FORMULATING A STRATEGIC FRAMEWORK TO PROMOTE SME DEVELOPMENT

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ABSTRACT

SMEs are critical to economic development within the South African economy by contributing considerably to the national GDP and private sector employment. However they are unable to overcome the primary obstacle of access to funding, which translates into an inability to attain the necessary physical, human and consulting resources.

Private equity and the venture capital sector has been critical in providing this necessary funding to support SME creation and growth in developed countries, but has been under-represented in South Africa. This is set to change by an amendment to Regulation 28 which allows pension funds to legally allocate a portion of the fund to private equity investments.

SMEs currently lack an understanding of the business value curve utilized by financiers to gauge the risk-reward characteristics of an investment. SME strategies need to convey how the business model will isolate imitators as well as bridge misfits between their current resources and future requirements in order to deliver on the strategic intent.

This paper utilizes a Systems Engineering approach through functional analysis to develop a framework that guides SMEs through detailed processes in order to develop a strategy aligned with investor requirements. The framework addresses the shortcomings of current strategic frameworks by taking into account the specific characteristics of SMEs and not being biased towards a specific industry or sector.

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1 INTRODUCTION

The South African economy finds itself in a concerning predicament. As is the case with numerous developing economies, South Africa hosts both a formal and informal economy. The formal economy produces the majority of South Africa's wealth, with the informal economy hosting much of South Africa's urban and rural poor. The economy however has come to resemble the activity associated with industrialized nations more than that of emerging markets or developing countries. This results in industry requiring skilled labor associated with developed economies rather than the primary production and manufacturing sectors which could alleviate unemployment by providing jobs for the unskilled majority.

With a large dataset of cross-country evidence the research community now widely accepts the importance of small to medium enterprises (SMEs) with regard to socio-economic development [1]. Accordingly, SMEs are responsible for a considerable proportion of employment, GDP contribution and poverty alleviation in both developing and developed economies [2].

A significant portion of the literature in economics has stressed the importance of entrepreneurship at the micro-level to achieve economic growth at the macro-level (e.g., [3], [4] & [5]. Consequently, the small firm has been touted as an outstanding vehicle through which the entrepreneur can channel his or her entrepreneurial ambitions, as the firm is seen as an extension of the individual who is in charge [6].

There now exists a wealth of evidence to prove that economic activity has shifted from larger corporations to smaller firms during the 1970s and 80s, the most cited and impressive example of this is the observation that the share of employment by the Fortune 500 companies has dropped from 20% in 1970 to 8.5% in 1996 [7].

Already SMEs are seen as contributing to economic development being responsible for 52% to 56% of South Africa's national GDP and 56% of private sector employment. Studies are proposing that as is the case with developed nations, the creation and growth of SMEs could be significant factors in the solution of SA's development issues [8].

With a host of frameworks attempting to explain the reasons for firm success at any point in time, it is found that they neglect to detail the processes involved in achieving the success by not taking into account the fundamental characteristic differences between SMEs and their more developed/mature counterparts.

Firm growth is a central area of focus in strategic-, firm- and entrepreneurial research. The factors that affect firm growth have been attractive to the sciences, but there has been no comprehensive theory, to date, to explain which firms will grow or how they grow [9]. Even when some explanatory factors have been identified, the connections between these factors and the economic environment have been disputed. The causes of success or failure are inseparable from questions such as:

- Why and how do firms differ?
- How do they behave?
- How do they decide on strategies?
- How are these strategies managed?

Any effort to formulate a framework to aid businesses in steering their firms towards success and growth must be built on an underlying theory of the firm and firm growth as well as the associated theory of strategy.

2 THE FIRM: SURVIVAL & GROWTH

With the data in support of the role of SMEs in economic development the research community has been preoccupied with the importance of high-growth SMEs, arguing that a small portion of high growth firms are responsible for the majority contribution of new jobs and increased GDP output [10].

On the other hand non-growing or smaller firms do have their strategic fit within the larger economic system as they facilitate self-employment and support the development of their growing counterparts [11]. In either case, aversion to or inability to achieve growth has been identified as a principal reason for firm decline and ultimate failure [12].

In order to retain the socio-economic benefits of SMEs, these firms ultimately have to survive in order to maintain “the continuity of business” [1]. Storey [10] proposes that growth is synonymous with longevity where SMEs with negative or stagnant growth rates indicate future problems for the firm.

Other motives for growth along with continuity of business include the achievement of economies of scale, increased market share and subsequent profitability, exploiting new business opportunities, credibility in the market and achieving a higher market value for the firm [10].

Previous research has revealed that growth is a multidimensional phenomenon, the result of both internal and external factors. Wiklund [13] proposed an integrative model as illustrated in Figure 1 suggesting how entrepreneurial activity, the business environment, firm resources, owner attitude towards growth and strategic fit are combined to create a sustainable competitive advantage.

