

Unveiling Innovative Work Behavior among Academicians in Open Online Flexible Distance Learning Higher Education Institutions

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Abstract

Academicians in higher education institutions play an increasingly important role in driving innovation and progress as online learning platforms advance and the fourth industrial revolution emerges. Fostering a culture of innovative work behavior is essential for these institutions to stay at the forefront of their respective fields. When academicians engage in innovative work behaviors, such as adapting to changing environments, generating new ideas, and experimenting with novel approaches, they can help to advance knowledge, improve educational quality, and better prepare students to face future challenges. The purpose of this research is to assess the direct and indirect relationships between psychological empowerment, job autonomy, organizational support, and work innovative behavior across Malaysian open online flexible distance learning higher education institutions, with self-efficacy serving as a mediating factor. The Social Cognitive Theory (SCT) will be used as an underpinning theory in this study. The survey questionnaires have been disseminated through email using purposive sampling, with a total of 320 valid responses. The collected data have been analysed using Structural Equation Modelling (SEM) methods, utilising SPSS 23 and SmartPLS 4 software. The study endeavours to offer a comprehensive understanding of the interaction between these variables and their impact on innovative work behaviour by utilising the Social Cognitive Theory as the foundational framework. Ultimately, this will provide insights into the development of an environment that fosters self-efficacy and innovative work behaviour in Malaysian open online flexible distance learning higher education institutions.

Keywords: Psychological Empowerment, Job Autonomy, Organizational Support, Work Innovative Behavior, Self-Efficacy

Introduction

In the evolving landscape of higher education, particularly within the context of open online flexible distance learning institutions, the concept of innovative work behavior (IWB) among educators has gained paramount importance (Dixit & Upadhyay 2021). IWB, which encompasses the generation, promotion, and realization of novel ideas within a work role, is

essential for the continuous improvement and adaptation of educational practices and technologies (Zreen et al 2021). This capability is critical in online distance-learning environments where traditional face-to-face interactions are limited, necessitating new methods to engage, motivate, and educate students effectively (Lambriex-Schmitz et al., 2020). Recent trends in higher education highlight a growing emphasis on innovation to enhance teaching and learning experiences. Institutions are increasingly adopting advanced digital tools, incorporating artificial intelligence, and fostering collaborative online platforms to support remote education (Namono et al., 2021). However, the challenge lies in empowering educators to harness these technologies innovatively (Aboobaker, 2020). This requires a supportive organizational environment that fosters psychological empowerment, job autonomy, and organizational support, all of which are instrumental in cultivating a culture of innovation (Almahamid & Ayoub, 2022). The problem of fostering IWB in online distance-learning higher education institutions is multifaceted. While technological advancements provide the tools necessary for innovative practices, the human element—specifically, the psychological and motivational factors influencing educators remains a critical area of concern (Appau et al., 2021). Psychological empowerment, job autonomy, and organizational support are key factors that can either hinder or promote IWB (Hair et al., 2017). Yet, the interplay between these factors and how they collectively impact IWB, particularly through the mediating role of self-efficacy, remains underexplored in the Malaysian context (Ibrahim et al., 2021).

This present study carries substantial importance for the policymakers, academicians, and students. For policymakers, understanding the direct and indirect relationships between psychological empowerment, job autonomy, organizational support, and IWB, with self-efficacy as a mediator, can inform the development of policies that create an enabling environment for educators (Farrukh et al., 2023). Such policies might include professional development programs, incentive structures, and support systems designed to enhance educators' self-efficacy and innovative capabilities (Shafait et al., 2021). For academicians, the insights from this study can aid in identifying specific areas where institutional support is lacking, enabling targeted interventions to foster a more innovative educational culture (Baharuddin et al., 2019). Additionally, for students, the benefits of enhanced IWB among educators translate to a more engaging, adaptive, and effective learning experience (Ibus et al 2020). Furthermore, it endeavours to contribute to the broader discourse on educational innovation and effectiveness in the digital age by investigating these dynamics within open online flexible distance-learning higher education institutions Khan et al., (2020). This study aims to assess the direct and indirect relationships between psychological empowerment, job autonomy, organizational support, and work innovative behavior with self-efficacy as a mediator in Malaysian open online flexible distance learning higher education institutions.

Underpinning Theory

According to Social Cognitive Theory (SCT) Albert Bandura (1986), individuals acquire knowledge through the process of learning and function through reciprocal interactions between cognitive, behavioral, and environmental influences, with a key construct being self-efficacy, which refers to an individual's belief in their capability to organize and execute actions required to achieve desired outcomes. Specifically, SCT can provide a robust theoretical framework for the study, as psychological empowerment and job autonomy are closely aligned with the environmental influences in SCT, where when employees feel

empowered and have autonomy over their work, it can enhance their self-efficacy beliefs; organizational support is related to the environmental influences in SCT, where when employees perceive strong organizational support, it can contribute to their self-efficacy by providing resources, feedback, and a supportive context; and self-efficacy, as a mediator, is a central concept in SCT, where self-efficacy beliefs influence the choices people make, the effort they put forth, how long they persevere in the face of difficulties, and their resilience to failures, which can then drive innovative work behaviours. By grounding the study in the SCT framework, this paper can provide a strong theoretical rationale for the proposed relationships and generate insights into how to foster innovative work behaviours among academicians through the enhancement of their self-efficacy beliefs, which are influenced by psychological empowerment, job autonomy, and organizational support.

