job satisfaction	Studies unrelated to job satisfaction
Research on remote academic work	Studies outside higher education

Source: Synthesised by the author from reviewed literature, 2026.

3.4 Article Screening and Selection Results

Study screening and selection followed PRISMA reporting principles to make the review process visible and reproducible (Moher et al., 2009; Page et al., 2021). The search identified 150 records. After 30 duplicates were removed, 120 titles and abstracts were screened. Fifty records proceeded to full-text assessment, and 20 were excluded for failing to meet the inclusion criteria. The final synthesis therefore comprised 30 core studies. Figure 1 displays their publication-year distribution: five studies were published in 2022, seven in 2023, ten in 2024, and eight in 2025. The pattern shows growing attention to remote academic work through 2024, followed by a modest decline in 2025 within the review window.

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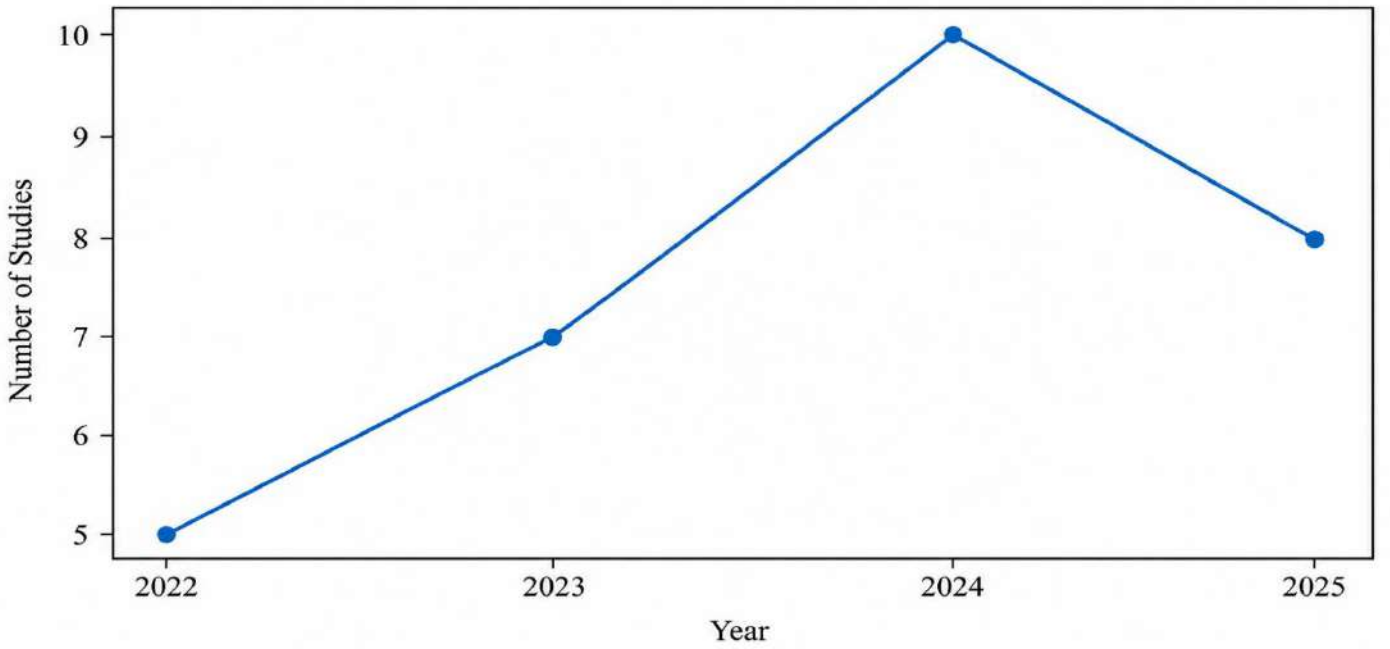


Figure 1
Trend of Publications Included in the Review (2022–2025)
Source: Synthesised by the author from reviewed literature, 2026.

Figure 1 confirms the publication pattern within the 30-study evidence set and provides a visual link between the screening results and the final body of literature analysed.

