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## Article

# Entrepreneurial investment evaluation decision-making: A focus on venture capitalists, business angels and early- stage entrepreneurs in South Africa

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## Entrepreneurial Investment Evaluation Decision-Making: A Focus on Venture Capitalists, Business Angels and Early-Stage Entrepreneurs in South Africa

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## **Entrepreneurial Investment Evaluation Decision-Making: A Focus on Venture Capitalists, Business Angels and Early-Stage Entrepreneurs in South Africa**

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**Abstract:** Business angels (BAs) and venture capitalists (VCs) are important sources of finance for entrepreneurs in emerging markets for raising start-up and growth capital. Recognising that entrepreneurial investment evaluation decision-making is a highly complex process, and that there are limited studies focused on evaluation criteria used by both BAs and VCs', this article undertakes an empirical investigation by identifying, classifying and statistically testing the rank importance of investment criteria in South Africa from an early-stage entrepreneurial perspective. Results indicate that the rank importance for the different investment criteria is relatively similar for VCs and BAs, and the only ranking difference observed was on the team preparedness and team attributes, relevant for early-stage entrepreneurs. An empirical study of this nature is important as unique insights emerge from testing multiple investment evaluation criteria used by VCs, BAs and early-stage entrepreneurs in an African emerging country context.

**Keywords:** Venture Capitalists; Business Angels; Entrepreneurial Decision-Making; Investment Evaluation Criteria; Early-Stage Entrepreneurs; South Africa

## 1. Introduction

There is a widespread literature focused on access to finance as an important determinant of entrepreneurship, which favorably influences enterprise performance (Acs et al., 2016; Anton and Bostan, 2017; Bosma et al., 2020). Access to finance is a critical ingredient in determining the success or failure of small and medium enterprises both in emerging economies and developed countries, where prior studies show how access to finance allows entrepreneurs to invest in productive assets and the latest technology (Anton and Bostan, 2017; Seghers et al., 2012). Likewise, access to finance positively impacts starting up and expanding a business, insofar it affects choices related to market attractiveness, market selection, and choice of entry mode into a foreign market (Hall and Hofer, 1993; Ismail and Medhat, 2019; Macmillan et al., 1985; Nunes et al., 2014; Urban, 2013). Entrepreneurial investment evaluation decisions are multifaceted and affected by a variety of factors, where generally the opportunity or entrepreneurial venture must be an achievable, profit-seeking initiative that creates value through an innovative new or improved product or service offering to the market (Bingham and Eisenhardt, 2008; Kirzner, 1973). The importance of using viability and feasibility evaluation screening criteria is well documented in the literature, which includes factors such as, capital intensity, technology, market growth rate, failure risk, stakeholder support, management attributes and return on investment potential (Carpentier and Suret, 2015; Tyebjee and Bruno, 1984; Urban, 2013).

However, research findings in developing and emerging market contexts emphasize that access to finance by early-stage entrepreneurs is challenging due principally to immature financial markets (Bosma et al., 2020; Jones and Mlambo, 2013), and due to information asymmetries where commercial banks do not adequately consider small and medium enterprise's financial needs, leading to an adverse selection process favoring large firms (Onyeiwu et al., 2020). Moreover, while access to financial resources is an important determinant of entrepreneurship (Acs et al., 2016; Matshekga and Urban, 2013) many emerging entrepreneurs lack collateral and/or the necessary legitimacy to obtain finance (Seghers et al., 2012).

Consequently, many entrepreneurs rely on their own funds as well as 'other people's money' for raising start-up and growth capital instead of considering formal institutions (Matshekga and Urban, 2013; Urban and Ratsimanetrimanana, 2019). Business angels (BAs) and venture capitalists (VCs) are therefore important sources of entrepreneurial capital for ventures in emerging markets, as they do not impose collateral requirements in exchange for capital investments (Ojah and Mokoteli, 2010).

BAs and VCs typically apply a set of appraisal criteria to evaluate the key elements of entrepreneurial ventures (Koba, 2020; Ismail and Medhat, 2019; Zinecker and Bolf, 2015). However, most studies are focused either on BAs, or on VCs, with very limited comparative literature between the investment evaluation criteria utilized by both of these two groups. Moreover, since each investor considers different criteria, previous investigations have principally concentrated separately on the investors' decision-making criteria, which have resulted in an assortment of contradictory aspects being analyzed (Shepherd, 2011; Van Osnabrugge, 2000; Mason et al., 2019). Consequently, the result of numerous empirical and theoretical discussions on the investment evaluation criteria utilized by BAs and VCs show mixed outcomes, with very few studies conducted in an African market context (Matshekga and Urban, 2013).

Recognising the many unanswered questions in the literature the purpose of this article is to identify and juxtapose BAs versus VCs investment evaluation criteria considered by previous researchers, and then empirically determine the relative importance of evaluation criteria, from an early-stage entrepreneurship perspective in South Africa. Consequently the research question of this study is formulated as: What is the relative importance attributed to BA versus VC

investment evaluation criteria from an early-stage entrepreneurship perspective in the South African market context?

In this way the study fits in with recent research calls to comprehend the distinctive character of BAs and VCs investment decision-making criteria (Mason et al., 2019). This study is important as entrepreneurs, particularly in African emerging markets, often do not understand how to approach BAs and VCs investors, nor do they have sufficient knowledge on the different investment evaluation criteria used by BAs and VCs, which may be one of the main causes for the high failure rate in them securing funds (Dutta and Folta, 2016; Landström, 1998; Nunes et al., 2014). Previous studies, mostly conducted in developed countries, have shown the importance of understanding BAs and VCs investment evaluation criteria and its positive role in funding early-stage ventures (Carpentier and Suret, 2015). According to Jeffery et al. (2016), entrepreneurs face a poor track record in attracting BAs funding, where entrepreneur's poor understanding of the investment decision-making process is one of the main identified causes of such failure (Shane and Cable, 2002).