Literature Review

Relationship between Psychological Engagement, Self-Efficacy & Innovative Work Behaviour

The relationship between psychological engagement and innovative work behaviour (IWB) in higher education institutions is crucial, particularly as these institutions strive to foster environments conducive to continuous improvement and adaptation (Xu et al., 2022). Psychological engagement, characterized by a sense of involvement, commitment, and enthusiasm for one's work, is a key driver of IWB (Zhang & Wang, 2022). When educators are psychologically engaged, they are more likely to invest effort in generating, promoting, and implementing novel ideas that enhance teaching and learning processes (Kebah et al., 2019b). Self-efficacy, or an individual's belief in their ability to succeed in specific situations, serves as a vital mediator in this relationship (Kumar et al., 2022). High self-efficacy enhances an educator's confidence in their innovative capabilities, making them more likely to take initiative and persist in the face of challenges (Harun et al., 2022). It bridges the gap between psychological engagement and the actual demonstration of IWB by reinforcing the belief that one's innovative efforts will be successful and impactful (Raihan & Uddin, 2023). In higher education institutions, fostering psychological engagement through supportive policies, professional development opportunities, and recognition of innovative efforts can significantly boost self-efficacy among educators (Karimi et al 2023). Consequently, this enhanced self-efficacy catalyzes IWB, driving the institution towards greater innovation and improved educational outcomes. Understanding and leveraging this relationship is essential for creating dynamic, forward-thinking educational environments (Wan et al., 2022). Hence, the following hypotheses were proposed for this study:

H1: There is a relationship between psychological engagement and self-efficacy in the innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

H2: There is a relationship between psychological engagement and innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

H3: There is a mediating effect of self-efficacy on the relationship between psychological engagement and innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

Relationship between Job Autonomy, Self-Efficacy & Innovative Work Behaviour

Job autonomy, the degree to which educators can make decisions and exercise discretion in their work, plays a pivotal role in fostering innovative work behaviour (IWB) within higher education institutions (Akkaş, 2023). When educators experience high levels of job autonomy, they are more likely to explore new methods, experiment with innovative teaching practices, and implement creative solutions to challenges (Li et al., 2020). This sense of autonomy empowers educators to take ownership of their work, which is crucial for nurturing IWB (Jufrizen & Sitompul, 2023). Self-efficacy acts as a critical mediator in this relationship. Educators with high self-efficacy believe in their ability to successfully carry out innovative tasks and overcome obstacles (Kebah et al., 2019a). When job autonomy is present, it enhances an educator's sense of control and competence, thereby boosting their self-efficacy (Sheeba & Christopher, 2023). This increased self-efficacy, in turn, makes educators more confident in their ability to innovate and more resilient in the face of potential setbacks (Wickneswary et al., 2024). In higher education institutions, promoting job autonomy through flexible policies, support for creative endeavors, and opportunities for professional growth can significantly enhance educators' self-efficacy (Yan & Loang 2024). This elevated self-efficacy then facilitates IWB, driving institutional innovation and contributing to the development of a dynamic, forward-thinking educational environment Herbiyanti et al., (2024). Understanding this relationship is essential for fostering a culture of continuous improvement and adaptability in higher education (Wu et al., 2024). Therefore, the following hypotheses were proposed for this study:

H4: There is a relationship between job autonomy and self-efficacy in the innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

H5: There is a relationship between job autonomy and innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

H6: There is a mediating effect of self-efficacy on the relationship between job autonomy and innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

Relationship between Organizational Support, Self-Efficacy & Innovative Work Behaviour

Organizational support, encompassing resources, encouragement, and recognition provided by an institution, is integral to fostering innovative work behaviour (IWB) among educators in higher education (Pratiwi et al., 2023). When educators perceive strong organizational support, they feel valued and empowered to pursue innovative ideas and practices (Lambi & Budiman, 2024). This support can manifest through professional development opportunities, access to technological tools, and a collaborative work environment, all of which are essential for driving innovation (Choi et al., 2021). Self-efficacy, or the belief in one's ability to achieve goals, mediates the relationship between organizational support and IWB. Educators who perceive high levels of organizational support are likely to experience increased self-efficacy (Indajang et al., 2023). This enhanced self-efficacy empowers them to take risks, experiment with new approaches, and persist in the face of challenges (Osman et al., 2018). The confidence gained from self-efficacy encourages educators to engage in IWB, as they believe

in their capacity to implement and sustain innovative practices (Ahmad et al., 2023). In higher education institutions, fostering organizational support through clear communication, resource allocation, and a culture of recognition and collaboration can significantly bolster educators' self-efficacy (Peng et al., 2023). This, in turn, promotes IWB, leading to enhanced educational practices and institutional growth Shafait & Huang (2023). Understanding and leveraging this relationship is crucial for creating a thriving, innovative academic environment that continuously adapts to evolving educational demands (Musenze & Mayende, 2023). Therefore, the following hypotheses were proposed for this study:

