

The effect of Adversity Index Perceived by Organizational Members on Entrepreneurial Orientation and Organizational Learning Competency

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Abstract

We study confirmed the relationship between the adversity index, entrepreneurial orientation, and organizational learning competency perceived by organizational members as follows. First, the adversity index showed a positive (+) effect on entrepreneurial orientation (hypothesis 1) and organizational learning competency (hypothesis 2). Second, the entrepreneurial orientation was statistically significant in organizational learning competency (hypothesis 3). Third, the partial mediating role of entrepreneurial orientation (Hypothesis 4) was confirmed in the process of the adversity index affecting organizational learning competency. Meanwhile, the main implications of this study are as follows. First, it is the aspect that provides additional theoretical implications in the reality that studies on the adversity index and entrepreneurial orientation that affect organizational learning competency are lacking. Second, it is the aspect that the importance of adversity index and start-up orientation was confirmed in improving organizational learning competency based on securing differentiated competitiveness for the advancement of the organization's sustainability management system. In addition, it is the aspect of drawing practical implications for strategic human resource management and human resource development to systematically improve it.

Key words: *Adversity Index, Entrepreneurial Orientation, Organizational Learning Competency, Hypothesis.*

1. Introduction

In the recent business environment, the equation no longer applies because the growth and development of the organization is the growth and development of individual members of the organization amidst the continuation of the pandemic and uncertain environmental changes due to COVID-19. Accordingly, organizations and members of the organization are required to develop new forms of competency improvement measures such as survival and sustainable growth [1]. For survival, sustainable management and growth, an organization must develop and improve an organizational level of adversity index and entrepreneurial

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orientation. In addition, there is a need for a new organizational culture establishment and revitalization plan for the advancement of organizational learning capabilities based on the adversity index and entrepreneurial orientation of members.

The adversity index should be able to systematically improve the adversity index at the organizational level as a coping ability that indicates how well it can withstand and overcome adversity, which are various obstacles to sustainable growth and development [2]. In other words, it is judged that organizational members with a high adversity index can have a significant effect on their entrepreneurial orientation and organizational learning ability while responding to various adversity situations that act as obstacles to the growth and development of the organization. Therefore, the adversity index of the members, which can be said to be the driving force of the organization's sustainable management, will emerge as a new core factor at the organizational level while promoting the continuous demonstration of the entrepreneurial orientation, thereby strengthening the organizational learning competency, which is the spread of knowledge sharing. The higher the organizational members are aware of the adversity index, the better the synergy of innovation and cooperation between teams, which ultimately means that the entrepreneurial orientation and organizational learning capacity are improved [3]. Improving organizational learning capabilities is an important support for securing, maintaining, and reinforcing competitive advantage through the advancement of organizational sustainability management by promoting mutual knowledge sharing among organizational members. In particular, the importance of organizational learning capabilities based on adversity index and entrepreneurial orientation, which are newly emerging for the continuous growth and development of the organization in the pandemic situation caused by COVID 19, is being emphasized. However, the reality is that empirical studies on this are insufficient. Therefore, this study intends to provide additional theoretical and practical implications for the adversity index, entrepreneurial orientation, and organizational learning competency. Meanwhile, in this study, the effect of the adversity index, which can effectively overcome various adversity faced by the organization, on the entrepreneurial orientation that promotes the voluntary participation of members and the organizational learning competency that can effectively create, utilize, and accumulate organizational knowledge. An empirical analysis was attempted.

