

Impact of Metacognitive Regularities on Work Efficiency of University Teachers: A Role of Multiple Moderator with Role Conflict and Organizational Factor

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Abstract

Purpose: metacognitive regularities operate at multiple levels. Teachers encourage universities and evaluation-based activities at the individual level by promoting metacognitive controlled behaviors at the university level. **Design:** a structured questionnaire will be used to gather primary data for this study's empirical, deductive research design. A suitable sampling approach (such as stratified proportionate sampling) will be used to choose the target population, and statistical techniques like descriptive statistics and correlation analysis will be used to evaluate the data gathered in order to look at the regression. **Findings:** the study discovered that while role conflict did not moderate the concept and organizational factors somewhat reduced the minor impact of metacognitive regularity on work efficiency. Furthermore, the findings imply that metacognitive regularity are very strong variable which highly reduce the negativity impact of role conflicts and organizational factors. **Originality:** the significance mentioned the specific purpose to operationalized metacognitive regularities in university teachers' practices nationally and internationally. Therefore, the sustainable developmental goals 4, 13 and 17 interrelations not just for technical or financial remarks but also provide excellence in work through efficient working methods, which serve as an unseen supporting for sustainable development by increasing efficacy by metacognitive regularities, which helps to accomplish agenda 2030's through desired educational achievements.

Keywords: university teachers, university, metacognitive regularity, role conflict, organizational factor.

Introduction

Background and Objectives

Stable patterns of planning, monitoring, and evaluating cognition are known as metacognitive regularities, and they have a significant impact on how university instructors organize, carry out, and organize their academic duties in the complex and ongoing advance field of higher education. This empowers teachers to control challenging pedagogies, match activities to long-term

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objectives, and modify pedagogical tactics in response to observe and feedback in during practices. According to Qun *et al.* (2022) stated that university teachers' work stress and challenges have a negative impact on work efficiency and effectivity, work place adjustment, especially crucial for reducing role conflict, which occurs when conflicting expectations from different professional responsibilities lead to poor performance.

Teachers who utilize metacognitive regularities excellently are able to prioritize activities strategically, also identify emergent organizational factors at initial stage and reinterpret role conflict demands in ways that maintain accuracy rather than allowing own self to demoralize work efficiency (Guohong *et al.*, 2026). Additionally, university factors act as a second moderator that affects teachers work efficiency, then, Shengnan and Philip (2024) convey role conflict and university factors change together to jointly explain through a serial moderator approach. The research question is how do metacognitive regularities influence the work efficiency of university teachers through role conflict? And what extent do organizational factors explain how metacognitive regularities influence the work efficiency of university teachers? These question further explores under the deep objectives; 1) To investigate the moderating role of role conflict in the relationship between metacognitive regularities and work efficiency, 2) To assess whether organizational factors strengthen or weaken the indirect effect of metacognitive regularities on work efficiency via role conflict. The provided study is a survey explanatory conceptual overlaps that included serial moderators in order to explain how these moderators increase or decrease work efficiency of university teachers. The study author already contributes with linear regression analysis of metacognitive regularities on work efficiency of university teachers all over result was positive which give confidence for researching metacognitive regularities which is the 21s century work progressive tool. Then, contribute with comparative analysis among public and private university teachers' metacognitive regularities on their work efficiency, the result of that study showed that public university teachers are highly utilize metacognitive regularities due to low interference of administration in their working. Furthermore, researcher want to do continue analyzing university teachers work efficacy for more concrete improvement through including changing variables.

Problem and gap of the study

Metacognitive regularities are consistent and noticeable cycles for the teacher's metacognitive development system. Over the time university teachers can observe, remember student progress by pedagogies and work experiences thru planning, monitoring and evaluation and they may use before any new or repeated practice. Secondly, university administrations' may analyze teachers work efficiency every tangible action plans before implementation for proper success, for this metacognitive regularities are required great attention which may effect through organizational factors and role conflict in staff. Similarly, teachers' effective performance in duty hours and better institutional achievement are all correlated with enhancement of teachers work efficiency (Mehmet *et al.*, 2026).