While BCs and VCs are relatively small in South Africa compared to other types of financial options, such as listed equity and property, they are important and significant for entrepreneurs seeking finance (Dutta and Folta, 2016). In South Africa, ventures have certain restrictions when seeking public equity funding, such as the need of releasing proprietary information, which may be quite costly to obtain (Ojah and Mokoteli, 2010), and thus, often approach VCs and BAs as better alternatives. The difficulty of obtaining finance signifies a major limitation to the formation and growth of enterprises in South Africa, which often then leads to survivalist type of enterprises with low growth expectations (Matshekga and Urban, 2013).

The study delivers a principal empirical contribution to the management literature by providing empirical evidence of investment evaluation criteria in an emerging market context. As several scholars have argued, conventional management studies, which mostly reflect the “North American and European context”, are not constantly pertinent to different environments, without essential alterations and revisions (Zoogah et al., 2015). Since the study takes place in a comparatively under-researched South African context, understanding investment evaluation criteria may prove valuable as investigating “theoretical and practical problems in Africa” is imperative considering that businesses in African countries be inclined to be ineffectively managed (Zoogah et al., 2015).

For management practitioners this article provides a deeper understanding of BA versus VC investment evaluation criteria from an early-stage entrepreneurship perspective. Since VC may be considered very volatile, making this form of investment highly susceptible to the uncertainty caused by shock events, some have suggested that entrepreneurial finance may be especially affected by the current COVID-19 pandemic (Brown et al., 2020). Moreover, the wide range of studies and high level of detail in terms of classifying these investment criteria is unique and can provide a knowledge base for future managers and researchers who intend to further analyse BA versus VC investment evaluation criteria and decision-making.

The article is arranged as follows. Initially, relevant theory and research is examined to offer a foundation for the study hypothesis. Next, the research methodology is elucidated in terms of data collection and measures employed. This is followed by statistical analyses upon which results are presented. Discussions and recommendations based on findings follow and the article ends with study limitations, as well as suggestions for future research.

## **2. Hypotheses: Links to Theory and Research**

Considering the purpose of this study, which is to examine any differences between how investment evaluation criteria is viewed by VCs and BAs and early-stage entrepreneurs, this study examines prior research and uses several key investment criteria previously identified in the

literature. There is an established literature on the decision-making process in organisational studies which progressed from a classical perspective founded on the “rationality of the decision maker” (Mintzberg et al., 1976; Eisenhardt and Zbaracki, 1992; Simon, 1955) to researching aspects relating to entrepreneurial decision-making (Bygrave, 1988; Gregoire et al., 2010; Shane, 2000; Shane and Venkataraman, 2001) under conditions of uncertainty (Knight, 1921; Shane, 2000; Venter and Urban, 2015).

Research often positions the decision-making process of investors in the forefront (Bingham et al., 2008; Bygrave, 1988) where the focus is on the role of information asymmetries and transaction costs in explaining why investors may avoid from investing in entrepreneurial enterprises (Ojah and Mokoteli, 2010). However, research shows that demand-side effects also influence financial constraints, where the characteristics and the management attributes of entrepreneurs themselves may influence investment decisions (Matshekga and Urban, 2013). What emerges from such studies is that any venture investment evaluation decision is highly complicated, affected throughout the entrepreneurial process by a multiplicity of factors. For instance, Urban (2013) used conjoint analysis to evaluate how investment evaluation trade-offs are made when both individual and business investment criteria were considered. In this regard it is important to recognize which different evaluation criteria influence the investment decision of BCs and VCs, which may have a direct impact on the likelihood of providing funding to early-stage ventures (Koba, 2020; Wong et al., 2009). While BAs and VCs have similar approaches for decision-making, these are not identical (Ismail and Medhat, 2019; Mason and Stark, 2004). The next section demonstrates how VCs and BAs differ in their approaches, with the former giving more importance to the market and finance aspect, and the latter to the entrepreneur and ‘investor fit’ considerations (Shane, 2012; Van Osnabrugge, 2000).

### **2.1. *Venture Capitalists (VCs)***

VCs are fund managers that invest fund money coming from different investors with the objective of investing in ventures with high-growth potential at early-stage, or in later development stage depending on the fund preferences (Jones and Mlambo, 2013; Ismail and Medhat, 2019; Tyebjee and Bruno, 1984). VC’s typically invest in small enterprises with very little or limited performance history, for a limited period of time aiming to achieve high financial returns (Landstrom, 1993; Tyebjee and Bruno, 1984). There are different types of VC investors with the main distinction between categories referring to the ownership and governance of the fund, classifying them as either an independent VC or a captive (non-independent) VC (Farrel et al., 2008).

Venture capital fund managers are normally employees paid to act as agents of the fund owner(s), and as such must act in favor of the investors’ best interest, providing information, make decisions on their behalf, and meet deadlines and targets for rate of return (Dutta and Folta, 2016). They are experienced professionals serving different purposes, such as providing capital for start-up and expansion, contributing knowledge based on experience, giving advice for business development, supporting executive search, and providing relationships to accelerate commercial growth (Mason et al., 2019; Wiltbank, 2005). VCs do not only act as an information-producer to the entrepreneurs, but also as an agent that makes decisions (Fried and Hisrich, 1994), adding value by participating in post investment activities (Drover et al., 2014).

Research shows that VCs are not interested in getting involved in the day-to-day activities but may interfere with management change if needed (Bygrave, 1988; Tyebjee and Bruno, 1984). They maintain strong supervision over the firms in which they invest having clear mechanisms of control such as board rights, investment staging, and formal contracts (Drover et al., 2014). VCs are highly objective with regard to financial returns, expecting substantial return on investments typically in seven to 10 years and have clear exit strategies (Macmillan et al., 1985; Muzyca et al., 1996). Hence, VCs invest more in niches where they can add value to both the

new venture and their own portfolio, and therefore focus on the stage of the firm, its ability to generate volume, and the quality of deal flows, along with their own capability of evaluating and supporting the new firm (Pintado et al., 2007). Prior studies indicate that VCs invest in areas where they can have a competitive advantage over other investors, due to their specialization in selecting, monitoring, and providing specialized services to the invested companies (Nunes et al., 2014). Furthermore, the literature highlights that VCs have different ways of doing business, with some VCs being generalists while others specialists, usually specializing by size, stage of development, type of industry, and geographical location (Pintado et al., 2007). Despite not always having location restrictions, VCs tend to invest locally since entrepreneurs tend to search for funding in the vicinity of the venture, where they have stronger legal and accountant support (Nunes et al., 2014; Tyebjee and Bruno, 1984).