3.5 Data Extraction

After study selection, information was extracted in a structured form so that evidence could be compared consistently across sources. The extraction framework recorded author, year, research context, methodology, data-collection approach, how remote work was defined, which job-satisfaction dimensions were measured, key contextual conditions, and findings relevant to measurement or implementation. Structured extraction improves transparency and reduces the risk of comparing studies selectively (Booth et al., 2016; Kitchenham & Charters, 2007; Snyder, 2019). It also supported identification of recurring patterns in the sequence from understanding the work to measuring it and interpreting the resulting evidence (Tranfield et al., 2003). Table 6 illustrates how core studies and supporting contextual sources were organised; contextual books and institutional reports informed interpretation but were not counted among the 30 core included studies.

Table 6
Illustrative Data Extraction and Contextual Evidence Framework

Author	Year	Research Context	Methodology	Key Findings
García-Salirrosas et al.	2023	Remote work	Quantitative survey	Job satisfaction in remote work is linked to work-life balance and positive work-to-family spillover.
Babalola & Genga	2024	African higher education	Conceptual/review article	Digital transformation in African HEIs is shaped by digital infrastructure, leadership, financing, equity and policy constraints.
Selwyn	2022	Digital education and academic work	Book-based critical analysis	Digital technologies can reshape academic work through platform dependence, monitoring, workload and institutional control.
Liu & Qiang	2024	African higher education connectivity	Sector report	Connectivity gaps and resource constraints affect digital readiness in African higher education institutions.

Source: Synthesised by the author from reviewed literature, 2026.

3.6 Thematic Analysis

The extracted evidence was analysed thematically to identify recurring patterns in how remote academic work is conceptualised, how job satisfaction is measured, and where current approaches become inadequate. Thematic

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analysis is well suited to identifying patterned meaning across a body of qualitative and mixed evidence when coding and interpretation are made explicit (Braun & Clarke, 2006; Nowell et al., 2017). Findings were coded and compared across studies, then grouped into themes. The resulting themes included the understanding-measurement gap, reliance on self-reported surveys, limited adaptation of traditional job-satisfaction scales, contextual differences between higher education systems, insufficient attention to digital and institutional conditions, difficulty capturing changing remote-work experiences, and the risk of acting on incomplete measurement evidence.

3.7 Quality Assessment of Included Studies

Quality assessment was undertaken to ensure that the synthesis rested on evidence that was methodologically clear and relevant to the research problem. Each included study was examined for the clarity of its objectives, appropriateness of design, adequacy of data collection, transparency of analysis, relevance to remote academic job satisfaction, and conceptual fit between how remote work was defined and what the study actually measured. This approach is consistent with systematic-review guidance that emphasises explicit appraisal rather than treating all retrieved studies as equally informative (Booth et al., 2016; Kitchenham & Charters, 2007; Snyder, 2019; Tranfield et al., 2003). The assessment informed interpretation of the evidence rather than producing a single quality score.

IV. FINDINGS & DISCUSSION

4.1 Findings

Across the reviewed literature, the clearest pattern was that academic work has changed faster than the instruments commonly used to measure satisfaction within it. More importantly, the review showed that the problem begins before scale selection: remote academic work is not always defined with enough precision to show which parts of the job have changed and how those changes may influence satisfaction. The findings are therefore presented from understanding to measurement, and from measurement to the institutional risks of acting on incomplete evidence.

4.1.1 Understanding before Measurement: The Central Finding

The most important finding of the review comes before reliability coefficients, response scales, or statistical models: remote work is not a single, self-evident academic condition. In HEIs it can mean online teaching, virtual student supervision, digital academic administration, location flexibility, platform-based coordination, remote meetings, or combinations of these activities. These arrangements can influence autonomy, competence, workload, relatedness, supervision, feedback, work-home boundaries, and access to resources in different ways (Kniffin et al., 2021; Selwyn, 2022; Wang et al., 2021). If researchers do not first establish which of these changes are present and which ones matter for job satisfaction, the instrument may begin with the wrong construct. Statistical precision cannot correct a dimension that was never recognised and therefore never measured.

This distinction explains why understanding and measurement cannot be separated. A staff member may be described as working flexibly because tasks can be completed away from campus, yet the same person may experience constant digital availability, delayed feedback, weak collegial contact, or dependence on unreliable connectivity. Conversely, digital work can also strengthen autonomy and continuity when systems and institutional support are strong. The review therefore treats remote work as a set of experienced work conditions rather than a simple yes-or-no arrangement. The central measurement question becomes: what exactly changed in the academic job, for whom, and under what institutional conditions? Only after that question is answered can job satisfaction be measured in a way that is recognisably connected to the work being studied.