Therefore, the absence of research on metacognitive regularities for university teachers' work efficiency, especially in this era when role conflict and organizational factors are majorly involved in higher education sector (Yanxing and Fariza, 2026). Considerably, this study aims to close the gap which ongoing implement in business sector currently overcome in educational field through exploring impact of metacognitive regularities on university teacher's practices under strong in-

fluenced of organizational factor and role conflict. Moreover, metacognitive regularities are crucial for the successful implementation of Agenda 2030's Sustainable Development Goals (SDGs), which intention to solve deep and interrelated broad problems of higher education in universities (Zhannura and Yevgeniya, 2025). Moreover, the existing literature rarely links teacher metacognitive regularities with organizational performance measures that are in line with SDG aims for higher education, despite the fact that the SDG agenda 2030 place a strong emphasis on quality education and institutional effectiveness. Further, this indicates a lack of knowledge about teachers' metacognitive regularities support more general university objectives and success (Rodrigo and Cristian, 2024).

Significance and purpose of the study

Metacognitive regularities are defined as frequent significance in order to meet challenging academic requirements. Thus, the development of metacognitive regularities in university teachers work efficiency is largely support sustainable development goal 4 (SDG) (Quality Education) (Rosario *et al.*, 2020). Consequently, university system that support a regulated environment are reflected in the conduct of their teachers, which benefits students in becoming lifelong learners (Ulrike, 2019). Besides, these sustainability approach issues across the SDGs with consideration for accomplishment of work with work efficiency and interaction of metacognitive regularities (Isaac and Adeyemi, 2025). Correspondingly, Joanna (2025) define SDG 13 (Climate Action), metacognitive regularities support people and organizations in identifying cognitive alterations, critically assessing information, and modifying beliefs in light of scientific data, this encourages the university to make better-informed organizational decisions at the administrative level. Likewise, Birgitta (2024) specified collaboration across industries and cultures is essential to SDG 17 (Partnerships for the Goals), allowing teachers to perform from their own viewpoints and modify their methods, metacognitive regularities promote collaboration and group work in university with pedagogical practices.

Indeed, the significance mentioned the specific purpose to operationalized metacognitive regularities in university teachers' practices nationally and internationally. Hence, the individual level of teacher's metacognitive regulatory practices supports differently in different situations help to solve various university difficulties (Romana *et. al.*, 2025). Therefore, the sustainable developmental goals 4, 13 and 17 interrelations not just for technical or financial remarks but also provide excellence in work through efficient working methods, which serve as an unseen supporting for sustainable development by increasing efficacy by metacognitive regularities, which helps to accomplish agenda 2030's through desired educational achievements (Ladislava and Marek, 2021).

Related Literature

The University Teachers

University teachers carry out a variety of professional duties, such as community involvement, teaching, research, supervision, and administrative work. Role conflict is usually brought on by these conflicting demands, which can lower productivity and raise stress levels in the workplace (Iqbal *et al.*, 2024). This study looks at how teachers' capacity to successfully manage their duties is impacted by metacognitive regularities such planning, self-monitoring, evaluation, and reflective thinking. Similarly, Maziahtusima *et al.* (2025) sated that teachers can enhance their self-

regulation abilities, better work prioritization, and lessen performance-related stress by comprehending how metacognitive regularities impact efficiency both directly and indirectly through role conflict. The results will offer useful information that university instructors can use to increase output, preserve their professional health, and raise the caliber of their scholarly contributions.