H7: There is a relationship between organizational support and self-efficacy in the innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

H8: There is a relationship between organizational support and innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

H9: There is a relationship between self-efficacy and innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

H10: There is a mediating effect of self-efficacy on the relationship between organizational support and innovative work behaviour of academicians in open online flexible distance-learning higher education institutions

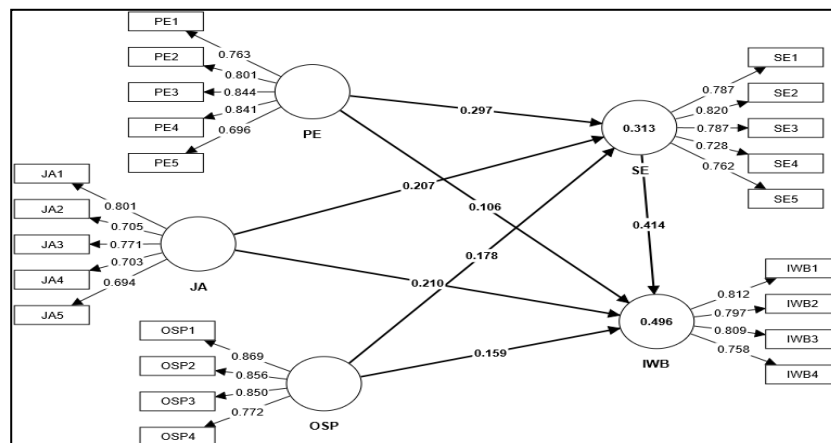


Figure 1: Research Model

Note: PE=Psychological Engagement JA=Job Autonomy OSP=Organizational Support SE=Self-Efficacy IWB=Innovative Work Behaviour

Method

This study aimed to thoroughly examine the direct and indirect relationships between psychological empowerment, job autonomy, organizational support, and work innovative behavior, with self-efficacy as a mediator, in Malaysian open online flexible distance learning higher education institutions. To achieve this objective, researchers meticulously curated primary data, ensuring the selection of reliable and valid measurements through an exhaustive review of existing literature. Survey questionnaires were then emailed to chosen participants, employing purposive sampling due to the absence of a comprehensive

population list. The analysis scrutinized 23 observed variables, encompassing independent variables such as psychological engagement (5 items) adopted from Nor et al (2024), job autonomy (5 items) adopted from Chen et al (2020), and organizational support (4 items) adopted from Cropanzano & Mitchell (2005). The mediating variable of self-efficacy (5 items) was adopted from (Yi-No Kang et al., 2022), and the dependent variable of innovative work behavior (4 items) was adopted from (Gupta & Thoma 2019). Respondents evaluated elements within each construct using a Likert scale with five response options, contributing to a comprehensive dataset. Out of 420 surveys distributed, 357 were collected, yielding a satisfactory response rate of 85%, conducive to employing structural equation modeling (SEM) in data analysis. Subsequently, 323 surveys were deemed suitable for analysis. To conduct data analysis and hypothesis testing, the researchers used SmartPLS4 software, which is well-known for its proficiency in SEM techniques. This decision was driven by the software's strong assessment capabilities and expertise in managing multivariate data analysis, which aligned with the study's objectives and followed Hair et al., (2018) recommendations. The utilisation of SmartPLS4 allowed for a thorough examination of the proposed hypotheses and the execution of rigorous multivariate data analysis, thereby enabling a comprehensive evaluation of both measurement and structural models. Below is the respondents' profiles of this study:

		Frequency	Percent
Gender	Male	154	47.7
	Female	169	52.3
Age	<30 years	35	10.8
	31-40 years	94	29.1
	41-50 years	107	33.1
	51-60years	59	18.3
	>60years	28	8.7
Year Employed	<5years	15	4.6
	6-10years	73	22.6
	11-15years	96	29.7
	16-20years	81	25.1
	21-25years	47	14.6
	>25years	11	3.4
Position	Professor	1	0.3
	Associate Professor	24	7.4
	Senior Lecturer	182	56.3
	Lecturer	116	35.9
	Total	323	100.0

Data Analysis

Common Method Bias

As illustrated in Table 2, the VIFs derived from the overall collinearity assessment were found to be below 3.3, confirming the absence of any common method bias issue within the model.