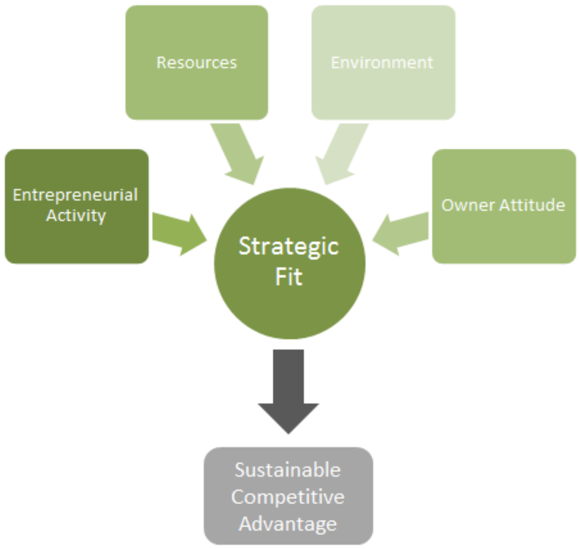

Figure 1: Firm Growth Model adapted from [13]

Entrepreneurial activity refers to a firms attitude towards innovation and risk taking in delivering new products and services to a market, as such it refers to how a firm operates rather than what it does [13]. Several studies have shown that companies with an entrepreneurial culture experience sustained high growth rates and outperform their peers [14].

The environment relates to external factors which can be exploited to deliver performance. The environment has aggregate benefits for all market participants in that the firm growth rate is affected by the industry growth rate [13]. However studies have found that high growth amongst SMEs is due to their ability to develop market niches [15].

According to Wiklund [13] a firm has three distinct resources at their disposal to deploy their strategy; physical, human and network resources. The idea is that these resources have to be combined and utilised in a manner to derive a sustainable competitive advantage [16].

Owner attitude refers to the firm owner’s motive for starting and operating their business as studies have shown that people have a variety of reasons for doing so beyond financial incentives [10]. Wiklund [17] proposed that even though growth may not have been an entrepreneur's initial goal, that should the business owner be favourably exposed to the new tasks that accompany firm growth, they may develop a more positive attitude towards growth.

Strategic fit refers to the firm's ability to find a balance between these various factors and effectively compete in its market. Should a firm be unable to acquire the necessary resources or be ineffective in combining them to exploit a market segment, they will be unable to sustain a competitive advantage and will fail [13].

Academic studies suggest that firm performance and growth is predominantly a function of an effective match between the various internal and external factors [1] with firm growth rarely occurring by chance but rather being due to management's choices and subsequent conscious decisions with Weinzimmer [18] proposing that strategy is the most important determinant of growth.

2.1 Strategy & Growth

There are a number of definitions relating to strategy, however it can be accurately described as "an overall collection of business decisions and actions" [19] in order to gain and sustain a competitive advantage. Hrebiniak and Joyce [20] proclaimed that a successful strategy enables firm performance and effectiveness, the result of an effective match between the firm, its processes and the external environment.

The field of strategic management has been a popular topic for many decades with seminal work being conducted by many experts. As a consequence different frameworks have been popularised by various pioneers in an effort to aid firms to exploit their strengths and weaknesses in relation to the external environment, Table 1.

Table 1: A collection of some of the more important, to this study, strategic theories

Theory	**Explanation**
Scenario planning	Works by describing a small number of scenarios, by creating stories of how the future may unfold and how they might affect the issues that confront an industry [21] & [22].
Sensitivity analysis	Sensitivity analysis is the study of the amount of variation found in the output of a mathematical model due to the variability in the different sources of input into the model [23].
Game theory	Game theory allows the modelling of competitive interaction [23].
PESTE analysis	It is the analysis on the environment in which an industry operates. PESTE (Political, Economic, Social, Technological and Environmental) factors [23].
SWOT analysis	A SWOT analysis identifies the Strengths, Weaknesses, Opportunities and Threats of a particular organisation [23].
Porter's 5 forces	Porter's competitive forces are used to make an analysis of the attractiveness of an industry structure [23] & [24].
Risk and uncertainty management	Risk management strategies need to be tailored to the main characteristics of the risk source in question [25]. "Designers should deal with the upside of the probability distribution just as they deal with the downside. They should build in the capability to deal with these extraordinary circumstances. Dealing

Theory	Explanation
	with both the upside and the downside of uncertainties is not incompatible." [26]
Open innovation	"…systematically encouraging and exploring a wide range of internal and external sources for innovation opportunities, consciously integrating that exploration with firm capabilities and resources, and broadly exploiting those opportunities through multiple channels." [27] & [28]
Blue ocean strategy	"Competing in overcrowded industries is no way to sustain high performance. The real opportunity is to create blue oceans of uncontested market space." [29]
Diversification strategy	Diversification strategy is an organisation's focus on exploiting various industries of operations [23].

