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Evaluation of early stage start-ups by business angels: Indian evidence

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Abstract: This study identifies the factor that business angels take into consideration in their investment evaluation process. The study is based on an analysis of primary data obtained from a survey study of 90 Indian angel investors engaged in the financing of early stage start-ups. Thirty one factors used in this study are classified under four broad considerations, including entrepreneurial consideration, product consideration, financial and market consideration. In the first part of the analysis, we identified the pecking order of importance of these factors. Following this the study analysed whether investment fit influenced angels' preference for projects. The study also analysed the relative importance of the 31 factors in the process of investment appraisal before carrying out a disaggregated analysis of the data to identify the interaction between investment fit and the relative importance of the factors that influenced investment appraisal.

Keywords: angel financing; India; investment evaluation; early stage financing.

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1 Introduction

Start-ups have been described variedly; from the Merriam-Webster's definition of a start-up as a fledgling business enterprise to Graham's explanation of a start-up as a company designed to scale rapidly with its focus on growth that is unconstrained by geography. Institutions, including governments across the world also have their own description of a start-up intended to demarcate the group of enterprises eligible for fiscal or monetary support. Start-ups, however are in no way homogenous; each start-up has its uniquely paced life cycle (Salamzadeh and Kesim, 2015), over which it faces different challenges (Shepherd et al., 2000) and has different probabilities of success (Gage, 2012; Griffith, 2014; Patel, 2015).

Of all the stages a start-up goes through in its life cycle, surviving the 'valley of death' is its first real challenge. The term 'valley of death' refers to the period of negative

cash flow in the early stages of a start-up's life cycle (Zwilling, 2013). At this stage, given the high uncertainty associated with the venture, the entrepreneur either bootstraps for finances (Freear et al., 2002), or approaches business angels for the required resources (Salamzadeh and Kesim, 2015). Angel investors are high net worth individuals who invest their own money in early stage start-ups. Their motive is either pure profit or their passion about the cause or the industry in which the start-up is involved (Cremades, 2018). Irrespective of whether it is passion or profit, the angel investor faces a situation where

a the entrepreneur/borrower is more informed about the true characteristics of the venture

b has every incentive to hide the true characteristics of the venture in order to make it look attractive.

In other words the angel investor faces the problems of adverse selection (Akerlof, 1970; Rothschild and Stiglitz, 1976; Carpentier and Suret, 2015) and moral hazard (Grossman and Hart, 1983) while evaluating prospective investments.

Faced with these challenges, how do business angels make investment decisions? Is it the merit of the project that influences choice, or is it the skills and intrinsic qualities of the entrepreneur that plays a determining role in a 'go' or 'no go' decision? What are the factors that angels focus on in their evaluation of early stage start-ups? To what extent does the angel's own background and experience influence the choice of investments? Seeking answers to these questions, in the Indian context, is the objective of this paper.

This research is structured as follows. A brief review of relevant literature is presented in the next section, followed by the methodology adopted in this paper in Section 3. Section 4 presents the results and discussions. Section 5 concludes this paper before discussing its limitations and directions of future research.

2 Review of literature

Business angels are the first 'outsiders' approached by start-ups for financial resources. As a source of finance, they are the ones who fill the gap between the entrepreneur, (her/his) family and friends on one side and the venture capitalist on the other (Ramadani, 2009), and while the size of angel investments in a start-up may be small, their cumulative volume far outweigh venture capitalists' investments in start-ups (Sohl, 2002; Morrissette, 2007). In addition to financial resources business angels also contribute skills, expertise and knowledge in their hands-on approach to guiding fledgling enterprises (Benjamin and Margulis, 2000; Ramadani, 2009). White and Dumay (2017) and Tenca et al. (2018) provided a review of available evidence on the entire gamut of roles played by business angels (including sounding board/strategic role, supervision and monitoring role, resource acquisition role and mentoring role played) in their guidance to early stage start-ups.

