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Moderated by entrepreneurial bricolage: Entrepreneurial competence and entrepreneurial innovation on sustainability performance

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Abstract

The purpose of this study was to examine the effect of entrepreneurial competencies and entrepreneurial innovation on sustainability performance with moderation of entrepreneurial bricolage (Study on *Endek* Weaving in Klungkung Regency). This study uses a quantitative approach and uses the population as a sample. The sampling design uses non-probability sampling with saturated sample technique that uses all members of the population of 97 participants consisting of owners or managers as managers of *Endek* weaving. Data were collected through questionnaires distributed directly and google form. Data analysis techniques were analyzed descriptively and inferential statistics using the WarpPLS 7.0 program. The analysis showed that entrepreneurial competencies and entrepreneurial innovation have a significant positive effect on sustainability performance. Moderation of entrepreneurial bricolage weakens the relationship between entrepreneurial competencies and sustainability performance, including in the category of pure moderation. Entrepreneurial bricolage is not able to moderate the relationship of entrepreneurial innovation on sustainability performance, which shows the type of potential moderation. The implication of this research is that to improve sustainability performance, *Endek* weaving owners or managers need to improve and optimize the integration of entrepreneurial competencies, entrepreneurial innovation and entrepreneurial bricolage as a step towards achieving sustainability and maintaining the existence of *Endek* weaving in the long term.

Keywords: Sustainability performance; Entrepreneurial competencies; Entrepreneurial innovation; Entrepreneurial bricolage

1. Introduction

Synergy in achieving sustainable performance in an entrepreneurship cannot be separated from the effect of entrepreneurial competencies. According to Man et. al. (2002) that entrepreneurial competencies are an entrepreneurial ability that is deployed by entrepreneurs in managing all resources to achieve goals. Entrepreneurial competencies are needed to overcome a competitive business environment, reflected in entrepreneurs such as attitudes, intellectuals, behavior and managerial (Pepple & Enuoh, 2020). Competence is a characteristic that entrepreneurs must have in optimizing business-related abilities, namely, having skills, being creative, optimistic, flexible and daring to take risks. The basis of these competencies can drive the process of building a profitable and sustainable company (Vu & Nwachukwu, 2021). Entrepreneurial competencies can be used as a competitive advantage in increasing company resilience. The success of entrepreneurial performance and growth is highly dependent on entrepreneurial competencies which are fundamental factors in achieving sustainable performance (Michellmore & Rowley, 2013). The increasingly complex conditions of the entrepreneurial environment require entrepreneurs to be more creative and innovative. The ever-changing business environment encourages business actors to continue to be adaptive in developing companies and making decisions to take opportunities to achieve goals (Tehseen et. al., 2020). Research by Koliby et. al. (2022) revealed that entrepreneurial competence plays a strong role in driving sustainable performance. Meanwhile, Nasir et. al. (2017) showed that minimizing entrepreneurial competence would be an obstacle

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to entrepreneurship development. Given the importance of entrepreneurial competence in the context of MSMEs, in developing countries MSMEs often experience obstacles in access to resources, poor commitment, and lack of managerial training (Maniruzzaman, 2017). Achieving sustainability performance goals in an entrepreneurship requires innovation capabilities as a form of adaptation to change appropriately. Innovation is the application of concepts or adoption of new ideas, procedures, services or products in an organization to adapt the company to environmental changes (Shamsuddin et. al., 2017). Entrepreneurial innovation is identical to the process carried out by entrepreneurs in developing products and services that can improve entrepreneurial performance. The application of innovation in entrepreneurship can be an accelerator for long-term business development (Chu et. al., 2023; Ismail, 2022). Research by Koliby et. al. (2022) found that creating innovation in entrepreneurship will strengthen sustainability performance which will foster flexibility in responding to changes and market demands. Although MSMEs are still experiencing delays in developing innovation (Hameed & Naveed, 2019). These limitations can lead to a decline in employment statistics in entrepreneurial growth. Entrepreneurial initiation often begins in an environment with limited resources, so the adoption of bricolage is considered a combination of strategies in managing existing resources to create opportunities and add new value (Baker & Nelson, 2005). The resources in question are goods or physical labor, creative ideas, science and technology (Han & Xie, 2023). Entrepreneurial bricolage is an antecedent of entrepreneurial science which refers to efforts to effectively use existing resources (Scazziota et al, 2023). Utilizing available resources triggers business actors to be more efficient in optimizing goals. Findings by Tajeddini et. al. (2023) revealed that entrepreneurial bricolage effects differentiation advantages to achieve sustainable competitive advantages.

Entrepreneurial adaptation to change requires entrepreneurs to be able to optimize entrepreneurial competencies to decide on strategies to achieve sustainable performance. Entrepreneurial competencies can support entrepreneurs to implement entrepreneurial bricolage effectively in achieving sustainable performance (Adeline & Slamet, 2021). Entrepreneurial bricolage refers to the ability to create novelty from limited resources that can drive sustainability performance (Alsharif et. al., 2021). The ability to manage resources allows entrepreneurs to be more creative and innovative to achieve sustainability (Purnamawati et. al., 2021). Not in line with Sviathanu & Pillai (2019) who stated that the integration of entrepreneurial bricolage can reduce the capacity to achieve sustainability, if it does not optimize management capabilities in business operations. Business operations carried out under conditions of limited resources are only able to support solutions in the short term (Baker & Nelson, 2005).

Entrepreneurial innovation plays a role in sustainable entrepreneurial growth. The ability to innovate reflects the strength of an organization to achieve competitive advantage, especially in managing its resources (Telagawathi et. al., 2022). The use of available resources can facilitate the implementation of creative ideas in entrepreneurial creativity (An et. al., 2017). The ability to use available resources creatively through entrepreneurial bricolage can encourage the achievement of sustainability performance (Sivathanu & Pillai, 2019). Entrepreneurial bricolage interacts with innovations that are linked to sustainable competitive advantage (Salunke et. al., 2013). Research conducted by Beltagui et. al. (2021) revealed that the application of bricolage in entrepreneurial innovation to achieve sustainability performance requires synergy from all resources creatively and actively. Xiaobao et. al. (2022) showed that the contribution of bricolage to the application of innovation was unable to support the achievement of business sustainability, because quality resources were needed to overcome a problem.