Whenever a business enterprise is established it invariable employs a business model. Teece [30] described a business model as that which encapsulates the logic of how the firm combines and utilises its resources to create and deliver value in order to deliver on its strategic objective.

Coupling competitive strategy analysis to business model design requires segmenting the market, creating a value proposition for each segment and combining the resources to deliver value to the segment you are targeting. A good business model will provide considerable value to the customer and collect a viable portion of this in revenues. But developing a successful business model (no matter how novel) is insufficient in and of itself to assure a sustainable competitive advantage.

In order to continually deliver value to the customer and maintain a competitive advantage the firm has to continually adapt the business model to the competitive environment by reviewing the combination of resources along with the structures for revenues and costs.

Critical to a firm's survival and development once it has established a competitive advantage is its choice of strategy regarding growth [31]. Firms have three primary growth strategies at their disposal [32]: (1) build strategy, i.e. vertical integration and absorbing more activities within the value chain; (2) expand strategy, i.e. entering new markets or product segments; and (3) maintain strategy, i.e. emphasis on market dominance through efficiency, innovation and product differentiation within your current operating segment.

Within the expand and maintain strategies, Burns [33] proposes reviewing product/market strategies with options of (1) market penetration; (2) new product development; (3) new market development; and (4) moving into new markets with new products. Thompson [34] presents how these strategies can be realized though: (1) organic growth; (2) acquisition; (3) strategic alliance; and (4) joint venture. Given these available options studies have produced mixed results with theorists being unable to agree on a best course of action to accelerate growth [1].

Nooteboom [35] argued that a successful growth strategy would take into account the firm specific characteristics related to the size of the firm as well as the interacting internal and external factors. The different decisions and actions would thus follow and hold under different conditions. Given a set of entrepreneurial characteristics which may be beneficial in one configuration or context and action might work adversely in another.

Although the strategic frameworks and growth strategies previously mentioned have been widely accepted and successfully applied in industry, they do not take into account the specific characteristics of small firms and have been biased towards larger, more established corporations [36]. It is important to take into account the specific dimension of SMEs as small firms are not small big firms [1].

Smaller firms within an industry require distinctly different strategies compared to their larger counterparts. The critical requirement for small firms in these industries is strategic flexibility [37]. These firms have to be more flexible, have closer ties with their customers and have the ability to translate their vision into action more efficiently [38].

Smaller companies, generally, are the result of an entrepreneur's initiatives with less formal planning and control functions together with a lack of organisational and administrative systems [36]. These small firms also struggle with limited financial, technological and human resources, little information regarding the market and necessary economies of scale [38].

Although the small firms have numerous advantageous over their developed counterparts the ability and will to develop a business strategy is influenced by entrepreneurial motivation and competency [39]. Unless the firm owner has a strong belief in his ability to formulate a successful strategy and grow the firm they would not attempt formal strategy formulation but rather align their goals along a certain objective referred to as strategic intent.

In an entrepreneurial firm strategic intent, strategic ambitions and concentration on the actions to achieve the firm's objective [40], provides emotional and intellectual energy. Strategic intent is an anti-thesis of strategy focus which attempts to search for a fit between existing resources and emerging opportunities, whereas strategic intent stipulates an aspirational outcome and recognises the misfit between resources and aspirations and attempts to find a means or describes actions to bridge the gap. It provides a sense of direction and purpose for each stakeholder in the firm [41] & [17].

Interviews with founders of 100 major companies in U.S.A. explained that the entrepreneurs of high performing companies adopt strategic intent as a faster and cheaper method of strategy planning [42]. These entrepreneurs integrate action and analysis and emphasise the need for strategic orientation in management, knowledge about market, customers and competitors in a global environment of increasing competition and shortening product and service life-cycles.

In a study on the growth of small and medium manufacturing firm s showed that successful firm s exercised financial control and monitored key variables which relate to the strategic objectives of the firm [43].

2.2 Barriers to Growth

Even with the recognition that SMEs are vital to stimulating entrepreneurship and therefore economic growth, a number of obstacles inhibit SMEs from realising their full potential; a lack of access to managerial skills, finance, equipment and technology, regulatory issues, networks and international markets [44].

The regulatory environment plays a critical role in the establishment and operation of a small business [45]:

- Regulations can both help and hinder entrepreneurs.
- Entrepreneurs needed clear rules, which had to be predictably enforced.
- Over-regulation would impose burdens on all firms and that it could thus be viewed as a prohibitive start-up cost.

Similarly, managerial competencies are fundamental to SME development. Martin and Staines [46] proposed that a lack of managerial competency is the main reason that new firms fail. The lack of support services or their relatively higher unit cost was also found to hamper SMEs' efforts to improve their management. This is because consulting firms are often not equipped with appropriate cost-effective management solutions for SMEs. This was supported by the evidence provided by Kayanula and Quartey [47] who found that, despite numerous institutions providing training and advisory services, there is still a skills gap in the SME sector as a whole due to the inability of many entrepreneurs to afford such services.

