

Does Collaborative Research Matter in the Open Online Flexible Distance Learning Higher Education Institutions

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To Link this Article: <http://dx.doi.org/10.6007/IJARAFMS/v14-i3/22814> DOI:10.6007/IJARAFMS/v14-i3/22814

Published Online: 30 September 2024

Abstract

This study explored the complex relationship between organizational support, self-efficacy, and collaborative research among academicians within the context of open online flexible distance learning institutions. Recognizing the crucial role of academicians in collaborative research, the study explored these constructs within the higher education landscape. A total of 383 academicians participated in the study through a structured questionnaire. Employing Structural Equation Modeling (SEM), the study analyzed the data to examine the direct and indirect effects of organizational support and self-efficacy on collaborative research mediated by attitude. The findings revealed significant positive relationships between organizational support, self-efficacy, and attitude toward collaborative research. Crucially, attitude mediated the relationship between organizational support and self-efficacy in predicting engagement in collaborative research. These results underscore the importance of fostering a supportive organizational climate, enhancing academicians' self-efficacy, and cultivating a positive attitude towards collaboration to stimulate collaborative research. While this study offers valuable insights, future research should explore the long-term impacts of interventions that enhance organizational support and self-efficacy on collaborative research outcomes. Additionally, investigating the moderating effects of factors such as institutional

culture, technological infrastructure, and academic discipline on the relationships between the studied variables would enrich the understanding of this complex phenomenon.

Keywords: Organizational Support, Self-Efficacy, Attitude, Collaborative Research, Online Distance Learning Education

Introduction

Collaborative research among academicians in online distance learning higher education institutions is crucial for fostering innovation, enhancing educational programs' quality, and improving student outcomes (Al-Abbas & Saab, 2020). Collaborative efforts enable faculty from diverse backgrounds and areas of expertise to combine their knowledge to tackle complex problems, develop interdisciplinary approaches, and create a richer academic environment (Beaulieu et al., 2024). However, collaborative research in higher education institutions often faces challenges such as a lack of communication between departments, differences in institutional priorities, and inadequate infrastructure to support online collaboration (Björck, 2022). Faculty members may struggle with time constraints due to teaching responsibilities and administrative duties, which can diminish their willingness or ability to engage in collaborative projects (Finkel et al., 2020). Furthermore, differing levels of research self-efficacy among faculty can lead to imbalances in participation and outcomes, ultimately affecting the quality of the research (Johnston et al., 2020). The significance of studying collaborative research among academicians extends to various stakeholders, including policymakers, open online flexible distance learning institutions, employees, and students (Ryan et al., 2024). For policymakers, understanding the barriers to effective collaboration can inform the development of supportive frameworks, funding opportunities, and incentive structures that encourage joint research initiatives. Open online flexible distance learning institutions can greatly benefit from implementing strategic partnerships and fostering a culture of collaboration, as this can enhance their research output and attract more learners seeking innovative educational experiences (Thibault et al., 2023). Employees and students stand to gain from improved collaboration as it enriches the learning environment, leads to higher-quality programs, and ensures that graduates are well-prepared to meet the job market demands (Kebah et al., 2019). Moreover, collaborative research promotes a sense of community among faculty and students, encouraging networking and mentorship opportunities vital for academic and professional development (Kebah et al., 2019). Ultimately, promoting collaborative research is vital for enhancing online distance learning institutions' integrity and effectiveness, making it a worthwhile focus for investigation and investment (Li et al., 2020). In a rapidly changing educational landscape, these collaborative efforts can develop new pedagogical strategies and enhance the institution's ability to respond to emerging challenges and opportunities (Osman et al., 2018). This study aims to assess the direct and indirect relationship between organizational support and self-efficacy with collaborative research with an attitude as a mediator among the academicians in open online flexible distance learning higher education institutions.

