Ranking the Factors Affecting Independent Progress of Startups While Collaborating with Corporates: A Study Using AHP

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ABSTRACT

Corporate venturing as a service is established by collaborating with Startups. In the contemporary era, the trend of collaboration between startups and corporates is gaining prominence, and corporate entities are more receptive than ever before to such partnerships. The purpose of this paper is to find out perspectives about the essentials to be kept aligned by startups while taking their sole role as corporate growth accelerators. For this study to evaluate the essential factors, an integrated multi-criteria decision-making technique Analytic Hierarchy Process is used. Industry experts were carefully chosen, and a questionnaire was utilized to gather data. The study aims to assess the key factors that startups need to align to foster their growth when collaborating with corporate entities. The primary focus of this study is to examine the collaborations between startups and corporates, and offer valuable insights to entrepreneurs, stakeholders in the startup ecosystem, and corporate professionals interested in cultivating and enhancing successful collaborative relationships.

Keywords: Corporate venturing, Startup collaboration, Startup growth, corporate partnership, corporate collaboration

I. INTRODUCTION

Every Corporate was once a startup, startups are gaining their market through successful and potential-oriented innovations. The number of startups in India has increased to 86,713 in 2022 from 455 in 2016. This charts a tremendous rise in the number of new initiatives which also includes future market leaders. In this contemporary era, along with the increase in the rate of enthusiastic and highly innovative startups, the trend of collaboration between startups and corporates is gaining prominence, and corporate entities are more admissive than ever before to such partnerships with startups. This form of collaboration between startups and corporates is constructive for both corporates and startups, at the time recklessly choosing to collaborate with corporations can lead to significant disadvantages for startups if a thorough evaluation is not conducted.

II. LITERATURE REVIEW

The paper explains the characteristics of startups in the era of the digital revolution. And states that the new market reality is presented as a result the of digital social and economic revolution which gives rise to a new specific form of organisation start-up (Agnieszka Skala,2019).

The author discusses the four startup companies that have got up to $1 billion without entering into the stock market. It explained various aspects of where startup helps the economic growth of Indonesia. It states that startups can be the pedestals of the economies, especially in developing country economies that need good growth (Suwarni et al.,2020).

The study explains 26 cases of established companies to find out which companies invest venture capital in cleantech startups. This adds to the substantial literature by empirically revealing that companies invest corporate venture capital to promote corporate greening to maintain competitiveness (Hegeman, P. D et al.,2021).

The author describes the drivers of large inflow into venture capital assets, and the real effect of the venture capital financing boom by discussing the degree to which the government policy of US explores the venture capital funding (William H. Janeway et al.,2021).

The study prioritises the theories from strategic management literature in the valuation of a startup to access the firm's performance using evidence from India Using fuzzy Is an electrical hierarchy process (Monika Dhochak et al.,2019).

The author presents the study as a systematic literature review on the most used and innovative start-up valuation methods to define the state of the art and future trends. The study concludes that there is no perfect method to assess a startup's value, each model has its own limitations and possibilities (Damiano Montani et al.,2020).

This study aims to identify the ways of measuring the success of a technology start-up. The location of the startup, promoting partner's dedication, the age of the company, the existence of non-promoting partners are the factors influencing the success of the startup as per the study (Carlos Diaz Santamaria and Jacques Bulchand-Gidumal,2021).

The study investigates entrepreneur-coach relationship in the context of a university-based accelerator. The lean startup methodology creates conflicts between the information collected from customers and the authority of coaches. It also enables the coaching to be evolutionary and assumption-changing (Yashar Mansoori et al., 2019).

The study examines three different models of corporate-startup collaboration and their effects on capabilities and actual outcomes. Thereby it was found that collaboration with startups was found to positively affect corporate firms (Annika Steiber and Sverker Alange,2020).

It is a study that focuses on the business culture gap that excess between a startup and a Japanese corporation that is often seeking partnerships with overseas startups to compensate for the modest number of startups in the Japanese ecosystem (Robert Alizon,2023).