Networking has also been established as a critical component to SME development as it can boost performance as well as increase access to finance, expertise, markets and collaborative partners [48]. Shane and Cable [49] concluded that networking reduces information asymmetry regarding negotiations with creditor/debtors and other financiers. Ngoc et al [50] point out that, “in the absence of effective market institutions, networks play an important role in spreading knowledge about a firm's existence and its practices”.

Investment in up-to-date technology is increasingly important to all firms, not only start-ups and SMEs. Technology helps the entrepreneur to implement their strategy by maximising business opportunities [51]. However, the use of technology also involves costs, where new or even established SMEs experience difficulty in purchasing the necessary technology this may hamper their growth and sustainability [52].

One important problem that SMEs often face, as indicated previously, is access to capital [53], and such lack of access or availability can be a practical constraint on firm growth [54]. Cook and Nixson [55]concluded that, “notwithstanding the recognition of the role of SMEs in the development process in many developing countries, SME development is always constrained by the limited availability of financial resources to meet a variety of operational and investment needs”.

Although a host of strategic models have been proposed to aid strategic development, these models do not detail the processes involved in developing the related strategies, nor do they take into account the specific characteristics and limitations of SMEs [1].

3 THE ROLE OF THE VENTURE CAPITAL FIRM IN SMES

In his study published in 2007, Thomas Dickinson proposed that private equity can serve a useful role in addressing many of the SME shortcomings [56]. Private equity fills the gap between the entrepreneur financing the firm himself and that of conventional capital market activity in growing private enterprises.

Private equity can, through its investment in local firms, play a catalytic role more efficiently than other forms of foreign investment where non-financial contributions are not guaranteed. The impact that private equity has had on firm development extends beyond the financial backing through the contribution of business expertise, training, networks as well as skills transfer which would raise the efficiency of the sector being entered [56].

3.1 Venture Capital

Venture capital is the money provided by investors to start-up firms and small businesses with perceived long-term growth potential. It is a very important source of funding for start-ups that do not have access to capital markets. It would typically entail high-risk for the investor, but the high risk carries the potential for above-average returns.[†]

The way venture capital has been defined differs between countries, where some countries include angel financing in venture capital, while in others, venture capital stretches to right before the maturity phase, Figure 2. The authors assume that venture capital financing reaches into early stage firm expansion with the rest of the private equity phases continuing from late stage expansion. Assuming this definition of venture capital does not change the

[†] Venture capital as explained by Investopedia, http://www.investopedia.com/terms/v/venturecapital.asp.

functionality of each phase which is discussed, but the discussions below are focussed on the areas of venture capital as stated by the authors.

