PROJECT MANAGEMENT IN VENTURE CAPITAL ENDEAVORS

Magnús Ágúst Skúlason

Ritgerð til
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Dr. Ásbjörg Kristinsdóttir

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Magnus Agust Skulason, maggias@gmail.com
Reykjavik University, Technical and Engineering, Iceland

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SAMANTEKT

Rannsóknir hafa sýnt að fjárfestar í sprota- og nýsköpunarfyrirtækjum gegna veigamiklu hlutverki í þróun nýrra fyrirtækja. Þær hafa einnig sýnt að það virðist vera talsverður munur á hæfni fjárfesta, sem sést af endurteknum framúrskarandi árangri sumra umfram annarra. Þetta bendir til að sumir fjárfestar skapi virðisaukningu umfram einungis þann gjörning að útvega fyrirtækjunum fjármagn. Þrátt fyrir þessar vísbendingar skortir rannsóknir sem varpa ljósi á það hvernig fjárfestar stýra fjárfestingum sínum.

Þessi ritgerð skoðar hvernig fjárfestar í sprota- og nýsköpunarfyrirtækjum stýra fjárfestingum sínum og gerir samanburð á aðferðum þeirra við aðferðir verkefnastjórnunar. Megin markmiðið er að skoða hvort fjárfestar líta á fjárfestingar sínar sem verkefni, hvort þeir stýra þeim sem slíkum, hvaða hæfniþætti þeir telja mikilvægasta til að hámarka árangur og hvaða verkefnastjórnunartækjum þeir beita.

Rannsóknin var gerð með viðtölum við leiðandi fjárfesta á Íslandi og vefkönnun sem send var á erlenda nýsköpunar fjárfestingasjóði (e. venture capital fund). Helstu niðurstöður eru að um helmingur fjárfesta lítur á fjárfestingar sínar sem verkefni. Stjórnun verkefnanna virðist hins vegar vera nokkuð svipuð, verkefnin eru unnin í áföngum (e. rounds) með stefnu og markmið. Fjárhags-, tíma- og aðgerðaáætlun er gerð varðandi hvernig markmiðum skuli náð. Fjárfestar styðjast við margvísleg tæki og tól verkefnastjórnunar sem stuðla að auknum árangri. Á óvart kemur í hve miklu mæli fjárfestar segjast styðjast við tæki og tól og áhugavert er að þeir sem meiri reynslu hafa í faginu segjast frekar styðjast við þau en þeir sem minni reynslu hafa. Þessi niðurstaða grefur mögulega undan þeirri trú að velgengni í stjórnun sprota- og nýsköpunarfjárfestinga byggist fyrst og fremst á innsæi.

ABSTRACT

Research has suggested that venture capital plays an important role in the developing process of new companies. They also indicate that there is a substantial difference in performance among venture capitalists, evidenced by repeated outstanding success of some participants above others. This clearly indicates that venture capitalists provide valuable resources beyond those of merely financing start-ups. In spite of this evidence, little research has been conducted on how venture capitalists manage their investments.

This paper looks at how investors in start-up companies manage their investments, relating to general theory of project management. The primary objective is to investigate if investors consider their investments to be projects that need special managerial attention as such, what competences they believe are most important for success and what project management tools they deploy.

The research was conducted through interviews with experienced venture investors followed by a survey sent to global venture capital companies. Key findings are that venture capitalists split into two groups when asked if they view their investments as projects or not. However management of investments seems to be consistent between groups, both structure their investments into rounds with clear objectives and goals that are aligned with strategy. A budget in terms of cost and time that is needed to achieve objects is allocated to the round with a plan for its execution. In the progress a vast number of management tools are used to assist execution and track progress. Interesting is how high tool usage is and that experienced venture capitals use tools and techniques more extensively, possibly undermining the popular belief that venture investments are more art than science.

Keywords: venture capital, project management, start-up, nýsköpun, fjárfestingar, verkefnastjórnun.

INTRODUCTION

Venture capital is a financial capital provided to early-stage, high-potential, high risk, growth start-up companies. It plays an essential role in the formation process of start-ups, being a vital source of capital at times when firms have very constrained or no alternative financing options. Previous research has also indicated that venture capital plays a more fundamental role in the success and failure of new ventures than merely providing finance (Hellmann & Puri, 2002; Jääskeläinen, Maula, & Seppä, 2006; Jackson III, Bates, & Bradford, 2012; Kanniainen & Keuschnigg, 2004).

Interestingly though, little or no research has been performed on how venture capitalists manage their projects, what tools, methods and processes they use to deliver this additional value in the post investment phase. This gap has been highlighted by a recent industry white paper stating the need for more formal management tools and processes for optimal post investment management of venture capital backed companies (Levensohn et al., 2007).

Project Management is the application of knowledge, skills, tools and techniques to meet the requirements of and influence a successful outcome of projects (Project Management Institute, 2008). Therefore it is interesting to reflect venture investments on project management and investigate if and how it can assist in the management of investment projects. In this regard it is interesting to investigate if venture capitalists consider their investments to be projects, if they manage their investments analogous to projects, what competences they believe are most important for success and what project management tools they deploy.