Studies in both developed and developing countries indicate that VCs are an important source of capital for businesses showing high growth (Ojah and Mokoteli, 2010), particularly to those which are technology-related (Pintado et al., 2007; Tyebjee and Bruno, 1984), and which require moving towards an initial public offering (IPO) (Ojah and Mokoteli, 2010). For many ventures, VCs are not just the best, but the only source of equity finance (Fried and Hisrich, 1994). With the growth and maturation of the venture, VCs became important investors, as they bring a stronger focus of professionalization to the business (Wiltbank, 2005), improving the venture's reputation (Dutta and Folta, 2016; Fried and Hisrich, 1994) and market visibility, and consequently reducing the cost of future funding (Dutta and Folta, 2016; Zacharakis and Meyer, 1998). Nevertheless, despite of all the benefits VCs can bring to the invested companies, only a very small number of deals are finally consummated (Mishra, 2004), either because of the quality of the proposals, or because they receive many more proposals than what they can fund, due to staff and portfolio characteristics restrictions (Tyebjee and Bruno, 1984).

In South Africa VCs are mostly focused on post-revenue businesses, with at least two years of a proven business record of accomplishment (Jones and Mlambo, 2013). Consequently, a significant amount of the capital available from VCs is dedicated to the well-developed late stage investment market, and resources for seed and start-up phases are lacking (SAVCA, 2019). In 2015, only 4.1 per cent of the South Africa's private equity money raised was for early-stage investment, amounting R 1.2 billion (SAVCA, 2019) (The South African Rand is an official national currency and used only in South Africa). South Africa's lack of early-stage investment is therefore linked to the difficulty of raising funds, and impacted by the absence of experienced venture capital fund managers in early-stage businesses, thus affecting the quality of contribution that could come from this type of partnership (Jones and Mlambo 2013).

## 2.2 *Business Angels (BAs)*

BAs are in general wealthy individuals, industry experienced, often self-made entrepreneurs, which provide equity capital for new ventures (Mitteness et al., 2012; Morrissett, 2007; Sudek, 2007). A consistent profile of angels has emerged after two decades of research indicating that: (a) the large majority are successful "cash-out entrepreneurs who have harvested their own entrepreneurial ventures"; (b) they have access to their investment; and (c) they enjoy the process of supporting new venture development (Morrissett, 2007; Shane, 2012; Wong et al., 2009). BAs are normally clustered and linked to other business associates through informal networks and typically invest in opportunities in industries familiar to them. The average number of investments for active angels is between two and three deals per year (Morrissett, 2007), with a similar number of investment proposals being rejected (Mitteness et al., 2012). The average expected return for angel investors varies between 25 per cent and 50 per cent per year depending on the development stage of the firm, with the holding period ranging from five to seven years (Smith et al., 2010). Despite placing major importance on financial gains, angels also look for non-financial benefits (Sapienza et al. 2013), like the possibility of

helping others, the investment in socially-responsible firms, and supporting job creation and ventures created by minority or female entrepreneurs (Porter and Spriggs, 2013).

However, angel investors are not simply suppliers of funds, but are involved during the different stages of the venture creation process, going beyond the funding phase. Angels bring more than money to the business (Jeffery et al., 2016) since they have different backgrounds and industry experience, which are of great importance in assisting entrepreneurs (Mitteness et al., 2012). They support new ventures via securing future funding, helping with business concept development, professionalizing the business, structuring the management team, and using their network to support sales and distribution (Wong et al., 2009). The direct involvement of BAs in the venture is one of the most notable characteristics of this group (Morrissett, 2007). BAs search for active participation in the creation process and want to have influence on the development of the firm (Landström, 1998). They are strong supporters of the, hands-on, often having managerial involvement, either full- or part-time, with significant contribution via skills and contacts. Experience, mentoring, and contacts brought by BAs to the firms, also improves the viability of the business, with strong impact in the early stage of venture development (Wiltbank, 2005).

At the venture screening stage, BAs focus primarily on the entrepreneur (Mitteness et al., 2012; Smith et al., 2010), and only after positive evaluation will the BA further analyse the opportunity for fit with their personal interest and investment criteria (size of capital request, sector and ability to add value). Indeed, most investment opportunities are rejected by BAs at the initial screening stage (Jeffery et al., 2016), and only five per cent of investment opportunities evaluated by BAs proceed to negotiation phase (Smith et al., 2010). Research notes that at screening stage, when BAs look for a quick decision, descriptions of the positive aspects of the opportunity are rather less important than the quality of the entrepreneur and the confidence in the referral mechanism (Morrissett, 2007). Thus the screening phase intends to eliminate those cases with clear flaws and save time for further evaluation of opportunities that show good potential (Sapienza et al., 2013). South Africa has little tradition in BAs investment, despite being a key funding option (SAVCA, 2019). In 2015, South African angel investors were responsible for one third of the total number of deals, however represented only five per cent of the total value of deals (R 42.55 million) (SAVCA, 2019).

### ***2.3 Differences and similarities between VCs and BAs***

Tyebjee and Bruno (1984) identified 23 investment evaluation criteria in their pioneering work, which they divide into five categories: “(1) Market attractiveness, including market size, growth potential, and access to customers; (2) Product, including uniqueness of the product, existence of a patent, technology edge, and the potential profit margin; (3) Quality of management team (and entrepreneur), including skills in marketing, management and finance, and references of the entrepreneur and the management team; (4) Environmental threat resistance, including technological life cycle, barriers to competitive entry, and down-side risk protection; and (5) Cash-out potential, including potential to capital gains by merger, acquisition, or IPO”.