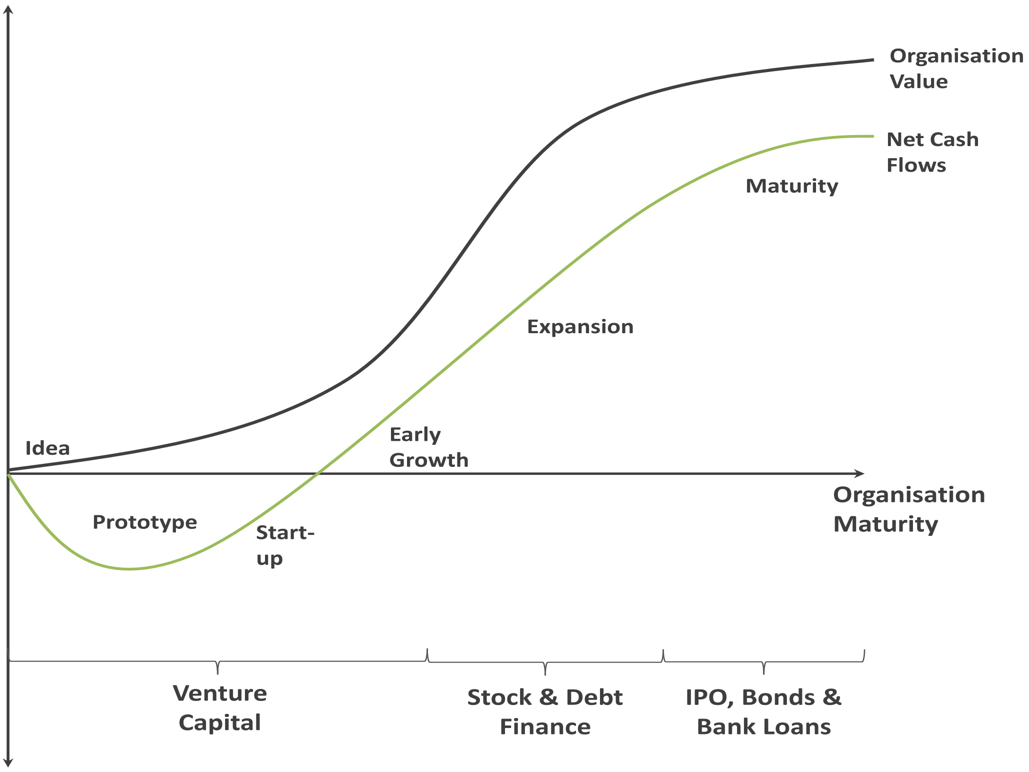

Figure 2: J-Curve: The business cycle and the Financial Demands Per Stage, adapted from [57]and [58]

The US and EU markets have a more developed venture capital market with prospering industries such as the technology industry's Silicon Valley reaping the rewards of the mature venture capital outlook.

In SA, the value of private equity financing that flowed into SMEs was less than R400 million (0.014% of SA's GDP) in 2010 [59], but this is expected to increase as an understanding of private equity and their funds are increased and fund managers will start to venture investments into these alternative assets, according to Regulation 28.

Regulation 28's aim is to ensure that the savings which South Africans contribute toward their retirement are invested in a prudent manner that not only protects the retirement fund member, but is also channelled in ways that would achieve economic development and growth. The portfolio composition is required to comply with the asset limits of Regulation 28[‡]. The alternative investments limit, which increased to 15% of the portfolio's limit, includes hedge funds, private equity funds and other assets, Table 2. It is the increase in this limit which is expected to increase the amount of funds available to private equity and venture capital funds.

‡ Liberty corporate, available online at: http://www.libertycorporate.co.za/legal-matters/Pages/Regulation-28.aspx

Table 2: Alternative Investments According to Regulation 28 [60]

Asset Sub-Category	Total Limit	Per Issuer
Alternative Investments - up to 15%		
Hedge Funds	10%	Fund of Hedge Funds - 5% Hedge Funds - 2.5%”
Private Equity Funds	10%	Fund of Private Equity Funds - 5% Private Equity Funds - 2.5%”
Other assets not referred to in this schedule (excl. Hedge Fund or PE Fund)	5%	2.50%

3.2 The process of Venture Capital

The success of an investment with a portfolio of investments for a private equity (including venture capital) firm would be managed through the active management of this portfolio of companies and the timing and size of exits. This is accomplished through [61]:

1. Pooling capital in order to invest in private companies (gives smaller investors access to private companies experiencing growth greater than their publicly traded peers),
2. The delegation of investments through fund managers with the required experience and incentives to screen, evaluate and select firms with potential for high growth, and
3. The fund managers source exit opportunities and realise their gains by exiting firms and through this realise a return from the portfolio of firms for the private equity fund’s investors.

In order for an investment to be exitable, a suitable buyer for the firm is needed which can be done through a number of means of which the main strategies include a private sale or an Initial Private Offering (IPO). The firm would thus need to be driven up the J-curve towards a purchasable firm or one that is suitable to be offered publicly, Figure 2.

In order for this growth to happen, the firm invested in would need to pass through or skip various stages of firm development in order to have grown. The firm, during initial assessments for investment, will be subjected to assessments in order to evaluate whether this firm will be able to survive through the various developmental phases into a position to be exitable.

The risks in a firm, as it moves from start-up to expansion differs. The initial risk in a start-up is predominantly the product risk (as in the risk of whether a product/service will be adopted) which transfer to the risk of whether the business is scalable or vertically integratable, collectively known as expandability risk along with management’s ability to deliver on the strategic objective, namely execution risk.

The common investor assessment stages found in early stage financing, Figure 3, describes how an firm is initially evaluated based on the tangible, objective criteria, but this moves to a less tangible, more subjective dimension which is more observable in the entrepreneur’s presentation. The team size or experience is less important in the later assessment stages compared to the significance of the entrepreneur’s social skills such as impression management, persuasiveness, ability to think on their feet and to answer questions and advise over measurable factors [62].

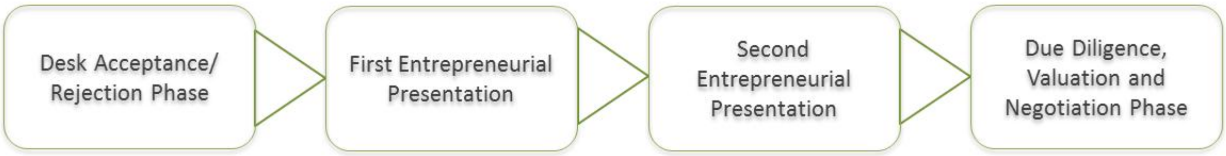

Figure 3: Common investor assessment stages of an firm adapted from [62]

In the end, the investor's view (be it influenced by the entrepreneur or not) determines investment readiness based on the firm's team, its operations, customer base, skills and competencies, its potential to scale and weighed against investment risks and returns and time to exit, [63] and [64].