This thesis attempts to gain insight into the management of venture capital investment projects by answering the following three questions.

Question 1
Do venture capitalists think of their investments as projects and/or manage them in that way?

Hypothesis 1
Although venture capitalists might not think of their investments as projects they share familiarities with projects and they do manage them as such.

Purpose of the question is to validate that venture investments can be viewed as projects and that their management shares similarities with project management.

Question 2
What overall management competences do venture capitalists consider the most important to the success of new ventures?

Hypothesis 2
The key management competences to the success of new ventures are closely related to the key competences of project management.

The purpose of question 2 is to validate that there is in fact a relation between the key management areas of project management and problems faced by new start-ups/ventures, providing a ground for managing them with similar processes.

Question 3
What methods and tools do venture capitalists use to manage their venture investment projects?

Hypothesis 3
They use some project management tools but the process of how and when they are applied is loosely defined and could benefit from additional tools and a more formal process. They want clear measurable results on key indicators maximizing the likelihood of success.

The purpose of question 3 is to find out what project management tools venture capitalists deploy and to what extent they are relying on existing project management tools. It is also important to consider how success is tracked

throughout the investment project, since the tools should assist in delivering those results.

2. LITERATURE REVIEW

The following sections review the relevant literature of venture capital and project management. First, the role of venture capital, project and project management will be defined. Then project management success criteria and factors will be discussed. Finally, project management tools and methods that can be used to assist in project execution and influence success will be reviewed.

2.1 Venture investing

Venture capital firms are typically financial intermediaries specializing in investing in early-stage, high-potential, high risk, growth start-up companies. Venture capital belongs to the more general private equity asset class and usually follows previous angel or seed investments, investing at the earliest stage. Venture capital firms manage venture funds and raise money for those funds from limited partner investors. The life span of each venture fund is typically around 10 years with the possibility of two years extension. Ideally all initial capital is deployed into investments in the first four to five years, follow up investments in years 5 to 10 and all invested capital harvested through exits and returned to limited partners before the funds end of life (Ramsinghani, 2011). Venture capital is therefore not in for the long-term, rather the goal is to help companies make a leap in growth and sell at a high profit within the funds life time.

Prior to investing venture capitalists screen potential investments and assess the team, product, market and financial figures, followed by a thorough due diligence before making a final investment decision. The pre investment process has received considerable amount of attention while little attention has been given to post investment activity (Ramsinghani, 2011, p. 257). In the post investment phase venture capitalists usually take a seat at the board of directors of their investment companies and spend roughly half of their time on managing and providing services to their portfolio companies (Gorman & Sahlman, 1989).

Studies have shown that venture capital backed companies have higher rate of success than comparison companies and that they mature faster (Hellmann & Puri, 2002). It has also been shown that the attention and time spent by investors on investment management contributes to a higher success ratio. Due to limited time there is therefore an optimal maximum portfolio size of 4-7 investments, depending on experience, a venture capitalist can manage and add value to at the same time (Jääskeläinen et al., 2006; Jackson III et al., 2012; Kanniainen & Keuschnigg, 2004). Studies have also shown that venture capital competences are not easy to acquire and take time to develop (Kanniainen & Keuschnigg, 2004). These studies indicate that qualified and experienced venture capitalists do provide value to their firms beyond the crucial financial capital and that venture capitalists become active business partners in the ventures they take on. Thus venture capitalists time and attention is valuable, meaning that venture capitalists are betting both money and

valuable time on their investments. The additional value in the post investment phase has been identified to be delivered through three additional main fields: 1) social connections, access to networks for recruiting or business partners, 2) insight, in navigating complex situations and crises, 3) advisor/mentor and the willingness to advise and mentor the CEO (Jafee & Levenshon, 2003).

2.2 Project management

Today the most accredited and influential project management associations are the Project Management Institute (PMI) and International Project Management Association (IPMA). Both maintain and publish their knowledge bases of definitions and best practice standards on project management.

According to the PMI PMBOK project and project management can be defined as:

> "A project is a temporary endeavor undertaken to create a unique product, service, or result" (Project Management Institute, 2008, p. 5).
>
> "Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements" (Project Management Institute, 2008, p. 6).

Similar definitions can be found in IPMAs Competence Baseline (Gaupin & International Project Management Association, 2006, pp. 12, 128).

Both PMI and IPMA define the life cycle of a project as consisting of phases like initiating, planning, executing, monitoring and closing. Relevant processes, tools and techniques to assist with proper execution are also suggested. PMI groups the management processes and tools into nine knowledge areas (Project Management Institute, 2008). Similarly IPMA groups management processes, tools and knowledge into 46 competence elements in three main dimensions of Technical, Behavioral and Contextual competences (Gaupin & International Project Management Association, 2006).