Following the seminal work of Tyebjee and Bruno (1984), several other studies (e.g., Fried and Hisrich, 1994; Macmillan et al., 1985; Mason and Stark, 2004; Mishra, 2004; Sudek, 2007; Zacharakis and Meyer, 1998; Zinecker and Bolf, 2015), have further identified similar categories of investment evaluation criteria. Table 1 provides an overview of selected studies comparing investment evaluation criteria made by VCs and BAs. Some research highlights in relation to Table 1 show that BAs, unlike VCs, investment in early-stage ventures relies heavily on the owner attributes, such as the capacity to run the business and thus BAs first assess the owner, not the business plan (Morrissett, 2007). This finding is reinforced by the fact that BAs often invest in firms within industries with which they are familiar (Smith et al., 2010), and place



different importance on investment criteria, based on their distinct industry background, with the strength of the entrepreneur diminishing in importance as they advance in the evaluation process (Mitteness et al., 2012).

In terms of funds invested, firms funded solely by BAs tend to receive half of the investment provided by VCs, when considering similar stages of venture development. While BAs may co-invest VCs, this is often less than a quarter of all investments. VCs usually complement BAs investments in later stages (Sudek, 2007) with BAs filling the gap where small firms cannot fulfil VCs criteria in terms of size and growth (van Osnabrugge, 2000). Funding rounds exclusively funded by BAs tend to attract other BAs for follow-on investments, contrary to investments that receive VCs capital in later rounds (Wong et al., 2009).

VCs and BAs also have different approaches when evaluating a business proposal, with VCs placing more importance on market and finance aspects, and BAs on the entrepreneur and ‘investor fit’ considerations (Mason and Stark, 2004). BAs invest in firms that present higher risks (from greater uncertainties) than VCs do, expecting greater rewards (Feeney et al., 1999). BAs, unlike VCs that require a specific return, have different reasons for investing, such as job creation, development of high technologies for social needs, or satisfaction in assisting others, and therefore may accept lower returns (Sapienza et al., 2013).

Bearing in mind that BAs, VCs and early-stage entrepreneurs may rank the importance of such criteria differently due to reasons already mentioned, it is plausible that the selection of variables is imperfect and that these variables work in combination rather than as single predictors of investment evaluation decisions. Nonetheless hypothesis are devised which are limited to a number of investment evaluation criteria as gleaned from the literature review.

*H1: There are significant differences in terms of how VCs versus BAs versus entrepreneurs perceive investment evaluation criteria*

*H2: The rank of importance of the various investment evaluation criteria differs for VCs versus BAs versus entrepreneurs*

Converse to VCs, BAs place greater importance to their fit with the entrepreneur, since they are highly involved with the daily activities and often participate in managerial roles (Mason and Stark, 2004). BAs get more involved with the ventures they invest in, than do the VCs (Sudek, 2007), and BAs understand their involvement is important for the ventures development and success, while VC fund managers consider hands-on involvement more as a cost (Mason and Stark, 2004). VCs appear to be more efficient than BAs in the screening of the venture, and carry out a deeper due diligence than BAs, conducting more sector analyses, meeting more often with founder(s) prior to investment, demanding better quality business plans, consulting more people, and consequently taking longer to invest (van Osnabrugge, 2000). As VCs act on behalf of fund providers, they must show professionalism, via competence on the screening, due diligence, and contract formulation, which therefore leads to ex-ante control. Conversely, BAs invest their own money and have no pressure to present professional behaviour, giving preference for later involvement (Van Osnabrugge, 2000). BAs do not have the same degree of control rights as VCs, who use their board representation as a control mechanism much more commonly than BAs, who make use of more active monitoring post-investment (Feeney et al., 1999; Porter and Spriggs, 2013).

### 3. Data

The study population was based on VCs, BAs and early-stage entrepreneurs in South Africa. The sampling selection criterion for VCs and BCs was specified as early-stage venture investments focused on South African entrepreneurs. “Early-stage entrepreneurs were

operationalized in line with the series of Global Entrepreneurship Monitor (GEM) reports, as the total early-stage entrepreneurial Activity (TEA), or the proportion of the working-age adult population actively engaged in starting or running a new business” (Bosma et al., 2020, p. 26). Correspondingly, in recognizing that a typical life cycle for a successful new venture includes: (a) seed stage; (b) start-up stage; (c) growth phase; and (d) a successful exit through initial public offering (IPO) or acquisition (Wiltbank 2005), the focus of this study was on early-stage financing which is used to structure the business, and includes hiring people, renting a facility, structuring the production system, providing working capital, and dealing with the commercialization of intellectual property (IP), among other purposes.

### **3.1     *Sampling and data collection***

Sampling frames were based on membership listings of the Southern African Venture Capital and Private Equity Association (SAVCA), South African Business Angels Association (SABAN), African Business Angels Association (ABAN), Jozi Angels, Angel Hub Ventures, Venture Capital for Africa (VC4A), and the Wits Centre for Entrepreneurship (CFE). Invitations to connect via LinkedIn were sent, and once connected a snowball effect took place via the default mechanism of the social media tool, followed by further connection invitations. Based on convenience and snowball sampling techniques, 149 comprehensive responses were obtained which served as the final sample. Anticipating sub-group analyses, as per the study hypothesis “a quota control on the three groups was necessary in order to ensure that a minimum sample size of 20-50 was achieved for each of these subgroups” (Cooper and Schindler, 2014). The final sample was relatively balanced in terms of respondents where there were 53 BAs, 52 VCs, and 44 early-stage entrepreneurs.

