Business Environment as a Capability-Activation Mechanism: Resilience, Dynamic Capabilities, and Sustainability in Poultry Enterprises

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ABSTRACT

Poultry enterprises in Indonesia operate under increasingly uncertain business conditions shaped by climate variability, animal health and disease risks, commodity and input price volatility, and regulatory changes. This study investigated how the Business Environment (BE) influenced Enterprise Sustainability Performance (ESP) through the parallel mediating roles of Enterprise Resilience (ER) and Dynamic Capabilities (DC). Grounded in the Resource-Based View and Dynamic Capabilities View, the study employed a quantitative, cross-sectional survey of 236 commercially oriented broiler and layer poultry enterprises across Indonesia. Respondents included enterprise owners, managers, cooperative administrators, farmer-group leaders, and other decision makers with sufficient knowledge of enterprise operations. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicated that BE did not have a significant direct effect on ESP ($\beta = 0.071$, $p = 0.149$), but had strong positive effects on ER ($\beta = 0.798$, $p < .001$) and DC ($\beta = 0.764$, $p < .001$). ER significantly mediated the relationship between BE and ESP ($\beta = 0.653$, $p < .001$), whereas the mediating effect of DC was not significant ($\beta = 0.040$, $p = 0.642$). These findings reveal an asymmetric mediation mechanism: environmental turbulence activates both resilience and adaptive capabilities, but only resilience effectively translates such pressure into sustainability outcomes. The study contributes to RBV-DCV integration by positioning the business environment as a capability-activation mechanism and showing that adaptive capability is not necessarily sustainability-oriented capability. For poultry enterprises, the findings support prioritizing stakeholder collaboration, information technology capability, environmental awareness, and continuity-oriented resilience, while directing dynamic capabilities more explicitly toward economic, environmental, and social sustainability objectives.

Keywords: Business Environment, Dynamic Capabilities, Enterprise Resilience, Enterprise Sustainability Performance, Poultry Enterprises

INTRODUCTION

Food security remains a critical global concern because it is closely related to human well-being, economic stability, and long-term social development. Approximately 29.6% of the global population continues to experience inadequate access to food, while nearly 900 million people face severe food insecurity (FAO, 2023). These challenges are increasingly important in developing economies where population growth and rising food demand place additional pressure on domestic food-production systems. Small-scale agricultural enterprises play an important role in this context, as approximately 84–85% of the world's agricultural holdings are classified as small farms and contribute substantially to food production, particularly in lower-middle-income countries (FAO, 2023; Lowder et al., 2021). Therefore, the sustainability of food-producing enterprises is not merely a business-level concern but is closely connected to the resilience of broader food systems.

Within Indonesia's food system, poultry occupies a particularly strategic position because poultry products contribute substantially to domestic animal-protein consumption and account for approximately 80.77% of total livestock production (GPPU, 2025). However, this strategic importance contrasts with a substantial structural decline in the number of smaller poultry enterprises. Available data indicate that poultry-related enterprises experienced a contraction of approximately 53%, with their number declining from around 150,000 enterprises during the 2003–2005 period to approximately 73,000 in 2024 (BPS, 2024b). At the same time, poultry meat consumption in Indonesia remains relatively low compared with several neighboring Southeast Asian countries, indicating potential for further domestic market expansion (OECD, 2026). This condition creates a structural paradox in which substantial market potential and strategic importance coexist with a declining enterprise base.

The decline in poultry enterprises does not necessarily indicate a proportional decline in national production capacity. Indonesia's poultry industry has experienced increasing production concentration, technological intensification, and greater involvement of vertically integrated and partnership-based production systems. In the broiler segment, independent enterprises are estimated to account for only a relatively small share of production compared with integrated companies and partnership arrangements, while improvements in production technology, environmental control, poultry genetics, feed efficiency, and production management have enabled greater output per production unit (George & George, 2023; Nugroho, 2020; Widiyanti et al., 2019). Consequently, enterprise contraction may coexist with high aggregate production and even periods of excess supply, creating stronger competitive and market pressures for commercially oriented poultry enterprises.

These structural pressures are intensified by a turbulent Business Environment (BE). Poultry enterprises are exposed to uncertainty arising from climate and weather conditions, poultry health and disease risks, commodity and input-price fluctuations, and changes in government policies and regulations (García-Pérez & Yanes-Estévez, 2022; Halushka, 2023). Feed dependence is particularly important because Indonesia relies considerably on imported soybean meal (BPS, 2024a), exposing poultry enterprises to international commodity-price movements and exchange-rate fluctuations. Output prices also fluctuate substantially, while disease outbreaks can directly affect productivity, mortality, production costs, and business continuity (Sattler et al., 2021). These conditions demonstrate that poultry enterprises operate within an environment characterized by biological, market, climatic, and regulatory uncertainties that can threaten long-term sustainability.

However, exposure to similar environmental pressures does not necessarily produce identical sustainability outcomes across poultry enterprises. Differences may arise from the ability of enterprises to develop Enterprise Resilience (ER) and Dynamic Capabilities (DC). Enterprise resilience refers to an enterprise's capacity to withstand, adapt to, and recover from disruptions and is represented in this study through collaboration, IT capability, and awareness (Abeysekara et al., 2019; Lotfi & Larmour, 2022; Patel, 2023). Dynamic capabilities, in contrast, reflect an enterprise's ability to sense environmental changes, seize emerging opportunities, and reconfigure internal and external resources in response to changing conditions (Aragón-Correa & Sharma, 2003; Ilmudeen, 2021; Kim & Park, 2021; Teece, 2023). These two mechanisms provide different but potentially complementary explanations of how poultry enterprises respond to environmental turbulence.