Clearly, venture capital investments are temporary endeavors undertaken to create a unique result. In the mind of the venture capitalist the result is a favorable liquidity event manifesting as an initial public offering, merger or acquisition within the life time of the fund. The interesting question is whether application of project management skills, tools and techniques can be deployed to influence a successful outcome. In that respect it is important to consider the success criteria (i.e. what is success?), the dominant success factors (i.e. what factors lead to success) and what tools and techniques can and are being used to manage, control and influence the success factors.

Research has shown that both project management and definition of success varies greatly according to project type and that both benefit from a tailored approach towards the project type (Dvir, Lipovetsky, Shenhar, & Tishler, 1998). Jugdev and Müller summarized how the literature on project success has traversed from primarily simple metrics of time, cost and specification (the so called iron triangle)

(Atkinson, 1999; Jugdev & Müller, 2005) to focus on strategic project management. Strategic project management suggests that project management should have a predominant role in the strategic formation of the organization, where the definition of project management success relates to the strategic effects on the organization. Project owners are considered to use project management as a tool to achieve strategy objectives (Jugdev & Müller, 2005).

Venture capital investments are usually divided into rounds, where each round has a specific strategic purpose, like to enable the company to develop a certain product or to expand into a new market, depending on where it is in its venture life cycle. Therefore the mission of the project is usually very clear and relates well with the company's strategy (Gompers, 1995).

Munns and Bjeirmi have suggested that project management success should be differentiated from project success where the former is a subset of the latter (Munns, 1996). On a similar notion Shenhar and Dvir proposed a multidimensional framework for assessing project success that relates to the strategic orientation of the project (Shenhar, 2001). They identify four major project success dimensions and measures as shown in Table 1.

Success dimension	**Measures**
Project efficiency	Meeting schedule goal
	Meeting budget goal
Impact on customer	Meeting functional performance
	Meeting technical specifications
	Fulfilling customer needs
	Solving a customer's problem
	The customer is using the product
	Customer satisfaction
Business success	Commercial success
	Creating a large market share
Preparing for the future	Creating a new market
	Creating a new product line
	Developing a new technology

Table 1 - Success dimensions and measures

Shenhar and Dvir suggest classifying projects based on technical complexity. Their conclusion is that with higher technical complexity projects are less likely to meet schedule and budget goals but at the same time have more prospect of delivering success along the other measures. These projects lead to a stronger future strategic position of the organization and both short term schedule and budget overruns soon become irrelevant when other measures are successful (Shenhar, 2001). As venture investing primarily involves high technology complexity, where the solution is usually not known and gains are high if achieved, it is expected that classical project efficiency will not be the most valued by venture capitalists.

Although project success factors vary greatly depending on the project type, previous research have identified multiple success factors that are common across

projects. They are summarized in Table 2 (Belassi & Tukel, 1996; Fortune & White, 2006; White, 2002).

Planning and control	Time management	Cost management
Quality management	Performance monitoring and feedback	Customer feedback and consultation
Change control/responding to change	Communication management	Clear goals, objectives and strategy
Leadership and team	Learning from experience	Risk management
Stakeholder management	Responsibilities plan	Resource management

Table 2 - Common project success factors (Belassi & Tukel, 1996; Fortune & White, 2006; White, 2002)

A variety of project management tools and techniques have been described in project management books and literature and proper use is generally credited to influence project success. Both PMBOK and IPMAs Competence Baseline suggest the use of tools and recommend their use to manage knowledge areas and competences (Gaupin & International Project Management Association, 2006; Project Management Institute, 2008).

Actual usage of tools and the frequency of tool usage in projects has been researched (Fox & Spence, 1998; White, 2002). Besner and Hobbs analyzed the use of tools adding in how the use varies between industries and project type and their perceived value to project success. They found that there is generally high similarity between tools used in different project types but also important variations. They identify what tools are especially beneficial and also what tools are not used much or attributed with little value creation (Besner, 2006). Paranakul and Milosevic mapped tool usage to life cycle phases and how they impact project success (Patanakul, Iewwongcharoen, & Milosevic, 2010). The literature has also found that more training and familiarity with the tools generally leads to more satisfaction and increased usage (Fox & Spence, 1998; Raz & Michael, 2001).

Coombs and Pybus investigated project management tools in innovation, research and development projects. Interestingly, many classical project management tools are found to fit well and are suggested (Coombs, McMeekin, & Pybus, 1998). Murphy and Ledwith studied project management tools and techniques in high-technology small and medium sized enterprises, identifying the most frequently used tools. They also investigated the firms capabilities of using project management processes, finding that project management practices can be scaled down to suite small organizations (Murphy & Ledwith, 2007).

Table 3 lists the tools and techniques aggregated from the literature that are believed to be the most relevant and likely to deliver value to venture investment projects.