The University Administration

University administrators are in charge of institutional planning, workload distribution, performance evaluation, and establishing policies. However, Mardiyah, *et al.* (2026) specified the cognitive and organizational elements that influence academic achievement are frequently overlooked when evaluating work efficiency. This study shows how role conflict and organizational issues impact the association between instructors' metacognitive regularities and work efficiency. The impacts can guide administrators in designing professional development programs focused on enhancing self-regulation and reflective skills. Policies intended to lessen role overload, define expectations, and improve organizational support systems can also be informed by the study. Correspondingly, Sajida *et al.* (2026) argued that administrators can foster a more fruitful and encouraging learning environment by addressing both the structural and individual factors that influence performance.

The complicated role conflict which often exists between university management and teachers has a substantial impact on the university environment and, in turn, the metacognitive regularities that underlie teachers' productivity. Besides, while administrative bodies focus mainly on policy execution, oversight, metrics for performance, and university governance, teachers in many higher education institutions are expected to concurrently fulfill multiple roles as educators, researchers, mentors, evaluators, and university contributors (Fahad *et al.*, 2026). Although, there is often a structural conflict between administrative authority and academic autonomy as a result of these divergent agendas. Similarly, from a university standpoint, this conflict becomes a crucial element influencing how teachers control their professional decision-making, planning, and thought processes. However, effective academic work requires metacognitive regularities like self-monitoring, reflective planning, and strategic evaluation of teaching practices (Sovan and Megha, 2026). Nevertheless, the institutional climate created by administrative policies and leadership styles can either help or hinder these processes. Further, teachers may face role overload and psychological strain when administrative systems prioritize excessive administrative processes, strict evaluation criteria, and high reporting demands (Muhammet, 2026). This interferes with their capacity to use reflective practice and adaptive teaching practices. Regarding the other hand, teachers' metacognitive engagement with their professional activities tends to be improved by supportive administrative systems that prioritize cooperation, transparent communication, and participatory decision-making. So, teachers are more likely to intentionally evaluate their methods, modify their teaching strategies, and incorporate input from peers and students in such settings. Hence, these metacognitive regularities are greatly influenced by organizational elements like workload distribution, recognition programs, opportunities for professional growth, and institutional trust (Mohammadreza *et al.*, 2026). Secondly, teachers may adopt defensive work styles that prioritize conformity over creativity due to perceived administrative pressure or a lack of autonomy. Consequently, teachers carry stress of administrative responsibilities over maximizing learning outcomes, this shift may restrict reflective thinking and lower overall work efficiency. Additionally, how instructors understand institutional expectations and control their

professional behavior is greatly influenced by the communication dynamics between them and the administration (Patrick *et al.*, 2026). Moreover, teachers may align their metacognitive regulation tactics with institutional goals through open communication and positive feedback procedures, which strengthens the coherence between individual academic values and organizational aims. The metacognitive regularities required for successful teaching and research performance, on the other hand, may be weakened by hierarchical and opaque governance structures due to ambiguity, misreading of policies, and decreased motivation. As a result, the dispute between university management and instructors should be seen as an organizational phenomenon that directly affects academic work's cognitive and behavioral patterns rather than just an administrative difficulty (Muhammad, 2026). Although, university administration may establish a setting where teachers' metacognitive regulation planning, monitoring, and evaluation of their professional activities operate more efficiently by promoting a balanced governance model that upholds institutional accountability while respecting academic independence. Finally, it might improve university culture where teachers are empowered to continuously reflect on and progress their work efficiency in response to both university expectations and changing pedagogical demands from administrative practices which link with the intellectual and professional needs of teachers.

The University as an Organization

The effectiveness and efficiency of a university's teachers determines the universities overall performance specially for student learning outcomes, and long-term viability are all impacted by work efficiency (Akpa *et al.*, 2021). According to this current study benefits the universities by providing a pair of moderator model that incorporates role conflicts and organizational factors. Moreover, research offers a framework of might change by determining the metacognitive regularities between personal thinking processes and organizational thinking settings university teachers. Additionally, Rosnani *et al.* (2024) stated that its encourage teachers for sustainable academic success, enhance teamwork, and motivate toward evidence-based decision-making. Lastly, this study might advance the strategic objectives of universities and enhances university effectiveness.