The most important differences in the perceptions of investment readiness were summed up to the following four points, [62]:

- They must have some form of intellectual property,
- They require a fully formed management team with experience,
- They should have a product/service in the advanced stages of development, and
- They should have some established customer base.

These gaps need to be addressed by the entrepreneur to ensure that he has an increased opportunity of successfully applying for funding.

3.3 The Venture Capital Valuation Process

The difficulty for venture capitalists is the complication in the valuation process in an entity where the price is not defined by a market, but through the financial considerations which play only a small part next to other considerations such as the industry characteristics (structure, trends and markets) and the firm's characteristics (development stage, competitiveness, etc). Mainstream finance theory measures the economic value of any investment through the present value of future cash flow which presents some difficulty when applied to firm s in the early stage of its development as most information is not available to deliver on this calculation. This has often been the frustration between VCs and the entrepreneur and which is why an entrepreneur can set his firm up in a way which would result in higher valuations by VCs.

Research on VC valuation methods has highlighted the main factors which are taken into consideration when determining the value of a firm, [65]:

- Top management and the entrepreneur (arguably the most important)

  The firm is valued significantly higher if top management has the relevant industry experience, relevant managerial and start-up experiences prior to playing a role in the current firm. The spread of skills in top management also reduces the key man dependency risk.

- Differentiated industries

  Firms which operate in highly differentiated industries with positive industry growth add to the pre-money valuation of an organisation.

- Networks

  There exists a high correlation between the size of a network and the valuation given by the VC firm. The role of alliances and innovation capability positively influences the organisation's performance and its perception by the VC firm. The quantity and quality of these networks are salient signals to the VC firm which positively correlates to the speed and valuation of an IPO.

The set of criteria that can be addressed to increase the value of the organisation is found to be negatively correlated with the organisation's risk which highlights a higher probability of success for the organisation. The probability of success is also increased by VC firms through their non-financial contributions to the firm.

3.4 The non-financial Venture Capital contributions

Once the VC has selected an organisation as investment worthy, it will provide the organisation with the funding and coaching it deems necessary to develop its potential. VC firms that provide support for their investments see better performance and a more substantial return-on-investment, [66]and [67].

VC firms' exposure to a large number of organisations builds the necessary experience which results in an in-depth knowledge of the elements required at each stage of organisational development [67]. This experience, together with their extensive network of contacts, is crucial when deciding on an investment and the appropriate resources and configuration needed to grow the firm.

According to [67], [65], [63], [62], [64], [68], VCs address many of the barriers faced by SMEs beyond financial contributions highlighted in the following sub-headings:

- Entrepreneur and top management

  The VC firm's role in coaching and obtaining buy-in from the entrepreneur and top management regarding the strategy and operation of the firm.

- Industry structure

  The VC firm's leverage off its current resources in order to test future products and services in the market, evaluate customer needs, understand possible untapped markets, and connections within the industry.

- Firm structure

  A firm's ability to innovate as well as the human resources management practices form an important part of the resource based view which acknowledges the firm's resources as important for its competitive advantage.

  - Innovation capability

    VC firms facilitate the social ties with economic partners which supports the collaborative innovation capabilities of a firm. These ties lead to knowledge transfer which reduces the product development period and time to market.

  - Human Resources Management (HRM) Capability

    The HRM practices and employee retention is reduced through the VC firm's tacit knowledge (rewards systems, recruitment-, evaluation- and performance policies) which reduces HRM issues and thus increases the firm's probability of success.

- Networks

  VC firms use their networking capabilities to draw on the collaborative resources and expertise of a network. The networking capability adds a level of legitimacy which allows firms to obtain resources that would have been otherwise unavailable.

The firm's strategic readiness is one of the highlighted cogs that are assessed when the firm applies for financing. This preparedness of a firm's people, systems and structure to deliver on its strategy are defined by the intangible assets that are the foundation for strategic change, which most often involves new markets, products or corporate transformation [69].

4 STRATEGIC FRAMEWORK

Models are used to develop theories by isolating and studying a few key input and output variables under situation specific conditions [70]. These models are usually rigorous and have limited complexity with their relevance being a function of fit between its assumptions and reality. In strategy, no one model can embody all the variables of interest and thus the applicability of any model's findings are almost inevitably restricted to a small group of firms or industries whose characteristics fit the model's assumptions.

A framework in contrast encompasses many variables and seeks to capture as much of the complexity of practical situations. The framework provides the necessary variable and questions the user must answer in an attempt to guide the user to develop conclusions tailored to an industry and/or a firm [70]. The theory embodied in frameworks is contained in the choice of included variables, the way variables are organised, the interactions among the variables, and the way in which alternative patterns of variables and firm choices affect outcomes.