4.1.2 Methodological Limitations

Figure 2 summarises the methodological limitations associated with self-reported Likert-scale questionnaires. These instruments remain popular because they are efficient, comparable, and suitable for statistical analysis, yet self-report measurement can be affected by subjective interpretation and response effects (Spector, 1985, 1997). In remote work, the challenge becomes more pronounced because fixed items may not capture changes in workload, communication, monitoring, isolation, and work-home interference (Wang et al., 2021). For academic staff, standardised items can therefore compress a complex work experience into a limited set of response categories while leaving digital workload, online teaching responsibilities, virtual supervision, autonomy, institutional support, and work-life boundaries insufficiently represented. The result is not necessarily a statistically invalid score; it may be a valid score for an incomplete understanding of the job.

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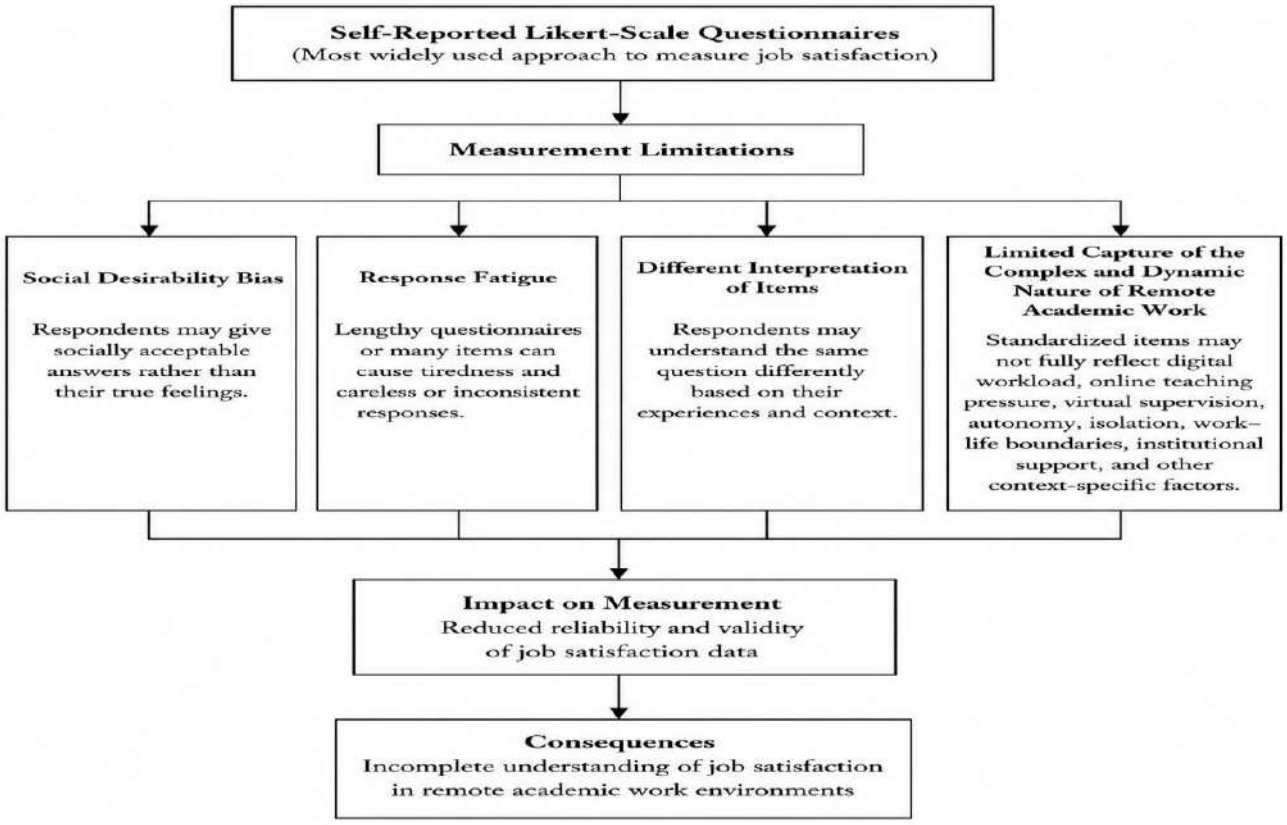


Figure 2
Methodological Limitations of Self-Reported Likert-Scale Questionnaires
Source: Synthesised by the author from reviewed literature, 2026.