	IWB	PE	JA	OSP	SE	
IWB			1.928	1.860	1.872	1.567
PE	1.882			1.462	1.881	1.839
JA	1.853	1.492			1.910	1.930
OSP	1.270	1.306	1.299			1.308
SE	1.430	1.718	1.767	1.760		

Measurement Model

The methodology employed in this study adhered to the guidelines proposed by Hair et al., (2017) in order to evaluate each measurement at both the first and second order. This approach enabled the identification of items with loadings that fell below the threshold of 0.7. The examination of construct reliability and validity demonstrated that the Average Variance Extracted (AVE) for all constructs varied between 0.542 and 0.701, surpassing the threshold of 0.5. This finding emphasises the presence of robust convergent validity, as established by Hair et al., (2017) (Table 3). Additionally, the composite reliability of all constructs exceeded 0.7, with values ranging from 0.790 to 0.872. Furthermore, the Cronbach's alpha values for all constructs were greater than 0.7, with a range of 0.788 to 0.857 (Table 3). Initially, we assessed cross-loadings to verify the appropriate representation and measurement of the respective constructs in order to ensure discriminant validity (Table 3). In accordance with the recommended criterion for evaluating discriminant validity in Variance-Based Structural Equation Modelling (VB-SEM) Henseler et al., (2015), we subsequently utilised the Heterotrait-Monotrait (HTMT) ratio for further assessment. In Table 4, the HTMT ratios, original sample, and 95% confidence intervals were displayed, thereby confirming adherence to the HTMT threshold of 0.85.

Constructs	Item	Loadings	CA	CR	AVE
Innovative Work Behaviour	IWB1	0.812	0.806	0.811	0.631
	IWB2	0.797			
	IWB3	0.809			
	IWB4	0.758			
Job Autonomy	JA1	0.801	0.788	0.790	0.542
	JA2	0.705			
	JA3	0.771			
	JA4	0.703			
	JA5	0.694			
Organizational Support	OSP1	0.869	0.857	0.859	0.701
	OSP2	0.856			
	OSP3	0.850			
	OSP4	0.772			
Psychological Engagement	PE1	0.763	0.850	0.872	0.625
	PE2	0.801			
	PE3	0.844			
	PE4	0.841			
	PE5	0.696			
Self-Efficacy	SE1	0.787	0.836	0.840	0.604
	SE2	0.820			

SE3	0.787
SE4	0.728
SE5	0.762

Notes: CA=Cronbach Alpha CR=Composite Reliability AVE=Average Variance Extracted

	IWB	JA	OSP	PE
JA	0.660			
OSP	0.523	0.474		
PE	0.596	0.783	0.436	
SE	0.753	0.568	0.439	0.575

Result and Discussion

Structural Model

The methodology proposed by Hair et al., (2017) was employed to evaluate the structural model in this study, which involved a comprehensive analysis of the coefficients of determination (R^2) and pathway coefficients (β). The significance level of path coefficients was determined using the Partial Least Squares (PLS) method, which was implemented with 5000 sub-samples. Table 5 summarises the results of hypothesis testing for confidence intervals, including path coefficients (beta), corresponding t-statistics, and p-values

Hypotheses	Beta	T-statistics	P-values	2.50%	97.50%	Decision
H1: PE -> SE	0.297	4.517	0.000	0.165	0.426	Accepted
H2: PE -> IWB	0.106	1.597	0.110	-0.022	0.238	Rejected
H3: PE -> SE -> IWB	0.123	3.608	0.000	0.063	0.199	Accepted
H4: JA -> SE	0.207	3.460	0.001	0.085	0.319	Accepted
H5: JA -> IWB	0.210	3.267	0.001	0.081	0.335	Accepted
H6: JA -> SE -> IWB	0.086	3.397	0.001	0.038	0.137	Accepted
H7: OSP -> SE	0.178	3.461	0.001	0.076	0.277	Accepted
H8: OSP -> IWB	0.159	3.020	0.003	0.050	0.259	Accepted
H9: SE -> IWB	0.414	8.323	0.000	0.319	0.509	Accepted
H10: OSP -> SE -> IWB	0.074	3.171	0.002	0.032	0.124	Accepted

The variables under investigation have a varying impact, as evidenced by the detailed overview of effect sizes (f^2) in Table 6 range from small (0.012) to large (0.234). Furthermore, the Intrinsic Value Inflation Factor (VIF) values consistently remained below the more lenient threshold of 5, with the highest value being 1.929. Robustness in the comparison of sizes and the interpretation of coefficients within the structural model is guaranteed by this level of collinearity. The endogenous construct demonstrates a significant level of explained variance, as evidenced by an R^2 value of 0.496 (Figure 1). Regarding the mediator, the model's effectiveness in capturing the underlying dynamics of the mediation process is underscored by its R^2 value of 0.313, which explains approximately 31.3% of the variance in the structure. Referring to the mediator, this is the case.