2. Theoretical Background and Hypothesis Setting

2.1. The Relationship between Adversity Index and Entrepreneurial Orientation.

Adversity index is the ability to overcome various difficulties in life and achieve success [4], which is a combination of various personal and behavioral characteristics [5]. A person with a high adversity index can adapt well to trauma, tragedy, and new adversity, and can predict an individual's behavior, so it can be used to improve relationships with a team or other people within an organization, and to improve the efficiency of society and the organization [6]. Entrepreneurial orientation is a strategic attitude that reflects systematic processes, practices, and behaviors that enable a firm to act in an entrepreneurial way [7], and is a resource that enables a firm to gain an edge over its competitors from the point of view of resource superiority theory [8], which refers to the autonomy, innovation, activity, risk tolerance, and competitiveness of a company as a corporate strategy [9]. On the other hand, the direct relationship between the adversity index and the entrepreneurial orientation is shown differently depending on the degree of technological learning and environmental factors in the study [10]. The adversity index empirically analyzed the positive influence relationship on entrepreneurship orientation [11]. In addition, in a study on the effect of the adversity index on the start-up orientation of prospective founders, the adversity index showed a positive (+) effect on the start-up orientation [12]. In other words, the entrepreneurial attitude based on the high adversity index was analyzed as an indicator of achievement by challenging difficulties and solving problems in the growth stage of the

company [13]. In a study on the effect of adversity index and entrepreneurial experience on students' entrepreneurial attitude, the adversity index showed a positive effect on entrepreneurial attitude [14]. In addition, in a study on the effect of small business CEO's adversity index on customer orientation, the adversity index showed a partial influence on entrepreneurial orientation [15]. In addition the impact of adversity index on innovation behavior and organizational learning ability In the Korean study, the adversity index was analyzed to be statistically significant in the entrepreneurial orientation [16]. Therefore, based on the results of previous studies, this study hypothesized the relationship between the adversity index and the entrepreneurial orientation as follows.

Hypothesis 1. The adversity index will have a positive (+) effect on the entrepreneurial orientation.

2.2. The Relationship between Adversity Index and Organizational Learning Competency

The adversity index is the ability to respond to adversity in the face of obstacles or difficulties in all areas of life [17], and is the ability to adapt to tragedy, trauma, and other adversities [18]. Adversity index is a personal characteristic that allows one to quickly and easily overcome setbacks related to life and career aspirations [19], it was used as a measure to measure who can easily overcome a crisis when individuals and organizations face a crisis. In other words, it was argued that the adversity index is a true growth strategy for the organization and its members as an important factor for the success of individuals and organizations [20]. On the other hand, organizational learning competency is the ability of an organization to generate and disseminate influential ideas [21]. This is the current learning capacity of an organization as a result of a continuous and iterative learning process by its members [22]. Organizational learning competency is an organization's ability to engage in management activities according to structures and procedures that support and promote learning in the form that forms the process of organizational learning [23]. On the other hand, in a study on the relationship between adversity index and histological competency, members with high adversity index improved the quality of organizational learning competency, and repetition of this learning process strengthened the flow and utilization of important knowledge within the organization [24]. Also, the adversity index of prospective founders showed a partially significant effect on learning orientation [12]. In the effect of adversity index on innovation behavior and organizational learning competency, the adversity index was analyzed as a positive influence relationship on organizational learning competency [16]. Therefore, this study established the following hypothesis on the relationship between the adversity index and organizational learning competency based on the results of previous studies.

Hypothesis 2. The adversity index will have a positive (+) effect on organizational learning competency.

2.3. The Relationship between Entrepreneurial Orientation and Organizational Learning Competency

Entrepreneurship orientation is recognized as the same concept as entrepreneurship, entrepreneurial orientation, entrepreneurial attitude, entrepreneurial behavior, and entrepreneurial intention [25]. Entrepreneurial orientation is an entrepreneurial attitude, a strategic attitude that reflects specific processes, practices, and behaviors acting in an entrepreneurial way [26]. Also is an important tool that can enhance organizational competitiveness [27]. In addition, start-up orientation is the ability of a company to efficiently utilize its limited resources through combination, and is a tendency of a company to promote innovative behavior [28]. Entrepreneurship orientation is a strategy of a company as a resource that allows it to gain an edge over its competitors, and it refers to the autonomy, innovation, activity, risk tolerance, and competitiveness of a company [9]. On the other hand, organizational learning competency refers to organizational learning competency when managers or managers of an organization generate and generalize influential ideas [21], it is a competency based on an organization's ability to generate ideas and to easily