Kickoff meeting	Cost/benefit analysis	Quality review
Project plan	Lessons learned	Critical path, method and analysis
Management performance review	Financial measures KPI's	Change control
Feedback, review	Progress report	Quality plan
Workshops and seminars	Prototyping	Database of financial measures
Goal setting	LEAN	Team performance measurements
Team building	KPI Dashboard	Earned value analysis
Strategy analysis, orientation	Scrum	Resource breakdown structure
Communication plan	Agile methods	Product breakdown structure
Brainstorming	Stakeholder analysis	Planning and monitoring software
Feasibility study	Customer satisfaction survey	Visual Management System board
Requirement analysis	Value analysis	Simulation system
Risk analysis	Gantt chart	Cause and effect diagram
Risk reporting	Collaboration software	Focus groups
Risk response planning	Work breakdown structure	Scope management
Milestone planning	Training programs	SWOT analysis
Contingency planning	Performance report	Project closure

Table 3 - Project Management Techniques and Tools aggregated from literature

No literature has been found on venture investments as projects, i.e. whether investments by venture capitalists can be viewed as projects and if project management processes and tools can assist in their management.

Previous research of related nature have either focused on project management within start-up companies (Murphy & Ledwith, 2007) or viewed the start-up process or entrepreneurial activities as a project (Lindgren & Packendorff, 2009). Both views are focused towards the entrepreneur and the work conducted within the new organization rather than the investor.

3. RESEARCH PROJECT

The following sections describe the research and how it was conducted.

3.1 Project description and objectives

As stated in the introduction, the purpose of this research is to relate investments in start-up companies with project management and investigate if and how project management can help in the management of investment projects. It will be investigated if investors consider their investments to be projects, if they manage and attend to them as such, what competences they believe are most important for success and what project management tools they deploy.

In order to do so the research attempts to answer the following three questions:

Question 1
Do venture capitalists think of their investments as projects and manage them in that way?

Question 2
What overall management competences do venture capitalists consider the most important to the success of new ventures?

Question 3
What methods and tools do venture capitalists use to manage their venture investment projects?

The research targets professional investors in early and growth/expansion stage companies. The investment project is considered to begin with a due diligence. Given that an investment follows it is considered to end with a merger, acquisition or initial public offering (IPO).

3.2 Research methodology

The research project was divided into two phases. First, semi-structured interviews with leading practitioners in Iceland were conducted. Second, based on information gathered from the interviews, an online questionnaire was created and sent to venture capital firms globally.

3.2.1 Interviews

Each interview was conducted in the participants' office with the average duration of one hour. Participants were asked six main questions, given good room to express their feelings and discuss the matter in depth. During the dialog, follow-up questions were asked as necessary to give greater depth to the answers given.

The first question was "Do you consider investments in start-ups to be a project?" Following the question participants were shown the following definition of a project:

"Temporary endeavor undertaken to create a unique product, service or result."

The second question was "If you were about to invest in a new company now, what would the process be?" Followed with the third one, "How would you plan the project and what management tools would you deploy?" The participant was shown the list of project management tools identified in Table 3 and asked what tools he did use.

The fourth question focused on competences and asked "What competences do you believe are most decisive to project results?" The participant was shown a list of project management knowledge areas and competences, found in *Appendix A*, and asked to choose the five most important competences.

The fifth question asked "What do you consider to be the key milestones in the execution of the project?"

The sixth and last question asked "What key performance indicators do you use to measure progress and how frequently do you measure?"

3.2.2 Online questionnaire

In the second phase of the research an online questionnaire was sent out to venture capital firms globally.

A list of venture capital firms was gathered from CrunchBase (crunchbase.com), and the VC Pro database (vcprodatabase.com). In total 165 replies were collected from all regions of the world during the timeframe from 25th of April 2013 to 14th of May 2013.

The questionnaire consisted of 16 questions. The first three were background questions regarding investing experience, fund size and operating region. Other questions asked whether investments were considered projects, the amount of time allocated to investment management and the primary limiting factor to investment capacity. Participants were asked to rate the most important key performance indicators (KPI's) used to track investments and asked how frequently they tracked them. They were also asked to rate the most important success factors as well as choose the most important success criteria's. They were also asked if they have a target time for a liquidity event prior to investing. Four questions asked whether they have a framework to follow both in the pre investment phase as well as the post investment phase and whether they believe such a framework is beneficial and adding value or not. The final question listed project management tools, asked whether they are used or not and if so in what stage, due diligence and/or post investment management. A complete copy of the questionnaire can be found in *Appendix B*.

4. RESEARCH RESULTS AND INDUSTRIAL IMPACT

The following sections summarize the results from both the interviews and the online questionnaire, followed by a discussion on how they can be interpreted and used.

4.1 Results from interviews

The results of the interviews are summarized below along the main questions they were structured around.

4.1.1 Investments in start-ups as projects

When asked if they consider their investments as projects and shown the definition, majority of the subjects did classify their investments as projects. Three answered very decisive that they considered their investments to be projects, one was neutral and two claimed that they generally did not think of their investments as projects. Interestingly, all referred to their investments as projects in the discussion that followed, one changed its mind after realizing this during the discussion.

Correspondence with the definition was stronger when asked whether they considered each financial round to be a project. They all claimed to structure investments into rounds with a goal of achieving a major strategic milestone like completing a first version, close first sales, expanding to a new market or fuel a major expansion. Each round has a plan of needed resources, expected time and cost. Structuring investments into rounds is used as a risk reduction mechanism. For each round it is optimal to have it as small as possible but large enough to have a meaningful impact, meet the strategic goal and lift the company to a higher level.