### **3.2     *The research instrument***

Instruments identified in the literature were scrutinized to determine their relevance to the study (see Table 1). Table 1 shows all of investment decision-making criteria scrutinized and sources from which these were derived as well as the corresponding items for each of these criteria (e.g., Financial criteria consists of four items in terms of: time to break-even, time to payback, expected rate of return, and ability to cash out). The instrument used to collect data consisted of 40 questions structured into seven sections representing the different investment evaluation criteria as per Table 1. All of the questions and measured on a “five-point scale in which 1 represented strongly disagree and 5 represented strongly agree.”

In the questionnaire preparation, no sensitive questions were asked, such as financial information or the identity of the participant. Moreover, the order effect of the investment criteria was limited by randomly distributing the questions within the category, and not in order of importance (Cooper and Schindler, 2014). The initial part of the instrument presented three sampling selection items that were related to the classification of the respondent, the verification of investing in early-stage ventures and their involvement in South Africa. An ethics letter accompanied the survey request and provided assurance of the anonymity and confidentiality aspects of the study.

## **4.     *Estimation methodology***

Data analysis was run with the use of the statistical program, SAS version 14, followed by a descriptive statistical analysis. The study constructs were subjected to validity and reliability testing. Analysis of variance (ANOVA) tested the differences between the constructs’ mean scores indicating any significant differences of importance given to each of the constructs

between the three categories of respondents in terms of BAs, VCs and entrepreneurs. Lastly, a rank of importance for each of the investment evaluation criteria was obtained via comparison of mean values within and between categories of respondents.

In terms of validity testing exploratory factor analysis (EFA) was used to ascertain the validity of the study constructs. A “Kaiser-Meyer-Olkin (KMO)” value of 0.691 (Approx. Chi-Square 1471.664;  $p = .000$ ) was obtained for the overall sample. The KMO is higher than the minimum and desired value of 0.6, and the Bartlett’s test of sphericity was significant which implies that items correlated highly enough, therefore, the data could be used to run a factor analysis (Cooper and Schindler, 2014). “Principal Axis Factoring with the Promax with Kaiser Normalization Rotation Method” was used to extract the factors, where factor loadings above the cut-off point of 0.40 were retained (Cooper and Schindler, 2014). After several attempts at factor analysis, 12 factors with eigenvalues greater than one were obtained. The loadings on two of the factors were weak and although the 12 factors exhibited eigenvalues greater than or near one, only a six-factor solution showed factor loadings with at least three items per factor. The scree plot (not shown) confirmed the generated factors which suggested that only the first six were meaningful and thus, only the first six factors were retained for rotation. Even though some of items showed modest factor loadings, the content and wording were considered strongly applicable towards measuring investment criteria and slight changes in construct names were made due to an assumed better fit. Combined, these six factors accounted for 55 per cent of the total variance.

To assess the reliability of the different constructs Cronbach’s alpha was calculated (Cooper and Schindler, 2014). The six adjusted factors were named as follows and showed the following Cronbach’s alpha values: (1) Business readiness = 0.845; (2) Management team preparedness = 0.836; (3) Product-market prospects = 0.719; (4) Management team attributes = 0.766; (5) Fund-specific criteria = 0.724; and (6) Deal attributes = 0.701. Since all the constructs had a Cronbach’s alpha value greater than 0.7 this implies that items within the constructs can be added together to compute a composite score for each factor. The composite scores per factor were computed by calculating the average of the items within a factor.

## 5. Results

Table 2 shows the descriptive statistics across all three sampling groups for all the factors and indicates that all means were higher than the Likert scale midpoint of ‘3’ with most values varying between ‘3.5 and 4.5’, with a concentration of results above ‘3.9’. Most of the standard deviation values obtained ranged between ‘0.5 and 0.7’, indicating that variable’s distributions were not highly skewed.

### 5.1 Analysis of variance (ANOVA)

ANOVA summary results are shown in Table 3, where F-tests were used as part of the ANOVA procedure to identify differences in factors per group (hypothesis 1) and were recorded as p-values. For the factor ‘business readiness’ according to Table 3, the p-value was smaller than 0.05 (F Ratio = 5.72; Prob > F = 0.0047), indicating a statistically significant difference between this factor in terms of the different categories of respondents set at a 95 per cent level of confidence. Multiple comparisons were done using the Tukey-Kramer HSD tests (not shown due to space limitations), indicating pairs with a positive value that are significantly different, and which indicated the existence of statistically significant differences between entrepreneurs and the investors. Therefore, it was possible to conclude that for ‘business readiness’, the difference of mean values between entrepreneurs and both categories of investors was statistically significant; however, BAs and VCs did not differ significantly from each other.

For the factor ‘management team preparedness’ according to Table 3, the p-value was greater than 0.05 (F Ratio = 2.41; Prob > F = 0.0957), indicating no statistically significant difference between this factor in terms of the different categories of respondents set at a 95 per cent level of confidence. Therefore, it was possible to conclude that for ‘management team preparedness’, the difference of mean values between all categories did not differ significantly from each other. For the factor ‘product-market prospects’ according to Table 3, the p-value was greater than 0.05 (F Ratio = 2.85; Prob > F = 0.9452), indicating no statistically significant difference between this factor in terms of the different categories of respondents set at a 95 per cent level of confidence. For the factor ‘management team attributes’ according to Table 3, the p-value was greater than 0.05 (F Ratio = 1.38; Prob > F = 0.2584), indicating no statistically significant difference between this factor in terms of the different categories of respondents set at a 95 per cent level of confidence. For the factor ‘fund-specific criteria’ according to Table 3, the p-value was greater than 0.05 (F Ratio = 0.84; Prob > F = 0.4340), indicating no statistically significant difference between this factor in terms of the different categories of respondents set at a 95 per cent level of confidence. For the factor ‘deal attributes’ according to Table 3, the p-value was greater than 0.05 (F Ratio = 2.87; Prob > F = 0.5989), indicating no statistically significant difference between this factor in terms of the different categories of respondents set at a 95 per cent level of confidence.