The author examines corporate startup co-creation. It was found that co-creation as a corporate startup collaboration model increases in attention. And specifies that co-creation is needed specifically in regard to the matrix and its effect on corporate innovation startup’s growth and society (Annika Steiber and Sverker Alange,2020).

Identifies the evolution of different types of obstacles innovative startup face and analyses the effects market and research resources have on an unproportional ecosystem in reducing these obstacles over time by using linear mixed the models for analysing the evolution of influences. And found that the need for a set of agents to reinforce each other by creating an ecosystem in which innovation obstacles faced by startups are reduced over time (Franco-Leal Noelia and Diaz-Carrion Rosalia,2020).

The study develops a process framework by elaborating the antecedents of the creation of innovative startups, their fountain characters, their behaviour, and outputs a generated impact It also highlights how policy initiatives managerial issues and research approaches are constantly different depending on the specific stage of firm innovation (David Audretsch et al.,2020).

Identifies the key enables of innovation development in different companies and reveals that data-driven companies may generate different innovation patterns depending on the kind of capacity that is activated. It also evidences how the combination of data-driven culture skill enhancement and the promotion of human resources may boost the emergence of innovation (Anna Visvizi, et al.,2022).

The author finds out that innovation has an effect on startups' performance and that variables such as investment industry, startup size, founders' highest qualification and graduated employees have an effect on boosting the chances of more innovation in the startups Thus resulting in the rise of performance (Munira Amniova and Edoardo Marchi,2021).

Reviews the global connection between multinational enterprises and the startups, both components are essential and reinforce each other without MNE's scaling up of startups is hampered and without a vibrant population of startups MNE's interest in the location remains driven by cost rather than capability and creativity. And it also charts the subsequent growth of India's startups (Suresh Bhagavatula, et al.,2019).

Studies the challenges faced by startups in India and concluded that in a country like India financing is a huge concern and many ideas will not be implemented due the financial concerns. Convincing investors is also marked as a difficult task (P.B Banudev, G Shiva,2019).

III. METHODOLOGY

To evaluate the essential factors, an integrated multi-criteria decision-making technique Analytic Hierarchy Process is used. The analytical hierarchy process is one of the most widely used multicriteria methods. In this method, the process of reading alternatives and agreeing to the most relevant alternative is done. This technique is used for ranking a set of alternatives or for the selection of the best set of alternatives. AHP is used to transform intangible or psychological factors into comparable values. Decision makers assign a quantitative value to intangible or psychological factors.

The study employed non-probability sampling, specifically utilizing a purposive technique, and the analysis was carried out with the Analytic Hierarchy Process (AHP) tool. For the study, 10 experts were selected carefully which includes experts from the field of startups, academic experts, corporate managers, startup directors and CEOs etc.

The ranking is performed concerning the overall goal which is divided into a set of criteria. AHP is developed by Thomas L. Saaty in the 1970s and uses a pair of comparison of questions to form a matrix of judgements of the difference between each pair of alternatives.

The survey for the study was performed using an AHP questionnaire as well. The questionnaire includes all the main factors as well as the subfactors. Which was then used to gather expert pairwise comparison judgement. The Delphi method was used to gather data with the help of a 9-point scale, During the survey the respondents are given explanations of all the factors as well as subfactors for gaining further clarity.

Table 1: The scale of relative importance for the AHP questionnaire and its interpretation

Degree of Importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Moderate importance of one over another	Experience and judgment strongly favour one activity over another

5	strong importance or essential	Experience and judgement strongly favour one activity over another
7	Demonstrated importance	Activity is strongly favoured and its superiority is demonstrated in practice
9	Extremely high importance	The favouring evidence of one activity is extremely high when compared with the another
2,4,6,8	Intermediate values between adjacent judgements	When compromise is needed

(Source: Secondary Data)

Pairwise comparison is carried out based on the above relative scale where each factor will be compared with every other factor.

- Comparison matrices are created using the data collected through the questionnaire. If there are 'm' factors, then pairwise comparisons would form a square matrix as A Matrix.
- After obtaining pair-wise comparison Matrix A, for normalizing the comparison matrices each entity is by dividing by the sum of the corresponding column.
- Then, criteria weights can be calculated by taking the row average of the obtained normalized matrix.