Literature Review

Underpinning Theory

Social Cognitive Theory (SCT) (Bandura, 1986) provides a robust framework for understanding the interrelationships among organizational support, self-efficacy, and attitude toward collaborative research among academicians in open online flexible distance-learning higher education institutions. SCT posits that individuals learn through observation, imitation, and

personal experience (Bandura, 1977). In this context, academicians observe the organizational climate and infer levels of support, influencing their self-efficacy beliefs. High organizational support can foster a sense of competence and belief in one's ability to engage in collaborative research. Conversely, low support may undermine self-efficacy. Moreover, SCT emphasizes the role of self-efficacy in shaping attitudes and behaviours. Academicians with high self-efficacy are more likely to develop positive attitudes towards collaborative research, believing they can successfully contribute to such endeavours (Chen & Lee, 2022). Thus, SCT offers a comprehensive lens for examining how organizational support indirectly impacts academicians' attitudes toward collaborative research through its influence on self-efficacy. Specifically, SCT can illuminate how organizational support, as a social and environmental factor, interacts with individuals' cognitive processes (self-efficacy) to shape their attitudes and subsequent behaviour, such as engagement in collaborative research (Bandura, 1986).

Relationship between Organizational Support, Attitude & Collaborative Research

Organisational support, employee attitudes, and collaborative research are interconnected concepts explored in various studies because of their significant implications for the success and performance of organisations. Research has indicated that organisational support is crucial for promoting teamwork. Based on existing literature, employees are more likely to develop a stronger loyalty and commitment towards their organisation when they believe it values and supports their contributions (Eisenberger et al., 1986; Riggle et al., 2009). Furthermore, the relationship between organizational values and collaborative public management has been found to involve the roles of shared knowledge and organisational commitment (Ávila et al., 2021). This shows that cooperative efforts in public management might be facilitated by a supportive organizational climate that values shared knowledge and commitment. An important aspect of organisational support is how much workers feel the company values their professional growth and well-being (Park et al., 2020). Employees who believe that their company is attentive to their needs and cares about them are more likely to respond with increased dedication, engagement, and willingness to work together, according to Park et al (2020), and Mughal (2019). Furthermore, how crucial leadership philosophies shape attitudes toward change has been emphasised. In light of the COVID-19 Pandemic, it has been discovered that good attitudes toward change are positively correlated with adaptive, dispersed, and collaborative leadership styles. This suggests that collaborative leadership practices can help cultivate favourable attitudes inside a company, encouraging joint research initiatives. Additionally, it has been highlighted how important organisational citizenship behaviour is in creating a supportive work environment, employee cooperation, and positive relationships (Arifin, 2024). This conduct can potentially foster an environment in an organisation that is favourable to research and collaboration. Support from the organisation can also help workers feel connected and like they belong, which can improve the company's culture and increase employee dedication to its objectives (Park et al., 2020). Conversely, poor job satisfaction, a lack of organisational commitment, and a reluctance to participate in cooperative research projects might result from a perceived lack of organisational support (Lee & Kim, 2023). Furthermore, the literature has extensively shown the correlation between employee attitudes, such as job satisfaction and organisational commitment, and organisational support (Riggle et al., 2009 & Lee & Kim, 2023). Workers who perceive higher levels of organisational support often display higher job satisfaction and a deeper sense of loyalty to their company. These factors can result in better work output,

higher levels of motivation, and a happier workplace (Riggle et al., 2009). A positive outlook can also result in increased cooperation within the workplace. For example, studies on the connection between teacher leadership perceptions and organizational support have shown that high school teachers' perceptions of organisational support strongly predict their collaboration with peers (Dağlı & Kalkan, 2021). This suggests that educators are more inclined to work with their peers when they perceive support from their organisation. Therefore, the following hypotheses were proposed for this study:

H1: There is a relationship between organizational support and attitude toward collaborative research among academicians in the open online flexible distance-learning higher education institutions.

H2: There is a relationship between organizational support and collaborative research among academicians in the open online flexible distance-learning higher education institutions.

H3: There is a mediating effect of attitude on the relationship between organizational support and collaborative research among academicians in the open online flexible distance-learning higher education institutions.