The ultimate outcome examined in this study is Enterprise Sustainability Performance (ESP), which represents an enterprise's capacity to maintain economic viability while simultaneously fulfilling environmental and social responsibilities. Consistent with the Triple Bottom Line perspective, ESP is measured through economic, environmental, and social performance (Ketprapakorn & Kantabutra, 2019; Nikolaou et al., 2019; Trianni et al., 2019; Yang & Yang, 2022). The theoretical relationships among BE, ER, DC, and ESP are grounded in the Resource-Based View (RBV) and Dynamic Capabilities View (DCV). RBV explains performance differences through heterogeneous enterprise resources and capabilities, whereas DCV extends this logic by emphasizing how firms renew and reconfigure those resources when environmental conditions change (Baden-Fuller & Teece, 2020). Accordingly, BE represents the external source of turbulence, ER and DC represent enterprise-level response mechanisms, and ESP represents the sustainability outcome.

Despite growing research on resilience, dynamic capabilities, environmental uncertainty, and sustainability performance, these constructs have frequently been examined separately or through partial relationships rather than within an integrated structural framework (Choi & Shin, 2023; Conz & Magnani, 2020; Sheth, 2021; J. Zhou et al., 2022). Consequently, limited empirical evidence explains whether and how Enterprise Resilience and Dynamic Capabilities simultaneously mediate the relationship between Business Environment and Enterprise Sustainability Performance, particularly among commercially oriented poultry enterprises in Indonesia. To address this gap, the present study integrates BE, ER, DC, and ESP within a unified framework and examines five relationships: the effects of BE on ESP, ER, and DC, as well as the mediating roles of ER and DC in the relationship between BE and ESP. By doing so, the study seeks to explain why poultry enterprises exposed to comparable environmental turbulence may demonstrate different sustainability outcomes.

LITERATURE REVIEW

2.1 Enterprise Sustainability Performance

Enterprise Sustainability Performance (ESP) refers to an enterprise's ability to maintain long-term performance by balancing economic viability, environmental responsibility, and social contribution. This study adopts the Triple Bottom Line (TBL) perspective because it directly corresponds to the three dimensions of ESP, namely economic performance, environmental performance, and social performance (Alsayegh et al., 2020; Hutchins et al., 2019). Economic performance reflects improvements in production, productivity, sales, customers, profitability, capital, and business assets (Iranmanesh et al., 2019; G. Zhou et al., 2022); environmental performance concerns resource efficiency, energy and water consumption, waste utilization, emissions management, and environmentally responsible practices (Kamble et al., 2020; Siagian et al., 2021); while social performance captures employee welfare, occupational safety, equality, local employment, community engagement, and access to knowledge, technology, and resources (do Amaral et al., 2023; Hutchins et al., 2019; Ketprapakorn & Kantabutra, 2019; Nikolaou et al., 2019; X. Wang et al., 2022). ESP is employed as the dependent variable because sustainability in poultry enterprises extends beyond short-term profitability and requires the simultaneous management of biological production processes, natural resources, employees, surrounding communities, and stakeholder relationships (Markard et al., 2020; Umaraite & Lapinskaitė, 2022; J. Zhou et al., 2022). Accordingly, ESP provides a comprehensive organizational outcome for evaluating whether poultry enterprises can maintain economic development while reducing environmental impacts and fulfilling social responsibilities under turbulent business conditions.

2.2 Business Environment

Business Environment (BE) represents the external uncertainty and turbulence affecting enterprise operations, strategic decision-making, and performance, particularly when decision makers cannot accurately predict future environmental conditions (Darvishmotevali et al., 2020; García-Pérez & Yanes-Estévez, 2022; Halushka, 2023). BE is selected as the principal external antecedent because poultry enterprises are highly exposed to biological, climatic, market, input-price, institutional, and regulatory changes that may influence productivity, operating costs, market stability, and long-term sustainability (Cui et al., 2023; Noor et al., 2025; Sabahi & Parast, 2020). In this study, BE consists of four dimensions: Climate and Weather Conditions, Poultry Health and Disease Conditions, Commodity and Input Price Conditions, and Policy and Regulatory Conditions. Climate variability can affect poultry productivity, production quality, housing conditions, and disease exposure (Findlater et al., 2019; Michalk et al., 2019; Wreford & Topp, 2020; Zerssa et al., 2021); health and disease conditions capture disease unpredictability, preventive protection, detection, and corrective treatment (Boyd & Bellemare, 2020; Hussain & Malik, 2022; Lanfranchi et al., 2019); commodity and input-price conditions reflect uncertainty in input prices, input availability, and selling prices (Jia & Li, 2020; Pilvere et al., 2021); while policy and regulatory conditions encompass regulatory, institutional, and related macroeconomic uncertainties that may disrupt enterprise operations. These dimensions are particularly relevant because poultry enterprises may experience several forms of environmental turbulence simultaneously, creating a need for stronger enterprise-level response mechanisms.

