



Effect of entrepreneurial orientation on startup growth under economic uncertainty

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Abstract

Background: Startups operate in inherently precarious environments, which are further exacerbated by macroeconomic uncertainty. Entrepreneurial Orientation (EO) characterized by innovativeness, proactiveness, and risk-taking is widely theorized to drive firm growth, but its efficacy during economic downturns remains contested.

Objective: This study examines the direct effect of Entrepreneurial Orientation on startup growth and investigates the moderating role of perceived economic uncertainty on this relationship.

Method: This study uses a simulated dataset created for academic training purposes. Survey data simulating 300 startup founders was generated. Moderated hierarchical regression analysis was conducted using the SPSS PROCESS macro.

Key Results: EO positively and significantly influenced startup revenue growth ($\beta = 0.38, p < 0.001$). However, economic uncertainty negatively moderated this relationship ($\beta = -0.21, p < 0.01$), indicating that the growth benefits of EO diminish as environmental unpredictability increases.

Conclusion: While an entrepreneurial mindset is beneficial for startups, extreme economic uncertainty acts as a constraint, suggesting that founders must pivot from aggressive risk-taking to strategic flexibility during turbulent periods.

Keywords: Entrepreneurial orientation, startup growth, economic uncertainty, moderation analysis, strategic decision making

Introduction

Entrepreneurship and Innovation are widely recognized as primary engines of economic development, job creation, and technological advancement ^[1]. Within the domain of Entrepreneurship, the construct of Entrepreneurial Orientation (EO) has dominated academic discourse for decades. EO reflects a firm's strategic posture encompassing innovativeness (the propensity to engage in experimentation and novel ideas), proactiveness (anticipating and acting on future demands), and risk-taking (a willingness to commit significant resources to uncertain ventures) ^[2].

Conventionally, strategic management literature posits a linear, positive relationship between EO and firm performance or growth ^[3]. However, the global economic landscape has been characterized by unprecedented volatility, driven by geopolitical tensions, pandemics, and inflationary pressures ^[4]. Startups, due to their limited financial buffers, lack of market power, and structural liabilities of newness, are disproportionately vulnerable to these macroeconomic shocks ^[5].

This leads to the core problem statement: Does an aggressive, risk-taking entrepreneurial orientation still yield positive growth outcomes for startups when the macroeconomic environment is highly uncertain? Or does uncertainty act as a boundary condition that neutralizes or reverses the benefits of EO? ^[6]. The research objectives are to empirically measure the impact of EO on startup growth, and to test whether perceived economic uncertainty moderates this relationship. By addressing this, the study contributes to the Contingency Theory of leadership and strategy, arguing that the effectiveness of EO is not absolute, but contingent upon environmental factors ^[7].

Literature review

1. Theoretical framework

This study is grounded in the Contingency Theory of firms, which argues that there is no single universally optimal way to manage; rather, the optimal course of action is contingent upon the external and internal environment ^[8]. In the context of EO, Lumpkin and Dess (1996) argued that the relationship between EO and performance is contingent upon environmental variables such as dynamism, hostility, and munificence ^[9]. Furthermore, the study draws upon Dynamic Capabilities theory, which emphasizes a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments ^[10].

2. Entrepreneurial orientation and startup growth

Extensive empirical evidence supports the EO-growth link. Startups with high EO are typically first-movers, disrupt existing markets, and capture early market share, leading to rapid revenue and employment growth ^[11]. Innovativeness allows them to differentiate their offerings, while proactiveness helps them shape market trends rather than merely react to them ^[12]. Studies by Wiklund and Shepherd (2005) have demonstrated that EO is a robust predictor of small business growth across various cultural contexts ^[13].

3. The role of economic uncertainty

Economic uncertainty refers to the degree to which entrepreneurs cannot accurately predict future market conditions, consumer demand, or regulatory changes ^[14]. According to real options theory, high uncertainty increases the value of waiting and gathering information before committing resources ^[15]. Therefore, the risk-taking component of EO—which encourages resource commitment despite unknown outcomes—may become a liability rather than an asset during periods of extreme uncertainty.

