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Digital Agility, Strategic Alignment, and Learning Orientation: Drivers of Organizational Resilience and Effectiveness

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Abstract: Organizational resilience and efficacy have become pivotal elements of long-term sustainability in the present-day unstable and dynamic business environment. This paper explores the relationship between digital agility, strategic alignment, and learning orientation as key building blocks for resilient and high-performing organizations. The capability to flexibly adapt digital capabilities in a very quick way is digital agility, which serves as a stimulus to organizational flexibility. Strategic alignment makes sure that there is consistency between what the organization aims at and what it does, whereas learning orientation makes sure that there is constant innovation and adaptation. This study aims to know how the three constructs interact (combine) to determine their effect on resilience and organizational effectiveness. The emergence of digital disruption, uncertainty in the market, and global crises has increased the importance of organizations changing their resilience strategies. Older forms of strategy and ability-making can no longer cope with new challenges. This paper considers and empirically works with the association between digital agility, strategic alignment, and learning orientation regarding organizational resilience and effectiveness. The study constructs a conceptual model through a comprehensive analysis of previous literature and validates it using Structural Equation Modeling (SEM). A structured questionnaire was used to gather data on 346 mid and senior-level managers from the employees of OPTCL. The constructs were measured with the help of the developed scales. Before carrying out SEM, convergent and discriminant validity, and reliability were tested. The findings suggest that there are strong direct and mediating correlations between the variables to support the hypotheses. The implications of the findings are on the digital transformation strategy, leadership practices, and knowledge management systems. Through a more humanistic approach to agility and alignment, and learning, organizations will be able to manage uncertainty more easily and increase their overall effectiveness.

Keywords*-Digital Agility, Strategic Alignment, Organizational Resilience, Organizational Effectiveness.*

1. Introduction

Increasing pace of technological change, volatility in international markets, and an increase in uncertainty characterize the modern business environment; these necessitate redefining the way organizations define and implement their business and operational-strategic processes. In this respect, the ability of an organization to become tough and deliver in the case of pressure has emerged as a significant strategic call [1]. Organizational resilience(OR) is the ability of a firm to predict, absorb, adapt, and recuperate from disruptive events [2]. In the

meantime, organizational effectiveness is about the impact of getting desired results and maintaining a competitive edge. The emergence of digital technologies has changed the competition landscape, forcing companies to embrace a digital agile as a core competence. The concept of digital agility, which refers to a company's capacity to leverage digital technologies quickly to provide rapid innovations and adapt to environmental changes, has ceased to be an option and is now a necessity [3]. Agile companies can be able to quickly capitalize on opportunities and reduce threats through dynamic realignment of resources and business models. Strategic alignment is another important factor that determines organizational performance. Strategic alignment is used to make sure that the structure, resources, and initiatives of an organization are aligned with the overall objectives of the organization. Devoid of such alignment, even the most responsive organizations will experience strategic drift, where activities do not help in achieving core objectives [4-6].

These two factors are complemented by learning orientation, which summarizes the process of learning in the organization as a growth and survival tool [7]. Strongly learning organizations facilitate the acquisition, dissemination, and responsiveness of knowledge, and, thus, allow constant innovation [8]. Although the stipulated constructs have been studied separately, not many studies have measured the interactive effect of learning on resilience and effectiveness. In this paper, it is argued that digital agility (DA), strategic alignment(SA), and learning orientation(LO) are not additive but are mutually reinforcing. When combined, they generate a synergistic effect positively influencing the resilience, as well as performance results [9]. Three gaps drive the study: first, there is a gap in the research on empirical evidence to support these constructs in the context of digital agility and resilience; second, the impact of strategic alignment as a mediating construct is only partially explored; and third, the contributions of learning orientation in the context of digital transformation are not well researched [10-11]. The study will fill these gaps by proposing a conceptual framework that entails empirical tests of the constructs between strategic alignment and its relationships, as well as between learning orientation and digital transformation. The findings will be used to provide practical information to both practitioners and scholars, in particular, to develop resilient, future-proof organizations [12-13].