generalize ideas to find learning disabilities in the organization [29]. Organizational learning competency is a systematic process of acquiring, generating, sharing, storing, and utilizing know-how, knowledge, and information from internal and external sources [30]. Meanwhile, in previous studies on the relationship between entrepreneurial orientation and organizational learning competency, it was confirmed that entrepreneurial orientation had a significant positive (+) effect on organizational learning competency [16]. Also, it was said that the higher the entrepreneurial orientation, the higher the learning capacity and willingness to create and spread intellectual capital [31]. In a study of 213 companies in the UK, it was confirmed that entrepreneurial orientation has a positive effect on organizational learning and broadens the scope of organizational learning [27]. That in order for an organization to promote intellectual capital creation, it is necessary to give importance to organizational learning and entrepreneurial orientation, and that entrepreneurial orientation has a significant effect on the organization's intellectual capital accumulation [32]. Therefore, based on the results of previous studies, this study hypothesized as follows regarding the relationship between entrepreneurial orientation and organizational learning competency.

Hypothesis 3. Entrepreneurial orientation will have a positive (+) effect on organizational learning competency.

2.4. The Mediating Role of Entrepreneurial Orientation

The adversity index has a positive effect on start-up orientation, and since start-up orientation has a positive (+) effect on organizational learning competency, the mediating effect of start-up orientation can be predicted. In other words, entrepreneurial orientation will play a mediating role in the relationship between adversity index and organizational learning competency. The reality is that there are insufficient research papers directly or indirectly on the mediating role between the adversity index and organizational learning competency of entrepreneurship orientation. Nevertheless, The small business CEO's adversity index showed a fully mediating effect on ownership and customer orientation [15]. And empirically analyzed that entrepreneurial orientation had a positive effect on organizational learning competency, and that organizational learning competency interacted with entrepreneurial orientation in a significant two-way manner [33]. The confirmed that entrepreneurship orientation partially mediates the relationship between adversity index and organizational learning competency in the effect of adversity index on innovation behavior and organizational learning competency [16]. Therefore, this study established the following hypotheses to confirm the mediating role of entrepreneurial orientation based on the results of previous studies.

Hypothesis 4. Entrepreneurial orientation will mediate the relationship between adversity index and organizational learning competency.

3. The Research Method

3.1. The Research Model

As shown in Figure 1, this study set up a research model to confirm the influence of the adversity index perceived by members of an organization on entrepreneurial orientation and organizational learning competency and the mediating role of entrepreneurial orientation.

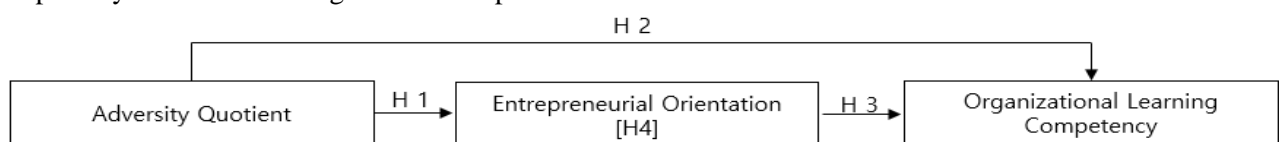


Figure 1. The Research Model

3.2. The Data Collection and Analysis Method

This study intends to examine the influence of the adversity index perceived by organizational members on entrepreneurial orientation and organizational learning competency and the mediating role of entrepreneurial orientation. For this purpose, hypotheses were empirically analyzed using the statistical package programs SPSS 21.0 and AMOS21.0 for 177 out of 320 copies for organizational members from February 14 to March 25, 2022.

3.3. The Operational Definition of Variables

Table 1 shows the operational definitions of variables set by the researcher for the independent variable, adversity index, as well as the dependent variable, organizational learning capacity, and the parameter, entrepreneurial orientation, set according to this research model.