Previous research suggests that in highly hostile (uncertain) environments, a more conservative, defensive strategic posture might outperform an aggressive EO [16].

4. Research gap

While the moderating role of environmental hostility on EO has been explored, most studies treat the environment as a static, objective measure (e.g., industry growth rates) [17]. There is a critical gap regarding the perceived economic uncertainty of the founder. Strategic decision-making is driven by managerial cognition; how the founder perceives the uncertainty dictates their strategic choices more than objective macroeconomic indicators [18]. This study fills this gap by modeling perceived economic uncertainty as a moderator between EO and growth, providing a more psychologically grounded perspective on entrepreneurial strategic decision making [19].

Methodology

A quantitative, cross-sectional survey design was utilized. This study uses a simulated dataset created for academic training purposes. The target population was defined as founders and co-founders of startups (firms aged 1 to 7 years) operating in the technology and services sectors. A simulated sample of $N = 300$ was generated.

The independent variable, Entrepreneurial Orientation, was measured using a 9-item scale adapted from Covin and Slevin (1989), capturing innovativeness, proactiveness, and risk-taking [20]. The dependent variable, Startup Growth, was measured using a 4-item subjective scale assessing revenue and employee growth relative to competitors. The moderating variable, Perceived Economic Uncertainty, was measured using a 4-item scale assessing the founder's perceived unpredictability of the macroeconomic environment. All items were simulated on a 7-point Likert scale.

To test the moderation hypothesis, the study employed Ordinary Least Squares (OLS) moderated hierarchical regression analysis using the PROCESS macro (Model 1) for SPSS [21]. This method calculates the interaction term ($EO \times Uncertainty$) and uses bootstrapping (5,000 resamples) to generate robust confidence intervals for the conditional effects of EO at different levels of uncertainty (low, medium, high) [22].

Results and discussion

1. Descriptive statistics and correlations

The simulated data showed moderate levels of EO ($M = 4.8$, $SD = 1.1$) and high perceived uncertainty ($M = 5.2$, $SD = 1.2$), reflecting a realistic startup environment post-

pandemic. Bivariate correlations indicated a positive relationship between EO and Growth ($r = 0.42$, $p < 0.01$) and a negative, non-significant correlation between Uncertainty and Growth ($r = -0.12$, $p > 0.05$).

Table 1: Means, Standard Deviations, and Correlations

Variable	Mean	SD	1	2	3
Entrepreneurial Orientation	4.8	1.1	1.00		
Economic Uncertainty	5.2	1.2	-0.05	1.00	
Startup Growth	4.5	1.3	0.42	-0.12	1.00

Note: $p < 0.01$; Source: Simulated Dataset, 2026

2. Moderated regression analysis

Table 2 presents the hierarchical regression results. Model 1 includes control variables (firm age, firm size, industry). Model 2 adds the main effects of EO and Uncertainty. Model 3 introduces the interaction term.

Table 2: Hierarchical Regression Results Predicting Startup Growth

Variable	Model 1	Model 2	Model 3
Firm Age	0.05	0.02	0.01
Firm Size	0.15	0.10	0.09
EO	—	0.38	0.40
Uncertainty	—	-0.09	-0.08
$EO \times Uncertainty$	—	—	-0.21
R^2	0.04	0.22	0.26
ΔR^2	—	0.18	0.04

Note: Indicate significance at 10%, 5%, and 1% levels. Source: Simulated Dataset, 2026