A framework allows for the fact that not all the interactions among variables can be rigorously drawn. The framework seeks to help the analyst to better think through the problem through understanding the firm and its environment, and defining and selecting among the strategic alternatives available, no matter the industry or starting position.

It is based on this thought process that a framework is used to build on the variables generated and proven by more simplistic situation specific models as defined through the background on the industry and fields of study.

4.1 Systems Engineering Approach to Problem Solving

The systems engineering approach to solving complex problems is to deconstruct the problem into functional units, finding a solution for each problem, reviewing the interaction of the various solutions, and where necessary finding new solutions, in order that the reconstructed holistic system may be the most efficient recombination of the various individual solutions.

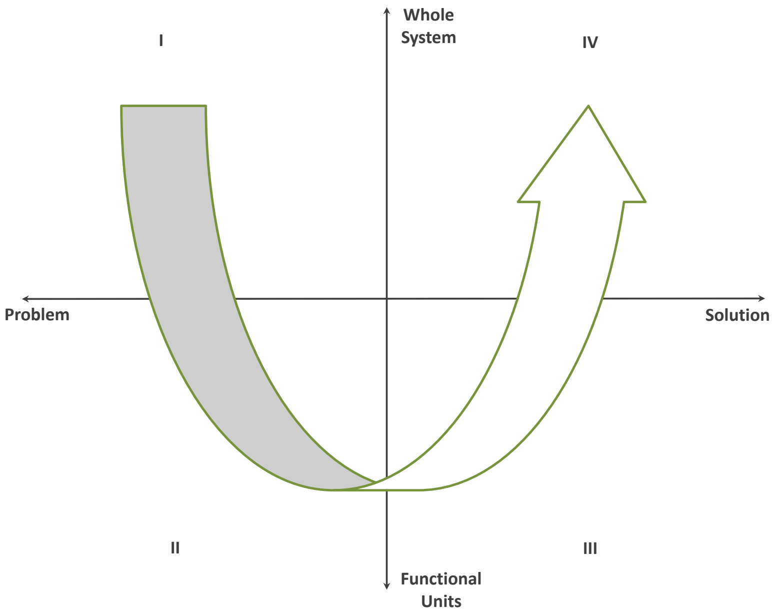

Figure 4: Flow of real world problem solving adapted from [71]

Figure 4 illustrates this approach as a system problem might be complex as a whole (I), but it needs to be broken down into smaller sub-problems (II). It is in the second quadrant where a greater understanding of the source of the individual issues is unearthed. A large number of sub-solutions can be found for the sub-problems (III) which can be pieced together to find a solution for the whole (IV).

An important part in a system's approach to problem solving is to ensure that the desired objective of the system is reached. A way in which to ensure this is through built-in feedback systems. In the real world flow op problem solving, this feedback system would be embedded between each of the quadrants.

4.2 Venture Architecture Framework

The Venture Architecture (VA) framework utilises the systems engineering approach to guide the entrepreneur through specific processes in order to formulate a tailored strategy and business model for their industry and environment.

Through the research on common growth barriers for SMEs, the role of venture capital, strategic formulation, and the system's engineering approach, the VA framework guides the entrepreneur and SME management team to develop a successful value proposition, business model and strategy in order align the SME with the value curve and attain the necessary funding and VC expertise to grow the business.

The VA framework, Figure 5, uses the same flow of information as detailed in Figure 4 and utilises proven tools and models to guide the entrepreneur or SME management to answer the relevant questions posed at each stage. The tools given in Table 1 and Figure 5 might be old or new, but they have been used through the authors' perspective on what is applicable.

These tools are given here to guide the entrepreneur to utilize them in a different way to reach the desired objectives per quadrant. These tools are not the only ones applicable to the task at hand as the framework is live and thus no exact recipe should dictate how strategists reach the deliverables.