In conclusion, only one of the six factors, namely, ‘business readinesses’ showed a statistically significant difference ( $p < 0.05$ ) between groups.

## 5.2 Rank Importance of Evaluation Criteria

To determine the rank of importance of the different criteria comprising the underlying constructs affecting BAs and VCs and entrepreneurs investment decisions (hypothesis 2), a simple exercise of ranking was performed, based simply on their averages. As observed in Table 4 both the ‘management team attributes’ and ‘management team preparedness’ constructs were perceived of primary importance to both BAs and VCs investors. Similarly, ‘product-market prospects’ was ranked 3rd, while ‘business readiness’ was 6th by both BAs and VCs. For the entrepreneur group ‘team preparedness’ and ‘team attributes’ were ranked 1ST and 2nd respectively, while ‘fund-specific’ criteria was ranked 6th.

## 5.3 Hypothesis 1

For hypothesis 1, significant differences in terms of how VCs versus BAs versus entrepreneurs perceive investment evaluation criteria were noted only for the ‘business readiness’ factor where differences were found between entrepreneurs and both categories of investors, while differences between BAs and VCs were not detected. These findings reflect some early work, where Shane and Cable (2002) highlight that investors place great importance on the entrepreneur and its ability to run and grow the business, as well as the overall quality of the business plan which is good indicator of ‘business readiness’. From the results, it seems both VCs and BAs perceive the evaluation of whether the business is ready for funding as important in order to assess the risk/return relation of the potential deal. Thus, investors gather information available in the venture and from external sources, which is then compared with the information described in the business plan (Drover et al., 2014).

In terms of ‘management team preparedness and management team attributes’ VCs, BAs and entrepreneurs did not seem to differ significantly from each other on these two factors either. Research confirms that ‘management team preparedness and attributes’ are pivotal at the early stage of the venture, as investors often tend to place more emphasis on the entrepreneur and the management team than on the business itself. According to Mishra (2004), the quality of the management team is critical to venture success in terms of the experience each member

brings to the different areas in the business. Moreover, VCs and BAs place great importance on the complementary nature of the skills to form a balanced team that enhances the capability of the team to realize the growth potential of the venture (Mason and Stark, 2004). Furthermore, VCs place great importance on the entrepreneurs' personality traits like honesty and most importantly integrity (Drover et al., 2014), which is used to eliminate undesirable ventures during the evaluation process. The building of trustable relationships between the entrepreneur and BAs appears to be essential for successful capital investment, with angels also looking for people with strong work ethic and honesty (Mason and Stark, 2004). The perceived trustworthiness of the entrepreneur significantly influences the investment decision, in which investor's willingness to invest is more sensitive to mixed signals of character than of competence (Sapienza et al., 2013). Similarly, Pintado et al. (2007), in examining the Spanish venture capital market, and Jones and Mlambo (2013) in the South African context, also find that a very important investment criterion relates to the management team's personality, background and experience.

For 'product-market prospects' no statistically significant difference between this factor in terms of the different categories of respondents were detected. This result may be interpreted in the context of theory which indicates that expectations about how attractive the market is, and the uniqueness of the product and technology offering and its patentability (Mishra, 2004) are important for both VCs and BAs. Prior studies show that VCs usually determine the potential size of the market and its long-term growth prospects during the due diligence phase (Zacharakis and Meyer, 1998). The market is also a key element for BAs during the screening phase when they are trying to identify the potential value of commercialization of the proposed venture (Mitteness, 2012).

For 'fund-specific criteria' no statistically significant difference were found between the respondents. This finding may be attributable to the broad set of variables encompassing 'fund-specific criteria', which includes the business location, understanding of industry and technology issues, and the ability to cash out. In the initial screening phase, fit with fund-specific criteria is vital for investment decisions, and entrepreneurs seeking venture capital funding should comprehensively understand the funding criteria requirements of VCs and BAs. Research shows that VCs tend to run a rapid evaluation of the fund-specific criteria during the screening phase, assessing the various factors already mentioned, and should proposals fail on one of these criteria, VCs typically reject them. Indeed few contrasts between BAs and VCs are observed in the literature in terms of 'fund-specific criteria' (Nunes et al., 2014).

Lastly, for the factor 'deal attributes' no statistically significant difference were detected between study respondents. Prior studies confirm that 'deal attributes' are normally assessed during the initial phase of the evaluation process, when the match between the opportunity and the fund constraints, and the business and product fit with the investor's portfolio are verified. Therefore, during the deal-screening phase, when VCs make their first quick evaluation of the proposal, these criteria indicate whether investors go a further step in the assessment of the opportunity. The same was observed with BAs, when in the screening stage they verify whether the deal fits their personal investment criteria, which also relates to the size of the capital requested and the industry sector of the venture (Smith et al., 2010).

#### **5.4 Hypothesis 2**

In terms of hypothesis 2, the rank of importance of the various investment evaluation criteria did not differ for VCs versus BAs, only for entrepreneurs was a ranking difference observed where 'team preparedness' and 'team attributes' were ranked 1st and 2nd respectively, while 'fund-specific' criteria was ranked last. In summary, BAs and VCs have similar patterns in relation to the ranking importance placed on criteria relating to management team, market aspects and product characteristics. It seems BAs and VCs in South Africa place great importance on the management team, which may be because of uncertainties which are typically

associated with early-stage ventures as the success of the venture depends highly on the characteristics of the individuals and less on the other elements of the product, market, and financial expectations (Urban and Ratsimanetrimanana, 2019).

## 6. Conclusions

Recognising the need to comprehend the distinctive character of investment decision-making criteria, this was an opportunity to contribute to the literature by determining which investment evaluation criteria are ranked as important by VCs, BAs and early-stage entrepreneurs.

While large discrepancies between entrepreneurs versus BAs and VCs rankings of the investment criteria were expected, these were not detected in this study. Despite entrepreneurs ranking three of the six constructs slightly differently to BAs and VCs, no major differences were observed as to affect the overall understanding of the importance given to the distinct constructs that influence investment decisions.