Most also noted that the due diligence process prior to initial investment can be viewed as a project in itself, it is usually well planned with well defined steps.

4.1.2 Investment project process and milestones

When asked to describe their processes most could provide a detailed description of the pre investment process screening potential investments and performing due diligence. They asserted that this process can be viewed as a project in itself, with the way pawed with pitches, memos, due diligence procedures and checklists. Finally terms are negotiated and coded into the term sheet and shareholders agreement.

During the pre investment phase investors focus on getting to know the team and understand the business idea. A prerequisite is that the team is trustworthy and the idea has uniqueness and potential to expand quickly and win a large market and become the world leader in that market. Another important factor mentioned by most investors is that they consider themselves to be able to contribute to the company beyond the money invested, in the form of strategic alignment, previous experience or industry knowledge, contacts or hiring key employees. Investors expect that the business plan will change and the financial numbers to be fiction at best, only thing certain being that they will change. The core idea needs to be sound enough to tolerate significant changes. Although plans are not expected to withstand, they consider the planning exercise to be valuable.

After investing the investor or the lead investor, in the case of a syndicate, takes a seat on the board. Usually a period of 12-18 months with heavy investor involvement follows. In this period the investor might dedicate between 2-4 days a month to consulting the company followed by close email and phone communications.

Many start with a kickoff meeting and all claimed to do a strategic orientation with the board and key members of the firm early on. In this stage investors focus on revising the strategy from the business plan, focusing on setting clear goals and objectives for the round and revise the revenue model. In this stage there is high focus on goal setting for the team, regarding product development, market development, new hiring, sales and revenues. Measures are established and a plan for execution or a revised business plan created. Some claimed to have one or two regular strategy orientation review session a year, and more if necessary i.e. if assumptions change and the company needs to pivot or change course.

Monitoring can be very frequent in the early stages, up to daily with the investor calling the chief executive officer (CEO) and asking for progress along the goals, number of sales, hits to the web site, bugs fixed or other relevant metrics at the time, as well as keeping a close eye on cost. Those that were most active in monitoring also said a reason for doing so was to make the entrepreneur feel that they were there, interested and available to assist. If the team is unable to deliver tangible progress investors will step in and make changes.

Although investors place high value on the team they also account for cracks in its talent, most often financial and operational management is a weak spot. Investors might have to take an active role in those areas or monitor them very closely until properly manned. A major milestone for the investors is to have the right C-level (CEO, CFO, COO, CTO) management structure in place that they can trust. This very often means hiring new managers and delegating responsibility from the entrepreneur/CEO to them. With the right management structure in place the investors gains confidence in the venture and can often reduce monitoring efforts.

Sales are another area that can be weak and is at the same time highly valued by the investors. Investors want to validate assumptions from the business plan as soon as possible and see actual sales. Often an effort is needed in how the company markets and represents itself. The investor is often very actively involved in the first sales, setting up meetings and taking sales trips with the team. A crucial milestone for the investor is to complete a sellable product and another crucial milestone follows with the first sales of that product. Pushing for early sales helps validating that product and solutions are delivering value and is crucial in getting product development feedback, growing sales and marketing competences, increasing cash flow and reducing burn rate.

After the initial period of 12-18 months involvement usually decreases, given that things are progressing as appropriate and problems are not arising. Investors continue to monitor the investment usually mainly around board meetings. Investors also regularly valuate their investments based on progress, this valuation is used as an estimate of the status of the fund and reported to its limited partners.

The most crucial milestone is when positive cash flow is reached and the company becomes self sustainable.

Final milestone is a successful exit or a follow up round that might include new investors. At all stages it is important for investors to be able to pull the plug and pull out if the opportunity is not manifesting and appropriate countermeasures are not effective.

Summing up the key milestones mentioned were:

- Business plan received
- Funding with term sheet and stakeholder agreement negotiated
- Strategic orientation with an updated plan, vision, goals, measures and milestones. Followed by a strategy review session once or twice a year.
- Right management structure in place
- Assist with product development and orientation
- Scale the team
- First sales
- Positive cash flow
- Growth period
- Exit

4.1.3 Level of involvement and interactions with firms

All claimed that level of involvement with firms varies mainly with factors such as the conditions of the firm, experience of entrepreneurs and whether the investor has taken a board seat or a chairman of the board position. The ultimate goal is to get investments into a good operational shape with communications mainly around board meetings and preparation for them. However as problems arise or entrepreneurs need guidance investors step in and dedicate themselves to the companies as needed. All interviewers claimed that in their experience involvement greatly goes beyond board meetings.

When working with an early stage company and first time entrepreneurs, investors expect that more active involvement will be needed and that competences of the team need to be built up. In this setting they take on an active mentorship role.

As mentioned above, investors are frequently involved with strategic alignment, hiring, sales and financial management. Their main objective is to focus on the board level and not go down to the management or operations level. However, they claim to do so if needed, even assisting with technical challenges, coding and solving engineering problems if needed. When raising follow-up rounds, existing investors assist heavily in pitching and selling to future investors.