University teachers and universities as organizations operate within a framework of metacognitive regularities the patterns of planning, monitoring, evaluating, and adjusting one's own teaching practices which significantly influence teachers' work efficiency and university effectiveness. Beside this teaching techniques are all enhanced when teachers intentionally control their teaching practices through metacognitive regularities (Samuel *et al.*, 2026). Teachers may utilizes more effectively teach curriculum, evaluate students' learning, and continuously improve their pedagogical strategies because to this increased efficiency. Universities thus transform into more dynamic learning environments that maximize the generation and distribution of information. Global development initiatives, especially the Sustainable Development Goals (SDGs) of the United Nations, are strongly aligned with the concept of metacognitive regularities (. For example, increased teacher productivity directly contributes to SDG 4 (Quality Education) by encouraging inclusive learning practices, efficient instruction, and better student academic results. SDG8 (Decent Work and Economic Growth) benefits from metacognitive regulation as well because productive and thoughtful academic work environments foster innovation, professional growth, and productivity in higher education (Rina *et al.*, 2026). Additionally, Roslina *et al.* (2026) detailed that by enhancing research capacity and innovation ecosystems, universities that

institutionalize reflective teaching approaches promote cooperation, knowledge exchange, and multidisciplinary research all of which indirectly support SDG9 (Industry, Innovation, and Infrastructure). Universities that support metacognitive professional growth at the organizational level for example, through reflective training programs, peer evaluation systems, and evidence-based teaching techniques create cultures of continual improvement. In addition to improving teacher effectiveness, this culture increases the institution's ability to support long-term social development. Essentially, incorporating metacognitive regularities into teachers' professional activities connects individual productivity with more general institutional objectives and global sustainability agendas. Universities play a crucial role in promoting sustainable development by encouraging reflective, flexible, and self-regulated education develop our graduates who are upcoming responsible citizens, critical thinkers, and contributors to knowledge-based economies for the country.

Foundation for Research

The study "Impact of Metacognitive Regularities on Work Efficiency of University Teachers: A role of multiple moderator with Organizational Factor and Role Conflict " is based on the post-positivist paradigm since it employs quantitative techniques to measure variables like role conflict, organizational factors, work efficiency, and metacognitive regularities in an objective manner (Afsaneh, 2026). Likewise, research presents the post-positivist paradigm's presumptions of normality that reality can be measured and comprehended by methodical, scientific investigation by depending on empirical evidence, hypothesis testing, and statistical modeling to discover causal and predictive linkages. Additionally, the study examines how role conflict and organizational characteristics explain the connection between metacognitive regularity and work efficiency by using statistical tools, particularly pair of moderator analysis, to explore hypothesized interactions among these variables (Paul, 2013).

Theoretical Support

In order to understand how metacognitive regularities, affect university professors' productivity, this study draws on organizational behavior theory (OBT) in early 19th century by Henri fayol in 1916, he stated five fundamental administrative tasks that are still crucial to modern administrator practice (Lumen, n.d.). After OBT The Role Conflict Theory (RCT) has been introduced by Robert K. Merton, was an American sociologist, in 1964, he introduced the structural framework for analyzing conflict within and between social roles in the mid-20th century (Britannica, 2026, para 1), and it may be more enhanced if metacognitive regularity link at university level for university teachers' practices.