Relationship between Self-Efficacy, Attitude & Collaborative Research

Self-efficacy refers to an individual's confidence in their ability to achieve specific goals or complete tasks, which is crucial in predicting future accomplishments. This psychological construct can be more influential than actual skills or abilities (Rosander et al., 2020). Individuals with higher self-efficacy tend to experience greater engagement, improved performance, and increased resilience against exhaustion and demotivation. Moreover, self-efficacy is dynamic and can be enhanced through various methods, such as active mastery experiences, vicarious learning, social persuasion, and emotional support (Pan, 2020). In the academic realm, faculty research competency has garnered significant attention, particularly regarding the importance of research self-efficacy in completing projects and contributions to academia (Cai et al., 2022). Qualitative studies reveal challenges faculty encounter, such as doubts about the relevance of research to their professional development and lack of confidence in their capabilities (Yoon et al., 2020). Those with high research self-efficacy demonstrate resilience, motivation, and proactive engagement with their research goals, whereas those with lower self-efficacy may experience self-doubt and hesitance. In academia, research self-efficacy profoundly affects researchers' behaviours and overall success. Understanding this relationship is essential for universities aiming to develop strategies that foster researcher engagement (Livinti et al., 2021). Attitude, another critical internal factor, significantly influences behaviour; it reflects the emotional frameworks individuals construct from their experiences. Positive attitudes promote research engagement, while negative ones, marked by anxiety and fear of failure, hinder it (Han et al., 2022). Despite extensive studies on attitudes toward research, the connection between these attitudes and research self-efficacy remains under-explored, revealing opportunities for further investigation (Werner et al., 2021). Addressing these relationships can illuminate how self-efficacy and attitudes shape the academic research landscape. Hence, the following hypotheses were proposed for this study:

H4: There is a relationship between self-efficacy and attitude toward collaborative research among academicians in the open online flexible distance-learning higher education institutions.

H5: There is a relationship between self-efficacy and collaborative research among academicians in the open online flexible distance-learning higher education institutions.

H6: There is a relationship between attitude and collaborative research among academicians in the open online flexible distance-learning higher education institutions.

H7: There is a mediating effect of attitude on the relationship between self-efficacy and collaborative research among academicians in the open online flexible distance-learning higher education institutions.

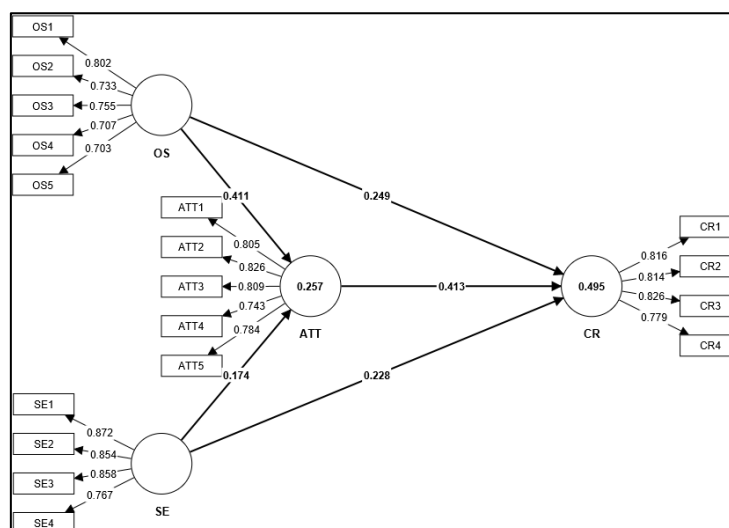


Figure 1: Research Framework

Notes: OS=Organizational Support SE=Self-Efficacy ATT=Attitude
 CR=Collaborative Research

Methodology

This research aimed to examine the direct and indirect influences between organizational support and self-efficacy in collaborative research within open online flexible distance-learning higher education institutions, with attitude as a mediating variable. Primary data was collected through surveys using established measurement scales identified through a comprehensive literature review. Given the absence of a complete population list, purposive sampling was employed to select participants who were contacted via email. The dataset comprised 18 observed variables, including organizational support (measured using a 5-item scale adapted from Eisenberger et al., 1986), self-efficacy (measured using a 4-item scale adapted from Kang et al., 2019), attitude (measured using a 5-item scale adapted from Chu & Chen, 2016), and collaborative research (measured using a 4-item scale adapted from Al-Rahmi & Othman, 2013). All constructs were evaluated using a 5-point Likert scale. Of the 507 distributed surveys, 397 were returned, yielding a response rate of 78.4%, which is considered adequate for structural equation modelling (SEM). After data cleaning, 383 usable responses remained. Data analysis and hypothesis testing were conducted using SmartPLS4, chosen for

its suitability in handling multivariate data and adhering to the guidelines outlined by (Ringle et al., 2022). This software facilitated a thorough examination of both the measurement and structural models.