Table 6

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

	f^2		VIF	
	IWB	SE	IWB	SE
JA	0.046	0.034	1.884	1.822
OSP	0.040	0.038	1.27	1.224
PE	0.012	0.071	1.929	1.801
SE	0.234		1.455	

As illustrated in Table 7, the application of PLS-SEM produced significantly superior Q^2 predictions (>0) compared to naive mean predictions. It consistently demonstrated lower Root Mean Square Error (RMSE) values than linear model (LM) benchmarks, highlighting its robust predictive capabilities. Notably, in eight out of nine instances, the RMSE values for PLS-SEM predictions outperformed those for the LM prediction benchmark, demonstrating the proposed model's predictive strength (see Table 7). Predictive modelling techniques have advanced significantly with the introduction of the Cross-Validated Predictive Ability Test (CVPAT) by Hair et al., (2018) and its integration with PLSpredict analysis by Liengaard et al., (2021). Additionally, Table 8 confirms the superior predictive capabilities of PLS-SEM, as demonstrated by its lower average loss values in comparison to indicator averages and LM benchmarks, thereby providing substantial evidence of its enhanced predictive performance.

Table 7

PLSpredicts

Items	Q^2 predict	PLS-RMSE	LM_RMSE	PLS-LM
IWB1	0.294	0.547	0.549	-0.002
IWB2	0.219	0.551	0.560	-0.009
IWB3	0.234	0.600	0.615	-0.015
IWB4	0.150	0.645	0.653	-0.008
SE1	0.227	0.560	0.564	-0.004
SE2	0.185	0.567	0.581	-0.014
SE3	0.124	0.606	0.605	0.001
SE4	0.149	0.615	0.634	-0.019
SE5	0.188	0.553	0.566	-0.013

Table 8

Cross-Predictive Ability Test

	Average loss difference	t-value	p-value
IWB	-0.098	5.710	0.000
SE	-0.071	4.324	0.000
Overall	-0.083	5.662	0.000

Importance Performance Map Analysis (IPMA) was introduced by Ringle & Sarstedt (2016) and Hair et al., (2018) to assess the effectiveness and significance of latent variables in explaining acceptance, as detailed in Table 9.

The overall impact on innovative work behaviour was most pronounced for self-efficacy (0.414), followed by job autonomy (0.296), organizational support (0.233), and psychological engagement (0.229), highlighting their relative importance in innovative work behaviour. Organizational support scored the highest (67.197), while self-efficacy had the lowest score (60.549) on a 0-100 scale, indicating better performance for organizational support and lower achievement for self-efficacy. Despite ranking first in innovative work behaviour importance, self-efficacy displayed the lowest performance. These findings suggest prioritizing strategies to enhance self-efficacy among academicians, potentially improving the overall innovative work behaviour of academicians in open online flexible distance learning higher education institutions.

Table 9

Importance-Performance Map Analysis (IPMA)

	Total Effect	Performance
JA	0.296	65.732
OSP	0.233	67.197
PE	0.229	66.370
SE	0.414	60.549

By enhancing psychological engagement, job autonomy, and organizational support, institutions can significantly boost academicians' self-efficacy, or their belief in their ability to execute tasks successfully, leading to a greater willingness to engage in innovative behaviors. Academicians who feel more confident in experimenting with new ideas and approaches contribute to a more innovative, dynamic, and effective educational environment, ultimately benefiting both academicians and students.

Conclusion

This study underscores the pivotal roles of psychological engagement, job autonomy, organizational support, and self-efficacy in fostering innovative work behavior among academicians in open online flexible distance learning higher education institutions. By applying Social Cognitive Theory, the study reveals how these factors interact within a complex educational landscape, emphasizing the importance of supportive environments and individual beliefs in driving educational innovation. Practical implications suggest that institutions should prioritize creating engaging and supportive online environments while empowering academicians with autonomy and resources to innovate. The study's contextual relevance highlights its contribution to understanding and improving educational practices in digital learning settings. Future research directions could explore additional factors influencing these relationships and employ longitudinal or comparative approaches to further refine strategies for promoting innovation in distance education.

Furthermore, this research enhances Social Cognitive Theory (SCT) by examining its relevance to innovative work behaviour (IWB) among academics in Open Online Flexible Distance Learning (OOFDL) higher education institutions. The study demonstrates how individual beliefs about personal capabilities (self-efficacy) mediate the relationship between psychological empowerment, job autonomy, and organisational support, thereby fostering innovation, by analysing these elements. This conceptual framework expands upon SCT by demonstrating how academicians in OOFDL institutions navigate the intricate online learning environment to develop and implement new ideas. This conceptual contribution improves

SCT's relevance to digital, adaptable educational settings, offering a deeper understanding of how innovation can be fostered within these unique institutional frameworks. It also provides practical implications for developing policies that foster innovation in OOFDL institutions. Ultimately, this study provides valuable insights for policymakers, administrators, and educators seeking to enhance the quality and effectiveness of online higher education through fostering a culture of innovation.