2. Related Research

Past studies have addressed individual constructs, including digital agility, strategic alignment, and learning orientation, but have seldom investigated their combined effect on organizational resilience and effectiveness. Digital agility has been closely related to the digital transformation capabilities of a firm and its capacity to respond to changing environments. Research has shown that agile organizations are flexible and have quicker decision-making [14]. Nonetheless, the literature is still disjointed, with most of it concentrating on technology adoption, as opposed to capability integration. Historically, strategic alignment studies have been concerned with business and IT strategy congruence. It has expanded to the general organizational coherence, such as goal congruence and cultural congruence [15]. The alignment has been linked to financial performance, customer satisfaction, and innovation with a positive association [16]. The learning orientation has been placed as a pre-innovative and adaptive state. Companies that have well-developed learning cultures are better placed to determine the changes in the environment and develop the right responses [17]. The construct has frequently been associated with dynamism capabilities and knowledge management. All these areas help in comprehending how an organization adapts to the environment, but the combination of all three has not been adequately explored in the literature. Some studies have tried to associate agility to alignment, and others have researched learning as a moderator [18-20]. Nevertheless, no holistic model is available that embraces all three constructs and the effect of their combination on resilience and effectiveness [21-22]. The study helps in bridging this gap in theory and also provides a validated model using SEM, thus dealing with the shortcomings of the past disjointed ones [23].

3. Problem Statement and Research Objectives

Organizations today face unprecedented levels of uncertainty due to disruptive technologies, market turbulence, and shifting institutional frameworks. While digital agility, strategic alignment, and learning orientation have been individually recognized as critical drivers of performance, their interconnected influence on organizational resilience and effectiveness remains underexplored. Existing studies often isolate these constructs, overlooking the synergies that arise when digital capabilities are integrated with strategic coherence and a learning-driven

culture. Additionally, the studies on these dynamics have been skewed towards developed economies, implying that the knowledge gap on how organizations in emerging markets, which are characterized by resource scarcity and institutional instability, can leverage these enablers to remain effective has not been filled. The lack of a cohesive framework restricts theoretical and practical guidance to managers who are determined to develop resilient organizations in an environment full of change. In particular, the mediating effect of organizational resilience as a process by which digital agility, strategic alignment, and learning orientation contribute to the effectiveness remains to be systematically confirmed. This gap is essential to both the generalization of the dynamic capability theory and to the provision of practical guidance to organizations that will go through the digital transformation.

Research Objectives

a. To examine how learning orientation, strategic alignment, and digital agility directly affect organizational resilience.
b. To analyze the effect of organizational resilience on organizational effectiveness.
c. To investigate the mediating role of organizational resilience in linking digital agility, strategic alignment, and learning orientation with organizational effectiveness.
d. To empirically validate the proposed structural model in the context of emerging markets.

4. Methodology

In the current study, the research design is a quantitative and cross-sectional study aimed at analyzing the suggested relationships between the concepts of digital agility, strategic alignment, learning orientation, organizational resilience, to organizational effectiveness. To collect primary data, a systematic survey instrument was created, and Structural Equation Modeling (SEM) was applied to reduce the conceptual framework empirically. SEM is selected as it analyses concurrently various relationships among the latent constructs as well as tests both the measurement and structural elements of the research model.

4.1 Samples and Data Collection.

The target population was mid and senior-level managers of the employees of OPTCL because it has direct implications with regard to decision-making and execution of organizational strategies. The purposive type of sampling was chosen to ensure that respondents with the appropriate experience in digital transformation, learning practices, and strategic decision-making are included [24].

Four hundred and twenty responses were obtained, and 346 valid responses were retained after screening the data due to missing values and inconsistencies. The sample size is larger than the minimum size needed in SEM, which suggests 5-10 observations per item or at least 200 cases. Ethical standards were guaranteed by the voluntary participation and anonymity of the data collection process.

4.2 Measurement Instruments

The survey tool was constructed on the basis of the validated scales of the previous research and improved with the help of the experts. Each construct was operationalized using many items rated on a 5-point Likert scale (with 1 as strongly disagree to 5 as strongly agree).

- Digital Agility was assessed with the help of the items that represent adaptability, digital resource use, and technological change responsiveness.
- Strategic Alignment also involved IT-business alignment, process integration, and alignment of organizational strategy and operations.
- Knowledge Sharing, openness to innovation, and continuous improvement were the items that helped capture Learning Orientation.
- Adaptability, resourcefulness, and recovery ability measured Organizational resilience.

- Organizational Effectiveness incorporated the indicators of performance, goal achievement, and general efficiency.

The computations were done by pre-testing the instrument using 30 professionals.