The metacognitive regularity come out from the main concept of metacognition of John flavell in 1963, he was inspired by the work of Jean piaget. Then he proposed concept officially in 1971 and stated that the term meta-memory in regard to an individual's ability to manage and monitor the input, storage. Afterward, in 1976 article, Flavell recognized that metacognition consisted of both monitoring and regulation aspects. Moreover, metacognition refers, among other things, to the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in service of some concrete goal or objective search and retrieval of the contents of his own memory (Theories of Learning in Educational Psychology, n.d.). Further, Theoretical Foundations of Metacognition, he concept of

metacognition was first introduced by John H. Flavell (1976, 1979), who defined it as “knowledge about cognition and the regulation of cognition.” Flavell identified two primary components: Metacognitive Knowledge and Metacognitive Regulation, the processes involved in planning, monitoring, and evaluating one’s learning: Planning: Selecting appropriate strategies before tackling a task. Monitoring: Checking comprehension and progress during learning. Evaluating: Assessing outcomes and strategies after completing a task. Further, Daisy (2026) stated that Brown in 1987 present idea learners who engage in metacognitive processes actively manage their learning, adjust strategies, and reflect on outcomes, leading to more effective problem-solving. Lastly, Zimmerman, 2002, intersect Flavell’s and Brown’s frameworks with the information processing theory, which suggests that humans actively regulate attention, memory, and cognition to process information efficiently. Metacognition is considered a higher-order executive function that enhances cognitive performance across domains. Considerably, metacognitive regulation may help teachers navigate organizational systems more skillfully, but favorable organizational circumstances also enhance their productivity. Thus, the association between metacognitive regularities and labor efficiency is partly mediated by organizational characteristics.

Conceptual Framework

According to the conceptual framework, role conflict and organizational characteristics serve as moderators that can either improve or weaken the association between metacognitive regularity (IV) and labor efficiency (DV). Therefore, they proposed relationship can be stated as: Metacognitive regularity influences work efficiency, while role conflict and organizational factors independently moderate the strength or direction of that influence. Further explain through variables definition in relation themselves; Metacognitive Regularities: The regular and repetitive application of metacognitive regularities by university teachers to plan their strategy, monitor their performance, evaluate results, and modify tactics while executing tasks (Reena, 2026). The pair of moderators, first one is Role Conflict: according to Mbabazi *et al.* (2025) role conflict acts as a moderator, altering the direction or intensity of the association between job efficiency and metacognitive regularity which an employee encounters conflicting demands, expectations, priorities, or duties related to their work. Second one is Organizational Factors: the organizational structure, culture, leadership, communication, decision-making rights, procedures, technology, and other contextual and structural elements that influence how teachers carry out their work. This variable has the potential to either increase or decrease the impact of metacognitive regularity on productivity (Yilin, 2024). Work Efficiency: The degree to which workers retain the efficiency and efficacy while completing work with the least amount of needless time and effort (Ulduz, 2022).

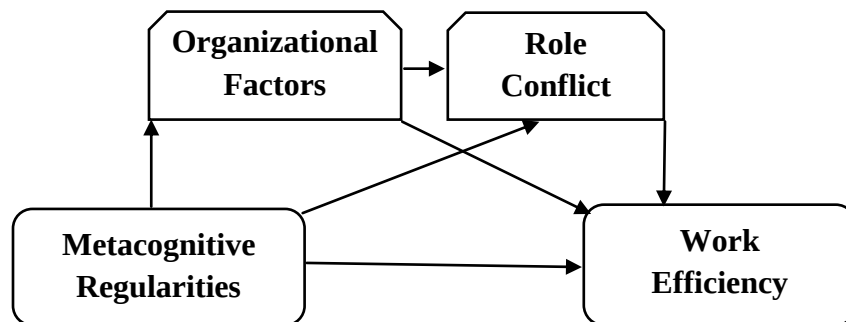


Fig: 1 Conceptual Framework

Source, Researcher (2026)

Methodology

Approach and Design of Study

A structured questionnaire will be used to gather primary data for this study's empirical, deductive research design. A survey of closed-ended questions on a 5-point Likert scale will be used to collect data directly from respondents (Gay *et al.*, 2012). A suitable sampling approach (such as stratified proportionate sampling) will be used to choose the target population, and statistical techniques like descriptive statistics and correlation analysis will be used to evaluate the data gathered in order to look at the regression (Richard, 2017) and impact of moderators on variables through process macro model 4.3. This method guarantees numerical analysis and objective analysis of participants' answers (Andrew, 2022).