References

- Aboobaker, N. (2020). Influence of digital learning orientation and readiness for change on innovative work behaviour: reflections from the higher education sector. *Development and Learning in Organizations*, 34(2), 25–28. <https://doi.org/10.1108/DLO-08-2019-0191>
- Ahmad, A., Saleem, S., & Qamar, B. (2023). Exploring the Relationship between Workplace Ostracism and Innovative Work Behavior: Mediating Role of Creative Self-Efficacy. *NICE Research Journal*, 16(2), 1–22.
- Akkaş, H. (2023). Moderating Effect of Flexible Work Arrangements on The Relationship Between Self-Efficacy and Innovative Work Behavior: Evidence from The Logistic Sector. *Business and Economics Research Journal*. <https://doi.org/10.20409/berj.2023.429>
- Albert Bandura. (1986). *Social Foundations of Thought and Action. A Social Cognitive Theory*.
- Almahamid, S. M., & Ayoub, A. E. A. (2022). A predictive structural model of new ways of working on innovative work behaviour: Higher education perspective in the Gulf Cooperation Council. *Creativity and Innovation Management*, 31(3), 410–429. <https://doi.org/10.1111/caim.12510>
- Appau, B. K., Marfo-Yiadom, E., & Kusi, L. Y. (2021). Performance implication of talent management and innovative work behaviour in Colleges of Education in Ghana. *International Journal of Economics and Business Administration*, 7(1), 1–10.
- Baharuddin, M. F., Masrek, M. N., & Shuhidan, S. M. (2019). Innovative Work Behaviour of School Teachers: a Conceptual Framework. *IJAEDU- International E-Journal of Advances in Education*, September, 213–221. <https://doi.org/10.18768/ijaedu.593851>
- Chen, L., Li, M., Wu, Y. J., & Chen, C. (2020). The voicer's reactions to voice: an examination of employee voice on perceived organizational status and subsequent innovative behavior in the workplace. *Personnel Review*, 50(4), 1073–1092. <https://doi.org/10.1108/PR-07-2019-0399>
- Choi, W.-S. S., Kang, S. W., & Choi, S. B. (2021). behavioral sciences Innovative Behavior in the Workplace : An Empirical Study of Moderated Mediation Model of Self-Efficacy , Perceived. *Behavioral Sciences*, 11(11), 0–17.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An Interdisciplinary review. *Journal of Management*, 31(6), 874–900. <https://doi.org/10.1177/0149206305279602>
- Dixit, A., & Upadhyay, Y. (2021). Role of JD-R model in upticking innovative work behaviour among higher education faculty. *RAUSP Management Journal*, 56(2), 156–169. <https://doi.org/10.1108/RAUSP-03-2020-0060>
- Farrukh, M., Meng, F., Raza, A., & Wu, Y. (2023). Innovative work behaviour: the what, where, who, how and when. *Personnel Review*, 52(1), 74–98. <https://doi.org/10.1108/PR-11-2020-0854>
- Gupta, V., & Thoma, A. (2019). Fostering tacit knowledge sharing and innovative work behaviour: An integrated theoretical view. *International Journal of Managerial and Financial Accounting*, 11(3–4), 320–346. <https://doi.org/10.1504/IJMFA.2019.104134>