4.1.3 Integration Gaps across Existing Measures

Table 7 brings the measurement problem into sharper focus by comparing established job-satisfaction, job-design, remote-work, and digital-education sources. General satisfaction scales remain strong for familiar domains such as pay, supervision, promotion, co-workers, working conditions, and overall satisfaction. Theoretically anchored models add autonomy, competence, relatedness, feedback, and task design. Remote-work studies contribute work-home interference, communication, loneliness, monitoring, and work-life balance, while digital-education and African higher-education sources highlight platform dependence, infrastructure, institutional capacity, financing, and access. The central limitation is therefore one of integration and prior understanding: no single established instrument in the reviewed literature both explains the full configuration of remote academic work and measures job satisfaction through a scale validated for Tanzanian or comparable sub-Saharan African HEIs.

Table 7
Limitations of Existing Traditional Job Satisfaction Scales

Category	Verified cited scale/source	What it measures or explains	Overall limitation in remote academic work	Type of limitation
A. General job satisfaction scales	MSQ (Weiss et al., 1967); JSS (Spector, 1985); JDI (Smith et al., 1969); job satisfaction book (Spector, 1997)	Intrinsic and extrinsic satisfaction, work, pay, promotion, supervision, co-workers and general satisfaction	Developed mainly for conventional and stable on-site organisational environments	Conceptual limitation
B. Theoretically anchored job design and motivation sources	JDS/JCM (Hackman & Oldham, 1975, 1976); SDT (Deci & Ryan, 1985; Ryan & Deci, 2000)	Autonomy, competence, relatedness, task design, feedback and motivation	Assume clearer job structures, stable feedback and traditional forms of autonomy	Conceptual limitation

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C. Remote work and work-life sources	Kniffin et al. (2021); Wang et al. (2021); García-Salirrosas et al. (2023)	Remote work, work-home interference, communication, loneliness, work-life balance and job satisfaction	Do not fully capture remote academic work in African HEIs	Methodological/contextual limitation
D. Digital education and African infrastructure sources	Selwyn (2022); Babalola & Genga (2024); UNESCO (2023); Liu & Qiang (2024)	Digital academic work, digital transformation, infrastructure and connectivity	Explain digital and contextual constraints but do not provide a validated remote academic job satisfaction scale	Contextual limitation

Source: Synthesised by the author from reviewed literature, 2026.

Table 8 takes this argument one step further by identifying the remote academic dimensions that remain weakly represented across existing instruments.

Table 8

Missing Remote Academic Dimensions in Existing Job Satisfaction Instruments

Gap Identified	Evidence Across Sources	Remote Academic Dimension	Measurement Consequence	Limitation Type
Missing remote academic dimensions	None fully integrates online teaching, supervision, digital administration, and flexibility	Remote academic work dimensions	Existing tools do not fully capture remote academic work	Conceptual limitation
Missing platform-based job dimension	None fully captures digital governance and platform-based work	Platform-mediated academic work	Platform-based control, coordination, and supervision are underrepresented	Conceptual limitation
Missing flexibility distinction	None distinguishes formal flexibility from experienced flexibility	Formal vs actual flexibility	Tools may measure policy flexibility but not how staff experience it	Conceptual limitation
Missing lived job experience	None measures lived job experience phenomenologically	Personal meaning and lived academic experience	Staff experiences are not deeply captured through lived interpretation	Methodological limitation
Missing African validation	None is validated for permanent remote HEIs in Sub-Saharan Africa	Contextual suitability	Tools may not reflect African HEI realities	Contextual limitation

Source: Synthesised by the author from reviewed literature, 2026.

4.1.4 Conceptual Limitations of Existing Job Satisfaction Measures

Figure 3 illustrates the conceptual gap between traditional job-satisfaction constructs and the realities of remote academic work. Most established instruments were developed for more conventional and physically co-located work settings, where supervision, collegial contact, feedback, and work boundaries were easier to observe as part of the formal workplace. Remote academic work changes that landscape by moving important parts of teaching, supervision, communication, and administration through digital systems. The figure therefore shows why an instrument can remain conceptually sound in its original setting yet become incomplete when the work itself has acquired new digital characteristics.