Data analysis

Data analysis was conducted using regression and moderator techniques via Process Macro Model 4.3 to examine the impact of metacognitive regularities on university teachers' work efficiency. Results indicated that metacognitive regularities significantly predicted work efficiency, both directly and indirectly, through the moderating effects of role conflict and organizational factors.

Data collection

Teachers at both public and private colleges were provided with a closed-ended questionnaire to complete in order to gather data for this study. This cross-sectional survey, data were collected on role conflict and organizational factors may alter the impact of metacognitive regularities on university teachers' work efficiency. Therefore, analysis of metacognitive regularities influence teaching practices directly through the moderating effects of role conflict and organizational factors on university teachers work efficiency (Scott and Deirdre, 2009).

Instrument

The instrument was developed previously based on two scale metacognitive regularity has thirty-one items and work efficiency forty-two items but in this study author include two more scale as pair of moderator; Role conflict has five items and organizational factor has five items. These variables provide this study with theoretical linkages in a highly effective approach to support a new inquiry in light of the body of existing knowledge. Thus, the entire questionnaire consists of eighty-three items.

Population and Sample Size

The population of the study was university teachers' N=1040, and sample size was taken 281.

Result

Table I. Showed the model fit evaluation mentioned above was completed using Amos. In accordance with a received sample of 248 participants, this table demonstrates actual data. Thus,

the higher the CFI and TLI, the better, both scores accepted with ease, it indicating a good fit. RMSEA and SRMR, both figures are low, indicating a good fit and minimal error. Last, Xdf: Calculates the total variance. It is rated as Excellent at 2.140. It indicates that the model is accurate and statistically sound.

Table II. demonstrates the High Scores & Strong Consensus: The average ratings for Metacognitive Regularity and Work Efficiency were the highest. The majority of participants agreed and consistently gave these areas excellent ratings, as seen by their low standard deviations. Although, moderate to High Scores: organizational factors received a reasonably high score, a greater range of individual responses suggests a variety of participant experiences. However, with a range of lowest Score: Role Conflict had the lowest average rating overall.

The CFA results in Table III. show good measurement reliability and convergent validity across all four research variables. Similarly, Composite Reliability (CR) is used to confirm construct reliability in order to establish convergent validity. Hence, the measuring scale is verified to be reliable and accurate for additional structural analysis since each variable meets both statistical requirements.

Inferential Statistics

H₁ There is a significant relationship between the metacognitive regularities and the work efficiency.

MR * WE: There is a significant positive connection with this interaction term. The combination contributes a significant 68.3% and accounts for 68.5%. As a result, this hypothesis is supported, demonstrating that the interaction between MR and WE has a significant, statistically significant effect.

H₂: There is a significant relationship between the metacognitive regularities and the role conflict.

MR * RC: Demonstrates a weak correlation and accounts for only 0.4% of the variance with no additional unique contribution. The hypothesis was accepted to reject.

H₃: There is a significant relationship between the metacognitive regularities and the organizational factor.

MR * OF: Shows a very weak negative association, accounting for almost little variation. The hypothesis was accepted to reject.

H₄: There is a significant relationship between the role conflict and the organizational factor.

RC * WE: Displays a modest unique change and a very weak positive correlation, explaining 1.0% of variance. The hypothesis was accepted to reject.

H₅: There is a significant relationship between the organizational factor and the work efficiency.

OF * WE shows no variance explained and a negative correlation. The hypothesis was accepted to reject.

H₆: The relationship between the metacognitive regularities and the work efficiency is significantly moderated by the role conflict, such that the effect of metacognitive regularities on the work efficiency varies as a function of the role conflict.

Moderator 1 (MR * RC): $p = 0.654$, $\beta = -0.0059$. $p > 0.05$ indicates that the interaction is not statistically significant. The impact of MR on work efficiency is unaffected by RC.

