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# THE IMPACT OF RISK MANAGEMENT ON STARTUP INNOVATION: A STUDY OF THE RELATIONSHIP BETWEEN RISK TAKING AND ENTREPRENEURIAL SUCCESS

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**Abstract:** Innovation and risk-taking are crucial for the growth and success of new businesses. This study explores how supporting new ideas within a company is connected to entrepreneurs taking calculated risks. Data were collected from 87 startup founders through structured questionnaires. The results showed a weak positive link between encouraging innovation and risk-taking, suggesting that promoting new ideas might slightly encourage entrepreneurs to take risks. However, further analysis found that this encouragement only accounted for 3.6% of the change in risk-taking, and this was not statistically significant. This means that while fostering innovation is important, it may not strongly influence entrepreneurs to take risks. Factors like personal traits, market conditions, access to resources, and leadership support could play a larger role. The study adds to our understanding by highlighting the complexity of the link between innovation and risk-taking, especially in startups. Practically, this implies that startup environments should combine support for innovation with other types of entrepreneurial help. The study faced limitations such as a small participant group and self-reported data. Future research should examine more factors that could affect this relationship, using long-term studies to track changes over time. This study improves our understanding of how a business's environment influences crucial entrepreneurial behaviours essential for startup success.

**Keywords:** Innovation, Risk-Taking, Entrepreneurs, Startups, Organizational Support, Entrepreneurial Orientation.

## I. INTRODUCTION

Entrepreneurship plays a vital role in driving innovation, economic development, and societal change. In the dynamic environment of startups, the encouragement and support of innovation at all organizational levels become crucial factors influencing entrepreneurs' behaviours, particularly their willingness to take calculated risks. This study focuses on understanding the relationship between innovation support within startups and the risk-taking behaviour of entrepreneurs. Despite extensive research on entrepreneurial traits, there is a notable gap concerning how organizational encouragement of innovation directly impacts risk-taking tendencies. Addressing this gap, the present research aims to explore whether a supportive innovation environment fosters entrepreneurs' readiness to engage in calculated risks an essential behaviour for startup success and growth. The study is grounded in innovation and entrepreneurial theories, which suggest that fostering creativity and new ideas can enhance confidence among entrepreneurs to make strategic risk-related decisions. By using quantitative methods, including correlation and regression analysis, this research seeks to provide empirical evidence on the link between innovation encouragement and entrepreneurial risk-taking behaviour. The findings are expected to offer both theoretical contributions to entrepreneurship literature and practical insights for startup ecosystem stakeholders, including founders, investors, and policymakers, emphasizing the importance of cultivating an innovation driven culture to support entrepreneurial success.

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**Research Problem**

Startups operate in environments characterized by uncertainty, requiring entrepreneurs to engage in both innovative thinking and calculated risk-taking. While innovation encouragement is widely believed to foster entrepreneurial activities, the direct impact of innovation support on risk-taking behaviour remains underexplored.

**Objectives**

- To identify and analyse the different risk management strategies employed by entrepreneurs in startups.
- To explore how entrepreneurs' risk-taking behaviour influences their approach to risk management and innovation.
- To evaluate the role of risk management in helping startups adapt to market changes and sustain growth through innovation.

**Research Questions**

1. How does the encouragement and support of innovation at all levels within a startup influence entrepreneurs' willingness to take calculated risks?
2. Is there a significant relationship between an innovative culture and the risk-taking behaviour of entrepreneurs in startups?
3. How can promoting innovation at different organizational levels help enhance strategic risk-taking among startup entrepreneurs?

**Significance of the Study**

This study helps us understand how encouraging innovation in startups can make entrepreneurs more willing to take smart, calculated risks. The findings can be useful for creating better programs and policies that support entrepreneurs, helping them grow their businesses successfully and contribute to the economy.

**Theoretical Framework**

The study is based on Entrepreneurship Theory, which suggests that an innovative environment boosts entrepreneurs' risk-taking ability, and Innovation Diffusion Theory, which explains how new ideas and innovations spread and are embraced within organizations. Both theories suggest that encouraging innovation within startups can positively influence entrepreneurial risk-taking behaviours.