With regard to the process, Van Osnabrugge (2000) suggested a five stage process of investment evaluation by business angels. This included sourcing of potential deals and first impressions, evaluation of the proposal, negotiation and consummation, post-investment involvement and exit. In Paul et al. (2007), the angel investment process indicated a sequential (though not strictly orderly) iterative process that spanned three

stages, namely the familiarisation stage, the screening stage and the bargaining stage. Over these three stages, angel investors performed six activities including learning about the opportunity, meeting the entrepreneur, initial screening, detailed screening, deal structuring and agreement. Quite a few research papers explored the variables incorporated in proposal evaluation process (Van Osnabrugge, 2000) or in the screening process (Paul et al., 2007). In the following paragraphs a selective review of available evidence is presented.

Feeney et al. (1999) observed that active Canadian business angles selected investment proposals on the basis of management's track record, integrity and openness of the owners and whether the team had a realistic assessment of the potential. Additionally on the project front, profit potential, a reasonable exit plan, security of investments and investors involvement in improving business prospects were important considerations in angel's selection of investments. Similarly, Hindle and Weban (1999) reported that Australian business angels focused on financial parameters (like rate of return, capital growth and cash flow) and non-financial parameters (including market growth, product/service uniqueness, deal structure and nature of competition) in their evaluation of early stage start-ups. In the context of Germany, Stedler and Peters (2003) reported similar findings while Sudek (2006) observed that US tech angels focused on four main themes in their evaluation of start-ups; passion and trustworthiness of the lead entrepreneur, quality of management team and exit strategy/liquidity. Ludvigsen (2009) analysed the angel decision making criterion using sample of 24 Belgian business angels. Using conjoint analysis the study inferred that product/service uniqueness was the most important factor influencing an angel's decision criterion, followed by project profitability, entrepreneur characteristics and growth potential of the market. The paper also highlighted the challenges associated with the methodology of survey research by showing that business angels often did not recollect their decision criterion accurately by identifying divergences between angel's actual decision policy and their stated decision policy. Smith et al. (2010) highlighted the heterogeneity in decision making within the angel community. The study compared the investment evaluation criterion of three group of angel investors from Scotland segregated on the basis of their experience; experienced business angels (with five or more investments), novice angels (with just one investment) and nascent angels (who were actively looking for their first investment). Using the methodology of verbal protocol analysis the study observed that for experienced angels, investor fit was the most important consideration followed by product, business plan and financial factors. For novice angels financial factors were the most important consideration followed by investor fit, product and business plan. For the last category of nascent angel groups, while financial considerations remained most important, product and market considerations took precedence over investor fit. The term investor fit referred to angel investors' own background, skills and industry knowledge in addition to their own personal preferences. Iacoviello (2015) analysed the issue in the context of Italian angel investors. Using data obtained from a survey of 120 angel investors, the study observed sales potential of a product (revenue generating capacity) as the most important factor guiding investment choices. Other factors observed important in the study included growth potential of the market, expected rate of return, low initial capital expenditures needed, size of the investment, the product's overall competitive protection, potential exit routes (liquidity) and trustworthiness of the entrepreneur(s). In the Turkish context, Teker and Teker (2016) observed that most significant factor influencing angel investor's choice of a business for investment was the composition of the start-up team;

their experience, skills, motivation, and the reasons that brought them together. Revisiting the Australian evidence, White and Dumay (2020) observed that four underlying themes influenced business angels through the entire decision making process. These included the role of personal experiences, the role of trust, the need to contribute and realistic expectations on the part of the entrepreneur.

Carpentier and Suret (2015), Mason et al. (2017) and Croce et al. (2017) focused on the reasons behind business angel's rejection of investment proposals. In the Canadian context Carpentier and Suret (2015) observed that business angel groups rejected investment proposals with high market risk and inexperienced entrepreneurs. 'Inexperienced entrepreneurs' was also noted as the primary reason behind business angel's rejection of investment proposals in UK by Mason et al. (2017). In case of Italy, Croce et al. (2017) observed lower profitability as an additional reason behind angel group's rejection of investment proposals.