The next step is the Consistency check for which we have the follow these steps

- Create the matrix AW by multiplying Matrix a (Comparison Matrix) by its weight matrix W
- Create the vector by dividing elements in AW by corresponding elements of matrix W
- Calculate vector $_{max}$ by taking the average of the values in the vector
- Calculate Consistency Index (CI) as follows: CI= $\frac{\text{lamda max}-\text{n}}{n-1}$
- Calculate Consistency Ratio (CR) as follows: CR= $\frac{\text{CI}}{n-RI}$

Table 2: Random Consistency Index (Saaty, 1970)

n	1	2	3	4	5	6	7	8	9	10	11	12	13
RI	0	0	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.58	1.56

Source: Secondary Data (Saaty, 1970

If CR< 0.10, then the matrix is considered to be consistent and the values are acceptable.

This consistency check is done with every individual response as well as with comparison matrices.

All the individual responses are aggregated by using Geometric Means of comparison matrices

Check the consistencies of aggregated matrices

Next is the calculation of local weights,

- Local weight = row average in the normalized matrix (i.e., local weights of each sub-factor)

For the calculation of global weights,

- Global Weight of a main factor = Its local weight
- Global Weight of a sub-factor = Local weight of the subfactor * Weight of the main factor

Table 3: Prioritized factors and sub-factors in startup corporate collaboration

S no	Factors	Description	Sub Factors	Reference
1	Financial support	Financial support from collaborations	Capital Gain	(Seth C.Oranburg,2020)
			Resource Access	
2	Freedom of Operation	The need for flexibility for the smooth functioning of startups	Flexibility and loss of control	(Stephen Muathe, et al.,2022)
			Intellectual Property Rights	
3	Competitive Advantage	When collaborating the startup gains a lift as competitive advantage	Market Reach	(Liliia Denysiuk, 2021)
			Brand Recognition	
4	Innovative Potential	Innovation potential and focus towards its objectives for a startup	Entrepreneurship Proficiency Growth	(David Audretsch, 2020)
			Alignment with Goals	

IV. RESULT AND DISCUSSION

To address the objective of this paper data was collected and statistically processed. After AHP analysis one of the factors Innovation Potential was highly weighted followed by Competitive Advantage. When discussing Global Weights, the sub-factor of initiative potential, alignment with the startup goal holds the 1st rank followed by brand recognition, one of the factors under competitive advantage.