Table 1. The Operational Definition of Variables

variable	Operative definition (researcher definition)	source	question	note
adversity index	Ability to overcome various crises and achieve goals.	Stoltz (2000), Yun, Seock-Bum (2021)	12	Single variable application
entrepreneurial orientation	A behavioral characteristic that creates new value even when taking risks in an uncertain situation.	Covin & Slevin (1989), Bae Changbong & Kim Junghee (2019)	6	
organizational learning competency	A systematic organizational learning ability that acquires, shares, accumulates, spreads, and utilizes job performance knowledge internally and externally.	Chiva & Alegre (2009), Yun, Seock-Bum (2021)	9	

4. The Research Results

4.1 The Demographic Characteristics

The demographic variables for the response results of 177 copies to which the purpose of this study was finally applied are as follows. In terms of gender, 124 people (70.0%) males and 53 people (30.0%) females showed that males were high. By age, there were 87 people in their 30s (49.1%), 54 people in their 40s (30.5%), 28 people in their 20s (15.8%), and 8 people in their 50s (4.6%). As for the Period of work, 57 people (32.2%) were less than 5 years, 79 people (44.6%) less than 10 years, and 41 people (23.2%) more than 10 years.

4.2 The Descriptive Statistics, Correlation and Reliability Coefficient Results

The results of analysis of the mean, standard deviation, and correlation of the main variables and demographic variables of this study are shown in Table 2.

Table2. The Descriptive statistics, correlation analysis and reliability coefficient results

variable	Average	Standard Deviation	1	2	3	4	5	6
1. Adversity Index	3.66	0.64	(0.95)					
2.entrepreneurial orientation	3.49	0.46	0.21**	(0.83)				
3.organizational learning competency	3.57	0.44	0.44**	0.48**	(0.93)			
4.Gender	.25	0.43	0.14*	0.04	-0.15*	-		
5. Age	36.65	7.53	-0.03	0.18*	0.23**	-0.31**	-	

6.Period of work	7.94	7.68	-0.15*	-0.24*	0.18*	-0.19**	0.78**	-
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*p<0.05, **p<0.01, ***p<0.001, Gender: male=0, female=1, () : internal consistency reliability coefficient

In addition, entrepreneurial orientation was analyzed as a positive (+) correlation that was statistically significant with organizational learning competency ($r=0.48$, $p<0.01$). Therefore, it is possible to predict the possibility of a mediating role of entrepreneurial orientation in the process of the adversity index on organizational learning competency. The correlation coefficients among the adversity index, entrepreneurial orientation, and organizational learning competency were all less than .07, indicating that there was no major problem in multi-collinearity [34]. On the other hand, in the case of demographic variables, gender, age, and length of service showed a significant relationship to organizational learning competency. Cronbach's alpha values of the variables in this study ranged from 0.80 to 0.95, confirming that all tools have an appropriate level of reliability in light of the 0.70 or higher standard [35].

4.3 The Verification of Convenience of the Same Method

All variables included in this study were based on data from the same respondents. Therefore, there is a possibility that errors of the same method bias may occur, so Harman's single factor verification was conducted. That is, if the same method bias error is severe, only one factor with an eigenvalue of 1 or greater is derived from the factor analysis for all variables, or its explanatory power is concentrated on one factor [36]. As a result of Harman's single factor test in this study, a total of 6 factors were extracted, and the factor with the greatest explanatory power explained 29.8% of the total variance, so it cannot be said to be dominant. Based on these results, it was judged that the same method bias was not a big problem in this study.