In a related set of studies Maxwell et al. (2011), Harrison et al. (2015) and Jeffrey et al. (2016) focused on the process of evaluation that business angels adopted rather than what they evaluated. Maxwell et al. (2011) proved that business angels used elimination-by-aspects to reduce the set of opportunities for more detailed evaluation. Beyond this stage, angels considered different factors and used different decision making processes. Harrison et al. (2015) presented evidence that indicated the use of mental shortcuts by angel investors in the decision making process. Highlighting the social dimension of learning, the study proved that angel investor's decision making process was also influenced by learning derived from the experience of others. Jeffrey et al. (2016) extended earlier research in Maxwell et al. (2011) and showed that business angels used aggregate evaluations of anticipated risk and return and analysed them in a non-compensatory manner while evaluating investment opportunities. For projects to move to the next level of appraisal without being rejected, both measures had to achieve a target level that was determined by rules of thumb strategies.

Irrespective of the decision making process that the angel followed, our review of existing literature indicates a few broad considerations that influenced angel investors' investment evaluation process. These includes entrepreneur consideration (incorporating entrepreneur's intrinsic qualities, skills and track record of performance), financial considerations (including the start-up's capacity to generate return for investors, capital requirements and cost commitments), market considerations (including expected market acceptance of the product/service, the start-up's competitive advantage, and existence of necessary patent/copyright to secure growth, start-up's production capabilities and the stage in the life cycle of the product/service produced), and product considerations (that included perceived market need for the product, growth potential, nature of competition, market access and entry barriers).

Indian evidence on factors influencing angel investment decision is non-existent. Neither do we know whether there is a statistically significant difference in the ranking of these broad considerations, nor do we know if any one of these broad considerations mentioned above play a dominant role in an angel's investment evaluation process. We also do not know whether Indian angels are driven by profit or passion, to what extent their own background and experience influenced project selection, and lastly, which of the sub-criterion included in our research influenced angels' choice of projects.

Another compelling reason behind this research originated from existing literature which indicated that emerging economies like India lacks the supportive infrastructure

(O'Gorman and Terjesen, 2006) and fully developed institutions (Scheela and Jittrapanun, 2012) that are necessary to support formal and informal venture capital investing. Hence there is no *a priori* reason to believe that findings in the context of developed markets will be valid in the context of India as well.

Consequently, this research tests the following hypothesis:

Hypothesis 1 There is no statistically significant difference in the ranking among the broad considerations.

Hypothesis 2 There is no statistically significant dominant consideration that influence the angels' decision to invest.

With regard to the considerations included, this research included the four broad considerations cited in existing literature for the purpose of testing the above hypothesis.

Hypotheses 1 and 2 together is also expected to generate answers as to whether it is pure profit or passion that attracted angel investors as suggested in Cremades (2018).

In order to analyse the influence of angel's own background and experience (investor fit) on the choice of projects, as mentioned in Smith et al. (2010), we test the following hypothesis:

Hypothesis 3 The median of differences between the ranking of projects that matches the angels' investment fit and those that did not equals 0.

In so far as the factors that influenced angel investors' choice of projects are concerned, this research adopts an exploratory approach. Hence no explicit hypothesis is formulated for this part of the research. We however compare the relative importance of each factor (in investment evaluation) between angels who preferred projects that matched their investment fit and those that did not. A working hypothesis for this part of our research is:

Hypothesis 4 There is no significant difference in the relative importance of factors between angels who preferred investment proposals that matched their investment fit and those that did not.

In concluding our research, we compare our findings with existing literature to decipher the extent to which the behaviour of Indian angel investors differed from those of their counterparts in developed markets.