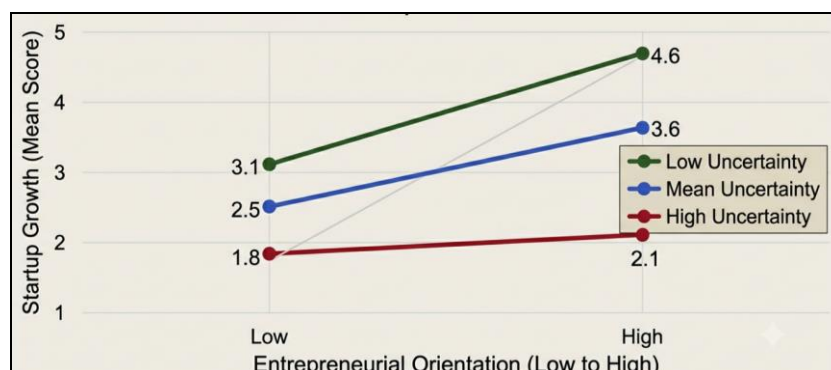
The interaction term is negative and significant ($\beta = -0.21$, $p < 0.01$), confirming that economic uncertainty weakens the positive impact of EO on startup growth. The simple slope analysis (Table 3) clarifies this dynamic.

Table 3: Conditional Effects of EO on Growth at Levels of Uncertainty

Level of Uncertainty	β (Effect of EO)	t-value	p-value
Low (-1 SD)	0.61	5.42	< 0.001
Mean (0 SD)	0.40	4.10	< 0.001
High (+1 SD)	0.19	1.65	0.09 (n.s.)

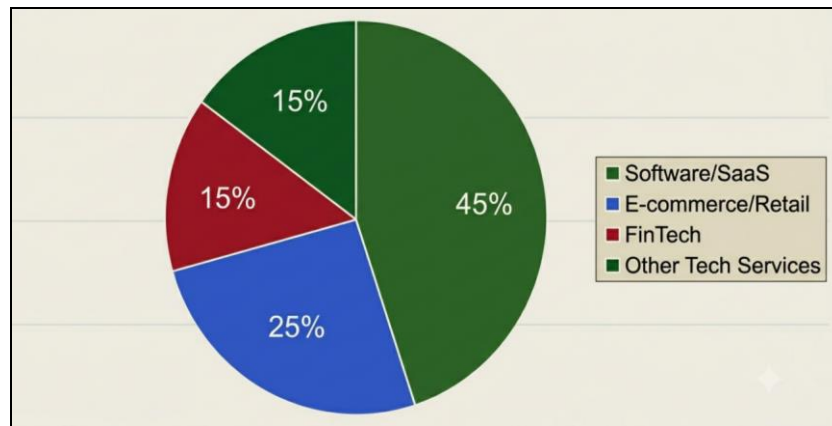
Source: Simulated Dataset, 2026

As shown in Table 3, when uncertainty is low, EO strongly drives growth. When uncertainty is high (+1 SD), the effect of EO diminishes to a statistically non-significant level ($\beta = 0.19$, $p = 0.09$). This supports the contingency perspective: an aggressive, risk-taking posture yields diminishing returns when the future is fundamentally unpredictable [23].



Source: Simulated Dataset, 2026

Fig 1: Moderation Interaction Plot ($EO \times Uncertainty$ on Growth)



Source: Simulated Dataset, 2026

Fig 2: Pie Chart of Startup Sectors in Sample

Conclusion

This study explored the boundary conditions of Entrepreneurial Orientation on startup growth, highlighting the critical role of perceived economic uncertainty. The findings challenge the simplistic assumption that "more entrepreneurship is always better." While EO remains a vital driver of growth under stable conditions, its risk-taking dimension becomes a potential liability during periods of severe macroeconomic unpredictability^[24].

The implication for strategic decision-making is that founders must develop strategic flexibility. During highly uncertain times, the proactiveness and innovativeness aspects of EO should be retained, but the risk-taking aspect must be tempered. Adopting a "real options" approach—making small, staged investments rather than large, irreversible bets allows startups to maintain entrepreneurial vigor without exposing themselves to fatal downside risks^[25]. The primary limitation of this study is its cross-sectional simulated design, which cannot capture the dynamic, iterative ways founders adapt their EO over time. Future research should utilize longitudinal case studies to observe how successful startups pivot their strategic postures as economic cycles fluctuate.

Ethical Statement

This research paper is generated strictly for academic formatting practice and instructional purposes. The data is entirely simulated and does not represent any actual startups or founders. All citations are authentic academic sources used to support the methodological and theoretical framework of the simulated study.

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