1.1. Literature Review and Hypothesis Development

Entrepreneurial competencies are important capabilities in achieving sustainable performance. Optimizing capabilities effectively and efficiently in managing entrepreneurship will drive competitive advantage (Vu & Nwachukwu, 2021). Koliby et. al. (2022) revealed that entrepreneurial competencies play a strong role in driving sustainable performance. Entrepreneurial competencies are capital in MSMEs as a basis for the ability to handle risks and adapt to new opportunities. In line with research by Tehseen et. al. (2020) states that competencies are important for achieving economic, social and environmental goals in the context of MSMEs in order to achieve long-term sustainability. Mitchellmore & Rowley (2013) identified entrepreneurial competencies as the most important predictor for achieving sustainable performance growth. Entrepreneurial competencies are vital capabilities for entrepreneurs that can encourage the recognition of quality opportunities, careful management of internal and external resources to achieve sustainable goals (Pepple & Enuoh, 2020). Research by Aidara et. al. (2021) shows that entrepreneurial competencies have a positive impact on achieving competitive advantage in micro-business groups.

H1: Entrepreneurial competencies have a positive and significant effect on sustainability performance.

The sustainability of an entrepreneur in the long term can be achieved through adaptation and innovation efforts. Entrepreneurial innovation Ismail (2022) stated that entrepreneurial innovation can trigger the emergence of creative

ideas and methods in creating novelty to achieve sustainability performance. The application of innovation in entrepreneurship has a positive impact on the sustainability performance of manufacturing entrepreneurs through experiments with new ideas (Koliby, 2022). Guerrero & Urbano (2020) revealed that increasing company performance sustainably depends on the innovation carried out. Research by Chu et. al. (2023) verifies the importance of innovating in sustainable company growth. Kant et. al. (2023) found that entrepreneurial innovation can determine increased sustainability in business.

H2: Entrepreneurial innovation has a positive and significant effect on sustainability performance.

The application of entrepreneurial bricolage emphasizes the collaboration of available resources as a mechanism to encourage exploration of business development (Baker & Nelson, 2005). Entrepreneurial competencies are useful in the process of running a company through the management of all components, especially resource management (Pepple & Enuoh, 2020). Entrepreneurial competencies are vital capital in implementing entrepreneurial bricolage effectively to achieve sustainable performance (Adeline & Slamet, 2021). Entrepreneurial bricolage is an effective strategy to achieve business sustainability, in situations of crisis and uncertainty, the ability of entrepreneurs as triggers for more profitable change initiatives (Alsharif et. al., 2021). The findings of Tajeddini et. al. (2023) reveal the use of entrepreneurial bricolage as an identification of potential in exploring opportunities to achieve competitive advantage. Senyard et. al. (2014) believe that entrepreneurial bricolage can create an impact on sustainability, when facing situations of limited resources.

H3: Entrepreneurial bricolage moderates the effect of entrepreneurial competencies on sustainability performance.

The initiative to create new ideas to achieve entrepreneurial growth is beneficial to sustainability performance and encourages entrepreneurial innovation. Decisions in solving problems related to resource limitations in the entrepreneurial environment require a strategy for managing available resources to create opportunities (Baker & Nelson, 2005). The findings of an et. al. (2017) state that the application of bricolage has a significant effect on entrepreneurial innovation and emphasizes the success of the application of bricolage in relatively new entrepreneurs compared to mature entrepreneurs. It is also stated that mature MSMEs are better able to meet resource limitations through strategic alliances. Salunke (2013) states that bricolage effects innovation that is associated with achieving sustainable competitive advantage. Entrepreneurial bricolage is a solution in facing challenges in difficult times for sustainable company growth (Sivathanu & Pillai, 2019).

H4: Entrepreneurial bricolage moderates the effect of entrepreneurial innovation on sustainability performance.

2. Methods

The research location is in Klungkung Regency, based on the administrative area consisting of four sub-districts, six urban villages and fifty-three villages. *Endek* weaving actors spread across Klungkung Regency are the subjects of the research. The consideration of choosing Klungkung Regency is because this regency is known as the center of *Endek* woven cloth craftsmen in Bali Province. The location was chosen because there are still findings of problems related to the ineffectiveness of weaving management towards sustainability performance.

The population of the study consisted of all *Endek* weaving businesses registered with the Cooperatives, SMEs and Trade Service of Klungkung Regency and the number of populations determined consisted of 97 *Endek* weaving businesses. The saturated or census sampling technique was applied because the entire population was sampled. The unit of analysis in this study was the weaving actors and respondents were determined based on individuals who were able to interpret the dynamics of entrepreneurial conditions. The respondents in this study were owners or managers of *Endek* weaving businesses who understood the managerial system. The data analysis technique used is Structural Equation Modeling (SEM) based on Partial Least Square (PLS), using the WarpPLS 7.0 program.

3. Result and Discussion

3.1. Convergent validity

Convergent validity measurement can be reviewed from the correlation between indicator scores and variable scores. Convergent validity testing reviews reflective indicators assessed based on loading factors. The rule of thumb refers to

a factor loading value > 0.7 , then all indicators meet the convergent validity requirements and are declared valid (Sholihin & Ratmono, 2020:85), in addition, factor loading values in the range of 0.50 to > 0.60 are considered adequate. Table 1 shows the results of the validity test on each indicator item.

Table 1 Convergent Validity

Variable	Item	Loading Faktor	P-value
Entrepreneurial Competencies	X1.1	0.730	< 0.001
	X1.2	0.735	< 0.001
	X1.3	0.726	< 0.001
	X1.4	0.782	< 0.001
	X1.5	0.752	< 0.001
	X1.6	0.728	< 0.001
	X1.7	0.731	< 0.001
	X1.8	0.722	< 0.001
Entrepreneurial Innovation	X2.1	0.737	< 0.001
	X2.2	0.733	< 0.001
	X2.3	0.746	< 0.001
	X2.4	0.776	< 0.001
	X2.5	0.703	< 0.001
	X2.6	0.750	< 0.001
Entrepreneurial Bricolage	M1.1	0.747	< 0.001
	M1.2	0.749	< 0.001
	M1.3	0.748	< 0.001
	M1.4	0.736	< 0.001
	M1.5	0.746	< 0.001
	M1.6	0.759	< 0.001
Sustainability Performance	Y1.1	0.831	< 0.001
	Y1.2	0.837	< 0.001
	Y1.3	0.861	< 0.001
	Y1.4	0.836	< 0.001
	Y1.5	0.816	< 0.001
	Y1.6	0.794	< 0.001
	Y1.7	0.795	< 0.001
	Y1.8	0.782	< 0.001

Primary Data, 2024

Table 1 shows that all research indicator items on the entrepreneurial competencies, entrepreneurial innovation, entrepreneurial bricolage, and sustainability performance variables have loading factor values that meet the validity requirements, namely greater than 0.7.