3 Methodology

3.1 The instrument

This research adopted a survey method for the purpose of data collection. A structured questionnaire was prepared on the basis of the evidence cited in literature. The first question in our instrument required respondents to rank their preference towards projects that matched their background and experience (henceforth termed investment fit), and those that did not. Respondents were required to reveal their preferences by ranking them as 'one' for first preference and 'two' for second preference. In case they were indifferent to this matching criterion, respondents were asked to rank them uniformly. Question number two of the instrument required respondents to rank the four broad considerations

in the order of their importance; one for 'most important' and four for 'least important'. The considerations included entrepreneur considerations, product considerations, financial considerations and market considerations. In the subsequent part of the instrument, this research elaborated on each of the four broad considerations using 32 sub-criteria (or factors) drawn from existing literature. Respondents were required to rank each of the sub-criterions on a Likert scale of one to seven; one being 'not at all important' and seven being 'extremely important'.

Entrepreneur consideration was expanded using 15 factors that included entrepreneurs' skills and competencies as well as other subjective variables and objectively verifiable factors. Product consideration was elaborated using five factors including expected market acceptance of the product or service, the existence of necessary patent/copyright needed to secure market, growth potential, competitive advantage of the product, its stage in product life cycle, and the start-up's production capabilities. Finance considerations included four factors focused on availability of accounting/cash flow information for the purpose of financial appraisal, returns, valuation and earnings growth while another set of three factors included capital and cost considerations (monitoring and administration costs, marketing and production costs, and over all capital requirements). The last consideration concerning the market was elaborated using five factors namely, market need for the product or service, market growth, barriers to entry, access to the market and competitiveness of the industry concerned.

Before finalising the instrument, it was shared with a sample of six angel investors selected using convenience sampling, to check for its validity and adequacy. On the basis of suggestions received from this pilot study the factor 'the entrepreneur has great desire for success' was replaced with the factor 'entrepreneurial passion'. This, the respondents suggested captured the essence entrepreneurial spirit more comprehensively than 'desire for success'. Furthermore the factor, 'availability of accounting/cash flow information for the purpose of financial appraisal' was dropped entirely; our sampled respondents revealed that such information (of a credible nature) may not be available for a large majority of early stage start-ups. This instrument, revised on these lines, was used for the purpose of data collection.

3.2 Sampling

For the purpose of collecting responses a possible list of respondents were selected from LinkedIn using the search words, 'start-up', 'angel'; and country of location as 'India'. After filtering the data for 'people', a list of 3,000 individuals were identified. These profiles were scrutinised to identify those that mentioned involvement in seed and early stage financing as their current engagement. This round of filtering resulted in a sample size of 622 individuals. A link to the questionnaire was shared through LinkedIn in-mail and email with this group of respondents with necessary instructions (regarding the ranking scale for each of the questions) and an undertaking (detailing the purpose of collection and use of the data, and an affirmation on maintaining the anonymity of the respondent). The link to the questionnaire was kept active from 1st to 30th of June 2021. During the first 15 days of the June, a total of 67 responses were received. Following this, another round of mails was sent to respondents who accepted the request to respond. The second round of mailing resulted in another 32 responses. By the 30th of June 2021 a

total of 99 responses were received resulting in a response rate of 15.9%. Of the responses received, nine responses were either incomplete, or had inconsistency in the rankings shared. Consequently, the total number of usable responses stood at 90. These responses were used for the purpose of analysis.

3.3 Statistical tools

For analysing whether there were significant differences in the ranking of the four considerations the Friedman two-way analysis of variance by ranks test was used along with Kendall's coefficient of concordance. The date used in this analysis was obtained by reversing respondent's original rankings in order to associate higher scores with higher importance and lower scores with lower importance. For determining the most important consideration that influenced start-up valuation the Wilcoxon signed ranks test was employed to test for significant differences in ranking between the first and second ranked consideration obtained in the first step of the analysis.

In order to test for statistically significant difference in rankings (preferences) of projects based on angels' background and experience, we employed two nonparametric tests, namely the related sample sign test and related sample Wilcoxon signed rank test.