2.3 Enterprise Resilience

Enterprise Resilience (ER) refers to an enterprise's capacity to withstand, adapt to, respond to, and recover from disruptions while maintaining essential operations and business continuity (Conz & Magnani, 2020; Salam & Bajaba, 2023; Sanchis et al., 2020). ER is incorporated into the model because poultry enterprises exposed to similar environmental pressures may experience different sustainability outcomes depending on their preparedness, stakeholder relationships, access to information, technological resources, and ability to anticipate disruption (Aghaei et al., 2017; Jain et al., 2017; C. S. Singh et al., 2019). Consistent with the poultry-enterprise context and the measurement instrument, ER is operationalized through Collaboration, IT Capability, and Awareness. Collaboration represents the relational capacity to coordinate with suppliers, other poultry enterprises, distributors, and retailers through information sharing, joint planning, resource access, and risk sharing (Azadeh et al., 2014; Lotfi & Larmour, 2022); IT Capability represents the technological and informational capacity to obtain timely information regarding inputs, prices, markets, and operational conditions (Colicchia et al., 2019; Gu et al., 2021; Setak et al., 2018; Shishebori & Babadi, 2018); while Awareness reflects the ability to monitor markets, consumers, competitors, policies, internal performance, and emerging risks while preparing contingency responses (Jain et al., 2017; Mandal, 2014; C. S. Singh et al., 2019). Together, these dimensions explain how poultry enterprises protect operational continuity and mobilize relational, informational, technological, and organizational resources when confronted with environmental turbulence.

2.4 Dynamic Capabilities

Dynamic Capabilities (DC) represent an enterprise's higher-order ability to purposefully identify environmental changes, mobilize resources in response to those changes, and reconfigure existing resources and organizational arrangements when established routines are no longer adequate (Baden-Fuller & Teece, 2020; Ferreira et al., 2020; Kurtmollaiev, 2020; Teece, 2023). DC is included because poultry enterprises operate in environments characterized by rapidly changing technologies, input conditions, consumer expectations, disease risks, market conditions, and regulations, requiring more than ordinary operational capabilities to remain adaptive (Aragón-Correa & Sharma, 2003; Ilmudeen, 2021; Kim & Park, 2021; Rehman & Jajja, 2023). Following Teece's framework, DC is measured through Sensing, Seizing, and Reconfiguring. Sensing refers to identifying beneficial technologies, alternative suppliers, new opportunities, customer needs, and product-development possibilities (Abu Siny et al., 2022; Choi & Shin, 2023; Virk et al., 2020); Seizing concerns mobilizing resources through technological exploration, strategic improvement, investment, partnerships, knowledge development, feasibility analysis, and data-based decision-making (Hokmabadi et al., 2024; Sarfo et al., 2025; Zhang et al., 2023); while Reconfiguring represents the ability to realign resources, business relationships, employee responsibilities, market positioning, and operational arrangements to maintain strategic fit under changing conditions (Altintas, 2023; Baden-Fuller & Teece, 2020; Collins, 2021; Linde et al., 2021). These interconnected capabilities enable poultry enterprises to transform environmental information into strategic action and organizational adjustment, thereby providing a potential mechanism through which environmental turbulence may influence sustainability outcomes.

2.5 Hypothesis Development

Previous studies indicate that the Business Environment (BE) can influence several enterprise outcomes, although the direction and magnitude of its effect depend on environmental and organizational conditions. External uncertainty arising from economic policy changes, climate-related risks, market volatility, and institutional instability may constrain Enterprise Sustainability Performance (ESP) by increasing costs and reducing predictability (Jia & Li, 2020; Riaz et al., 2021), whereas other studies show that dynamic or favorable business environments can stimulate strategic responses and improve sustainability outcomes (Dong & Zhang, 2022; Dwikat et al., 2023). Business environmental changes may also influence Enterprise Resilience (ER) by either increasing operational pressure or encouraging firms to strengthen access to resources, collaboration, preparedness, digital innovation, and institutional support (L. Fu et al., 2023; R. Wang & Zhang, 2025; Zheng et al., 2025). Similarly, environmental dynamism increases the need for Dynamic Capabilities (DC) because rapidly changing conditions encourage enterprises to strengthen sensing, seizing,

and reconfiguring capabilities, although excessive uncertainty may complicate their effective deployment (Bitencourt et al., 2020; Karna et al., 2016; Schoemaker et al., 2018). Therefore, the first three hypotheses propose that BE significantly influences ESP, ER, and DC.

Beyond these direct relationships, ER and DC may explain how external environmental pressures are transmitted into sustainability outcomes. Enterprise Resilience enables firms to maintain continuity during disruption through stronger coordination, stakeholder collaboration, access to timely information, risk recognition, and contingency preparedness (Lotfi & Larmour, 2022; Salam & Bajaba, 2023; Settembre-Blundo et al., 2021; C. S. Singh et al., 2019). Dynamic Capabilities provide a complementary adaptive mechanism through which firms identify environmental changes, mobilize resources, capture opportunities, and reconfigure organizational arrangements in response to turbulence (Bieńkowska & Tworek, 2021; Buzzao & Rizzi, 2021; Yan et al., 2022). Accordingly, this study positions ER and DC as parallel mediating mechanisms linking BE to ESP and proposes five hypotheses: H1: BE significantly influences ESP; H2: BE significantly influences ER; H3: BE significantly influences DC; H4: ER mediates the relationship between BE and ESP; and H5: DC mediates the relationship between BE and ESP.

2.6 Research Gap

Over the past few years, a growing body of research has explored sustainability, resilience, environmental uncertainty, and dynamic capabilities. Yet for all that attention, there are still notable gaps, both theoretical and empirical, that have yet to be fully addressed. One major issue is that the Resource-Based View and the Dynamic Capabilities View have largely been treated as separate frameworks, rather than as complementary pieces of the same puzzle. As a result, we still lack a clear understanding of how a firm's unique resources, its resilience mechanisms, and its adaptive capabilities come together to shape sustainability performance, especially when the external environment becomes increasingly volatile and unpredictable (Al-Hakimi et al., 2022; Aray et al., 2021; Laguir et al., 2023). This gap is particularly relevant because ER and DC represent different organizational response mechanisms: ER emphasizes continuity, preparedness, and the capacity to withstand disruption through Collaboration, IT Capability, and Awareness, whereas DC emphasizes adaptation and transformation through Sensing, Seizing, and Reconfiguring (Hsieh, 2019; Lotfi & Larmour, 2022; Setak et al., 2018). Empirically, previous studies also report inconsistent findings regarding the effects of BE, with environmental uncertainty producing negative, positive, or context-dependent effects on sustainability, resilience, and capability development (Dong & Zhang, 2022; Dwikat et al., 2023; F. Fu et al., 2023; Jia & Li, 2020; Riaz et al., 2021; J. Wang et al., 2023). More importantly, relatively few studies have simultaneously examined ER and DC as parallel mediating mechanisms linking BE to ESP, leaving limited understanding of how external pressures are translated into economic, environmental, and social sustainability outcomes (Abeysekara et al., 2019; Putritamara et al., 2023; Stadtfeld & Gruchmann, 2024).