4.3 Data Analysis Approach

Data analysis was performed in many steps. There were descriptive statistics, which were computed first to recognize the respondents and the distribution of items. Then Cronbach's alpha, along with Composite Reliability (CR), was carried out to offer a reliability analysis of a good internal consistency of above 0.70. Another validity test that was involved was convergent and discriminant validity. Measures of convergent validity were taken to be factor loadings (>=0.70), Average Variance Extracted (AVE >= 0.50), and CR values (>=0.70). The discriminant validity was tested by the Fornell-Larcker criterion, and the square root of AVE of each construct exceeded the inter-construct correlations.

Two steps of analysis of SEM were subsequently conducted. The measurement model was tested in order to test the construct reliability and validity. The structural model was evaluated with model fit indices, which were Chi-square/df ratio, Comparative Fit Index (CFI), Goodness-of-Fit Index (GFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). These standards were acceptable thresholds (i.e., CFI, TLI 0.90; RMSEA 0.08) [4].

4.4 Ethical Considerations

The study adhered to the ethical requirements of social science research. The informed consent was obtained, the voluntary participation was adhered to, and the confidentiality of responses was ensured. Data analysis was carried out at the aggregate level only without any disclosure of individual identity.

5. Results and Discussions

In further ensuring the strength of the measurement model, more tests were done to determine the discriminant validity and the explanatory power. The two most popular methods were the Heterotrait-Monotrait Ratio (HTMT) and the Fornell-Larcker criterion. To ensure that every latent variable had its own indicators and better explained variance as compared to the other constructs, the Fornell-Larcker criterion was utilized, hence ensuring that the square root of the Average Variance Extraction (AVE) of each construct was always greater than its correlations with other constructs. Complementarily, the ratios of HTMT were computed for construct pairs, and all values fell below the conservative value of 0.85, which provided more support for discriminant validity and minimized concerns that multicollinearity existed.

Besides, R^2 values of endogenous constructs were also used to determine the explanatory power of the model explained in Table 1. Based on the result, the exogenous variables in the model had a strong explanatory power on Organization Resilience ($R^2 = 0.61$) and Organization Effectiveness ($R^2 = 0.58$). Based on set standards, these values indicate a significant variance accounted for, indicating the predictive power of digital agility, strategic alignment, and learning orientation in the determination of resilience and the mediating effect of resilience in the determination of effectiveness.

Table 1. R^2 values

Construct	R^2 Value
Organizational Resilience(OR)	0.61
Organizational Effectiveness(OE)	0.58

These values suggest that the model explains a substantial portion of the variance in both constructs.

5.1 Hypothesis Summary

SEM was used to test the hypothesized relationships, the results of which are shown in Table 2. They all showed significant standardized coefficients that supported all five hypotheses. In particular, a significant and positive impact on organizational resilience was noted in digital agility (H1: 0.42, $p < 0.001$), strategic alignment (H2: 0.36, $p < 0.01$), and learning orientation (H3: 0.34, $p < 0.01$). Moreover, the role of resilience on organizational effectiveness (H4: = 0.48, $p < 0.001$) also proved that it has mediated the effect. There were also indirect effects, including the fact that the digital agility had a mediated impact on effectiveness via resilience (H5: 0.20, $p < 0.01$).

Table 2. Hypothesis Testing Results

Hypothesis	Statement	Std. Coefficient	P-value	Result
H1	Digital Agility positively influences Organizational Resilience	0.42	<0.001	Supported
H2	Strategic Alignment positively influences Organizational Resilience	0.36	<0.01	Supported
H3	Learning Orientation positively influences Organizational Resilience	0.34	<0.01	Supported
H4	Organizational Resilience positively influences Organizational Effectiveness.	0.48	<0.001	Supported
H5	Digital Agility indirectly influences Organizational Effectiveness via Organizational Resilience	0.20	<0.01	Supported

5.2 Convergent Validity and Reliability

Composite Reliability (CR) and Average Variance Extracted (AVE) were both analyzed in order to determine convergent validity. Because all the construct values were above the recommended level of 0.70 (as shown in Table 3), the value of CR in all constructs ranged from 0.87 to 0.92; hence, internal consistency reliability was achieved. On the same note, the values of AVE fell between 0.61 and 0.70, exceeding the 0.50 mark and asserting that the constructs explain more than half of the variation in their individual items. Combined, these findings indicate that the items used to measure them are highly convergent with their constructs.