For analysing the data obtained from responses on the 31 factors included under the four broad considerations, two measures of central tendency, namely the mean and standard deviation are used to rank the variables in terms of their importance. We also carry out a decompositional analysis of the mean scores to identify if there are significant differences in the relative importance of factors between angels who preferred to invest in projects that matched the angels' background and experience with those that did not. Given that our sample size (90) and number of variables (31) do not meet the required minimum sample size recommended for factor analysis (Mundfrom et al., 2005), we did not use this tool for identifying the variables that explained the variation observed in our dataset.

4 Findings and analysis

4.1 The pecking of considerations

Table 1 presents the summary statistics of the four broad considerations included in the research. The mean score for entrepreneur consideration (3.63 on a scale of 4) is the highest among all the considerations, followed by product (2.83) and market consideration (2.53). Of the four considerations, finance considerations has the lowest mean score (1.91). The highest mean score for entrepreneur consideration combined with lowest standard deviation values (0.724) indicates a high level of conformity on the importance of this consideration among respondents.

Table 1 also presents our finding with regard to the first hypothesis. The Friedman two-way analysis of variance by ranks test result clearly indicates that there are significant differences in the ranking of the four considerations. Hence our null hypothesis is rejected. With regard to the level of agreement among respondents, the Kendall's coefficient of concordance score (0.428) and the asymptotic significance value of 0.00 indicates a significant level of agreement among respondents. The mean rank

from the Friedman test results suggests that entrepreneur consideration is ranked first, followed by product, market and finance considerations.

Table 1 Summary statistics and Friedman test results

Considerations	*Summary statistics*		*Friedman test*
	Mean	*St. dev.*	*Mean rank*
Entrepreneur consideration	3.63	0.724	3.52
Product consideration	2.83	0.822	2.58
Finance consideration	1.91	0.941	1.62
Market consideration	2.53	0.899	2.27
Chi-square			115.590
Kendall's W		0.428	
df		3	3
Asymp. sig.		0.000	0.000
Sample size = 90			

Source: Computed by authors

Table 2 Test for significant differences among entrepreneur, product and market considerations

Wilcoxon signed ranks test			
Entrepreneur consideration – product consideration	*N*	*Mean rank*	*Sum of ranks*
Negative ranks	13[a]	29.00	377.00
Positive ranks	62[b]	39.89	2,473.00
Ties	15[c]		
Total	90		
Z	–5.86		
Asymp. sig. (2-tailed)	0.000		
Product consideration – market consideration	*N*	*Mean rank*	*Sum of ranks*
Negative ranks	23[d]	33.72	775.50
Positive ranks	43[e]	33.38	1,435.50
Ties	24[f]		
Total	90		
Z	–8.288		
Asymp. sig. (2-tailed)	0.026		

Notes: [a]EC < PC, [b]EC > PC, [c]EC = PC, [d]PC < MC, [e]PC > MC, [f]PC = MC.

Source: Computed by authors

Table 2 presents our findings with regard to the second hypothesis; here we test for significant differences between the ranking of entrepreneur and product consideration to identify the dominant consideration in angel investors' evaluation of investment opportunities. For this purpose the two samples Wilcoxon signed ranks test is used to test the null hypothesis that the median of differences between the entrepreneur and product consideration is zero. The observed z statistic is larger than the critical z value at 5%

level of significance, suggesting that the null hypothesis can be rejected in favour of the alternative hypothesis. Thus we can conclude that early stage financers perceive management considerations as the most important factor influencing their evaluation of start-ups.

Table 2 also states the test results of the null hypothesis that the median of differences between the product and market consideration is zero. The observed z statistic, much like the previous case, is larger than the critical z value at 5% level of significance suggesting significant difference in the ranking of the two considerations. Hence we may conclude the following ordering of these four considerations; entrepreneur considerations comes first, followed by product, market and finance considerations in decreasing order of importance.