H₇: The relationship between the metacognitive regularities and the work efficiency is significantly moderated by the organizational factor, such that the effect of metacognitive regularities on the work efficiency varies as a function of the organizational factor.

Moderator 2 (MR * OF): $p = 0.047$, $\beta = -0.0208$. The statistical significance of this interaction is $p < 0.05$. The favorable effect of MR on work efficiency somewhat decreases as OF rises, acting as a modest unfavorable moderator.

H₈ There is a significant effect of two-way interaction collectively pair of moderators' role conflict and organizational factor on work efficiency.

Two-way interaction of moderators (RC * OF): $\beta = -0.0019$, $p = 0.170$. reject to accept according to ($p > 0.05$).

H₉ There is a significant effect of three-way interaction collectively pair of moderators' role conflict and organizational factor and independent variable metacognitive regularity on work efficiency.

Three-way Interaction (MR * RC * OF): $p = 0.932$, $\beta = 0.0004$. reject to accept; ($p > 0.05$). The outcome is not jointly moderated by the three variables taken together.

Findings

The findings show that MR has a major primary impact on work efficiency. Only OF significantly buffers this association among the moderators that were evaluated, suggesting a slight damping effect. Higher-order joint interactions (MR * RC * OF * WE) and the interaction between RC and MR didn't display statistically significant moderating functions.

Next the investigation demonstrated that work efficiency was substantially influenced by metacognitive regularity. The remaining associations, however, were not statistically significant: MR * RC, MR * OF, RC * WE, and OF * WE. To put it simply, the only strong factor that significantly affected job efficiency was metacognitive regularity; the other factors did not change the effect.

According to the regression analysis, work efficiency was substantially predicted by metacognitive regularity ($R = .83$, $R^2 = .69$), accounting for almost 68% of the variation in work efficiency. This hypothesis was validated. All other associations, however, were extremely weak and their hypotheses were not validated (MR-RC, MR-OF, RC-WE, and OF-WE). Overall, the only factor that significantly and strongly correlated with task efficiency was metacognitive regularity.

Metacognitive regularity had a large and significant favorable impact on work efficiency, according to the moderation analysis ($\beta = .79$, $p < .001$). This connection was not significantly mod-

erated by role conflict ($\beta = -.01$, $p = .654$). Organizational factors, on the other hand, exhibited a tiny but significant moderating effect ($\beta = -.02$, $p = .047$), suggesting that the favorable effect of metacognitive regularity on work efficiency is somewhat moderated by higher organizational factors. Both the three-way interaction ($\beta = .0004$, $p = .932$) and the two-way interaction ($\beta = -.002$, $p = .170$) between role conflict and organizational factors were not significant. Overall, role conflict and the combined interactions did not significantly modify the connection.

Discussion

According to the study, metacognitive regularity is the ability to recognize and regulate one's own thoughts. This has a significant favorable impact on work efficiency. Considerably, accounted for roughly 68-69% of the variations in work efficiency, making it the most significant factor in the study. Beside this on the other hand, work efficiency was not significantly impacted through organizational factor and role conflict. Likewise, Pouya *et al.* (2025) study support current study concept and findings; Teachers at universities may be encouraged to work more efficiently, particularly by raising their level of involvement at work and fostering their creativity and innovation. Additionally, the study discovered that while role conflict did not moderate the concept and organizational factors somewhat reduced the minor impact of metacognitive regularity on work efficiency. Furthermore, the findings imply that metacognitive regularity are very strong variable which highly reduce the negativity impact of role conflicts and organizational factors. Similarly, universities may increase university teachers work efficiency by fostering teachers' metacognitive regularities in regular working pattern. Stately, Adjei *et al.* (2026), also stamped that teachers' metacognitive regulation significantly improved lecturers and also support to identified effective pedagogical implementation as a critical component of teachers working.