Convergent validity can be evaluated using the average variance extracted (AVE) value, based on the criteria determination limit for each research variable to have an AVE value > 0.50 (Hair et. al., 2021:78) declared valid. Table 2 shows the results of the AVE values for each research variable.

Table 2 Convergent Validity with Average Variance Extracted

Variable	AVE	Result
Entrepreneurial Competencies	0.545	Valid
Entrepreneurial Innovation	0.549	Valid
Entrepreneurial Bricolage	0.559	Valid
Sustainability Performance	0.672	Valid

Primary Data, 2024

The results of the analysis in Table 2 show that the AVE value of all constructs is greater than 0.50, which means that all research variables have met the convergent validity criteria.

3.2. Discriminant validity

Discriminant validity measurement is assessed based on the cross-loading value > 0.7 if the loading value of each indicator on the relevant variable is greater than the cross-loading value on other latent variables, then it is stated to meet discriminant validity. Table 5.9 shows the results of the discriminant validity test.

Table 3 Discriminant Validity Test with Cross Loading

	Sustainability Performance (Y)	Entrepreneurial Bricolage (M)	Entrepreneurial Innovation (X2)	Entrepreneurial Competencies (X1)
X1	0.056	0.031	0.120	0.730
	0.038	0.106	0.159	0.735
	0.129	0.083	0.203	0.726
	0.039	0.204	0.004	0.782
	0.079	0.016	0.109	0.752
	0.008	0.110	0.042	0.728
	0.122	0.047	0.172	0.731
	0.070	0.102	0.162	0.722
X2	0.057	0.041	0.737	0.074
	0.105	0.141	0.733	0.058
	0.001	0.124	0.746	0.021
	0.098	0.089	0.776	0.018
	0.035	0.242	0.703	0.092
	0.090	0.098	0.750	0.063
M	0.043	0.747	0.083	0.053
	0.037	0.749	0.134	0.019
	0.123	0.748	0.054	0.018
	0.094	0.736	0.066	0.057

	Sustainability Performance (Y)	Entrepreneurial Bricolage (M)	Entrepreneurial Innovation (X2)	Entrepreneurial Competencies (X1)
	0.080	0.746	0.060	0.017
	0.030	0.759	0.001	0.128
Y	0.831	0.060	0.168	0.110
	0.837	0.002	0.124	0.117
	0.861	0.059	0.047	0.022
	0.836	0.062	0.147	0.008
	0.816	0.058	0.042	0.194
	0.794	0.125	0.137	0.008
	0.795	0.013	0.182	0.048
	0.782	0.019	0.151	0.064

Primary Data, 2024

Based on the results of the discriminant validity test in Table 3, the overall correlation value of each indicator on the relevant variable is greater than the cross loading value, so it is stated that it meets the discriminant validity criteria.

Discriminant validity testing can also be measured using the root of average variance extracted (AVE) value or the square root of AVE, which shows that the correlation on the relevant variable shows a higher value. Table 4 shows the results of the discriminant validity test with the square root of AVE.

Table 4 Discriminant Validity Test with the Fornell Larcker Criterion

	EC	EI	EB	SP
Entrepreneurial Competencies	0.738			
Entrepreneurial Innovation	0.110	0.741		
Entrepreneurial Bricolage	0.057	0.526	0.748	
Sustainability Performance	0.220	0.302	0.186	0.819

Primary Data, 2024

The results of the discriminant validity analysis based on the AVE square root value in Table 4 show the correlation between latent variables with the loading value on the relevant variable that is more dominant. So, the test results are said to be valid, because the cross loading value of other latent variables is lower.

3.3. Composite reliability

Table 5 Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability	Result
Entrepreneurial Competencies	0.881	0.906	Reliable
Entrepreneurial Innovation	0.836	0.880	Reliable
Entrepreneurial Bricolage	0.842	0.884	Reliable
Sustainability Performance	0.930	0.942	Reliable

Primary Data, 2024

The parameters in the reliability test are cronbach alpha and composite reliability. Variables with a value of ≥ 0.70 or ≥ 0.60 can be said to have good composite reliability. Cronbach's alpha is used to measure the lower limit of the reliability value of a construct, while composite reliability is used to measure the actual value of the reliability of a construct.

Based on Table 5, the results of the composite reliability test show that the Cronbach's alpha and composite reliability values for each variable are greater than 0.7, so that the construct data of this study are declared reliable.

3.4. Structural model (Inner model)

The structural model is related to hypothesis testing to determine the relationship between exogenous and endogenous variables that have been described in the conceptual framework. The structural model is used to ensure that the research model created is accurate. Evaluation of the structural model is carried out using R-Square and the goodness of fit test to ensure the measure of the goodness of the relationship between latent variables.

3.5. Multicollinearity test

Multicollinearity testing is used to ensure that there is no correlation between each independent variable. The rule of thumb refers to the full colinearity VIF value testing collinearity vertically and laterally, a good VIF value is below 3.3 (Sholihin & Ratmono, 2020: 159). Table 6 shows the VIF value in the study.

Table 6 Full Colinearity VIF

	Entrepreneurial Competencies	Entrepreneurial Innovation	Entrepreneurial Bricolage
VIF	1.144	1.935	1.482

Primary Data, 2024

The test results in Table 5.12 show that the variable construct has a full collinearity VIF value below 3.3, which indicates that the research construct is free from collinearity or is unbiased.

3.6. Coefficient of determination

The assessment of the coefficient of determination can be seen using R-square which indicates the magnitude of the effect of the independent variable construct on the dependent variable. Evaluation of the R-square value is based on guidelines if the R-square value is 0.75 (high model), 0.50 (moderate model), and 0.25 (weak model). Table 6 shows the results of the R-square test.