Our findings on the primacy of entrepreneur consideration in angels' evaluation of start-ups stands in line with evidences cited in Mason and Harrison (1996), Feeney et al. (1999), Stedler and Peters (2003), Sudek (2006), Collewaert and Manigart (2016), Mason et al. (2017), Croce et al. (2017) and Harrison and Mason (2017). This focus on entrepreneur considerations may be interpreted in two ways. First, this may be an outcome of the personalised approach that business angels adopt in information gathering and processing, in which the trustworthiness of the entrepreneur becomes crucial in addressing the challenges of adverse selection and moral hazard omnipresent in early stage investing. Second, given that angels invest mostly on their own behalf and are often highly engaged and involved in the ventures they pursue, their compatibility with the entrepreneur (hence entrepreneur consideration) becomes critical in deciding a go or no-go decision.

Our findings from Tables 1 and 2 combined, especially the least importance attached to finance considerations, stand contrary to the findings of Cremades (2018). Prima facie our evidence does not suggest that Indian angels pursue profit as the next best reason, after passion in early stage investing. However it may be pertinent to state here that a large majority of our respondents may be operating as part of angel groups or networks. And these groups often employed 'gate keepers' who focused on financial evaluation of projects before proposals are screened by business angels (Mason et al., 2019). To the extent this is a reality in the Indian context as well, our findings on the least importance placed on financial considerations needs to be treated with caution.

4.2 The influence of angels' background and experience on project choice

In order to test our third hypothesis on angel investors' preference for investment opportunities that matched her/his own background and experience vis-à-vis that did not, we employed two nonparametric tests, namely the related sample sign test and related sample Wilcoxon signed rank test. Much like the previous case, observed rankings was reversed in order to associate positive differences with higher preferences. Table 3 presents the test results.

As can be seen from the results, the null hypothesis (that the median of differences between the ranking of projects that matches the angels' background and experience and those that did not equals 0) is rejected in both cases. Clearly Indian angel investors exhibit clear preference with regard to investment opportunities that matched their background and experience vis-à-vis those that did not. In this case our findings directly relate to those of Wiltbank (2005) in the context of US angel investors where it is observed that an effective fit for the expertise of angel investors was a major influencer

of choice. To the extent angel's experience and background influenced their capacity to contribute, our findings also stands in line with the positive association between angels' need to contribute and choice of investments as reported in findings of Sudek (2006), Paul et al. (2007) and White and Dumay (2020).

Table 3 Sign test and Wilcoxon signed rank test results for ranking of projects that matched angel's investment fit vis-à-vis those that did not

Null hypothesis	*Related-samples sign test summary*		*Sig.*[a,b,c]	*Decision*
The median of differences between the ranking of projects that matches the angel's investment fit and those that did not equals 0	Test statistic	71.000	0.000	Reject the null hypothesis
	Standard error	4.213		
	Standardised test statistic	8.307		
	Asymptotic sig. (2-sided test)	0.000		
Null hypothesis	*Related-samples Wilcoxon signed rank test summary*		*Sig.*[a,b,c]	*Decision*
The median of differences between the ranking of projects that matches the angel's investment fit and those that did not equals 0	Test statistic	2,556.000	0.000	Reject the null hypothesis
	Standard error	151.670		
	Standardised test statistic	8.426		
	Asymptotic sig. (2-sided test)	0.000		

Notes: [a]the significance level is 0.050, [b]asymptotic significance is displayed, [c]N = 90.

Source: Computed by authors

4.3 The relative importance of factors influencing project choice

Summary statistics for factors included under the four broad considerations is presented in Table 4. The last column of the table ranks the factors in order of their (mean scores) importance. Our findings suggest that honesty and integrity of the entrepreneur, entrepreneurial passion, market need for the product/service, market growth and potential for earnings growth are the most important factors influencing angel investors choice. Interestingly, the factors, entrepreneurial passion, and honesty and integrity are also the factors with the lowest standard deviation among all factors considered in this research. This is indicative of a high level of conformity among respondents on the relative importance of these two factors in project choice. If we further expand the list of important influencers to the top ten factors, our findings reveals that five of these factors belong to entrepreneurial considerations, followed by two each from product and market consideration and one from financial consideration. This once again reiterates the primacy of entrepreneurial consideration as the most important influencer of investment evaluation by business angels as cited in existing literature. With regard to the variables identified above, our findings are in close consonance with those of Feeney et al. (1999), Hindle and Weban (1999), Stedler and Peters (2003), Sudek (2006), Ludvigsen (2009), Iacoviello (2015) and Teker and Teker (2016).