The dimensions most likely to disappear between the scale and the lived experience include online teaching pressure, digital workload, virtual collegiality, work-life boundary management, and platform-mediated supervision or evaluation. These are not minor additions. They can shape how academic staff experience autonomy, competence, feedback, recognition, and support, particularly when digital tasks extend beyond conventional working time or depend on uneven technological conditions. Their weak representation in traditional instruments helps explain why a general job-satisfaction score may not reveal the specific sources of satisfaction or strain in remote academic work.

The implication is not that established constructs should be discarded. Rather, they should become the foundation of a broader measurement framework that connects classic satisfaction dimensions with the realities of digitally mediated academic work. A context-sensitive instrument would therefore preserve comparability with established theory while adding remote-work dimensions that reflect how teaching, supervision, administration, platform use, and flexibility are actually experienced in HEIs.

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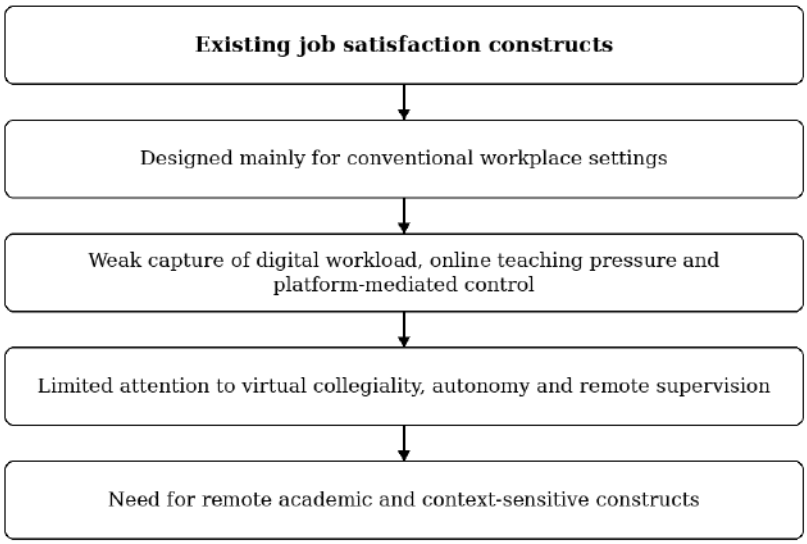


Figure 3
Conceptual Limitations of Existing Job Satisfaction Measures
Source: Synthesised by the author from reviewed literature, 2026.

4.1.5 Contextual Limitations in Developing Countries

The review also revealed a strong contextual limitation when instruments developed in comparatively well-resourced environments are transferred to developing-country HEIs without validation. In Tanzania and similar settings, the experience of remote academic work can be shaped by connectivity, access to devices, digital infrastructure, staff competence, institutional readiness, and the availability of technical support. African higher education digital transformation is itself conditioned by infrastructure, leadership, financing, equity, and policy (Babalola & Genga, 2024), while UNESCO (2023) and Liu and Qiang (2024) document wider inequalities in technology access and digital development. These conditions can change the meaning of apparently universal items on workload, autonomy, fairness, support, and flexibility. Context is therefore not background noise around the measurement; it is part of what the measurement must be able to see.