Several recommendations can be made based on the study findings. Firstly, understanding investment evaluation criteria is important for investors, as well as for entrepreneurs who are seeking venture capital. For entrepreneurs, a more granular understanding of the importance and ranking of the decision-making investment criteria can help improve their knowledge of the evaluation process. Furthermore, if VCs and BAs have greater knowledge of each other's elements which may influence their investment decisions, specific frameworks can be developed to support these decisions. Such a structured approach, based on the evaluation criteria discussed in this study could supplement their 'gut feeling' which investors sometimes tend to sometimes rely on. Secondly, investors could provide clear guidance to entrepreneurs to ensure high quality proposals, and to aid in the elimination of flaws in their proposals, which would facilitate and optimize expectations during the business introduction. Thirdly, investors must be clear about their areas of investment and other key criteria in order to facilitate the search for entrepreneurs and avoid undesired investment requests, particularly as we move towards greater agility of decision flows connected to the use of mobile ICT and digitization in general (Venter and Urban, 2015). Such communication could be done in collaboration with start-up hubs, universities, and any other entrepreneurial environments that nurture the launch and growth of new ventures. Lastly, entrepreneurs must understand the evaluation process, be adequately prepared for each phase, and cognizant of what investors seek and the respective importance given to each criterion.

The article suffers from some limitations that include the sampling technique used and the size of the sample. Difficulties in ascertaining the population of BAs, VCs and entrepreneurs meant that random sampling was not plausible and subsequently representativeness was compromised. It remains important to mention that the study obtained its main sampling connections via investors' associations. Moreover, according to Zacharakis and Meyer (1998), post hoc studies rely on investors' introspection as to what they believe as the most important decision factors, which might be biased in terms of post-hoc rationalization as well as recollection mistakes. Furthermore questionnaire-driven studies on decision-making do not differentiate between the venture stages in the decision-making process, and therefore makes the findings difficult to generalize across the entrepreneurial process. Future research could focus on other intervening variables not accounted for in this article such as specific situational factors in an emerging country context which may influence investment decisions. Lastly, judging from a noticeable change towards rethinking business investments in terms of a 'social business' perspective, the traditional economic view where high financial returns must be reconciled with social, environmental, and ethical impacts, will require further research.

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**Table 1**

This table shows the selected literature comparison to establish similarities and differences investment evaluation criteria. The instrument used to collect data consisted of 40 questions structured into seven sections representing the different investment evaluation criteria as per Table 1.

Evaluation criteria		Muzycza , Birley and Leleux	Landström	Tyebee and Bruno	Macmillan, Siegel and Narasimha	Hall and Hoffer	Fried and Hisrich	Zacharakis and Meyer	Feeney, Haines, and Ridding	Mishra	Mason and Stark	Pintado, Perez de Lena and Van Auken	Sudek	Nunes, Felix and Pires	Zinecker and Bolf
Year of publication		1996	1998	1984	1985	1993	1994	1998	1999	2004	2004	2007	2007	2014	2015
Focus of study		VCs	BA	VCs	VCs	VCs	VCs	VCs	BA	VCs	VCs & BA	VCs	BA	VCs	VCs
<b>Financial criteria</b>															
1	Time to break-even	x	x											x	
2	Time to payback	x	x												
3	Expected rate of return	x	x		x		x		x	x	x		x	x	x
4	Ability to cash out	x	x	x			x				x	x	x	x	x
<b>Product-Market criteria</b>															
5	Degree market already established	x	x	x	x				x	x	x			x	
6	Market size	x	x	x				x		x				x	x
7	Sensitivity to economic cycles	x	x	x										x	
8	Market growth and attractiveness	x	x	x	x			x		x	x	x	x	x	x
9	Uniqueness of product and technology	x	x	x				x		x	x	x		x	x
10	Relative familiarity of investors with industry/technology	x	x		x			x	x	x		x	x	x	
11	Patentability of product			x	x			x		x			x	x	
12	Competitive advantage			x		x	x								x
<b>Strategic-competitive criteria</b>															
13	Easy of market entry	x	x	x											
14	Ability to create post-entry barriers	x	x	x							x		x	x	
15	Sustained share competitive position	x	x										x		
16	Nature and degree of competition	x	x					x		x	x		x	x	
<b>Business readiness criteria</b>															

Evaluation criteria		Muzycza , Birley and Leleux	Landström	Tyebee and Bruno	Macmillan, Siegel and Narasimha	Hall and Hoffer	Fried and Hisrich	Zacharakis and Meyer	Feeney, Haines, and Ridding	Mishra	Mason and Stark	Pintado, Perez de Lena and Van Auker	Sudek	Nunes, Felix and Pires	Zinecker and Bolf
Year of publication		1996	1998	1984	1985	1993	1994	1998	1999	2004	2004	2007	2007	2014	2015
Focus of study		VCs	BA	VCs	VCs	VCs	VCs	VCs	BA	VCs	VCs & BA	VCs	BA	VCs	VCs
17	Business meets funds constraints	x				x					x		x		
18	Business and product fit with fund portfolio	x							x		x		x		x
19	Ability of investors to influence nature of business	x	x										x		
20	Location of business relative to the fund	x	x			x			x			x		x	
21	Investment size						x						x	x	x
<b>Management team criteria</b>															
22	Leadership potential of management team	x					x	x				x			
23	Leadership potential of lead entrepreneur	x	x		x			x		x		x		x	
24	Recognized industry expertise in team	x	x			x	x		x	x	x	x	x	x	x
25	Track record of lead entrepreneur	x	x		x	x			x	x	x	x	x		
26	Track record of management team	x					x		x		x	x	x		
27	References of entrepreneur			x	x	x				x				x	
28	Balanced management team					x		x	x						
29	Integrity and honesty of the management team						x		x	x		x	x	x	
30	Capacity of sustaining intense effort				x		x			x				x	
<b>Management competence criteria</b>															
31	Marketing/Sales capabilities of the team	x	x	x						x	x				
32	Process/Production capabilities of the team	x	x	x						x	x			x	
33	Organizational/Administrative capabilities of the team	x	x	x						x	x			x	
34	Financial/Accounting capabilities of the team	x	x	x						x	x				
35	Business plan overall quality					x			x		x			x	
<b>Deal criteria</b>															
36	Stage of investment required	x	x									x			
37	Number and nature of co-investors in deal	x	x										x	x	