Table 7 R-Square

	R-square
Sustainability Performance (Y)	0.348

Primary Data, 2024

Table 7 shows the magnitude of the variability value of the dependent variable, namely sustainability performance, which can be explained by entrepreneurial competencies, entrepreneurial innovation, and entrepreneurial bricolage by 34.8%, while 65.2% of the dependent variable can be effectd by other variables outside the research model.

3.7. Goodness of fit test

The goodness of fit test can be known based on the value of the indicator in the fit indices model and p-value, namely the index and measure of model goodness, the results of the goodness of fit test are shown in Table 8.

Table 8 Model Fit and Quality Indices

No	Model fit and quality indices	Criteria	Testing Result	Result
1	Average path coefficient (APC)	$P < 0.05$	0.269, $p = 0.001$	Accepted

2	Average r-squared (ARS)	$P < 0.05$	0.348, <0.001	p	Accepted
3	Average adjusted R-squared (AARS)	$p < 0.05$	0.320, <0.001	p	Accepted
4	Average block AVIF	Acceptable if ≤ 5 , ideally ≤ 3.3	1.216		Accepted
5	Average full collinearity VIF (AFVIF)	Acceptable if ≤ 5 , ideally ≤ 3	1.381		Accepted
6	Tenenhaus GoF (GoF)	Small ≥ 0.1 Medium ≥ 0.25 Large ≥ 0.36	0.501		Large
7	Sympson's paradox ratio (SPR)	Acceptable if ≥ 0.7 , ideally = 1	0.750		Accepted
8	R-squared contribution ratio (RSCR)	Acceptable if ≥ 0.9 , ideally = 1	0.977		Accepted
9	Statistical suppression ratio (SSR)	Acceptable if ≥ 0.7	0.750		Accepted
10	Nonlinear bivariate causality direction ratio (NLBCDR)	Acceptable if ≥ 0.7	0.875		Accepted

Primary Data, 2024

Based on Table 8, the goodness of fit test using WarpPLS 7.0 shows that the evaluation of the structural model has met the model fit criteria and can be continued with hypothesis testing.

3.8. Hypothesis testing

Hypothesis testing is carried out to determine the magnitude of the effect of the independent variable on the dependent variable, based on the constant significance value of the bootstrapping technique. This study tests the hypothesis using p-value by sorting the direct effect test and the effect of the interaction of moderating variables. The results of the significance test between variables from the WarpPLS 7.0 application are shown in Figure 1.

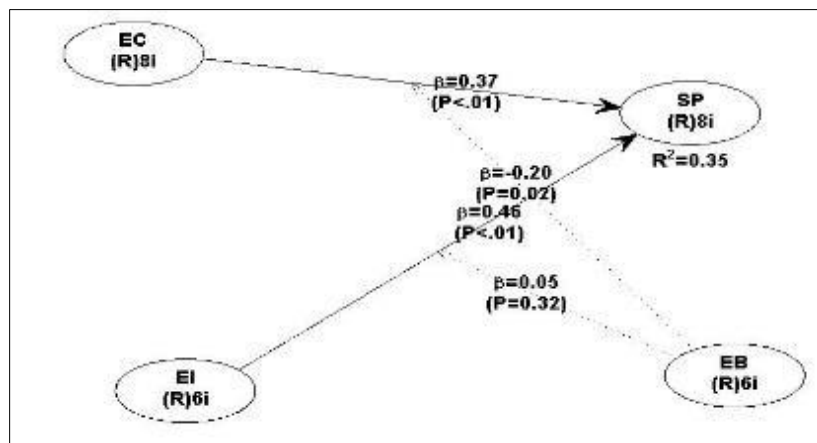


Figure 1 Model Testing

Figure 1 shows the magnitude of the significance value and the magnitude of the effect on the relationship between the variables of entrepreneurial competencies, entrepreneurial innovation, entrepreneurial bricolage and the dependent variable sustainability performance. Identification of direct and indirect effects between research variables will be shown in Table 9.

Table 9 Direct and Indirect Effect

Effect	Path Coefficient (β)	P-Value	Result
EC -> SP	0.366	<0.001	Accepted
EI -> SP	0.463	<0.001	Accepted
EB*EC -> SP	-0.202	0.019	Rejected
EB*EI -> SP	0.046	0.323	Rejected

Primary Data, 2024

The path coefficient value of entrepreneurial competencies shows a positive effect on sustainability performance of 0.366 and a significance p-value of 0.001 <0.05. The constant value can be interpreted as the addition of one unit to the entrepreneurial competencies variable will result in an increase in the sustainability performance variable. Based on the results of the analysis test, the first hypothesis (H1) is accepted, namely entrepreneurial competencies have a positive and significant effect on sustainability performance.

The path coefficient value of entrepreneurial innovation of 0.463 and a p-value of 0.001 <0.05 indicate a positive and significant effect on sustainability performance, thus it can be interpreted that each addition of one unit to entrepreneurial innovation can increase the sustainability performance variable. The test results accept the second hypothesis (H2), namely entrepreneurial innovation has a positive and significant effect on sustainability performance.

The results of the test of the moderating effect of entrepreneurial bricolage on the relationship between entrepreneurial competencies and sustainability performance obtained a p-value of 0.019 <0.05 which indicates significance. The beta coefficient value is (-) 0.202, which indicates a negative effect from the moderation variable, so that the entrepreneurial bricolage variable is unable to moderate the relationship between the effect of entrepreneurial competencies on sustainability performance. These results are not in accordance with the third hypothesis (H3) which states that entrepreneurial bricolage moderates the relationship between entrepreneurial competencies on sustainability performance is rejected, because there is a negative effect that weakens the relationship.

Testing the moderating effect of entrepreneurial bricolage on the relationship between entrepreneurial innovation and sustainability performance shows a coefficient value of 0.046 which means it can positively moderate the effect of entrepreneurial innovation on sustainability performance and a p-value of 0.323 > 0.05 which means it is not significant. These results indicate that entrepreneurial bricolage has a positive effect or can strengthen the relationship between the effect of entrepreneurial innovation on sustainability performance, but it is not statistically significant so that the moderating effect of entrepreneurial bricolage on this relationship does not show a moderating effect either weakening or strengthening. Based on the test results, the fourth hypothesis (H4) namely entrepreneurial bricolage moderates the relationship between entrepreneurial innovation and sustainability performance is rejected.