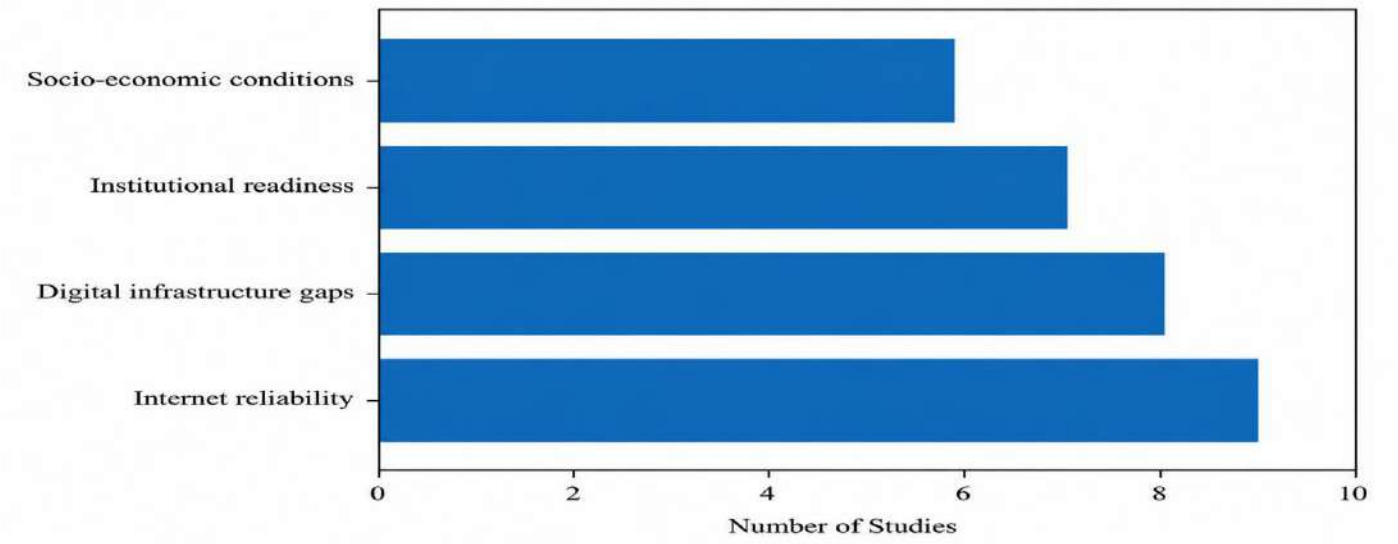


Figure 4
Contextual Limitations in Developing Countries
Source: Synthesised by the author from reviewed literature, 2026.

4.1.6 Capturing Dynamic Remote Work Experiences

Remote academic work is also dynamic. Job satisfaction can change as platforms improve or fail, workloads rise or fall, institutional expectations shift, and staff become more or less confident in digital work. Remote-work

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research shows that work design, communication, monitoring, workload, social connection, and work-home interference can all shape employee experience (Kniffin et al., 2021; Wang et al., 2021). Yet a cross-sectional survey records only one moment. When job satisfaction is treated as a fixed snapshot, researchers may miss whether an initial sense of flexibility later becomes fatigue, whether digital competence grows with experience, or whether institutional support improves over time. Longitudinal evidence is therefore important for understanding the direction and durability of remote academic job satisfaction.

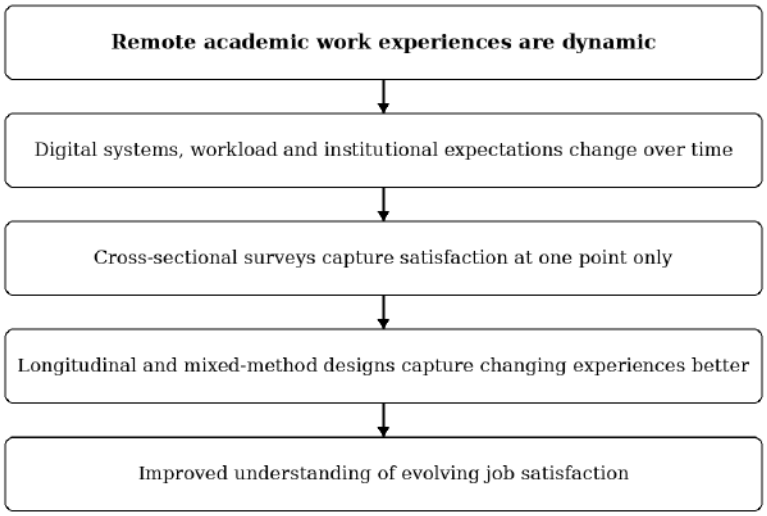


Figure 5
Dynamic Nature of Remote Academic Work Experiences
Source: Synthesised by the author from reviewed literature, 2026.

4.1.7 Limited Integration of Qualitative Insights

A further limitation is the limited integration of qualitative evidence. Survey scores are powerful for showing patterns, but they cannot always explain the story behind the number. Wang et al. (2021), for example, used qualitative and quantitative evidence to uncover remote-work challenges that include work-home interference, communication difficulties, loneliness, monitoring, and workload. In higher education, interviews, narratives, observation, and documentary evidence can similarly clarify how academic staff interpret professional identity, collegiality, autonomy, digital fatigue, and institutional expectations. Integrating these forms of evidence would make measurement more responsive to the lived experience that standardised items may overlook.