Evaluation criteria		Muzycza , Birley and Leleux	Landström	Tyebee and Bruno	Macmillan, Siegel and Narasimha	Hall and Hoffer	Fried and Hisrich	Zacharakis and Meyer	Feeney, Haines, and Ridding	Mishra	Mason and Stark	Pintado, Perez de Lena and Van Auker	Sudek	Nunes, Felix and Pires	Zinecker and Bolf
Year of publication		1996	1998	1984	1985	1993	1994	1998	1999	2004	2004	2007	2007	2014	2015
Focus of study		VCs	BAAs	VCs	VCs	VCs	VCs	VCs	BAAs	VCs	VCs & BAAs	VCs	BAAs	VCs	VCs
38	Ability to syndicate deal	x	x												
39	Scale and chance of later funding rounds	x	x		x					x			x		
40	Deal is referred by a trustful source														

**Table 2**

This table shows the descriptive statistics of data per group of respondents. 149 comprehensive responses were obtained which served as the final sample. Anticipating sub-group analyses, as per the study hypothesis a quota control on the three groups was necessary in order to ensure that a minimum sample size of 20-50 was achieved for each of these subgroups. The final sample was relatively balanced in terms of respondents where there were 53 BAs, 52 VCs, and 44 early-stage entrepreneurs.

Factors	Number of items	Valid N	Overall Mean	Upper 95% Mean	Lower 95% Mean	Median	Std. Dev.	Skewness	Kurtosis
<b>BUSINESS ANGELS (BAs)</b>									
Business Readiness	9	53	3.47	3.81	3.14	3.55	0.70	-0.38	-0.14
Management team preparedness	8	53	3.91	4.14	3.69	3.87	0.47	-0.31	0.44
Product-market prospects	5	53	3.95	4.20	3.70	3.83	0.52	-0.46	0.62
Management team attributes	3	53	4.26	4.52	4.00	4.33	0.54	-0.23	1.01
Fund-specific criteria	4	53	3.67	3.97	3.37	3.75	0.61	-1.08	1.53
Deal attributes	3	53	3.79	4.09	3.49	3.67	0.62	0.55	0.15
<b>VENTURE CAPITALISTS (VCs)</b>									
Business Readiness	9	52	3.52	3.75	3.30	3.44	0.52	-0.13	-0.57
Management team preparedness	8	52	4.21	4.44	3.98	4.37	0.54	-0.32	-1.01
Product-market prospects	5	52	4.00	4.19	3.80	4.00	0.45	-0.28	-0.25
Management team attributes	3	52	4.51	4.64	4.37	4.67	0.31	-0.59	1.09
Fund-specific criteria	4	52	3.43	3.71	3.16	3.50	0.64	-0.91	0.96
Deal attributes	3	52	3.97	4.27	3.67	4.00	0.69	-1.65	4.59
<b>ENTREPRENEURS</b>									
Business Readiness	9	44	3.93	4.10	3.76	4.11	0.56	-0.54	0.17
Management team preparedness	8	44	3.93	4.10	3.76	4.00	0.55	-0.41	0.07
Product-market prospects	5	44	3.99	4.17	3.82	4.08	0.58	-0.26	-0.69
Management team attributes	3	44	4.31	4.50	4.12	4.33	0.61	-0.75	0.16
Fund-specific criteria	4	44	3.45	3.66	3.23	3.50	0.70	0.05	-0.13
Deal attributes	3	44	3.86	4.01	3.70	4.00	0.52	-0.69	0.65

**Table 3**

This table shows ANOVA results on factors per the three groups. F-tests were used as part of the ANOVA procedure to identify differences in factors per group (hypothesis 1) and were recorded as p-values. For the factor 'business readiness' according to Table 3, the p-value was smaller than 0.05 (F Ratio = 5.72; Prob > F = 0.0047), indicating a statistically significant difference between this factor in terms of the different categories of respondents set at a 95 per cent level of confidence.

Factors	Means			p-value
	BAs	VCs	Entrepreneurs	
Business readiness	3.47	3.53	3.92	0.0047
Management team preparedness	3.91	4.21	3.93	0.0957
Product-market prospects	3.95	4.00	3.99	0.9452
Management team attributes	4.26	4.50	4.31	0.2584
Fund-specific criteria	3.67	3.43	3.45	0.4340
Deal attributes	3.79	3.97	3.85	0.5989

**Table 4**

This table shows the rank of importance of factors based on median values. As observed in Table 4 both the 'management team attributes' and 'management team preparedness' constructs were perceived of primary importance to both BAs and VCs investors. Similarly, 'product-market prospects' was ranked 3rd, while 'business readiness' was 6th by both BAs and VCs. For the entrepreneur group 'team preparedness' and 'team attributes' were ranked 1ST and 2nd respectively, while 'fund-specific' criteria was ranked 6th.

Category	BAs		VCs		Entrepreneurs	
	Rank	Median	Rank	Median	Rank	Median
Management team attributes	( 1 )	4.33	( 1 )	4.67	( 2 )	4.11
Management team preparedness	( 2 )	3.87	( 2 )	4.37	( 1 )	4.33
Product-market prospects	( 3 )	3.83	( 3 )	4.00	( 5 )	4.00
Fund-specific criteria	( 4 )	3.75	( 5 )	3.50	( 6 )	3.50
Deal attributes	( 5 )	3.67	( 4 )	3.99	( 3 )	4.08
Business Readiness	( 6 )	3.55	( 6 )	3.44	( 4 )	4.00