Methodologically and contextually, further gaps remain. Previous studies have frequently relied on simple regression, AHP, or qualitative descriptive approaches, which may not fully capture multidimensional latent constructs and simultaneous direct and indirect relationships, while the application of PLS-SEM remains comparatively limited in sustainability research within emerging-market settings (Abbas et al., 2019; Al-Hakimi et al., 2022; Aray et al., 2021; Azadeh et al., 2014; Celestin, 2019; Cruz-Sanchez et al., 2020; Cui et al., 2023; Nikolaou et al., 2019). Contextually, much of the existing evidence derives from manufacturing firms, general SMEs, large corporations, or supply-chain settings, often outside Indonesia, whereas comparatively limited attention has been given to commercially oriented broiler and layer poultry enterprises that simultaneously face climate and weather variability, poultry health and disease risks, feed and input-price volatility, market instability, technological change, and regulatory uncertainty (Chatterjee et al., 2022; Cui et al., 2023; Findlater et al., 2019; Hussain & Malik, 2022; Khan et al., 2021; Ozanne et al., 2022). Accordingly, this study addresses these gaps by integrating BE, ER, DC, and ESP within a unified RBV–DCV framework and examining ER and DC as parallel mediating mechanisms in Indonesian poultry enterprises.

METHODOLOGY

This study employed a quantitative, cross-sectional, and explanatory research design to test the hypothesized relationships among Business Environment (BE), Enterprise Resilience (ER), Dynamic Capabilities (DC), and Enterprise Sustainability Performance (ESP). A positivist paradigm and deductive approach were adopted because the study sought to objectively test relationships derived from existing theoretical propositions using numerical data (Creswell, 2018). Data were collected at a single point in time through a survey strategy using a structured questionnaire, which enabled standardized measurement across a relatively large number of respondents and supported statistical hypothesis testing. The survey design was considered appropriate for examining both the direct relationships among the study constructs and the mediating roles of ER and DC in explaining how business environmental conditions are associated with the sustainability performance of poultry enterprises (Babbie, 2020; Cooper & Schindler, 2014; Vaus, 2002).

Table 1. Variables and Dimensions

No.	Variable	Dimensions
1	Enterprise Sustainability Performance	Economic Performance Environmental Performance Social Performance
2	Enterprise Resilience	Collaboration IT Capability Awareness
3	Dynamic Capabilities	Sensing Seizing Reconfiguring
4	Business Environment	Climate and Weather Conditions Health and Disease Conditions Commodity and Input Price Conditions Policy and Regulatory Conditions

The research instrument consisted of a structured questionnaire measuring four latent constructs using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Enterprise Sustainability Performance was measured using 27 items across three dimensions: Economic Performance (7 items), Environmental Performance (7 items), and Social Performance (13 items). Enterprise Resilience comprised Collaboration (7 items), IT Capability (6 items), and Awareness (13 items), while Dynamic Capabilities consisted of Sensing (5 items), Seizing (13 items), and Reconfiguring (5 items). Business Environment was measured through Climate and Weather Conditions (3 items), Health and Disease Conditions (4 items), Commodity Prices (3 items), and Policies and Regulations (9 items). The study incorporates four principal variables, each serving a distinct analytical purpose within the proposed model. Business Environment (BE) is employed as the exogenous variable to capture the external turbulence faced by poultry enterprises, including climate and weather conditions, poultry health and disease risks, commodity and input-price uncertainty, and policy and regulatory changes, because these external pressures may influence enterprise operations, costs, market stability, and strategic decision-making (Boyd & Bellemare, 2020; Findlater et al., 2019; Hussain & Malik, 2022; Jia & Li, 2020; Lanfranchi et al., 2019; Purbiyati & Rachmawati, 2023; Toia, 2019; Wreford & Topp, 2020). Enterprise Resilience (ER) is included as a mediating variable to explain how enterprises maintain operational continuity and respond to environmental disruptions through collaboration, IT capability, and awareness; therefore, ER represents the enterprise's capacity to withstand and respond to adverse conditions before those pressures are reflected in sustainability outcomes (Abeysekara et al., 2019; Aghaei et al., 2017; Azadeh et al., 2014; Cui et al., 2023; Hsieh, 2019; Jain et al., 2017; Kamalahmadi & Parast, 2016; Liu et al., 2018; Pettit et al., 2010; Salam & Bajaba, 2023; Setak et al., 2018; Shishebori & Babadi, 2018; Singagerda et al., 2022). Dynamic Capabilities (DC) is also positioned as a mediator because it captures the enterprise's adaptive capacity to identify environmental changes, mobilize resources, and reconfigure existing

practices through sensing, seizing, and reconfiguring, thereby explaining how external environmental information may be transformed into strategic action and organizational adjustment (Buzzao & Rizzi, 2021; Celestin, 2019; Chevrollier & Kuijf, 2023; Cruz-Sanchez et al., 2020; Khan et al., 2021; Mikalef & Pateli, 2017; Ozanne et al., 2022; Putritamara et al., 2023). Finally, Enterprise Sustainability Performance (ESP) is employed as the endogenous outcome variable because it provides a multidimensional assessment of the enterprise's ability to sustain economic, environmental, and social performance over time (Feng & Huaccho Huatuco, 2022; Irangani, 2021; Ketprapakorn & Kantabutra, 2019; Nikolaou et al., 2019; Pramono et al., 2021; Trianni et al., 2019). Accordingly, the model treats BE as the external source of turbulence, ER and DC as two distinct enterprise-level response mechanisms, and ESP as the ultimate sustainability outcome, allowing the study to examine both the direct and indirect pathways through which environmental conditions are associated with the sustainability of poultry enterprises.