Table 3. Convergent Validity and Reliability

Construct	Composite Reliability (CR)	Average Variance Extracted (AVE)
DA	0.89	0.64
SA	0.91	0.67
LO	0.87	0.61

OR	0.90	0.66
OE	0.92	0.70

5.3 Discriminant Validity (Fornell–Larcker Criterion)

The Fornell-Larker criterion, which evaluated the square root of the AVE values against the inter-construct correlations, was used to measure discriminant validity. Table 4 shows that the square root of the AVEs (diagonal) is greater than the off-diagonal correlations, and the constructs are thus different. To illustrate, the AVE square root of Digital Agility (0.80) is greater than the result of AVE with Strategic Alignment (0.58), Learning Orientation (0.53), Organizational Resilience (0.62), and Organizational Effectiveness (0.55). This is observed to be true of all constructs, which is another contemplation of the discriminant properties of the measurement model.

Table 4. Discriminant Validity (Fornell–Larcker Criterion)

Construct	DA	SA	LO	OR	OE
DA	0.80				
SA	0.58	0.82			
LO	0.53	0.61	0.78		
OR	0.62	0.64	0.60	0.81	
OE	0.55	0.57	0.54	0.66	0.84

5.4 Model Fit Indices and Overall Model Adequacy

A variety of goodness-of-fit measures were researched in order to identify the appropriateness of the structural model. The indices present a unique perspective of the model fit, and when combined, are applied jointly to present a whole picture of the fit of the hypothesized model of the observed data. The Comparative Fit Index (CFI) was observed as standing at 0.94 and which is larger than the generally accepted value of 0.90 (nearly equal to the larger value of 0.95). This shows that the model presented is far more appropriate to the data compared to a null model where the data is not related in any way of interest. A high value of CFI, the model has been in a position to capture the covariance structure of the data. The value of the Root Mean Square Error of Approximation (RMSEA) is 0.052, which is significantly lower than the conservative cut-off of 0.06. This is to indicate that the amount of error in the approximation of the population is quite minimal, and the model is parsimonious, and still, it provides explanatory power. It is noted that the values of RMSEA of less than 0.05 can be considered a close fit, whereas the values between 0.05 and 0.08 can be regarded as a reasonable fit. Through this, the current value supports the end of a great-to-close model fit. Root mean square Residual (SRMR) of 0.046 was observed to be much lower than 0.08, which is considered to be standardized. Since SRMR is a measure of the standardized difference between actual measured and predicted correlations, a low value means that the residuals are small and that the model prediction is similar to the real pattern of data. The GPI of Goodness of Fit was 0.91, a higher value than the traditional cut-off of 0.90. This indicates that the hypothesized model accounts for a high percentage of the variance-covariance matrix, thus justifying its suitability in explaining the theoretical structure underlying the model. Lastly, the Tucker and Lewis Index (TLI) was also reported to be 0.93, which is above the acceptable level of 0.90. TLI punishes the complexity of the model by comparing the given model to a baseline model. Such a high value (0.90) indicates that the proposed model has a great explanatory power and is not over-fitting the data. Combined, encompassing all these findings of these indices, results in the high likelihood that the provided structural model might be referred to as having a great overall fit. Not only do the results substantiate the suggested relationships, but they also authenticate the quality and validity of the model in the process of clarifying the interaction of digital agility, strategic alignment, and learning orientation in the creation of organizational

resilience and efficacy. The Cronbach's alpha of constructs was stronger since it exceeded 0.85, implying that the constructs are internally consistent. The values of Correlation Reliability (CR) ranged from 0.87-0.92.

Conclusion

The research applies to the theoretical background knowledge of organizational resiliency because the authors of the study suggest and confirm a model that integrates digital agility, strategic alignment, and learning orientation. Empirical evidence has proved the constructs to be significant predictors of resilience and effectiveness. The experimental SEM model confirms that the mediator interconnection between antecedent capabilities and performance outcomes relies on resilience. The research is a good example that can guide researchers and practitioners to build resilience using a combination of capacity building.

Future scopes: Further development of the future studies can be made with the introduction of the aspects of the dynamism of the environment as a moderating variable. Longitudinal studies and cross-cultural validations will further increase the validity of the findings. In addition to that, the qualitative data would also add to the image of the more profound-level connections between agility, alignment, learning, and resilience.

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