Data Analysis

Respondents' Profiles

The sample consisted of 383 academicians. Regarding gender, the majority (59.3%) were male, while 40.7% were female. The age distribution showed a substantial proportion of respondents (41.3%) falling within the 41-50 years age group, followed by the 31-40 years (22.7%) and 51-60 years (20.4%) categories. A relatively smaller percentage was below 30 (7.3%) and above 60 (8.4%). Regarding years of service, the most frequent category was 11-15 years (30.5%), followed by 16-20 years (29%). A significant portion also had 6-10 years (13.6%) and 21-25 years (12.5) of experience. The sample predominantly comprised senior lecturers (77.5%), with a smaller number of associate professors (19.1%), lecturers (1%), and professors (2.3%). Overwhelmingly, 99.2% of respondents expressed willingness to participate in the study, indicating a high level of cooperation.

Common Method Bias

A collinearity test was conducted to assess the potential for common method bias. According to Kock (2015), a Variance Inflation Factor (VIF) exceeding 3.3 indicates the presence of common method bias. In this phenomenon, the observed variance in responses is attributed to the measurement instrument rather than the underlying constructs. Table 1 presents the factor-level VIF values for all variables below the critical threshold of 3.3, suggesting no significant common method bias in the data.

Table 1

Full Collinearity Test

	CR	OS	SE	ATT
CR		1.792	1.794	1.721
OS	1.614		1.581	1.673
SE	1.927	1.887		2.115
ATT	1.336	1.859	1.698	

Measurement Model

The measurement model underwent rigorous evaluation by the standards outlined by Hair et al. (2017). First- and second-order constructs were assessed, with items exhibiting factor loadings below the recommended threshold of 0.7 subjected to further scrutiny. Convergent validity was substantiated for all constructs, as evidenced by Average Variance Extracted (AVE) values exceeding the 0.5 criterion and ranging from 0.549 to 0.704 (Table 2). Furthermore, composite reliability and Cronbach's alpha coefficients for all constructs surpassed the 0.7 benchmark, affirming adequate internal consistency (Table 2). To establish discriminant validity, cross-loadings (Table 3) were examined, and the Heterotrait-Monotrait (HTMT) ratio, as proposed by Henseler, Ringle, and Sarstedt (2015), was calculated. The HTMT ratios consistently fell below the 0.85 threshold, with corresponding confidence intervals excluding 1, providing compelling evidence for discriminant validity (Table 4). These findings underscore the reliability, convergent, and discriminant validity of the measurement model,

thereby strengthening confidence in the accurate representation of the underlying constructs.

Table 2

Construct Reliability & Validity

Constructs	CA	CR	AVE
ATT	0.853	0.857	0.630
CR	0.824	0.828	0.655
OS	0.794	0.795	0.549
SE	0.859	0.861	0.704

Notes: CA=Cronbach Alpha CR=Composite Reliability

AVE=Average Variance Extracted

Table 3

Cross Loadings

Items	ATT	CR	OS	SE
ATT1	0.805	0.543	0.437	0.304
ATT2	0.826	0.493	0.402	0.246
ATT3	0.809	0.458	0.347	0.270
ATT4	0.743	0.467	0.321	0.257
ATT5	0.784	0.455	0.392	0.277
CR1	0.540	0.816	0.523	0.406
CR2	0.457	0.814	0.400	0.386
CR3	0.486	0.826	0.437	0.382
CR4	0.488	0.779	0.377	0.350
OS1	0.364	0.388	0.802	0.294
OS2	0.361	0.399	0.733	0.267
OS3	0.318	0.335	0.755	0.306
OS4	0.401	0.470	0.707	0.318
OS5	0.322	0.389	0.703	0.329
SE1	0.278	0.452	0.402	0.872
SE2	0.263	0.398	0.345	0.854
SE3	0.274	0.352	0.295	0.858
SE4	0.330	0.370	0.324	0.767

Table 4

Hetrotrait-Monotrait (HTMT) Ratio

Constructs	ATT	CR	OS
CR	0.723		
OS	0.575	0.655	
SE	0.398	0.556	0.492

Structural Model

The assessment of the structural model was conducted by the rigorous guidelines established by Hair et al. (2017), focusing on the evaluation of path coefficients (β) and coefficients of determination (R^2). The Partial Least Squares (PLS) method, employing 5000 sub-samples for path coefficient significance testing, was employed for the analysis. Table 5 summarises the

hypothesis testing results, including path coefficients (beta), corresponding t-statistics, p-values, and confidence intervals. This comprehensive analysis offers critical insights into the strength, direction, and statistical significance of the relationships between the study variables. By meticulously examining the presented data, researchers can gain a deeper understanding of the underlying theoretical framework and the empirical support for the proposed hypotheses.