4. Conclusion

The results of the study contribute to the RBV theory, and the development of human resource management science related to entrepreneurial competencies, entrepreneurial innovation, entrepreneurial bricolage and sustainability performance. The results of this study confirm the application of the RBV (resources-based view) theory which believes that a company can excel and create competitive advantage because it has valuable, rare and unique resources, such as entrepreneurial competencies and entrepreneurial innovation. However, this study also revealed that the interaction of entrepreneurial bricolage as a moderating variable did not have a significant effect, because it was considered only a strategy for utilizing available resources to simplify problems in the short term. This highlights the importance of more dominant internal management in utilizing resources in dynamic situations and is expected to widen the reach of access to supporting resources. Thus, this study can enrich the RBV literature by identifying limitations and conditions in which valuable, unique and rare resources allow achieving sustainability not always consistently. 2. *Endek* weaving in Klungkung Regency relies heavily on and optimizes resources within the internal scope to gain competitive advantage to achieve sustainable performance. The results of the study indicate that entrepreneurial competencies and entrepreneurial innovation have a significant positive effect on sustainability performance, but entrepreneurial bricolage is unable to strengthen the relationship between entrepreneurial competencies and entrepreneurial innovation on sustainability performance.

The role of entrepreneurial bricolage as a moderating variable is unable to strengthen the relationship between independent and dependent variables. The study shows that limited resources are unable to provide long-term business defense solutions. This limited condition hinders the integration of entrepreneurial knowledge and entrepreneurial innovation towards sustainable performance.

The study has shown efforts that can be made to achieve sustainable performance, namely encouraging the creation of interest in the younger generation to get to know weaving activities and optimizing internal resources such as knowledge and innovation that are more flexible in technological changes. The results of the study also actualize the approach to achieving sustainable performance, companies must see internal potential to find sources of competitive advantage in a sustainable manner to maintain their existence. This study is expected to provide empirical contributions regarding the relationship between entrepreneurial competencies, entrepreneurial innovation, entrepreneurial bricolage, and sustainability performance variables in the development of RBV theory.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

- [1] Abatecola, G., & Cristofaro, M. (2018). Hambrick and Mason's Upper Echelons Theory: Evolution and Open Avenues. *Journal of Management History*, 26 (1), pp. 116-136.
- [2] Adeline, F. & Slamet, F. (2021). Pengaruh Orientasi Kewirausahaan dan Orientasi Berkelanjutan terhadap Kewirausahaan Berkelanjutan dengan Kewirausahaan Bricolage sebagai Mediasi pada UKM di Indonesia. *Jurnal Manajerial dan Kewirausahaan*, 3(3), hal. 711-721.
- [3] Adiputra, I P. P., Suardhika, I N., & Yuesti, A. (2023). The Model of Competitive Advantage for Increasing Business Performance in Small and Medium Industries of Woven Fabric (Endek) in Bali Province. *Journal of Applied Business and International Management*, 8(1), pp. 14-28.
- [4] Aidara, S., Mamun, A. A., Nasir, N. A. M., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Competitive Advantages of the Relationship between Entrepreneurial Competencies and Economic Sustainability Performance. *Journal of Sustainability*, 13(864), pp. 1-19.
- [5] Al-Bazaiah, S. A. I. (2022). Impact of Entrepreneurial Bricolage on Performance of E-Commerce: Case Study in Jordan. *Journal of Digitainability, Realism & Mastery*, 1 (1), pp. 49-54.
- [6] Alcivar, I. L., Cruz, F. G. S., Mero, N. M. & Hidalgo-Fernandez, A. (2020). Study of Corporate Sustainability Dimensions in the Cooperatives of Ecuador. *Journal of Sustainability*, 12 (2), pp. 1-12.
- [7] Ali, A., Jiang, X., Ali, A., & Qadeer, A. (2022). A Moderated Mediation Model Linking Entrepreneurial Leadership to Green Innovation: An Upper Echelons Theory Perspective. *Creativity and Innovation Management*, 32 (1), pp. 41-57.
- [8] Alsharif, H. Z. H., Shu, T., Obrenovic, B., Godinic, D., Alhujailli, A. & Abdullaev, A. M. (2021). Impact of Entrepreneurial Leadership and Bricolage on Job Security and Sustainable Economic Performance: An Empirical Study of Croatian Companies during COVID-19 Pandemic. *Journal of Sustainability*, 13 (21), pp. 1-19.
- [9] Anggraini, R. P., Kamaliah, & Nasrizal. (2022). Faktor-faktor yang Mempengaruhi Kinerja Usaha Mikro Kecil dan Menengah (UMKM) di Provinsi Riau pada Masa Pandemi Covid-19. *Management Studies and Entrepreneurial Journal*, 3 (6), hal. 3756-3772.
- [10] An, W., Zhang, J., You, C. & Gou, Z. (2017). Entrepreneur's Creativity and Firm-Level Innovation Performance: Bricolage as a Mediator. *Technology Analysis and Strategic Management*, 30 (1), pp. 838-851.
- [11] Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial Innovation: The Importance of Context. *Journal of Research Policy*, 43 (7), pp. 1097-1108.
- [12] Avelar, S., Borges-Tiago, T., Almeida, A., & Tiago, F. (2024). Confluence of Sustainable Entrepreneurship, Innovation, and Digitalization in SMEs. *Journal of Business Research*, 170 (4), pp. 1-12.