4.1.4 Project management tools deployed

When asked about tools and techniques deployed to manage the investment projects and shown a list of the project management tools (see Table 3) quite many tools were selected. Most frequently used were: Kick off meeting, project plan, goal setting, strategy analysis/orientation, risk analysis, risk response planning, financial measures KPI's, KPI Dashboards, communication plan, feedback and review, workshops and seminars, prototyping and collaboration software.

Kick off meeting is often used in the beginning to introduce and align parties. Many considered the business plan to be analogous to a project plan, focusing both on the business objectives as well as a plan on how they are to be accomplished. Strategy

orientation and goal setting was considered very important. As expected risk analysis and response planning is very important, both in the context of each individual investment as well as the fund itself. Some claimed to perform scenario analysis as well as having response plans to handle foreseen risks. Financial measures and KPI's were used by all and some claimed to have KPI Dashboards. For the venture fund it is also important to report financial measures and KPI's to its investors that usually require monthly or quarterly reports. Communication plans were mainly used regarding board meetings and how/when information should be delivered for them. Some stated they had written protocols in the shareholder agreement on how communications should be managed. Other noted that communication protocols are very important and they had plans for more formal protocols in this area.

Other tools mentioned were project closure, team building, feasibility study, cost/benefit analysis, lessons learned, progress reports, stakeholder analysis, customer satisfaction survey, value analysis, gantt charts, work breakdown structure, quality plan, financial measures database, planning and monitoring software and milestone planning. Project closure and collecting lessons learned were noted to be very useful when investments have been unsuccessful. Some of the funds had done customer satisfaction surveys and performance reviews, asking entrepreneurs or investors of the fund to rate it and its services.

Some interviewers claimed to use a very wide range of tools, reporting to use up to 20 of the tools presented, either in the due diligence phase and/or post investment. Use of tools was found to be higher and more appreciated by larger venture firms employing more investment managers.

The general believe was that application of tools, techniques and processes would be helpful in delivering results of their projects, defined as exiting the companies at a favorable price. Also that common use and knowledge of such tools, techniques and processes would accelerate maturity of the firm. However they also noted that given the diversity of their projects, such a framework could never be very detailed and appropriate tools need to be picked as needed.

4.1.5 Competences decisive to project results

When shown the list of project management competences (see *Appendix A*) all interviewers asserted them all to be very important. When asked to choose the five most important and most likely competences to influence venture success they choose: responding to change, leadership, teamwork, understanding of stakeholders/customer, cost and finance management, communications management and handling conflicts and crises. Following is a short description of each of them.

Responding to change: Investors expect and embrace change to initial plans, claiming changing the plan is often the best thing that can happen to an investment and often necessary to find the right market and opportunity. However they also note that controlling the change is necessary, where the venture capitalist acts as a

stabilizer, enforcing that course is only shifted after a careful consideration, planning and justification that is accepted by the board.

The goal of a venture round is also usually about changing the organization.

Leadership: The investor needs to lead the board work, as well as provide leadership and mentoring to entrepreneurs.

The entrepreneur also needs to be able to lead the team effectively.

Teamwork: The team is very important, it is crucial for the entrepreneurs to show that they have assembled the right team. It is also very important for the team to have multiple diverse competences. It is for example very important to have both strong technical competences as well as sales competences and sell the solution early.

Investors focus on getting to know the team prior to investing, considering whether this is a team they believe in and want to work with. Related to this is engagement and motivation, where both the investor needs to feel engaged and motivated and it is also extremely important that the team is highly engaged and motivated.

Understanding of stakeholders/customers: Investors do consider how they are able to add value, beyond financing, to the companies they invest in. This is usually a crucial factor when choosing investments. An important element in that is to have knowledge and experience in the field the start-up is working, understanding the potential market, have the network to assist with sales and hiring of key players.

It is also important that the investors know and understand what the entrepreneurs are dealing with. Most of the investors were former entrepreneurs and claimed that helped.

Cost and finance management: Extremely important and needs to be in place. This is an area where new ventures are generally week. Investors monitor this area closely in the beginning and influence heavily that this competence is built up by hiring CFO and COO managers. A major milestone in new ventures is to make sure the appropriate C level management structure is in place which the investors feel they can trust.

Reporting, communication and communications management: Maintaining regular reporting and feedback between the CEO and the board is very important. It is very important for the CEO to keep the board informed of all problems and deviations from the plan. The chairman of the board also needs to make sure all board members are informed on all problems. Good communications are the cornerstone of trust and it fades away quickly if broken. For the board meetings to be effective, notes and information should be sent beforehand and participants should be prepared.

Handling conflicts and crises: Conflicts and crises do arise in early stage companies and it is especially at those times when investors step in and dedicate themselves to help.

A balanced set of competences on the board of directors is considered very important. Usually the venture board consists of one from the founding team, 1-2 of the investors and 2-3 industry specialists or experienced financial or operations managers.