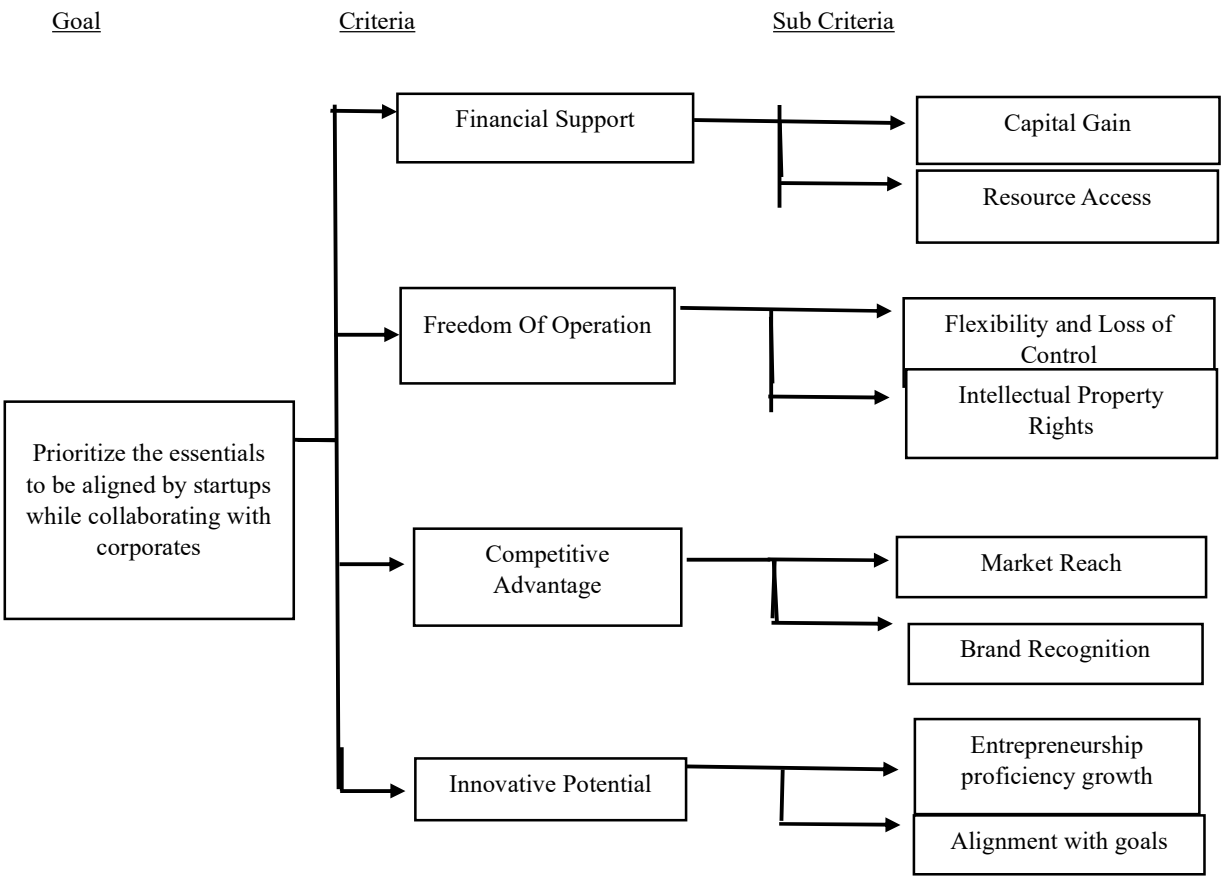

Figure1: Prioritize the essentials to be aligned by startups while collaborating with corporates

The weights of the criteria after processing the individual responses using the AHP technique are as follows:

Table 4: Weightage of factors

Factors	Weights
FS	0.07
FOI	0.10
CA	0.36
IP	0.48

Global weights and sub-factor ranking ranging from 1-8

Table 5: Global weightage and ranks of subfactors

Factors	Global Weights	Ranks
CG	0.0224	8
RA	0.0476	6
LC	0.03	7
IPR	0.07	5
MR	0.162	3
BR	0.198	2
EPG	0.144	4
AG	0.2784	1

V. CONCLUSION

As we already discussed the emerging trend of corporate-startup collaboration, our objective was to prioritize the essentials to be kept aligned by startups while collaborating with corporates. After a thorough literature review and analysis of collected data using AHP, the results show that when a startup collaborates with a corporate, startup must ensure that they move in alignment with their own predetermined goals, the actions must result in entrepreneurship proficiency growth and the ultimate weightage should be overall innovative potential of the startup to set their seal on their independent progress. While collaborating with corporates, startups should secure their autonomy and have control over their operations for flexibility and also for protecting Intellectual Property Rights if any.

The collaboration of startups with corporates perks as well as privileges the startups with a competitive advantage which offers brand recognition and market reach which were among the prioritized factors. Financial support and access to resources are also certain gains by startups with corporate collaboration.

Thus, the study can be concluded by stating that the corporates would be accepting collaboration with startups after a critical examination of their innovative potential and growth scale. Therefore, while collaborating with corporates, startups must ensure that they do not lose their focus towards their own objectives, startups must view and accept corporate collaborations as one of the tools for growth and never consider it as an ultimate tool. Rather than settling down as subsidiary companies of corporates, startups have the potential to be future leaders. The study provides valuable insights to entrepreneurs, stakeholders in the startup ecosystem, and corporate professionals that these prioritized factors such as innovative potential and competitive advantage must be considered, thereby understanding and functioning by utilizing their full entrepreneurial and innovative potential in all fields even while collaborating with corporates for remarkable achievement.

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