- [13] Baker, T., & Nelson, R. E. (2005). Creating Something From Nothing: Resource Construction Through Entrepreneurial Bricolage. *Administrative Science Quarterly*, 50 (3), pp. 329–366.
- [14] Balmer, J. M. T., Powell, S. M. & Greyser, S. A. (2011). Explicating Ethical Corporate Marketing. Insights from the BP Deep-Water Horizon Catastrophe: The Ethical Brand that Exploded and then Imploded. *Journal of Business Ethics*, 102 (1), pp. 1-14.
- [15] Bamfo, B. A. & Kraa, J. J. (2019). Market orientation and performance of small and medium enterprises in Ghana: the mediating role of innovation. *Cogent Business and Management*, 6(1), pp. 1-16.
- [16] Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17 (1), pp. 99-120.
- [17] Barney, J., Wright, M. & Ketchen, D. J. (2001). The Resource Based View of the Firm: Ten Years After 1991. *Journal of Management*, 27(6), pp. 625-641.
- [18] Beltagui, A., Sesis, A. & Stylos, N. (2021). A Bricolage Perspective on Democratizing Innovation: The Case of 3D Printing in Makerspaces. *Technology Forecasting and Social Change*, 163(12), pp. 1-13.
- [19] Chu, H., Wang, H. & Wang, Z. (2023). Impact of Innovation Quality on the Growth Performance of Entrepreneurial Enterprises: The Role of Knowledge Capital. *Journal of Sustainability*, 15 (10), pp. 1-18.
- [20] Criado-Gomis, A., Iniesta-Bonillo, M., Angeles. & Cervera-Taulet, A. (2018). Sustainable Entrepreneurial Orientation within an Intrapreneurial Context: Effects on Business Performance. *International Entrepreneurial and Management Journal*. 14(2), pp. 295-308.
- [21] Davis, P. J., & Simpson, E. (2017). Resources-based theory, competition and staff differentiation in Africa: Leveraging employees as a source of sustained competitive advantage. *American Journal of Management*, 17(1), pp. 19-33.
- [22] Dewi, N. W. P. N., & Suparna, G. (2017). Peran Inovasi dalam Memediasi Pengaruh Orientasi Kewirausahaan Terhadap Keunggulan Bersaing Industri Kain Endek. *E-Jurnal Manajemen Unud*, 6 (9), hal. 5144-5174.
- [23] Dionysus, R., & Arifin, A. Z. (2020). Strategic Orientation on Performance: The Resource Based View Theory Approach. *Jurnal Akuntansi*, 24(1), pp. 136-153.
- [24] Dziallas, M., & Blind, K. (2019). Innovation indicators throughout the innovation process: An extensive literature analysis. *Journal of Technovation*, 80(1), pp. 3-29.
- [25] Elkington, J. (1998). Partnerships from Cannibals with Forks: The Triple Bottom Line of 21st-Century Business. *Environmental Quality Management*, 8(1), pp. 37-51.
- [26] Elshaer, I. A., Azazz, A. M. & Fayyad, S. (2023). Green Human Resources and Innovative Performance in Small and Medium-Sized Tourism Enterprises: A Mediation Model Using PLS-SEM Data Analysis. *Journal of Mathematics*, 11 (3), pp. 1-17.
- [27] Fischer, D., Brettel, M. & Mauer, R. (2020). The three dimensions of sustainability: A delicate balancing act for entrepreneurs made more complex by stakeholder expectations. *Journal of Business Ethics*, 163 (1), pp. 87–106.
- [28] Galli, D., Torelli, R. & Caccialanza, A. (2023). Sustainability Performance and Sustainability Reporting in SMEs: a Love Affair or a Fight?. *Journal of Management & Organization*, 30(3), pp. 574-599.
- [29] Ghorbel, F., Hachicha, W., Boujelbene, Y. & Aljuid, A. M. (2021). Linking Entrepreneurial Innovation to Effectual Logic. *Journal of Sustainability*, 13 (5), pp. 1-13.
- [30] Goca, G. P. A. W., Supartha, I. W. G., Rahyuda, A. G., & Surya, I. B. K. (2023). Tri Hita Karana and Organizational Competencies: Antecedents of Competitive Advantage Impacting Sustainability in Bali Tourism. *Journal of Law and Sustainable Development*, 11(12), pp. 1-18.
- [31] Gojny-Zbierowska. & Zbierowski, P. (2021). Improvisation as Responsible Innovation in Organizations. *Journal of Sustainability*, 13 (4), pp. 1-20.
- [32] Grant, R. M. (1996). Prospering in Dynamically-competitive environments: Organizational capability as knowledge integration. *Organization Science*, 7(4), pp. 375-387.
- [33] Guerrero, M., & Urbano, D. (2020). Looking Inside the Determinants and the Effects of Entrepreneurial Innovation Project in an Emerging Economy. *Journal of Industry and Innovation*, 28 (3), pp. 1-29.