Hypothesis 1 hypothesizes that organizational support has a direct influence on attitude. The results indicate a significant positive relationship between organizational support and attitude ($\beta = 0.411$, $t = 9.147$, $p < 0.001$). This supports the hypothesis that higher levels of perceived organizational support are associated with more positive academic attitudes. Therefore, *H1* is supported. *Hypothesis 2* hypothesizes that organizational support has a direct influence on collaborative research. The findings support a significant positive relationship between organizational support and collaborative research ($\beta = 0.249$, $t = 4.828$, $p < 0.001$). This suggests that higher levels of organizational support are associated with greater engagement in collaborative research. Hence, *H2* is supported. *Hypothesis 3* hypothesizes that attitude mediates the relationship between organizational support and collaborative research. The indirect effect of organizational support on collaborative research through attitude was significant ($\beta = 0.170$, $t = 6.268$, $p < 0.001$). This supports the hypothesized mediating role of attitude in the relationship between organizational support and collaborative research. Thus, *H3* is supported. *Hypothesis 4* hypothesizes that self-efficacy has a direct influence on attitude. Results indicate a significant positive relationship between self-efficacy and attitude ($\beta = 0.174$, $t = 3.485$, $p < 0.001$). This supports the hypothesis that higher levels of self-efficacy are associated with more positive attitudes among academicians. Therefore, *H4* is supported. *Hypothesis 5* hypothesizes that self-efficacy has a direct influence on collaborative research. Findings support a significant positive relationship between self-efficacy and collaborative research ($\beta = 0.228$, $t = 4.648$, $p < 0.001$). This suggests that higher levels of self-efficacy are associated with greater engagement in collaborative research. Thus, *H5* is supported. *Hypothesis 6* hypothesizes that attitude has a direct influence on collaborative research. The results indicate a significant positive relationship between attitude and collaborative research ($\beta = 0.413$, $t = 8.906$, $p < 0.001$). This supports the hypothesis that a more positive attitude is associated with greater engagement in collaborative research. Hence, *H6* is supported. *Hypothesis 7*: hypothesizes that attitude mediates the relationship between self-efficacy and collaborative research. The indirect effect of self-efficacy on collaborative research through attitude was found to be significant ($\beta = 0.072$, $t = 3.218$, $p < 0.001$). This supports the hypothesized mediating role of attitude in the relationship between self-efficacy and collaborative research. Thus, *H7* is supported.

Table 5

Hypotheses Testing Results

Hypotheses	Beta	T statistics	P values	2.50%	97.50%	Decision
H1: OS -> ATT	0.411	9.147	0.000	0.317	0.494	<i>Supported</i>
H2: OS -> CR	0.249	4.828	0.000	0.149	0.349	<i>Supported</i>
H3: OS -> ATT -> CR	0.170	6.268	0.000	0.121	0.225	<i>Supported</i>
H4: SE -> ATT	0.174	3.485	0.000	0.074	0.270	<i>Supported</i>
H5: SE -> CR	0.228	4.648	0.000	0.130	0.320	<i>Supported</i>
H6: ATT -> CR	0.413	8.906	0.000	0.317	0.499	<i>Supported</i>
H7: SE -> ATT -> CR	0.072	3.218	0.001	0.031	0.118	<i>Supported</i>

Table 6 provides a comprehensive overview of effect sizes (f^2) calculated based on Cohen's (1992) established criteria. These effect sizes, categorized as small, medium, or large, ranged from a minimum of 0.034 to a maximum of 0.251, indicating varying influence exerted by the studied variables. To assess the presence of multicollinearity, which could potentially distort coefficient estimates, Variance Inflation Factor (VIF) values were computed. All VIF values were below the commonly accepted threshold of 5, with a peak value of 1.429, suggesting negligible multicollinearity and reliable interpretation of the model's coefficients. The model exhibited substantial explanatory power, accounting for 49.5% of the variance in the dependent variable ($R^2 = 0.495$, Figure 1). Furthermore, the mediating variable explained approximately 25.7% of the variance in its structural relationship ($R^2 = 0.257$), demonstrating the model's effectiveness in capturing the mediating effect.