4.1.6 Key performance indicators and progress measures

The most important performance indicators mentioned can be divided into three groups: financial related, sales related and product development related. Confirming that investors do look beyond financial indicators, to more operational specific indicators as well.

Of the financial indicators burn rate, cash flow and cash at hand are the most important ones. It is important to track them and ensure that the company can operate for at least the next 3-6 months.

Product development indicators are very diverse depending on the product and solution. Some that were mentioned by interviewers were outstanding bugs in beta phase, how fast they are being worked down, number of features added, visits and page views on website. Sales related indicators were also considered very important, both number of sales as well as margin of sales.

Interviewers claim the main role of the performance indicators is to track the investment and compare it to the plan, discipline entrepreneurs to demonstrate results and to assist in valuation of the investment on the books of the venture fund.

4.2 Results from questionnaire

A total of 165 completed responses were gathered in the online questionnaire, with the distribution of participants regarding experience, fund size and operation region as shown in Table 4.

Operating region			Fund size			Venture capital experience		
Region	Answers	%	Million $	Answers	%	Years	Answers	%
North America	70	43,5%	0-50	50	31,3%	0-5	40	24,7%
South America	4	2,5%	50-100	32	20,0%	5-10	34	21,0%
Europe	70	43,5%	100-250	33	20,6%	10-20	56	34,6%
Middle east	2	1,2%	250-500	21	13,1%	20+	32	19,8%
Africa	1	0,6%	500+	24	15,0%			
Asia	9	5,6%						
Australia	5	3,1%						

Table 4 - Distribution of participants

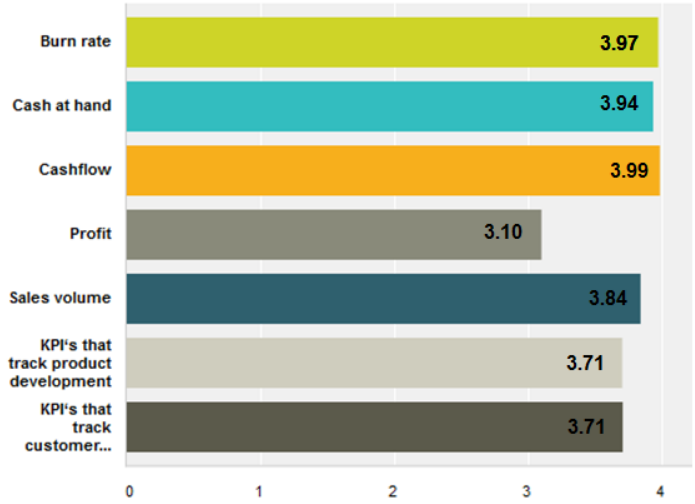
4.2.1 Investments as projects, management time and limiting factors

When asked if they consider their venture investments to be projects 41.6% agree while 58.4% disagree, four participants skipped the question. Interestingly though 82.7% claim to have a target time frame for a liquidity event at the time of investing while only 17.3% do not have a target time frame, 9 skipped the question.

When asked about average time dedication to investment management, majority of respondents, 74.7%, claims to spend over 8 hours per month managing each investment, 34.6% spend 8-16 hours and 40.1% spend over 16 hours. While fund size is the dominant limiting factor for around half of respondents, time needed to manage investments follows closely with 42%. The answer, "lack of quality investment opportunities", was also frequently mentioned as a limiting factor in the free text *Other* field.

4.2.2 Key performance indicators

The key performance indicators are summarized in Graph 1. Clearly all are considered very important although the financial KPI's burn rate, cash at hand and cash flow are considered the most important ones. It is interesting how closely sales volume and KPI's that track product development and customer involvement follow the financial KPI's. Over 60% considered sales volume, product development and customer involvement KPI's to be extremely important.