- Hair, J. ., Hult, G. T. ., C.M, R., & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (PLS-SEM). *2nd Edition, Sage Publication Inc., Thousand Oaks, CA.* <https://doi.org/10.4236/ajac.2013.43015>
- Hair, J., Sarstedt, M., Ringle C. M. (2018). Advanced issues in partial least squares structural equation modeling. *Thousand Oakes, CA: Sage Publications.* <https://doi.org/10.4236/oalib.1105324>
- Harun, M. F. Bin, Yunhendri, R. Bin, Shaharudin, M. H. Bin, & Kanapathipillai, K. (2022). the Impact of Self-Efficacy and Creative Process Engagement on Innovative Work Behaviour in the Telecommunication Industry in Malaysia. *European Journal of Economic and Financial Research, 6(2)*, 1–24. <https://doi.org/10.46827/ejefr.v6i2.1273>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43(1)*, 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Herbiyanti, F., Rahmawati, I., & Ayu Hardjowikarto, D. (2024). The role of Intrinsic Motivation On Innovative Work Behavior Mediated By Creative Self-Efficacy. *Journal Research of Social Science, Economics, and Management, 3(12)*, 1687–1698. <https://doi.org/10.59141/jrssem.v3i12.673>
- Ibrahim, N. F., Abdullah, N., Teknikal, U., Sharif, S. M., Teknikal, U., Saleh, H., & Teknikal, U. (2021). Relationship Between Well-Being and Innovative Work Behaviour in Public Educational Institutions : a Conceptual Paper. *Academy of Entrepreneurship Journal, 27(5)*, 1–10.
- Ibus, S., Wahab, E., Ismail, F., & Omar, R. (2020). Stimulating innovative work behavior among academics in private higher educational institutions. *International Journal of Innovation, Creativity and Change, 4*, 245–261. <https://doi.org/10.53333/ijicc2013/11420>
- Indajang, K., Sembiring, L. D., & Sudirman, A. (2023). Innovative Work Behavior Strengthening Model : Role of Self-Efficacy, Knowledge Sharing, and Organisational Creative Climate as Predictors. *Valid: Jurnal Ilmiah, 21(1)*, 44–53.
- Jufrizen, & Sitompul, S. M. R. (2023). *Knowledge Sharing as Mediating Influence Transformational Leadership and Self-Efficacy on Innovative Work Behavior.* 2(1), 12–26.
- Karimi, S., Ahmadi Malek, F., Yaghoubi Farani, A., & Liobikienė, G. (2023). The Role of Transformational Leadership in Developing Innovative Work Behaviors: The Mediating Role of Employees' Psychological Capital. *Sustainability (Switzerland) , 15(2)*. <https://doi.org/10.3390/su15021267>
- Kebah, M., Raju, V., & Osman, Z. (2019a). Growth of online purchase in Saudi Arabia retail industry. *International Journal of Recent Technology and Engineering, 8(3)*, 869–872. <https://doi.org/10.35940/ijrte.C4054.098319>
- Kebah, M., Raju, V., & Osman, Z. (2019b). Online purchasing trend in the retail industry in Saudi. *International Journal of Recent Technology and Engineering, 8(3)*, 865–868. <https://doi.org/10.35940/ijrte.C4053.098319>
- Khan, M. A., Ismail, F. B., Hussain, A., & Alghazali, B. (2020). The Interplay of Leadership Styles, Innovative Work Behavior, Organizational Culture, and Organizational Citizenship Behavior. *SAGE Open, 10(1)*. <https://doi.org/10.1177/2158244019898264>
- Kumar, D., Upadhyay, Y., Yadav, R., & Goyal, A. K. (2022). Psychological capital and innovative work behaviour: The role of mastery orientation and creative self-efficacy. *International Journal of Hospitality Management, 102*, 1–10. <https://doi.org/10.1016/j.ijhm.2022.103157>
- Lambi, M., & Budiman, B. (2024). Self-Efficacy Studies and Innovative Behaviors: the Role of

- Organizational Support at the Manokwari District Social Office. *American Journal of Economic and Management Business (AJEMB)*, 3(3), 1–10. <https://doi.org/10.58631/ajemb.v3i3.69>
- Lambriex-Schmitz, P., Van der Klink, M. R., Beausaert, S., Bijker, M., & Segers, M. (2020). When innovation in education works: stimulating teachers' innovative work behaviour. *International Journal of Training and Development*, 24(2), 118–134. <https://doi.org/10.1111/ijtd.12175>
- Li, X. T., Rahman, A., Connie, G., & Osman, Z. (2020). Examining customers' perception of electronic shopping mall's e-service quality. *International Journal of Services, Economics and Management*, 11(4), 329–346. <https://doi.org/10.1504/IJSEM.2020.111930>
- Liengaard, B. D., Sharma, P. N., Hult, G. T. M., Jensen, M. B., Sarstedt, M., Hair, J. F., & Ringle, C. M. (2021). Prediction: Coveted, Yet Forsaken? Introducing a Cross-Validated Predictive Ability Test in Partial Least Squares Path Modeling. *Decision Sciences*, 52(2), 362–392. <https://doi.org/10.1111/deci.12445>
- Musenze, I. A., & Mayende, T. S. (2023). Ethical leadership (EL) and innovative work behavior (IWB) in public universities: examining the moderating role of perceived organizational support (POS). *Management Research Review*, 46(5), 682–701. <https://doi.org/10.1108/MRR-12-2021-0858>
- Namono, R., Kemboi, A., & Chepkwony, J. (2021). Enhancing innovative work behaviour in higher institutions of learning: the role of hope. *World Journal of Entrepreneurship, Management and Sustainable Development*, 17(4), 632–643. <https://doi.org/10.1108/WJEMSD-07-2020-0073>
- Nor, M., Nor, W., Wan, S., & Jislan, F. (2024). *Innovative Work Behaviour: A Bibliometric Analysis and Future Research Directions*. 16(2), 696–704.
- Osman, Z., Mohamad, W., Mohamad, R. K., Mohamad, L., & Sulaiman, T. F. T. (2018). Enhancing students' academic performance in Malaysian online distance learning institutions. *Asia Pacific Journal of Educators and Education*, 33(January), 19–28. <https://doi.org/10.21315/apjee2018.33.2>
- Peng, M. Y. P., Xu, C., Zheng, R., & He, Y. (2023). The impact of perceived organizational support on employees' knowledge transfer and innovative behavior: comparisons between Taiwan and mainland China. *Humanities and Social Sciences Communications*, 10(1). <https://doi.org/10.1057/s41599-023-02242-4>
- Pratiwi, N. A., Fatimah, S., & Susilo, A. K. (2023). The Impact of Organizational Support and Employee Attitude to Innovative Work Behavior Mediating Role of Psychologic Empowerment. *Journal of Information and Organizational Sciences*, 47(2), 443–470. <https://doi.org/10.31341/jios.47.2.11>
- Raihan, T., & Uddin, M. A. (2023). The influence of creative self-efficacy, creative self-identity, and creative process engagement on innovative behaviour. *International Journal of Business Innovation and Research*, 30(1), 18–35. <https://doi.org/10.1504/IJBIR.2020.10036364>
- Ringle, C. M., & Sarstedt, M. (2016). Gain more insight from your PLS-SEM results the importance-performance map analysis. *Industrial Management and Data Systems*, 116(9), 1865–1886. <https://doi.org/10.1108/IMDS-10-2015-0449>
- Shafait, Z., & Huang, J. (2023). Exploring the Nexus of Emotional Intelligence and University Performance: An Investigation Through Perceived Organizational Support and Innovative Work Behavior. *Psychology Research and Behavior Management*, 16(October), 4295–4313. <https://doi.org/10.2147/PRBM.S422194>