Our findings also suggest that business angels do not discriminate investments on the basis of entrepreneur's academic qualification, her/his age and family background; these factors are the least important in terms of their influence on investment evaluation. Here again our findings are in line with those of Maula et al. (2005); the study conducted in the

Finnish context reported that educational qualification of the entrepreneur as well as entrepreneur's age as insignificant influencers of project choice.

Table 4 Descriptive statistics of factors included under the four broad considerations

Entrepreneur considerations	*Mean*	*Std. dev.*	*Rank*
The entrepreneur is creative	5.46	0.993	16
The entrepreneur is honest and has integrity	6.60	0.698	1
The entrepreneur is passionate about the business idea	6.51	0.656	2
The entrepreneur has an internal locus of control	5.53	0.994	12
The entrepreneur is hardworking and flexible	6.11	0.851	10
The entrepreneur has good leadership ability	6.24	0.809	7
The entrepreneur has a good track record	5.20	1.198	19
The entrepreneur is capable of intense, sustained effort	6.20	0.848	8
The entrepreneur is young	3.74	1.192	30
The entrepreneur possess the required domain knowledge	5.62	1.408	11
The entrepreneur has relevant work experience	4.91	1.342	21
The entrepreneur is academically well qualified in the same domain	4.13	1.140	29
The entrepreneur has good risk management skills	5.51	1.006	14
The entrepreneur team has excellent management skills/experience	5.46	1.416	17
The entrepreneur has a family business background	3.32	0.869	31
Product considerations	*Mean*	*Std. dev.*	*Rank*
A good market acceptance for the product or service is expected	6.28	0.819	6
The start-up has patent/copyright to secure its market/growth potential	5.08	1.179	20
The product/service has competitive advantage over competing products	6.14	0.853	9
Product/service is in an early stage of life cycle	4.57	1.158	26
The start-up has production capabilities in place	4.52	1.244	27
Financial considerations	*Mean*	*Std. dev.*	*Rank*
The start-up will provide a high internal rate of return (IRR)	5.53	1.296	13
The start-up has high valuation projections	4.62	1.431	25
The start-up has significant potential for earnings growth	6.29	0.751	5
The start-up will require low monitoring and administration costs	4.86	1.582	23
The start-up will require low marketing and production costs	4.73	1.146	24
The start-up has low overall capital requirements	4.91	1.315	22
Market consideration	*Mean*	*Std. dev.*	*Rank*
There is a market need for the product or service	6.48	0.924	3
There is potential for market growth	6.44	0.793	4
There are high barriers to entry	5.31	1.021	18
The product/service has open access to the market	5.51	0.924	15
The start-up will operate in a non-competitive industry	4.34	1.130	28

Source: Computed by authors

4.4 Are there significant differences in the relative importance of factors between investors preferring investment fit vis-à-vis those who do not?

Table 5 states the result of our last hypothesis of no significant difference in the relative importance of factors between angels who preferred investment proposals that matched their investment fit ($n_1 = 69$) and those that did not ($n_2 = 21$). We employed the standard t-test to identify significant differences between mean scores and observed significant differences with regard to five factors relating to entrepreneur and financial considerations.