Table 6

Effect Sizes (f^2) & Variance Inflation Factor (VIF)

Constructs	f^2		VIF	
	ATT	CR	ATT	CR
ATT		0.251		1.346
OS	0.189	0.086	1.202	1.429
SE	0.034	0.083	1.202	1.243

The model's predictive performance and managerial implications were evaluated through rigorous out-of-sample analysis using the PLSpredict method, as recommended by (Shmueli et al 2016; 2019). As shown in Table 7, PLS-SEM exhibited superior predictive accuracy compared to the naive mean benchmark, consistently demonstrating lower Root Mean Square Error (RMSE) values than the linear model (LM) baseline. PLS-SEM outperformed the LM in five out of nine instances, emphasizing its strong predictive capabilities. Building upon these advancements, the Cross-Validated Predictive Ability Test (CVPAT) introduced by Hair et al. (2022) and integrated with PLSpredict by Lienggaard et al (2021), was employed to assess predictive performance further. Table 8 corroborates the superior predictive power of PLS-SEM, as evidenced by lower average loss values compared to indicator averages and the LM benchmark, providing robust support for the model's predictive accuracy.

Table 7

PLSpredicts

Items	Q ² predict	PLS-RMSE	LM-RMSE	PLS-LM
ATT1	0.200	0.626	0.625	0.001
ATT2	0.161	0.632	0.639	-0.007
ATT3	0.131	0.678	0.675	0.003
ATT4	0.113	0.695	0.703	-0.008
ATT5	0.163	0.626	0.634	-0.008
CR1	0.305	0.632	0.633	-0.001
CR2	0.207	0.629	0.626	0.003
CR3	0.231	0.682	0.693	-0.011
CR4	0.178	0.716	0.714	0.002

Table 8

Cross Validated Predictive Ability Test (CVPAT)

	Average loss difference	t-value	p-value
ATT	-0.076	4.601	0.000
CR	-0.132	6.262	0.000
Overall	-0.101	6.341	0.000

Ringle and Sarstedt (2016) along with Hair et al. (2018) introduced Importance Performance Map Analysis (IPMA) to evaluate the significance and effectiveness of latent variables in explaining acceptance, as elaborated in Table 9. The overall impact on collaborative research was most pronounced for organizational support (0.419), followed by attitude (0.413), and self-efficacy (0.300), highlighting their relative importance in collaborative research. Organizational support scored the highest (67.417), while attitude scored the lowest (60.821) on a 0-100 scale, indicating better performance for organizational support and lower achievement for attitude. Despite ranking second in leader collaborative research importance, the attitude displayed the lowest performance. These findings suggest prioritizing strategies to enhance attitudes among academicians, potentially improving the overall collaborative research of academicians in open online flexible distance learning higher education institutions.

Table 9

Importance-Performance Map Analysis

Constructs	Importance	Performance
ATT	0.413	60.821
OS	0.419	67.417
SE	0.300	66.731

Discussion & Conclusion*Discussion*

Institutions can implement several strategic initiatives to foster organizational support and self-efficacy among academicians in open, online, flexible distance-learning higher education institutions. Perceived organizational support can be enhanced by prioritizing open communication channels, providing adequate resources, and recognizing academicians' contributions (Wu et al., 2022). This involves establishing regular communication platforms,

allocating sufficient resources for research and teaching, and implementing formal recognition programs to acknowledge academicians' achievements. Simultaneously, bolstering academicians' self-efficacy can be facilitated by offering professional development opportunities, implementing robust mentoring programs, and cultivating a supportive work environment (Zheng et al., 2018). Providing access to workshops, conferences, and online courses, pairing experienced faculty with early-career academics, and creating a psychologically safe environment where academicians feel valued and supported are crucial components of this strategy. To optimize the impact of these strategies on collaborative research, institutions should prioritize collaboration, create avenues for knowledge sharing, and foster a culture of innovation (Borle et al., 2022). This involves establishing collaborative research platforms, organizing knowledge-sharing seminars, and encouraging interdisciplinary research projects. Moreover, cultivating a positive attitude towards collaborative research through strong leadership support, effective reward systems, and emphasizing the tangible benefits of collaborative endeavours is crucial (Wu et al., 2022). By strategically integrating these approaches, institutions can create a conducive environment that nurtures organizational support, enhances self-efficacy, and fosters a positive attitude towards collaborative research, ultimately driving increased engagement and successful research outcomes.