- [34] Gundry, L. K., Kickul, J. R., Griffiths, M. D. & Bacq, S. C. (2011). Creating Social Change Out of Nothing: The Role of Entrepreneurial Bricolage in Social Entrepreneurs' Catalyst Innovations. *Social Sustainable Entrepreneur*, 13(1), pp. 1–24.
- [35] Halme, M., Lindeman, S., & Linna, P. (2012). Innovation for inclusive business: Intrapreneurial bricolage in multinational corporations. *Journal of Management Studies*, 49 (4), pp. 743-784.
- [36] Hair, J., Hult, T., Ringle, C., & Sartstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) Second Edition*. Los Angeles: Sage.
- [37] Hair, Jr. J. F., Ringle, C. M., Danks, N. P., Hult, G. T. M., Sarstedt, M., Ray, S. (2021). *Partial Least Square Structural Equation Modeling (PLS-SEM) Using R A Workbook*. Switzerland: Springer
- [38] Hameed, W. U., & Naveed, F. (2019). Coopetition-Based Open-Innovation and Innovation Performance: Role of Trust and Dependency Evidence from Malaysian High-Tech SMEs. *Pakistan Journal of Commerce and Social Science*, 13 (1), pp. 209-230.
- [39] Han, Y. & Xie, L. (2023). Platform Network Ties and Enterprise Innovation Performance: The Role of Network Bricolage and Platform Empowerment. *Journal of Innovation and Knowledge*, 8 (4), pp. 1-11.
- [40] Holden, E., Linnerud, K., & Banister, D. (2017). The Imperatives of Sustainable Development. *Sustainable Development*, 25 (3), pp. 213–226.
- [41] Hooi, H. C., Ahmad, N. H., Amran, A. & Rahman, S. A. (2016) The Functional Role of Entrepreneurial Orientation and Entrepreneurial Bricolage in Ensuring Sustainable Entrepreneurship. *Management Research Review*, 39 (12), pp. 1616–1638.
- [42] Hoopes, D. G., Madsen, T. L., & Walker, G. (2003). Guest Editors' Introduction to The Special Issue: Why is there a Resource-Based View? Toward a Theory of Competitive Heterogeneity. *Strategic Management Journal*, 24 (10), pp. 889-902.
- [43] Hristov, I., Appolloni, A., Chirico, A. & Cheng, W. (2021). The Role of The Environmental Dimension in The Performance Management System: A Systematic Review and Conceptual Framework. *Journal of Cleaner Production*, 293 (8), pp. 1-16.
- [44] Hung, H. & Mondejar, R. (2005). Corporate Directors and Entrepreneurial Innovation: An Empirical Study. *Journal of Entrepreneurship*, 14 (2), pp. 117-129.
- [45] Imran, M., Salisu, I., Aslam, H.D., Iqbal, J. & Hameed, I. (2019). Resource and information access for SME sustainability in the era of IR 4.0: the mediating and moderating roles of innovation capability and management commitment. *Journal of Processes*, 7(4), pp. 1-25.
- [46] Ismail, I. J. (2022). Entrepreneurs Competencies and Sustainability of Small and Medium Enterprises in Tanzania. A Mediating Effect of Entrepreneurial Innovations. *Cogant Business and Management*, 9 (1), pp. 1-22.
- [47] Iqbal, Q., Ahmad, N. H., Halim, H. A. (2020). Insights on entrepreneurial bricolage and frugal innovation for sustainable performance. *Journal of Business Strategy and Development Wiley*, 4 (3), pp. 237-245.
- [48] Jamil, S., Zaman, S. I., Kayikci, Y. & Khan, S. A. (2023). The Role of Green Recruitment on Organizational Sustainability Performance: A Study within the Context of Green Human Resource Management. *Sustainability*. 15(21), pp. 1-31.
- [49] Kant, S., Dejene, F. & Garuma, G. (2023). Is Marketing and Business Sustainability are mediated through Entrepreneurial Innovation in Ethiopia?. *Journal of Social Science and Management Studies*, 2 (2), pp. 13-22.
- [50] Kaufman, B. E. (2015). The RBV Theory Foundation of Strategic HRM: Critical Flaws, Problems for Research and Practice, and an Alternative Economics Paradigm. *Human Resource Management Journal*, 25 (4), pp. 516-540.
- [51] Khourouh, U., Ratnaningsih, C. S., Rahyudi, B., & Windhyastiti, I. (2022). Implementasi Social-Bricolage Entrepreneurship dan Digital Marketing sebagai Strategi Resiliensi Pelaku Program Pekarangan Pangan Lestari. *Jurnal Bisnis dan Manajemen*, 9(2), pp. 150-160.
- [52] Koe, W., & Majid, I. A. (2014). Intention Towards Sustainable Entrepreneurship: a Conceptual Framework. *Journal Of Technology Management And Technopreneurship*, 1(1), pp. 71-83.
- [53] Koliby, I. S. M. A., Abdullah, H. H. & Suki, N. M. (2022). Linking Entrepreneurial Competencies, Innovation and Sustainable Performance of Manufacturing SMEs. *Asia-Pacific Journal of Business Administration*, 16 (1), pp. 21-40.

- [54] Landstrom, H., Harirchi, G. & Astrom, F. (2012). Entrepreneurship: Exploring the Knowledge Base. *Journal of Research Policy*, 41 (7), pp. 1154-1181.
- [55] Lubis, N. W. (2022). Resource Based View (RBV) in Improving Company Strategic Capacity. *Research Horizon*, 2 (6), pp. 587-596.
- [56] Malesios, C., De, D., Moursellas, A., Dey, P. K., & Evangelinos, K. (2020). Sustainability Performance Analysis of Small and Medium Sized Enterprises: Criteria, Methods and Framework. *Socio-Economic Planning Sciences*, 75 (9), pp. 1-78.
- [57] Man, T.W.Y., Lau, T. & Chan, K.F. (2002). The competitiveness of small and medium enterprises: a conceptualisation with focus on entrepreneurial competencies. *Journal of Business Venturing*, 17(2), pp. 123-42.
- [58] Mniruzzaman, M. (2017). Role of Working Capital Finance in the Growth of SME Sector in Bangladesh. *International Journal of New Technology and Research*, 3(6), pp. 39-50.
- [59] Martini, I. A. O., Gorda, A. A. N. E. S., Gorda, A. A. N. O. S., & Sari, D. M. F. P. (2021). Disclosing the Regeneration of Endek Weaving Craftsmen in Bali. *Jurnal Economia*, 17 (2), pp. 267-283.
- [60] Mitchellmore, S. & Rowley, J. (2013). Entrepreneurial competencies of women entrepreneurs pursuing business growth. *Journal of Small Business and Enterprise Development*, 20(1), pp. 125-142.
- [61] Mukti, G, W., Charina, A., & Kusumo, R, A, B. (2024). Petani Sebagai Seorang Entrepreneur: Pengembangan Skill Petani Sebagai Aktor Penting dalam Sektor Pertanian. *Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, 10(2), pp. 3026-3036.
- [62] Musona, J., Sjogren, H., Puumalainen, K., & Syrja, P. (2020). Bricolage in Environmental Entrepreneurship: How Environmental Innovators “make do” at the Bottom of the Pyramid. *Business Strategy and Development*, 3(4), pp. 487-505.
- [63] Nasarudin & Ahyuni, S. (2023). Strategi Pendampingan Industri Kreatif Menengah Kerajinan Baduy Berbasis Local Wisdom: Tinjauan Model Triple Helix. *Journal of Socio-Cultural Sustainability and Resilience*, 1 (1), hal. 44-61.
- [64] Nasir, W.M.N.B.W.M., Mamun, A. A., & Breen, J. (2017). Strategic orientation and performance of SMEs in Malaysia, *SAGE Open*, 7(2), pp. 1-13.
- [65] Ngo, Q. H. (2023). The Impact of Entrepreneurial Orientation on SMEs' Performance in a Transitional Economy: The Mediating Role of Differentiation Advantages and Innovation Capability. *Sage Open*, 13(4), pp. 1-22.
- [66] Niroumand, M., Shahin, A., Naghsh, A., & Peikari, H. R. (2020). Frugal innovation enablers: A comprehensive framework. *International Journal of Innovation Science*, 12 (1), pp. 1-20.
- [67] Nor-Aishah, H., Ahmad, N. H., Thurasamy, R. (2020). Entrepreneurial Leadership and Sustainable Performance of Manufacturing SMEs in Malaysia: The Contingent Role of Entrepreneurial Bricolage. *Journal Sustainability*, 12 (8), pp. 1-21.
- [68] Pepple, G. P., & Enuoh, R. O. (2020). Entrepreneurial Competencies: a Required Skill For Business Performance. *European Journal of Business and Innovation Research*, 8(3), pp. 50-61.
- [69] Purnamawati, I. G. A., Yuniarta, G. A., & Puah, Chin-Hong. (2021). Entrepreneurial Bricolage and Improving The Capability of Women Weaving Entrepreneurs. *Journal of Applied Management*, 20 (1), pp. 43-53.
- [70] Rahyuda, K. (2020). *Metode Penelitian Bisnis Base of the Research Pyramid* (Edisi 2020). Denpasar: CV. Sastra Utama
- [71] Rosario, A. T., Raimundo, R. J. & Cruz, S. P. (2022). Sustainable Entrepreneurship: a literature review. *Journal of Sustainability*, 14 (9), pp. 1-25.
- [72] Salunke, S., Weerawardena, J. & McColl-Kennedy, J. R. (2013). Competing Through Service Innovation: The Role of Bricolage and Entrepreneurship in Project-Oriented Firms. *Journal of Business Research*, 66 (8), pp. 1085-1097.
- [73] Sarasvathy, S. (2001). Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency. *Academy of Management Review*, 26 (2), pp. 243-263.
- [74] Scazziota, V., Serra, F., Sarkar, S. & Guerrazzi, L. (2023). The Antecedents of Entrepreneurial Action: A Meta-synthesis on Effectuation and Bricolage. *Journal of Business Research*, 155 (5), pp. 1-18.