## II. LITERATURE REVIEW

Research has shown that innovation plays a key role in driving entrepreneurial activity. According to Covin and Slevin (1989), companies that create an environment encouraging innovation are more likely to motivate both employees and leaders to take strategic risks. For instance, when companies invest in research and development, encourage sharing ideas, and offer rewards for creativity, employees feel supported to try new things and take risks, which can lead to the development of new products or services.

However, the connection between innovation and risk-taking is not always clear. Some studies show that a strong focus on innovation leads to more risk-taking. For example, Rauch et al. (2009) found that firms that prioritize innovation are more likely to take risks, such as entering new and unfamiliar markets. But other research suggests that the relationship between innovation and risk-taking depends on additional factors. One such factor is leadership style. Leaders who inspire and motivate their teams (transformational leadership) are more likely to encourage risk-taking as part of innovation. On the other hand, leaders who focus on stability and rewards (transactional leadership) might limit the chances for risk-taking (Bass & Riggio, 2006).

Additionally, market conditions can affect whether companies are willing to take risks. In competitive or uncertain markets, firms might either take bigger risks to stand out or play it safe to maintain their position (Ansoff, 1957).
These mixed findings show that the link between innovation and risk-taking depends on various factors within an organization. This study aims to explore this relationship further, focusing on how innovation and risk-taking practices together influence decision-making in early-stage startups.

**Research Gap**

Most studies look at innovation support and risk-taking separately or focus on large firms. We don't yet know how encouraging innovation at different levels in a startup affects entrepreneurs' willingness to take calculated risks. We also lack understanding of how factors like leadership style, resource availability, and market conditions change this link. This study will fill those gaps by examining these issues in early-stage startups.

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## III. RESEARCH METHODOLOGY

**Research Design**

This study adopted a quantitative, cross-sectional survey design to investigate the relationship between innovation encouragement and entrepreneurial risk-taking within early-stage startups.

**Sampling Technique**

Convenience sampling was employed, selecting respondents based on their availability and willingness to participate in the survey.

**Data Collection**

Data were obtained through a structured questionnaire comprising Likert-scale items designed to measure key constructs:

- Innovation Encouragement: The extent to which new ideas are supported across organizational levels, including senior leadership, middle management, and frontline staff.
- Risk-Taking Behaviour: The degree to which entrepreneurs report engaging in calculated risk-taking activities, such as new product launches and market expansion efforts.

**Variables**

Independent Variable: Innovation encouragement at all levels within the organization.

Dependent Variable: Entrepreneurs calculated risk-taking behaviour, focusing on their willingness to take risks in startup ventures.

**Data Analysis Techniques**

- Descriptive Statistics: These were used to summarize the demographic information of respondents and the main variables of the study.
- Regression Analysis: This statistical method was employed to assess the impact of innovation encouragement on entrepreneurial risk-taking behaviour.
- ANOVA: Analysis of Variance (ANOVA) was applied to check the significance of the model and the relationship between the independent and dependent variables.
- Chi-Square Test: A Chi-Square test was used to determine whether there is a statistically significant association between categorical variables, further validating the study's findings.
- Correlation Analysis: Pearson correlation was conducted to explore the strength and direction of the linear relationship between innovation encouragement and entrepreneurial risk-taking behaviour.

## RESULTS AND ANALYSIS

**ANOVA**

Entrepreneurs in startups often take calculated risks

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 3.754 | 1 | 3.754 | 4.935 | .029 |
| Within Groups | 64.660 | 85 | .761 | | |
| Total | 68.414 | 86 | | | |

The One-Way ANOVA was conducted to examine whether there is a significant difference in the perception of risk-taking among entrepreneurs in startups, specifically regarding the statement: "Entrepreneurs in startups often take calculated risks when launching new products or entering new markets." The independent variable in this case is the group (e.g., based on gender, or another categorical variable), while the dependent variable is the Likert scale response to the aforementioned statement.