4.4 The Measurement Model Analysis

In this study, the measurement model for latent variables was analyzed and it was verified whether the model was consistent with the analyzed data. As a result of measurement model analysis, it was found that $\chi^2(129) = 258.61$ ($p<0.001$), IFI =0.94, TLI =0.93, CFI =0.94, NFI = 0.90, RMSEA =0.07. These results were judged to be appropriate for the data in consideration of [35] goodness of fit of 0.90 or more and RMSEA 0.08 or less. In addition, it was judged that there was adequate fit between the viscosity measurement model and the data, where χ^2/df was 2.00 and less than 3.00 [37]. In addition, as a result of examining the factor loading of each observed variable, it was expressed in the 0.29-0.96 level, and was analyzed to be statistically significant at the $p<0.01$ level. That is, the factor loading of the adversity index was 0.80-0.96, the factor loading of the entrepreneurial orientation was 0.29-0.74, and the factor loading of the organizational learning ability was 0.58-0.80. In the case of adversity index and organizational learning competency, the factor loading exceeds 0.05, and the factor loading is appropriate according to Ford, [38] and [39], which consider that factor loading of 0.40 or more in the confirmatory factor analysis is appropriate shown. However, in the case of start-up orientation, two items with factor loading of 0.29 and 0.34, respectively, did not meet the relevant criteria, so it was decided to delete the item based on additional review and statistical results. As a result, the measurement model is $\chi^2(99) = 181.35$ ($p<0.001$), IFI =0.95, TLI =0.94, CFI =0.95, NFI =0.91, RMSEA = 0.06, which is better than the existing goodness of fit showed.

4.4 The Structural Model Analysis

The Structural equations were used to analyze the fit and path coefficients for this research model. Therefore, in this analysis, gender, age, and length of service, which were shown to have significant relationships in the previous correlation analysis, were included as control variables affecting organizational learning competency. In order to find the most suitable model for this study data, two alternative models were established and

compared together with the research model. The two alternative models were set so that they could be compared in consideration of the presence or absence of an indirect effect through entrepreneurial orientation in the relationship between the adversity index and organizational learning competency. That is, the first alternative model is a model in which only the direct effect of the adversity index and the entrepreneurial orientation on organizational learning capacity exists by deleting the path between the adversity index and the entrepreneurial orientation. The second alternative model is a model in which only the indirect path through entrepreneurial orientation is established by deleting the direct path that the adversity index has on organizational learning competency. In other words, the structural equation verification results of the research model and the two alternative models are shown in Table 3. That is, Table 3 shows that the research model was $\chi^2(143) = 254.11 (p < 0.001)$, IFI = 0.94, TLI = 0.93, CFI = 0.93, NFI = 0.92, RMSEA = 0.060.

Table3. The Structural model verification result

model	df	χ^2	χ^2/df	IFI	TLI	CFI	NFI	RMSEA	Δdf	$\Delta \chi^2$
research model	143	254.11	1.78	0.94	0.93	0.93	0.92	0.060		
Alternative Model 1	144	264.23	1.83	0.94	0.92	0.93	0.90	0.063	1	10.14
Alternative Model 2	144	267.76	1.86	0.94	0.92	0.93	0.90	0.063	1	13.62

This result was judged to show an appropriate level of fitness when considering the criteria of .90 or more and the RMSEA .08 or less of the fitness index suggested by Kline (2005). The two alternative models also showed goodness-of-fit index of .90 or higher, and RMSEA was also lower than .08. However, the research model still showed better fit index and RMSEA, and the alternative model did not show better fit than the research model. Considering the above theoretical discussion and these statistical results, it was judged that the data of this study was the most suitable model for the research model.

4.5 The Hypothesis test

4.5.1 The Research hypothesis verification results (Hypothesis 1, Hypothesis 2, Hypothesis 3)

Table 4 shows the results of actual investigation through the verification of the regression coefficient of the final structural model for the verification of the relationship (hypothesis) between the variables in this study.

Table 4. The Regression coefficient of final model(Hypothesis 1, Hypothesis 2, Hypothesis 3)