- Shafait, Z., Yuming, Z., Meyer, N., & Sroka, W. (2021). Emotional intelligence, knowledge management processes and creative performance: modelling the mediating role of self-directed learning in higher education. *Sustainability (Switzerland)*, 13(5), 1–19. <https://doi.org/10.3390/su13052933>
- Sheeba, M. J., & Christopher, B. P. (2023). Exploring the role of employee learning goal orientation and creative self-efficacy in fostering individual innovative work behaviours: evidence from Indian automotive industry. *International Journal of Work Innovation*, 4(4), 293–314. <https://doi.org/10.1504/IJWI.2023.134985>
- Wan, X., He, R., Zhang, G., & Zhou, J. (2022). Employee engagement and open service innovation: The roles of creative self-efficacy and employee innovative behaviour. *Frontiers in Psychology*, 13(September), 1–13. <https://doi.org/10.3389/fpsyg.2022.921687>
- Wickneswary, N., Rahman Bin Senathirajah, A. S., Haque, R., Naces Udang, L., Osman, Z., Al-Ainati, S., Al-Hunaiyyan, A., Bin Md Isa, M., & Ramasamy, G. (2024). *Kurdish Studies Factors Influencing College Students' Educational Enrolment Choice in Private Higher Education Institutions in Klang Valley, Malaysia*. 2, 2051–4883. <https://doi.org/10.58262/ks.v12i2.274>
- Wu, B., Song, Y., Zuo, M., Zhai, L., & Zhang, M. (2024). Job stressors and the innovative work behaviour of STEM teachers: serial multiple mediation role of creative self-efficacy and creative motivation. *Asia Pacific Journal of Education*, 00(00), 1–19. <https://doi.org/10.1080/02188791.2024.2360957>
- Xu, Y., Liu, D., & Tang, D. S. (2022). Decent work and innovative work behaviour: Mediating roles of work engagement, intrinsic motivation and job self-efficacy. *Creativity and Innovation Management*, 31(1), 49–63. <https://doi.org/10.1111/caim.12480>
- Yan, W. Y., & Loang, O. K. (2024). Building a Research Model for the Relationship Between Enterprise Innovation Values and Employees' Innovation Behavior: With Innovation Self-efficacy as a Mediator. *Studies in Systems, Decision and Control*, 223, 55–65. https://doi.org/10.1007/978-3-031-51997-0_5
- Yi-No Kang, Chang, C.-H., Kao, C.-C., Chen, C.-Y., & Chien-Chih Wu. (2022). Development of a short and universal learning self-efficacy scale for clinical skills. *PLoS ONE*, 17(11 November), 1–11. <https://doi.org/10.1371/journal.pone.0275672>
- Zhang, G., & Wang, Y. (2022). Organizational identification and employees' innovative behavior: the mediating role of work engagement and the moderating role of creative self-efficacy. *Chinese Management Studies*, 16(5), 1108–1123. <https://doi.org/10.1108/CMS-07-2021-0294>
- Zreen, A., Farrukh, M., & Kanwal, N. (2021). Do HR practices facilitate innovative work behaviour? Empirical evidence from higher education institutes. *Human Systems Management*, 40(5), 701–710. <https://doi.org/10.3233/HSM-201001>