The results show that there is a statistically significant difference between the two groups in their responses, as indicated by the F-statistic of 4.935 and the p-value of 0.029. Since the p-value is less than the significance level of 0.05, we reject the null hypothesis, which stated that there is no difference between the groups. This indicates that the two groups differ significantly in their attitudes toward calculated risk-taking behaviour in startups.

The sum of squares between groups was 3.754, with 1 degree of freedom, indicating variability in responses between the two groups. The sum of squares within groups was 64.660, with 85 degrees of freedom, showing variability within each group. The mean square between groups was 3.754, and the mean square within groups was 0.761.

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The ratio of these two mean squares, the F-value of 4.935, indicates that the variability between the groups is considerably higher than the variability within each group.

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 25.472[a] | 15 | .044 |
| Likelihood Ratio | 27.892 | 15 | .022 |
| Linear-by-Linear Association | 3.712 | 1 | .054 |
| N of Valid Cases | 87 | | |

a. 17 cells (70.8%) have expected count less than 5. The minimum expected count is .41.

A Chi-Square Test of Independence was conducted to examine the association between industry type and whether innovation is encouraged and supported at all levels within a startup. Both variables were categorical and collected using survey responses, making the Chi-Square test appropriate for determining if a statistically significant relationship exists between them.

The analysis produced a Pearson Chi-Square value of 25.472 with 15 degrees of freedom and a p-value of 0.044. Since the p-value is less than 0.05, we can conclude that there is a statistically significant association between the type of industry and how innovation is supported within startups. This suggests that innovation practices may differ across industries, potentially influenced by sector-specific dynamics or challenges.

However, the output also revealed that 17 cells (70.8%) had expected counts less than 5, with the minimum expected count being 0.41. This violates a key assumption of the Chi-Square test, which requires that most expected frequencies be 5 or higher for valid results.

**CORRELATION**

| | | Market innovation in finding new ways to reach customers | Entrepreneurs risk taking behaviour directly impacts the level of innovation |
|---|---|---|---|
| Market innovation in finding new ways to reach customer | Pearson Correlation | 1 | .324** |
| | | | .002 |
| | N | 87 | 87 |
| Entrepreneurs risk taking behaviour directly impacts the level of innovation | Pearson Correlation | .324** | 1 |
| | | .002 | |
| | N | 87 | 87 |

Correlation is significant at the 0.01 level.

The Pearson correlation analysis was conducted to examine the relationship between market innovation (Q8: "Market innovation in finding new ways to reach customers or create new markets is crucial for startup success") and entrepreneurs' risk-taking behaviour (Q13: "Entrepreneurs' risk-taking behaviour directly impacts the level of innovation in their startup"). The results revealed a moderate positive correlation between the two variables, with a Pearson correlation coefficient of r = 0.324 and a p-value of 0.002.

Since the p-value is less than 0.01, this correlation is statistically significant at the 0.01 level, indicating that the likelihood of this result occurring by chance is very low. This suggests that startups where entrepreneurs are more willing to take risks tend to show higher levels of market innovation, such as finding new ways to reach customers or enter new markets.

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**REGRESSION**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .191[a] | .036 | .025 | .8807 |

a. Predictors: (Constant), Innovation
b. Innovation is encouraged and supported at all levels.

**ANOVA**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 2.485 | 1 | 2.485 | 3.204 | .077[b] |
| | Residual | 65.929 | 85 | .776 | | |
| | Total | 68.414 | 86 | | | |

a. Dependent Variable: Entrepreneurs in startups often take calculated risks
b. Predictors: (Constant), Innovation is encouraged and supported at all levels

**Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.961 | .493 | | 6.000 | .000 |
| | Innovation is encouraged and supported at all levels | .224 | .125 | .191 | 1.790 | .077 |

a. Dependent Variable: Entrepreneurs in startups often take calculated risks

The regression analysis investigates the relationship between the encouragement of innovation at all levels within an organization and the tendency of entrepreneurs in startups to take calculated risks. The model summary indicates a low correlation (R = 0.191) between the predictor and the outcome variable, with an R Square value of 0.036, suggesting that only 3.6% of the variance in calculated risk-taking among entrepreneurs is explained by the support for innovation. The adjusted R Square (0.025) further confirms the model's limited explanatory power. The ANOVA table shows that the regression model is not statistically significant at the 5% level (F = 3.204, p = 0.077), indicating that the predictor does not significantly improve the prediction of risk-taking behaviour. In the coefficients table, the constant is significant (p = 0.000), meaning that without considering innovation support, the baseline level of entrepreneurial risk-taking is statistically meaningful. The predictor "Innovation is encouraged and supported at all levels" has a positive coefficient (B = 0.224) and a p-value of 0.077, which is slightly above the conventional threshold of 0.05, suggesting a weak, non-significant positive relationship with entrepreneurial risk-taking. Overall, while there appears to be a positive trend, the results imply that support for innovation alone may not strongly influence calculated risk-taking among startup entrepreneurs.

## IV. FINDINGS

The study found that startup founders generally try to encourage innovation and are willing to take some risks, but not very high ones. Among different types of innovation, trying new ways to reach or serve customers (called market innovation) was the most common. When we looked at the connection between encouraging innovation and risk-taking, we found only a small link, and it wasn't strong enough to prove a clear relationship. However, market innovation showed a stronger connection to risk-taking, meaning startups that focus on this type of innovation tend to take more risks. When we tried to see if encouraging innovation could predict risk-taking, the results showed it only explained a small part and wasn't statistically strong. We also found that founders who encouraged more innovation tended to take slightly more risks, but again, the difference wasn't very large. Finally, the type of industry seemed to affect how much innovation was encouraged, though this part of the result should be taken carefully.

## V. DISCUSSION

The primary aim was to assess whether stronger innovation support within startups predicts greater calculated risk-taking by entrepreneurs. Although the correlation (r = 0.191) and regression slope (B = 0.224) were both positive, neither reached

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statistical significance (p = 0.077). This suggests that while innovation encouragement and risk-taking tendencies move in the same direction, innovation support alone does not robustly drive risk-taking behaviour in early-stage ventures.

These findings echo prior research (Rauch et al., 2009; Covin & Slevin, 1989) indicating that innovation and risk-taking are related but also moderated by other factors. For instance, leadership style (Bass & Riggio, 2006), resource availability (March, 1991), and market volatility (Ansoff, 1957) likely interact with innovation support to shape risk behaviours. The lack of significant Chi-Square associations further underscores that demographic factors alone do not explain variations in risk-taking.

## VI. RECOMMENDATIONS

1. Support Beyond Innovation: Startups should not only encourage new ideas but also offer leadership development, mentoring, and financial support to help entrepreneurs feel more confident about taking risks.
2. Tailor Support to Industry Needs: Since innovation levels differ across industries, customized support should be given depending on the specific challenges and opportunities in each sector.
3. Foster a Culture of Strategic Risk-Taking: Startups should build a culture that helps entrepreneurs take smart, well-planned risks, instead of just being cautious or avoiding risks altogether.

## VII. CONCLUSION

This study set out to explore the relationship between organizational encouragement of innovation and entrepreneurial risk-taking in early-stage startups. The findings revealed a weak positive relationship between these variables, as supported by correlation and regression analysis. While innovation encouragement appears to be modestly associated with entrepreneurs' willingness to take calculated risks, the relationship was not statistically significant. This suggests that although promoting innovation may help foster a risk-taking mindset to a limited extent, it is not a dominant predictor of entrepreneurial behaviour in startups.

Further statistical analyses, including ANOVA and Chi-Square tests, indicated that differences in risk-taking behaviour may also be influenced by other factors such as industry type or demographic variables. Importantly, the study uncovered a moderate, statistically significant correlation between market innovation and entrepreneurial risk-taking, implying that risk-taking may play a stronger role in specific innovation dimensions like market outreach.

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