Hypothesis path		β	B	SE	t
H 1	adversity index → entrepreneurial orientation	0.29	0.24	0.08	2.97**
H 2	adversity index → organizational learning competency	0.28	0.23	0.05	3.85***
H 3	entrepreneurial orientation → organizational learning competency	0.70	0.65	0.12	5.38***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In other words, all causal relationships between variables were shown to be significant in the hypotheses established according to the research model to achieve the purpose of this study. Hypothesis 1, the influence relationship between the adversity index and the entrepreneurial orientation, was analyzed as a positive (+) significant relationship ($\beta = 0.29, p < 0.01$) and adopted. In other words, organizational members who effectively exhibit the adversity index supported the results of previous studies at any time [10-16] as improving the entrepreneurial orientation. Hypothesis 2, the relationship between adversity index and organizational learning ($\beta = 0.28, p < 0.001$) was statistically significant and adopted. That is, the higher the adversity index, the higher the organizational learning ability, which supported the results of previous studies on planes at any time [16, 23-24]. Hypothesis 3, the positive relationship between entrepreneurial orientation and organizational learning

competency ($\beta = 0.70$, $p < 0.001$), was adopted. On the other hand, in the case of demographic variables, only age was analyzed to have a positive relationship on organizational learning competency ($\beta = 0.22$, $p < 0.05$). This was shown as the results of previous studies on planes at any time [16, 27, 31-32], indicating that organizational learning competency improves as entrepreneurial orientation improves.

4.5.2 The Mediating Effect Verification (Hypothesis 4)

In this study, in order to verify the mediating effect of entrepreneurial orientation on the relationship between the adversity index and organizational learning competency, analysis was conducted through the bootstrapping model 4 [40]. This study verified that '0' is not included within the 95% confidence interval through 1000 times of bootstrapping proposed by [41]. That is, the indirect effect of the adversity index on organizational learning competency through entrepreneurship orientation was found to be significant ($\beta = 0.006$ [0.05, 0.30], $p < 0.001$). In addition, the direct effect of the adversity index on organizational learning ability was also significantly analyzed ($\beta = 0.003$ [0.08, 0.31], $p < 0.001$). Based on this, the partial mediating effect of entrepreneurial orientation was confirmed in the relationship between the adversity index and organizational learning competency. The adversity index supported the results of previous studies on planes at any time [15-16, 33] as not only directly affecting organizational learning competency, but also indirectly affecting organizational learning competency by influencing entrepreneurial orientation.

5. Conclusion

This study showed the following results through the influence relationship between the adversity index, entrepreneurial orientation, and organizational learning competency perceived by organizational members. First, hypothesis 1, the adversity index and entrepreneurial orientation showed a positive (+) influence relationship. Second, the adversity index and organizational learning capacity, hypotheses 2, showed a positive effect. Third, Hypothesis 3, entrepreneurial orientation, was statistically significant in organizational learning competency. Fourth, in the process of the adversity index affecting organizational learning capabilities, the partial role of entrepreneurial orientation was confirmed. In other words, it can be said that organizational members who effectively demonstrate the adversity index enhance their entrepreneurial orientation to perform their duties independently, thereby reinforcing organizational learning capabilities for more effective and successful job performance. The main theoretical and practical implications shown through the results of this study are as follows. First, it is the aspect that provides additional theoretical implications in the reality that studies on the adversity index and entrepreneurial orientation that affect organizational learning capabilities are absolutely insufficient. In other words, this study provides additional theoretical implications for the results that adversity index and entrepreneurial orientation can have an effect on organizational learning competency improvement in a changing business environment. Second, the practical implications of confirming the importance of the adversity index and entrepreneurial orientation recognized by organizational members in improving organizational learning capabilities, which are being emphasized to enhance differentiated competitiveness based on the advancement of the company's sustainability management system. In other words, the need for systematically developing, improving, and demonstrating the adversity index and entrepreneurial orientation of organizational members emerged. In this respect, in the field of education and training of organizational members, it is necessary to emphasize the adversity index and entrepreneurial orientation and provide opportunities to improve their skills. Through this, it is necessary to revitalize a new organizational culture that cultivating and improving the adversity index and entrepreneurial orientation can enhance organizational learning capabilities. Despite these findings and theoretical and practical implications, there is a limit to generalizing the results of this study. Therefore, in future research, there is a need to expand the scope

of application of research results through a wider and more precise sampling method and diversity of industries and job fields. In addition, it is necessary to diversify factors affecting organizational learning capabilities to continuously identify factors for organizational survival and growth and advancement of sustainable management.

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