- [75] Schaltegger, S. & Wagner, M. (2011). Sustainability Entrepreneurship and Sustainability Innovation: Categories and Interactions. *Business Strategy and the Environment*, 20(4), 222-237
- [76] Sekaran, U., & Bougie, R. (2017). *Metode Penelitian untuk Bisnis Pendekatan Pengembangan-Keahlian* (Edisi Enam Buku Dua). Jakarta: Salemba Empat.
- [77] Senyard, J., Baker, T., Steffens, P., & Davidsson, P. (2014). Bricolage as a Path to Innovativeness for Resource-Constrained New Firms. *Journal of Product Innovation Management*, 31(2), pp. 211-230.
- [78] Shamsuddin, J., Sarkawi, M. N., Jaafar, A. R., & Rahim, N. F.A. (2017). Malaysian SMEs Performance and The Government Business Support Service: The Moderating Effects of Absorptive Capacity. *International Journal of Supply Chain Management*, 6 (4), pp. 326-331.
- [79] Sholihin, M. & Ratmono, D. (2020). *Analisis SEM-PLS dengan WarpPLS 7.0 untuk Hubungan Nonlinier dalam Penelitian Sosial dan Bisnis* (Edisi Dua). Yogyakarta: CV Andi Offset.
- [80] Sivathanu, B. & Pillai, R. (2019). An Empirical Study on Entrepreneurial Bricolage Behavior for Sustainable Enterprise Performance of Startups Evidence from an Emerging Economy. *Journal of Entrepreneurship in Emerging Economies*, 12 (1), pp. 34-57.
- [81] Soleh, M., Brahmasari, I. A. & Ratih, I. A. B. (2021). The Effects of Entrepreneurial Leadership, Recruitment and Innovation on Learning Learning Organization and Organizational Performance of Four Star Hotels in East Java. *International Journal of Entrepreneurship and Business Development*, 4 (6), pp. 845-864.
- [82] Solimun., Fernandes, A. A. R. & Nurjannah. (2017). *Metode Statistika Multivariat: Pemodelan Persamaan Struktural (SEM) Pendekatan WarpPLS* (Cetakan Kedua). Malang: Universitas Brawijaya Press.
- [83] Sopiha & Sangadji, E. M. (2018). *Manajemen Sumber Daya Manusia Strategik*. Yogyakarta: CV. Andi Offset.
- [84] Sugiyono. (2019). *Metode Penelitian Bisnis. Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta
- [85] Tajeddini, K., Gamage, T. C., Tajdini, J., Qalati, S. A. & Siddiqui, F. (2023). Achieving Sustained Competitive Advantage in Retail and Consumer Service Firms: The Role of Entrepreneurial Orientation and Entrepreneurial Bricolage. *Journal of Retailing and Consumer Services*, 75(1), pp. 1-15.
- [86] Tehseen, S., Qureshi, Z.H., Johara, F., & Ramayah, T. (2020). Assessing dimensions of entrepreneurial competencies: A type II (reflective formative) measurement approach using PLS-SEM. *Journal of Sustainability Science and Management*, 15(2), pp. 108-145.
- [87] Telagawathi, N. L. W. S., Yasa, N. N. K., Giantari, I. G. K. A., & Ekawati, N. W. (2022). The Role of Innovation Strategies in Mediating Covid-19 Perceptions and Entrepreneurship Orientation on Endek Weaving Craft Business Performance. *Uncertain Supply Chain Management*, 10 (3), pp. 913-922.
- [88] Umar, H. (2011). *Metode Penelitian untuk Skripsi dan Tesis Bisnis Edisi ke-2*. Jakarta: Rajawali Press
- [89] Vanevenhoven, J., Winkel, D., Malewicki, D., Dougan, W.L. & Bronson, J. (2011). Varieties of Bricolage and the Process of Entrepreneurship. *Journal of Entrepreneur*, 14 (2), pp. 53-66.
- [90] Vu, H.M. & Nwachukwu, C. (2021). Influence of entrepreneur competencies on profitability and employee satisfaction. *International Journal of Management and Enterprise Development*, 20(1), pp. 1-16.
- [91] Xiaobao, P., Rui, G., Jiewei, Z., & Xiaofan, S. (2022). The Impact of Resource Bricolage on Entrepreneurial Orientation in Start-ups: The Moderating Roles of TMT Heterogeneity and TMT Behavioral Integration. *Frontiers in Psychology*, 13(9), pp. 1-11.
- [92] Zahoor, N., Khan, H., Khan, Z., & Akhtar, P. (2022). Responsible innovation in emerging markets' SMEs: The role of alliance learning and absorptive capacity. *Asia Pacific Journal of Management*, 41(9), pp. 1175-1209
- [93] Zahra, S. A., & Nielsen, A. P. (2002). Sources of capabilities, integration and technology commercialization. *Strategic management journal*, 23(5), pp. 377-398.