Table 5 Decompositional analysis of mean scores: angels who prefer to invest in projects that fits their background/experience ($n_1 = 61$) vis-à-vis those who do not ($n_2 = 29$)

Factors	*Mean (n_1)*	*Mean (n_2)*	*t-stat*	*p-value*	*Std. error*
The entrepreneur possess the required domain knowledge	5.400	6.100	2.538	0.013	0.276
The entrepreneur has relevant work experience	4.610	5.590	3.058	0.003	0.320
The entrepreneur team has excellent management skills/experience	5.130	6.170	3.809	0.000	0.273
The start-up will require low monitoring and administration costs	4.059	5.232	4.002	0.000	0.292
The start-up has low overall capital requirements	4.579	5.668	3.952	0.000	0.276

Source: Computed by authors

Our findings suggest that:

a Business angels who preferred to invest in projects that matched their investment fit placed lower emphasis on entrepreneur's domain knowledge, skills and work experience vis-à-vis those business angels who did exhibit such preferences.

b Business angels who did not show clear ranking preferences for investment fit placed more emphasis on lower monitoring costs and low overall capital requirements.

The rationale behind our findings above is not hard to come by. Business angels who preferred investments that matched their investment fit may be substituting their own skills acquired on the basis of their background and experience to compensate for the absence of these skills in the entrepreneur. In the second case, it may be the absence of such skills/domain knowledge on the part of the business angel that justified not just the first observation (their higher emphasis on skills and domain knowledge of the entrepreneur), but also the higher emphasis placed by them on lower monitoring and administrative costs, and lower overall capital requirements. Both our findings are in line with the expected actions of angels that addressed the challenges of moral hazard and adverse selection.

In concluding this section, it is important to note that while there are substantial overlaps in the considerations and factors that influenced Indian angels' investment evaluation with those of their counterparts in the developed world, there are substantial differences as well. For instance, Belgian business angels focused more on product/ service uniqueness (Ludvigsen, 2009), Italian angel investors focused on revenue

generating capacity (Iacoviello, 2015), and early stage venture capitalists in Scandinavia identified themselves more as investors rather than partners (Berglund, 2011).

5 Limitations and conclusions

This study identifies the factor that business angels take into consideration in their investment evaluation process. The study is based on an analysis of primary data obtained from a survey study of 90 Indian angel investors. Thirty one factors used in this study are classified under four broad considerations, including entrepreneurial consideration, product consideration, financial and market consideration. In the first part of the analysis, we identified the pecking order of importance of these factors. Following this the study analysed whether investment fit influenced angels' preference for projects. The study then analysed the relative importance of the 31 factors in the process of investment appraisal before carrying out a disaggregated analysis of the data to identify the interaction between investment fit and the relative importance of the factors that influenced appraisal.

Findings of this study revealed that entrepreneurial consideration is the most important influencer of the angels' investment evaluation process, followed by product, market and financial considerations in decreasing order of importance. With regard to angel's ranking (preference) of projects that matched their background and experience with those that did not, our findings suggests an overwhelming preference for the former. Our findings on the relative importance of factors influencing angels choice of investments suggests that honesty and integrity of the entrepreneur, entrepreneurial passion, market need for the product/service, market growth and potential for earnings growth are the most important factors influencing angel investors choice. A decompositional analysis of our data suggests that angels who preferred to invest in projects that matched their investment fit placed lower emphasis on entrepreneur's domain knowledge, skills and work experience vis-à-vis those business angels who did exhibit such preferences, while the latter category of angels placed more emphasis on lower monitoring costs and low overall capital requirements.

From the usefulness perspective, our findings highlights how early stage financers evaluate start-ups, and the relevant value influencers on which entrepreneurs should focus on while raising resources from angels. For entrepreneurs, our study also generates useful information on the need to target angels whose background and experience matched the start-ups requirements in order to be favourably judged in their interaction with business angels. Last, but not in the least, our findings are expected to be useful to the research community for it fills up a void in existing literature on the evaluation of early stage start-ups by Indian business angels.

This study suffers from certain limitations. First, the study considers only a limited number of factors influencing the value of early stage start-ups; our list is by no means exhaustive. Second, our research makes no demarcation of start-ups on the basis of their line of business in determining their value influencers. Third, our findings assume that business angels have perfect recall and there are no differences between their actual decision and stated decision. Future research may focus on addressing these issues and build further on our findings using alternative methodologies and more elaborate survey data on early stage start-ups.

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