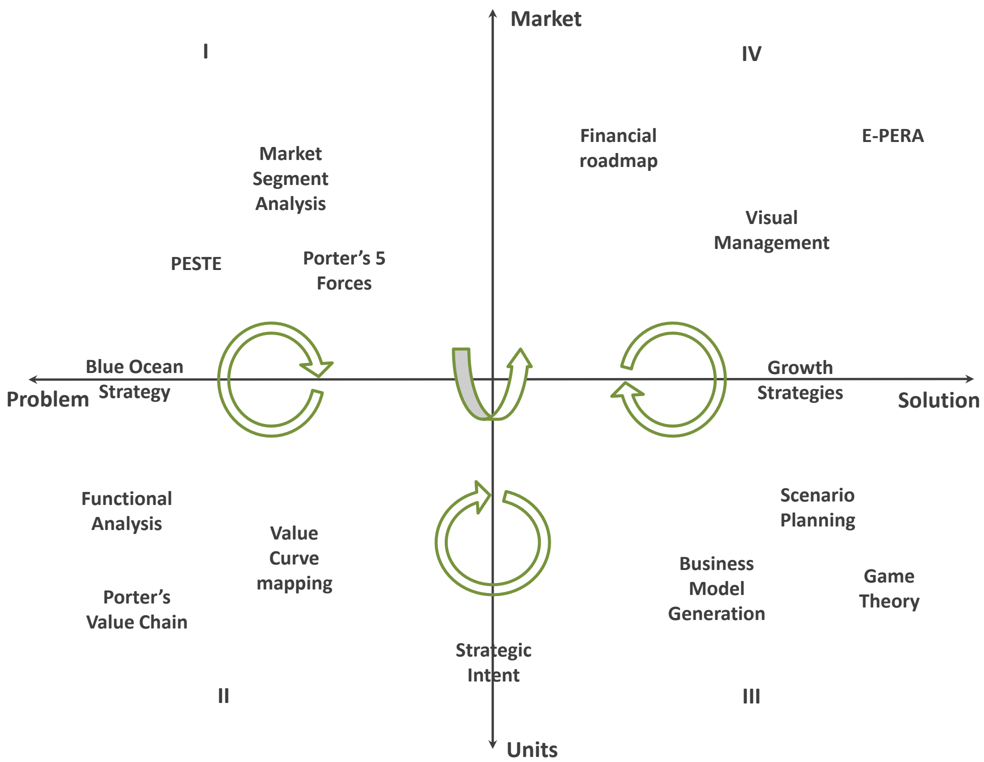

Figure 5: The Venture Architecture Framework

The **1st quadrant** (Q1) begins where every endeavour should start, by analysing the external market conditions. The tools prescribed to the entrepreneur or SME management should provide them with insight regarding the following issues (applicable tool provided in brackets):

- What are the future industry trends (PESTE)?
- What is current industry structure (Porter's Five forces)?
- How is the industry currently delivering value to the various market segments (Market Segmentation)?

The objective of the quadrant is to:

- Identify a displacement between segment needs and current offerings in the market (Blue Ocean Strategy).

The **2nd quadrant** (Q2) applies functional analysis to Porter's Value Chain & Value System (Porter 1991) to identify the various system, technology and resource elements used to perform the business functions. This is conducted along the various stages of the value curve, coined here as Value Curve Mapping, in order for the entrepreneur or SME management to answer the question:

- How (elements) are industry participants currently combining the various elements within the business function to deliver value to the customer?

The **3rd quadrant** (Q3) seeks to formulate a business model as a means for the firm to fulfill its strategic intent to deliver true value to a displaced customers segment (question asked in Q1). Utilising the knowledge regarding the elements able to perform the various business functions the business model should employ a combination of business elements which efficienctly and effectively delivers value to the customer together with various isolating mechanisms which would prevent the business strategy from being undermined by imitation by competitors or disintermediation by customers [30].

Deciding on a growth strategy to best deploy the business model the **4th quadrant** (Q4) aims to guide the entrepreneur to define how capital will be utilised to effect firm growth through one or all of the following strategies: vertical integration, efficiency gains? or expansion by means of a financial roadmap. By using the E-PERA framework the entrpreneur or SME management would have to define the systems and procedures to plan, co-ordinate and control the various business functions. By designing and implementing a visual management system the firm will have created a structured communication system and make knowledge more explicit and less tacit. The quadrant aims to address risk related to growth by providing the necessary structure and visibility of the way forward (Nooteboom, 2002)

The role of feedback in Figure 5, depicted by the circular arrow between the quadrants, highlights the fact that, as Eric Sevareid [71]put it, "The chief cause of problems is solutions". Every model, plan, mitigation strategy, etc. needs to be tested to ensure that it still fulfills its role without being the cause for larger issues.

5 CONCLUSION

As discussed in section 3.1 strategic models and frameworks have the ability to explain a firm's competitive advantage at a single point in time, however they neglect to detail the processes involved in developing the respective strategy and achieving the subsequent success.

The VA framework addresses the shortcomings of current strategic models in that it:

- takes into account the specific characteristics of SMEs;
- guides the user through detailed processes to formulate a strategy and business model; and
- is not specific to an industry or sector; and
- helps an entrepreneur build a strategy for his/her business.

The framework allows SMES to address their specific shortcomings through a combination of risk mitigating factors or actions in order to align their strategic intent and business model with venture capital demands to gain access to the necessary funding to grow their firm and leverage off the non-financial resources of the VC firms.

Ultimately the framework unites management and investors behind a unified vision, provides motivation in the form of strategic intent and installs the necessary communication and project management infrastructure to ensure plans are translated into action. The application of the VA framework to a specific set of SMEs will be illustrated at the presentation.

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