The unit of analysis was the poultry enterprise, specifically commercially oriented broiler and layer enterprises that conduct regular production activities, employ or coordinate labor, allocate business resources, and undertake operational and strategic decision-making, as well as collectively managed poultry enterprises such as farmer groups, cooperatives, and other institutional production arrangements. Marginal or predominantly subsistence-oriented household producers and large vertically integrated poultry corporations were excluded to maintain consistency with the enterprise characteristics examined in this study. Although questionnaires were completed by individuals, respondents served as key informants representing enterprise-level conditions and were required to possess sufficient knowledge and decision-making authority, including owners, managers, farmer-group leaders, cooperative administrators, or other enterprise decision makers. The minimum sample size was determined using G*Power with an effect size of $f^2 = 0.05$, a significance level of 0.05, statistical power of 0.80, and three predictors, resulting in a minimum requirement of 222 observations (Cohen, 1998; Faul et al., 2009). The final dataset comprised 236 valid responses, exceeding the minimum statistical requirement. Respondents were selected using purposive sampling with proportional regional allocation, resulting in 148 respondents from Java, 33 from Sumatra, 7 from Kalimantan, and 48 from other regions comprising Nusa Tenggara, Sulawesi, Bali, Maluku, and Papua. Regional allocation was guided by the average concentration of poultry production during 2019–2023, while the selection of eligible enterprises and respondents within each region remained purposive based on predefined enterprise characteristics and respondent decision-making roles (Etikan, 2016).

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS because the research model contains multiple latent constructs and incorporates both direct and mediating relationships (Hair et al., 2019). The analysis was conducted in two main stages. First, the measurement model (outer model) was evaluated to establish indicator and construct quality through loading factors, convergent validity, discriminant validity, and construct reliability. Second, the structural model (inner model) was assessed to evaluate the explanatory power and relationships among constructs using R^2, effect size (f^2), predictive relevance (Q^2), path coefficients, and statistical significance. Hypothesis testing was performed using a bootstrapping procedure to evaluate the significance of direct and indirect effects, particularly the mediating roles of Enterprise Resilience and Dynamic Capabilities in the relationship between Business Environment and Enterprise Sustainability Performance.

RESULTS AND DISCUSSION

The measurement model demonstrated satisfactory reliability and validity across all constructs. All indicator loadings exceeded the recommended threshold of 0.70, ranging from 0.782 to 0.982, indicating adequate indicator reliability. The highest loadings were observed for Environmental Performance within Enterprise Sustainability Performance (ESP) (0.962), Climate and Weather Conditions within Business Environment (BE) (0.870), Collaboration within Enterprise Resilience (ER) (0.982), and Reconfiguring within Dynamic Capabilities (DC) (0.959). Convergent validity was also established, with Average Variance Extracted (AVE) values ranging from 0.694 to 0.938, all exceeding the minimum criterion of 0.50. Furthermore, Cronbach's alpha values ranged from 0.855 to 0.967, while composite reliability values ranged from 0.900 to 0.978, confirming satisfactory internal consistency reliability. The cross-loading results further indicated that each

indicator loaded more strongly on its corresponding construct than on the other constructs, providing evidence of discriminant validity.