Theoretical Implications

This study, grounded in Bandura's (1986), Social Cognitive Theory (SCT), offers significant theoretical implications for understanding the interplay among organizational support, self-efficacy, and collaborative research among academicians in open online flexible distance learning higher education institutions. SCT posits individuals as proactive agents who can influence their environments through cognitive processes, personal factors, and environmental interactions. The theory emphasizes the reciprocal relationship between individuals and their environments, a concept aligned with this study's findings. Organizational support, a key environmental factor, emerged as a catalyst for enhancing academicians' self-efficacy and subsequent engagement in collaborative research. This finding resonates with SCT's notion of vicarious learning, where individuals learn by observing others' behaviours and outcomes. By experiencing supportive organizational practices, academicians developed a stronger belief in their ability to engage in collaborative research. Furthermore, the study underscored self-efficacy's pivotal role in shaping behaviour, as theorized by SCT. Academicians with higher self-efficacy were more inclined to participate in collaborative research, aligning with Bandura's assertion about self-efficacy as a primary determinant of motivation and behaviours. Extending SCT, this study introduced attitude as a mediating factor influencing the relationship between organizational support, self-efficacy, and collaborative research. This finding highlights the cognitive processes through which environmental factors and personal beliefs impact behaviour. By demonstrating the influence of affective factors on this relationship, the study contributes to a more comprehensive understanding of the SCT framework.

Practical Implications

The findings of this study offer valuable insights for higher education institutions seeking to enhance collaborative research among academicians in open online flexible distance learning environments. To foster a conducive environment for collaborative research, institutions should prioritize strategies that enhance organizational support and academic self-efficacy.

Institutions can significantly boost perceived organisational support by implementing open communication channels, providing adequate resources, and recognizing academicians' contributions. Simultaneously, offering professional development opportunities, mentoring programs, and a supportive work environment can enhance academic self-efficacy. Moreover, cultivating a positive attitude towards collaborative research is crucial. Institutions can achieve this by emphasizing the importance of collaboration, creating knowledge-sharing platforms, and recognizing the benefits of collaborative projects. By strategically combining these strategies, institutions can create a culture that values collaboration and empowers academicians to engage in fruitful research partnerships. Ultimately, these efforts will increase research productivity, innovation, and institutional reputation. It is essential to note that these strategies require sustained commitment and resources from institutional leadership. Regular evaluation and adjustment of these initiatives are necessary to ensure their ongoing effectiveness in fostering a collaborative research culture.

Limitations & Suggestions for Future Research

While this study provides valuable insights into the relationships among organizational support, self-efficacy, attitude, and collaborative research, it is important to acknowledge its limitations. The cross-sectional design of the study precludes causal inferences. Longitudinal research is needed to establish temporal precedence and causality among the variables. Additionally, the sample was limited to academicians in open online flexible distance learning higher education institutions, which may limit the generalizability of the findings to other educational contexts. Future research could explore these limitations by employing longitudinal designs and expanding the sample to include academicians from different types of higher education institutions. Despite these limitations, the findings of this study offer a significant contribution to understanding the factors influencing collaborative research among academicians. By building upon the theoretical framework of SCT, this research provides a foundation for future studies to delve deeper into the complexities of human agency, environmental influences, and behaviour in educational settings.

Conclusion

This study has demonstrated the critical role of organizational support and self-efficacy in fostering collaborative research among academicians in open online flexible distance-learning institutions. Through the lens of Social Cognitive Theory, the study established the mediating role of attitude in this relationship. By enhancing organizational support, developing academic self-efficacy, and cultivating a positive attitude towards collaboration, institutions can significantly boost research productivity and innovation. The findings underscore the need for a holistic approach that addresses environmental and individual factors to optimize collaborative research outcomes. Future research could delve deeper into the mechanisms underlying these relationships and explore the long-term impacts of interventions that enhance organizational support and self-efficacy.

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