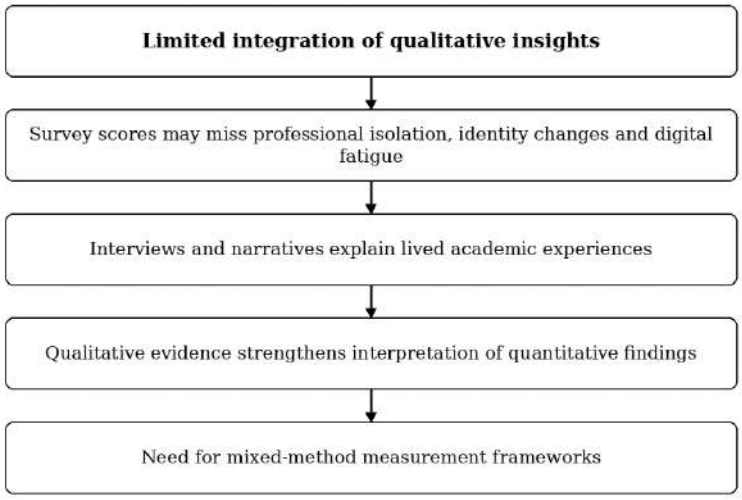


Figure 6
Limited Integration of Qualitative Insights in Job Satisfaction Research
Source: Synthesised by the author from reviewed literature, 2026.

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4.1.8 Risks of Implementing What Is Not Yet Clearly Understood

The review identifies a practical chain of risk: incomplete understanding can produce incomplete constructs; incomplete constructs can produce incomplete measures; incomplete measures can produce misleading interpretations; and misleading interpretations can shape institutional decisions. The danger is not that every remote-work initiative will reduce job satisfaction. The danger is that HEIs may implement or evaluate remote work as though its effects are already known when the work arrangement itself is still changing and context-dependent. UNESCO (2023), Liu and Qiang (2024), and Babalola and Genga (2024) show why this caution matters in settings where access, infrastructure, financing, leadership, and institutional capacity are uneven.

Several risks follow. If formal flexibility is measured without experienced autonomy, an institution may conclude that staffs have control while digital schedules and constant availability tell a different story. If workload measures ignore online preparation, virtual supervision, platform reporting, and after-hours communication, remote work may appear lighter than it is. If digital competence is measured without considering training, technical support, devices, and connectivity, institutional problems can be misread as individual weakness. If monitoring is introduced before its effects on autonomy, trust, and work-home boundaries are understood, a system designed to improve accountability may create new sources of dissatisfaction (Kniffin et al., 2021; Selwyn, 2022; Wang et al., 2021). In each case, the problem is the same: the institution acts on a partial picture of the work.

This does not justify delaying digital transformation indefinitely. It justifies a more responsible order of action. HEIs should first clarify what remote academic work involves in their own setting, listen to how staff experience it, identify which dimensions plausibly shape satisfaction, validate the measures used to represent those dimensions, and then use the evidence to design or revise policy. Measurement should therefore function as a bridge between understanding and implementation, not as a shortcut around understanding.

4.2 Discussion

The review reveals a deeper paradox than the simple contrast between old and new instruments: HEIs are trying to measure the job-satisfaction effects of a form of work whose boundaries are still being negotiated. Quantitative surveys remain indispensable because they provide structured, replicable measurement and allow comparison across employees and studies (García-Salirrosas et al., 2023; Robbins & Judge, 2023; Spector, 1997). JCM also explains why autonomy, feedback, task identity, task significance, and skill variety remain important (Hackman & Oldham, 1975, 1976), while SDT highlights autonomy, competence, and relatedness (Deci & Ryan, 1985; Ryan & Deci, 2000). The problem is not that these constructs have become obsolete. The problem is that researchers may assume they operate in the same way after academic work moves through digital systems. Understanding must therefore come first: only then can established constructs be adapted without losing their meaning.

These finding challenges the assumption that a general job-satisfaction instrument can simply be moved from a conventional workplace into a digitally mediated academic environment without first examining what remote work has changed. Selwyn (2022) shows that digital technologies reshape educational practices, institutions, and the work of teachers, making technology part of the organisation of academic labour rather than merely a tool used within it. Wang et al. (2021) similarly show that remote work can introduce work-home interference, communication challenges, loneliness, monitoring, and workload pressures. These insights explain why conventional measures may miss platform-mediated coordination, online teaching demands, digital communication, experienced flexibility, and the changing timing and location of academic work. The defensible response is adaptation rather than rejection: established instruments should be retained where they remain conceptually relevant, expanded where remote work introduces new dimensions, and validated before their scores are used to represent academic staff experience.