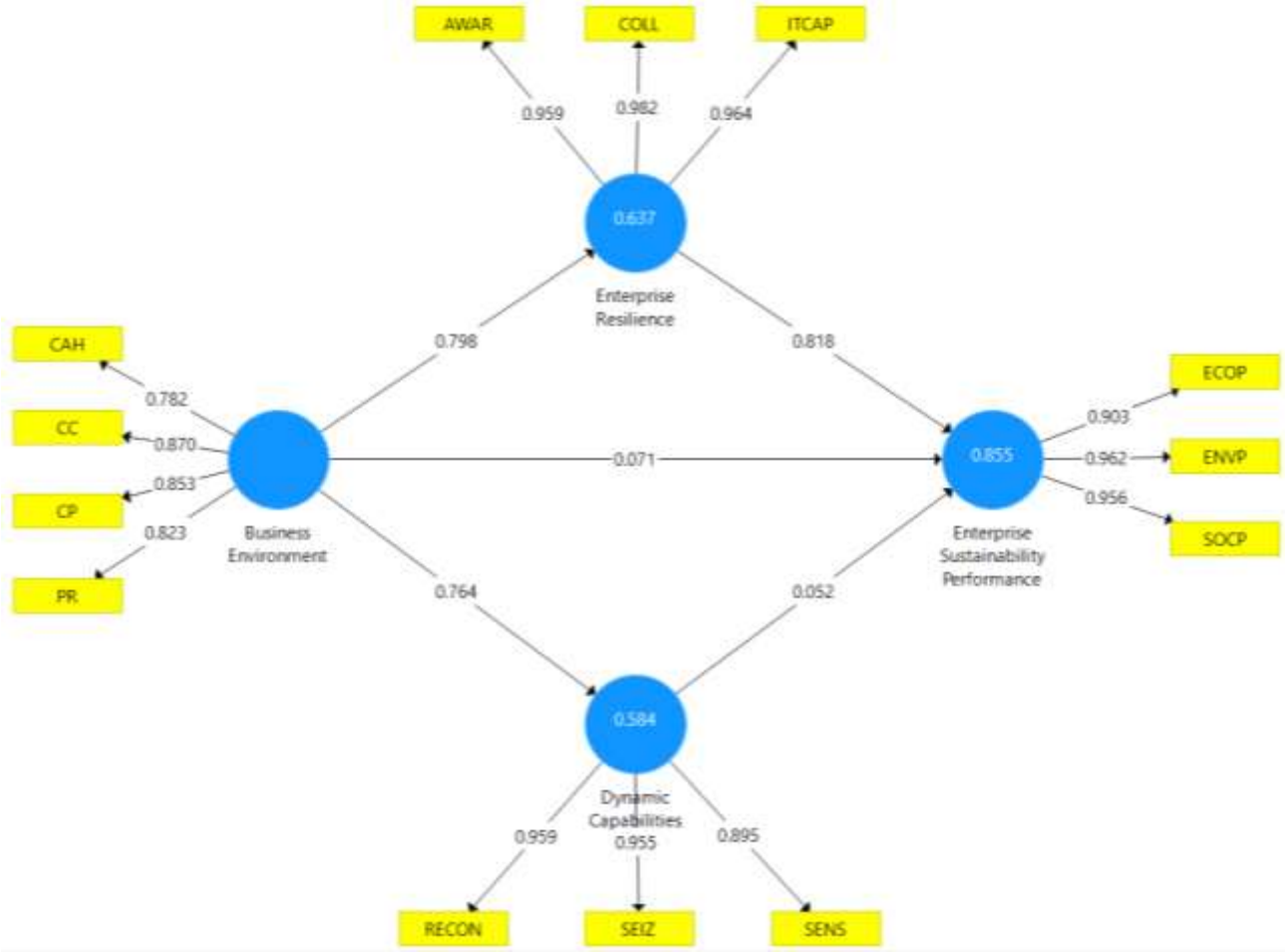


Figure 1. Loading Factor Values for Outer Model Evaluation

Table 2. Measurement Model Assessment

Code	Dimension	Loading	AVE	Cronbach's Alpha	Composite Reliability
BE	Climate & Weather Conditions	0.870	0.694	0.855	0.900
BE	Health & Disease Conditions	0.782			
BE	Commodity Prices	0.853			
BE	Policies & Regulations	0.823			
ER	Collaboration	0.982	0.938	0.967	0.978
ER	IT Capability	0.964			
ER	Awareness	0.959			
DC	Sensing	0.895	0.877	0.930	0.955
DC	Seizing	0.955			
DC	Reconfiguring	0.959			
ESP	Economic Performance	0.903	0.885	0.935	0.959
ESP	Environmental Performance	0.962			
ESP	Social Performance	0.956			

Note. BE = Business Environment; ER = Enterprise Resilience; DC = Dynamic Capabilities; ESP = Enterprise Sustainability Performance.

The structural model showed substantial explanatory and predictive capability. The model explained 63.7% of the variance in Enterprise Resilience ($R^2 = 0.637$), 58.4% of the variance in Dynamic Capabilities ($R^2 = 0.584$), and 85.5% of the variance in Enterprise Sustainability Performance ($R^2 = 0.855$), indicating particularly strong explanatory power for the ultimate sustainability outcome. Business Environment also exhibited large effect sizes on Enterprise Resilience ($f^2 = 1.752$) and Dynamic Capabilities ($f^2 = 1.405$), while its direct effect size on Enterprise Sustainability Performance was relatively small ($f^2 = 0.013$). In addition, the Stone-Geisser predictive relevance values were positive for all endogenous constructs, with $Q^2 = 0.592$ for ER, $Q^2 = 0.508$ for DC, and $Q^2 = 0.744$ for ESP. These results indicate that the structural model possesses adequate predictive relevance, with the strongest predictive capability observed for Enterprise Sustainability Performance.

Table 3. Structural Model and Hypothesis Testing Results

Hypothesis	Structural Path	β	t-value	p-value	f^2	Decision
H1	BE → ESP	0.071	1.446	0.149	0.013	Not supported
H2	BE → ER	0.798	19.616	< .001	1.752	Supported
H3	BE → DC	0.764	21.540	< .001	1.405	Supported
H4	BE → ER → ESP	0.653	5.659	< .001	-	Supported
H5	BE → DC → ESP	0.040	0.466	0.642	-	Not supported

The hypothesis testing revealed a distinctive pattern of direct and indirect relationships. Business Environment had a positive but non-significant direct effect on Enterprise Sustainability Performance ($\beta = 0.071$, $t = 1.446$, $p = 0.149$); therefore, H1 was not supported. In contrast, BE had strong positive and significant effects on Enterprise Resilience ($\beta = 0.798$, $t = 19.616$, $p < .001$) and Dynamic Capabilities ($\beta = 0.764$, $t = 21.540$, $p < .001$), supporting H2 and H3. More importantly, the indirect effect of BE on ESP through ER was positive and significant ($\beta = 0.653$, $t = 5.659$, $p < .001$), supporting H4 and confirming the mediating role of Enterprise Resilience. Conversely, the indirect effect through DC was not statistically significant ($\beta = 0.040$, $t = 0.466$, $p = 0.642$); therefore, H5 was not supported. Overall, these findings reveal an asymmetric mediation pattern, whereby environmental turbulence strongly activates both resilience and dynamic capabilities, but only Enterprise Resilience significantly transmits the influence of Business Environment to sustainability performance.