Conclusion

This study investigated whether role conflict and organizational factors impact the relationship between metacognitive regularity and work efficiency. The results showed that metacognitive regularity is a strong and significant predictor of work efficiency, $\beta = .83$, $R^2 = .69$, $p < .001$, confirming that employees who manage their own thinking and learning well tend to perform more efficiently at work. Work efficiency and metacognitive regularity were not significantly impacted by role conflict or organizational factors alone. However, when organizational demands grew, the beneficial effect of metacognitive regularity on work efficiency was slightly reduced by organizational factors, which did play a minor but important moderating function. This interaction was not significantly changed by role conflict or the moderators' combined and three-way interactions. In conclusion, the results show that organizational factors mostly function as a supportive condition rather than a direct effect of work efficiency in this model, with metacognitive regularity serving as the main contributor.

Implications

The outcomes provide support to the notion that metacognitive regularity, or self-regulation of thought, is a more potent predictor of work efficiency than external, work-related stressors like role conflict.

Instead of focusing only on lowering role conflict, organizational factor can increase employee productivity by enhancing teachers' metacognitive regularities.

Administrators should continue to evaluate and enhance organizational settings through university policy development to maintain the beneficial impact of university teachers' metacognitive regularity.

Policies

To support teachers in organizing and managing their metacognitive regularities at work, regularly offer metacognitive regularity training, such as seminars. This might be including in University annual policies.

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Appendix

Result

Table 1. Model fit assessment of Conceptual Framework (n=248)

Index	Value	Model fit	Fit Status
CFI	0.962	>0.90	Good fit
TLI	0.951	>0.90	Good fit
RMSEA	0.048	<0.08	Good fit
SRMR	0.041	<0.08	Good fit
χ^2/df	2.140	<3.0	Excellent

Table 2. Descriptive statistics, (n= 248)

Variable	Mean	SD	Min	Max
Metacognitive Regularity (MC)	4.120	0.475	1.00	5.00
Work Efficiency (WE)	4.092	0.466	1.00	5.00
Role Conflict (RC)	3.205	0.675	1.60	5.00
Organizational Factors (OF)	3.678	0.734	1.20	5.00

Table 3. CFA Result of the variable measurement of the model (Reliability and validity) (n= 248)

Variables	Items	AVE	CR
Metacognitive Regularity	31	0.596	0.912
Role Conflicts	05	0.541	0.854
Organizational Factors	05	0.568	0.867
Work efficiency	42	0.615	0.928

Inferential Statistics

Table 4. Multiple regression analyses of variables (n= 248)

Predictors	R	R ²	ΔR^2	Result
MR * WE	0.827	0.685	0.683	Supported
MR * RC	0.065	0.004	0.000	Not Supported
MR * OF	-0.034	0.001	-0.003	Not Supported
RC * WE	0.098	0.010	0.006	Not Supported
OF * WE	-0.007	0.000	-0.004	Not Supported

Table 5. Hypothesis significance (n= 248)

Predictors	β	f	df ¹	df ²	Sig.
MR * WE	0.827	533.821	1	246	<0.001
MR * RC	0.065	1.059	1	246	0.304
MR * OF	-0.034	0.290	1	246	0.590
RC * WE	0.098	2.410	1	246	0.122
OF * WE	-0.007	0.011	1	246	0.915

Table 6. Moderator analyses for work efficiency (n= 248)

T	β	SE	t	ρ	Decision
Main effects					
IV (MR)	0.7864	0.0379	20.764	<0.001	Excellent
Pair of Moderator					
Moderator 1 (MR * RC)	-0.0059	0.0130	-0.449	0.654	Poor
Moderator 2 (MR * OF)	-0.0208	0.0104	-1.994	0.047	Acceptable
Interactions					
Moderator pair: RC * OF	-0.0019	0.0014	-1.378	0.170	Poor
Three-way: MR * RC * OF	0.0004	0.0042	0.085	0.932	Poor