Methodologically, the findings show why heavy dependence on self-reported Likert scales should be treated with caution when the phenomenon is still being understood. Spector (1997) demonstrates the long-standing importance of self-report in job-satisfaction research, while García-Salirrosas et al. (2023) show how remote-work satisfaction can be connected to work-life balance and positive work-to-family spillover. Yet fixed response options can only capture what researchers decided to include before data collection began. If academic staff experience new pressures or benefits that were never conceptualised, the questionnaire remains silent about them. Mixed-method work is therefore especially important at this stage. Qualitative evidence can identify how remote work is actually experienced; quantitative measurement can then test the prevalence, structure, and strength of those dimensions; longitudinal designs can show whether the relationships remain stable as digital systems and institutional practices evolve (Wang et al., 2021).

The strongest caution concerns context. Much remote-work research assumes levels of connectivity, infrastructure, and organisational support that cannot be taken for granted across all HEIs. In such conditions, theoretical constructs do not disappear, but the way they are experienced can change. Autonomy may be constrained by unreliable systems; competence may depend on access to training and technology; relatedness may weaken when digital interaction replaces informal collegial contact; and feedback may be delayed by fragmented platforms. This is where JCM and SDT meet the realities documented by UNESCO (2023), Liu and Qiang (2024), and Babalola and Genga (2024). Contextual

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validation is therefore not an optional final step. It is part of deciding whether the instrument is measuring the same construct in the setting where institutional decisions will be made.

The study therefore takes a balanced position with a clear practical warning. Traditional job-satisfaction tools should neither be discarded nor treated as complete. They remain valuable for measuring established dimensions such as supervision, recognition, working conditions, meaningful work, and organisational support. However, an HEI should be cautious about using a generic score as evidence that remote work is succeeding or failing unless the measure also reflects the remote academic work actually being performed. A stronger framework should capture digital workload, online teaching pressure, virtual supervision, digital competence, internet reliability, platform-mediated work, work-life boundary management, institutional readiness, experienced flexibility, and lived academic experience. The major gap is therefore not merely the absence of a new scale; it is the absence of a validated bridge from understanding remote academic work to measuring job satisfaction and then to making responsible institutional decisions.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The review began with a measurement question and ends with a more basic understanding question. Before asking, "How satisfied are academic staff under remote work?" researchers and HEIs must ask, "What does remote academic work actually change in the job, for whom, and under what conditions?" Traditional instruments such as the JSS, MSQ, JDI, and JDS remain valuable foundations, but they cannot measure dimensions that have not first been recognised and defined. Remote academic work can reshape digital workload, online teaching pressure, virtual supervision, technological dependence, work-home boundaries, collegial interaction, autonomy, competence, and institutional support. If these influences are poorly understood, measurement may be incomplete; if incomplete measurement is treated as complete evidence, policy and implementation may be misdirected. The central conclusion is therefore direct: understanding must precede measurement, and validated measurement must precede confident institutional action.

5.2 Recommendations

Future research should develop and validate a context-sensitive remote academic job-satisfaction framework through a staged process. The first stage should be exploratory: use interviews, narratives, observation, and documentary evidence to establish how academic staff actually experience remote teaching, virtual supervision, digital administration, platform-mediated coordination, flexibility, and work-home boundaries. The second stage should translate those understood experiences into constructs and items while retaining established dimensions from JCM, SDT, and validated job-satisfaction instruments. The third stage should test reliability, construct validity, measurement invariance, and contextual fit across Tanzanian and comparable African HEIs. Longitudinal and comparative designs should then examine whether the identified relationships change as digital systems, policies, and staff capabilities evolve. For practice, HEIs should avoid treating generic job-satisfaction scores as proof that a remote-work arrangement is working. Policies on workload, flexibility, monitoring, digital support, and performance should be piloted, evaluated with context-sensitive measures, and revised in light of staff experience. The goal is not simply a statistically reliable scale, but evidence that is true enough to the work to support responsible decisions.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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