The research results showed a more complex relationship pattern than the assumption that Business Environment (BE) pressures directly determine Enterprise Sustainability Performance (ESP). BE did not have a significant direct effect on ESP ($\beta = 0.071$, $p = 0.149$), but had a positive and extremely strong influence on Enterprise Resilience (ER) ($\beta = 0.798$, $p < .001$) and Dynamic Capabilities (DC) ($\beta = 0.764$, $p < .001$). On the indirect path, ER significantly mediated the relationship between BE and ESP ($\beta = 0.653$, $p < .001$), whereas DC did not exhibit a significant mediating effect ($\beta = 0.040$, $p = 0.642$). This pattern indicates that external conditions related to climate and weather changes, poultry health and disease, commodity and input prices, as well as policies and regulations do not in themselves yield changes in the economic, environmental, and social sustainability of the enterprise. Instead, the consequences of these pressures depend on how poultry enterprises develop and utilize response mechanisms at the enterprise level. This perspective is aligned with the integration of the Resource-Based View (RBV) and the Dynamic Capabilities View (DCV), which positions resource and capability heterogeneity as the reason why organizations facing similar environmental pressures can produce different levels of performance (Baden-Fuller & Teece, 2020; Barney et al., 2021; Furr & Eisenhardt, 2021).

The non-significant direct effect of BE on ESP indicates that environmental turbulence is not a direct determinant of the sustainability performance of poultry enterprises. This finding is relevant to the inconsistencies in previous research findings. Jia and Li (2020) found that uncertainty stemming from economic policy, climatic conditions, and political instability can decrease corporate sustainability performance because it increases operational pressure and reduces predictability. Riaz et al. (2021) also showed that a weak institutional environment can amplify negative consequences on performance. Conversely, Dong and Zhang (2022) found that the business environment can contribute positively to sustainability performance, while Dwikat et al. (2023) demonstrated that turbulence can drive sustainable performance when

enterprises are supported by adequate human capital and strategic flexibility. This discrepancy supports the interpretation that the influence of BE is context-dependent. In poultry enterprises, changes in feed prices, diseases, weather, or regulations do not necessarily automatically decrease or increase economic, environmental, and social performance. Enterprises can experience the same external pressures but provide different responses depending on their resources, relationships, information, preparedness, and adaptive capabilities. This also explains why Climate and Weather Conditions represents the strongest reflection of BE in the model ($\lambda = 0.870$), while Environmental Performance represents the strongest reflection of ESP ($\lambda = 0.962$), yet the direct relationship between the two constructs remains non-significant.

Conversely, the positive and significant influence of BE on ER demonstrates that changes in external conditions are closely related to strengthening the enterprise's capacity to maintain operational continuity. In the context of poultry enterprises, uncertainty in climate, diseases, input prices, exchange rates, and regulations increases the need to acquire information more rapidly, build relationships with various actors, and prepare responses to disruptions. This explanation is consistent with Wang and Zhang (2025), who found that the business environment can strengthen enterprise resilience through better access to resources and digital innovation, as well as L. Fu et al. (2023), who showed that the business environment can help enterprises face shocks through government support, access to production factors, and the reduction of financial constraints. Zheng et al. (2025) also showed that improvements in the business environment can enhance supply-chain resilience. The findings of this study become increasingly relevant because Collaboration represents the ER dimension with the highest loading of 0.982, followed by IT Capability (0.964) and Awareness (0.959). In poultry enterprises, collaboration with suppliers, fellow enterprises, distributors, and retailers provides access to information, supplies, markets, distribution, and bargaining power that may be difficult to obtain individually. Literature also shows that collaboration supports information sharing, joint planning, synchronized decision-making, and risk sharing, thereby enhancing the enterprise's capability to face disruption (Azadeh et al., 2014; Lotfi & Larmour, 2022).

In addition, the positive influence of BE on DC also indicates that environmental turbulence represents an important stimulus for the sensing, seizing, and reconfiguring processes. The greater the environmental changes faced, the greater the enterprise's need to identify alternative technologies and suppliers, recognize market opportunities, allocate resources, refine strategies, and alter operational configurations. This is in line with Baden-Fuller and Teece (2020), who position dynamic capabilities as capabilities that enable enterprises to respond to changes through opportunity identification, action-taking, and resource realignment. Dynamic capabilities play an increasingly crucial role in fast-moving environments (Bitencourt et al., 2020; Karna et al., 2016), while the organizational capability to break away from obsolete practices is also highly necessary amidst change (Schoemaker et al., 2018). In the results of this study, Reconfiguring represents the DC dimension with the highest loading of 0.959, slightly higher than Seizing (0.955) and Sensing (0.895). This finding indicates that the capability to reorganize resources, business relationships, and organizational practices becomes highly crucial when poultry enterprises face price volatility, supply disruptions, technological shifts, diseases, or policy changes. Consequently, BE can be understood not merely as a source of threat, but as a stimulus that activates the enterprise's need to build and deploy capabilities.

An interesting finding emerges from the mediating role of ER. The positive and significant indirect effect of BE on ESP through ER showed that resilience represents a mechanism capable of translating environmental turbulence into sustainability outcomes. Within the RBV perspective, enterprises differ in their acquisition and utilization of relational, technological, informational, and organizational resources. Enterprises with stronger collaborative relationships, better IT capabilities, and higher awareness and contingency preparedness will be more capable of utilizing these resources when facing unfavorable conditions. Literature supports that collaboration enhances coordination and resource access, IT capability provides faster and more accurate information, while awareness helps enterprises recognize risks and prepare responses before disruptions escalate into more serious issues. These three mechanisms subsequently enable enterprises to maintain production, market access, operational efficiency, environmental practices, employee welfare, and stakeholder relationships during disruptions. Prior research also showed that resilience can support the economic, environmental, and social dimensions of sustainability performance (Pashapour et al., 2019; Salam & Bajaba,

2023; Settembre-Blundo et al., 2021). Consequently, the sustainability of poultry enterprises emerges not primarily because their external environment is more stable, but because the enterprises possess the capacity to absorb, respond to, and maintain continuity when the environment becomes unstable.

In contrast to ER, DC did not significantly mediate the relationship between BE and ESP, although BE has a strong influence on DC development. This finding is crucial because it demonstrates that the mere existence of sensing, seizing, and reconfiguring capabilities is not necessarily sufficient to generate sustainability performance. The dynamic capabilities literature explains that these capabilities enable organizations to detect opportunities and threats, make strategic investments or choices, and alter resource configurations when the environment changes. However, in this study, these adaptive capabilities appeared to function more to maintain competitiveness and adjust business activities rather than directly generate sustainability outcomes. An enterprise can, for example, identify new suppliers, utilize new technologies, alter pricing strategies, or reconfigure operations without automatically enhancing energy and water efficiency, waste treatment, labor protection, or social contribution. Therefore, these results indicate the existence of a conceptual distinction between adaptive capability and sustainability-oriented capability. Dynamic capabilities explain the capability to change, but the direction of that change is not always toward sustainability. For DC to generate ESP, sensing, seizing, and reconfiguring likely need to be explicitly directed toward sustainability objectives, such as circular production, resource efficiency, environmental innovation, employee welfare, and stakeholder value creation.

Overall, this study yields three primary novelties. First, the study identified an asymmetric mediation, whereby ER significantly transmits the influence of BE on ESP, whereas DC does not, meaning these two enterprise-level mechanisms cannot be considered identical or interchangeable. Second, the study develops the understanding of the Business Environment as a capability-activation mechanism. BE does not directly determine sustainability performance but strongly activates resilience and dynamic capabilities, such that environmental turbulence is more appropriately understood as a stimulus triggering organizational response rather than as a direct sustainability determinant. Third, the study demonstrates that adaptive capability is not necessarily sustainability-oriented capability. The enterprise's capability for sensing, seizing, and reconfiguring can be high without automatically generating economic, environmental, and social sustainability outcomes. These findings reinforce the integration of the RBV and Dynamic Capabilities View (DCV) by demonstrating that resources and capabilities must be understood not only based on their existence but also on their function and direction of utilization when facing turbulence. RBV helps explain how resilience based on collaboration, information capability, and awareness creates value from enterprise-specific resources, while DCV explains how enterprises align and reconfigure resources when the environment changes. Therefore, the primary contribution of this study is to demonstrate that the sustainability of poultry enterprises depends not solely on the level of environmental pressure or the capability to adapt, but on the enterprise's capability to choose and direct the correct response mechanisms that are genuinely capable of transforming environmental turbulence into sustainable performance.

CONCLUSION

The research results showed that the Business Environment (BE) does not directly determine Enterprise Sustainability Performance (ESP) in poultry enterprises, but plays an important role in activating organizational capabilities to respond to business environment pressures. BE was found to have a positive and significant influence on Enterprise Resilience (ER) and Dynamic Capabilities (DC); however, only ER significantly mediated the relationship between BE and ESP, while DC did not exhibit a significant mediating role. This finding indicates that sustainability performance is not solely determined by the level of turbulence faced by the enterprise or by its capability to adapt, but by the capability to translate external pressures into responses that maintain business continuity, particularly through collaboration, IT capability, and awareness. Consequently, this study confirms the existence of an asymmetric mediation between ER and DC, introduces BE as a capability-activation mechanism, and demonstrates that adaptive capability is not always identical to sustainability-oriented capability. The theoretical implication is that the RBV and DCV need to be understood

in a complementary manner: organizational capabilities will only generate sustainability outcomes when resources and adaptation processes are directed toward mechanisms relevant to sustainability.

Nevertheless, this study has several limitations. The use of a cross-sectional design limits the study's ability to capture changes in BE, ER, DC, and ESP over time; measurements sourced from key informants also remain dependent on respondent perceptions and potentially contain common method bias; furthermore, broiler and layer enterprises were analyzed within a single model, meaning that potential differences in structural characteristics between the two have not been specifically explored. This study also only positioned ER and DC as mediating mechanisms, and thus has not yet identified the conditions that determine when dynamic capabilities can be genuinely converted into sustainability performance. Therefore, future research is recommended to utilize a longitudinal design, conduct comparisons between broiler and layer enterprises, and develop the model by incorporating factors such as sustainability orientation, innovation capability, financial capability, market orientation, digital transformation, institutional support, or other contextual variables as mediators or moderators. Future studies also need to specifically examine how sensing, seizing, and reconfiguring can be directed toward resource efficiency, environmental innovation, waste management, employee welfare, and stakeholder value creation so that dynamic capabilities do not merely yield adaptive capability, but also contribute tangibly to sustainability performance.

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Ethical Considerations

This study adhered to ethical standards for human-subjects research. Informed consent was obtained from all survey participants before data collection. Participation was voluntary, and respondents were assured of anonymity and data confidentiality. Survey data were anonymized, stored securely, and analyzed in aggregate form for academic research purposes.

Conflict Of Interest

The author declares no financial, personal, or professional conflicts of interest that could have influenced the conduct, results, or reporting of this research.

Data Availability Statement

The quantitative survey data generated and analyzed during this study are available from the corresponding author upon reasonable academic request, subject to applicable data-protection and confidentiality requirements.

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