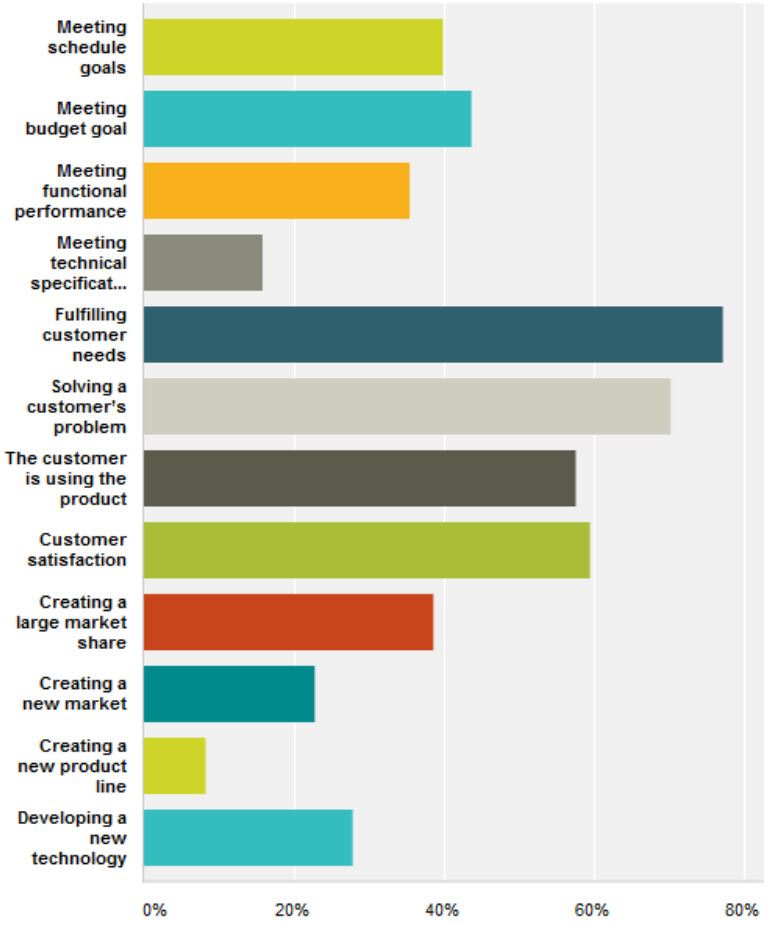


Graph 1 - Most important KPI's

In the *Other* field, gross margin, strength of investment syndicate (i.e. co-operation among investors), recruiting and key employee retention and customer retention, were mentioned.

Majority of subjects or 65.6% claim to track and measure investments once a month, followed by 20.7% that track weekly and 9.2% that track quarterly. Only 3% claim to track daily and 1.2% track every other month.

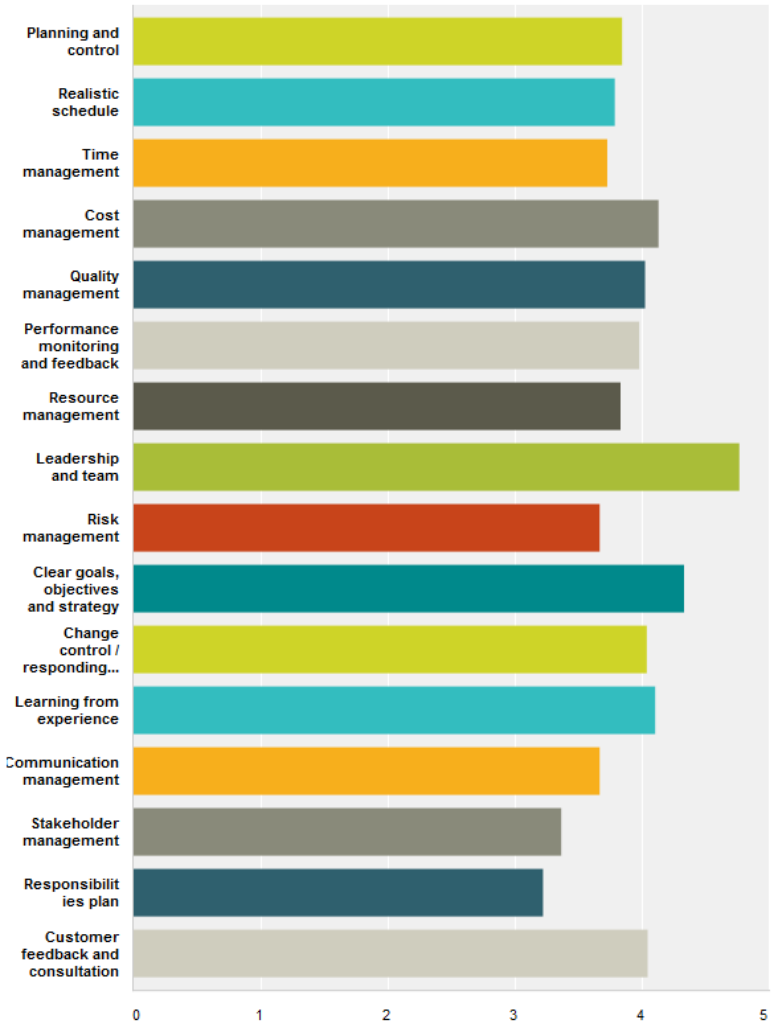
4.2.3 Success criteria and factors



Graph 2 - Success criteria

Graph 2 shows the rating of the success criteria. As expected, those that focus on the customer and delivering value to him are most important. Interestingly meeting budget and schedule goals are second and considered more important than creating large market share, developing a new technology and creating a new market. Seven participants skipped the question.

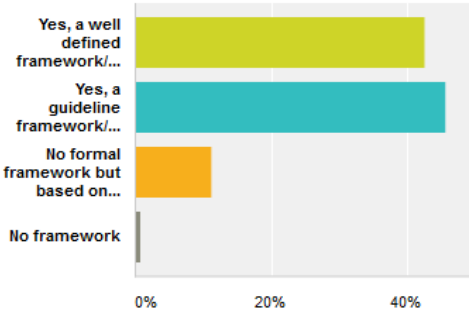
All success factors were rated relatively high and are shown in Graph 3. Leadership was highest with an average rating of 4.77. Responsibilities plan was lowest with an average rating of 3.22. Seven participants skipped the question.



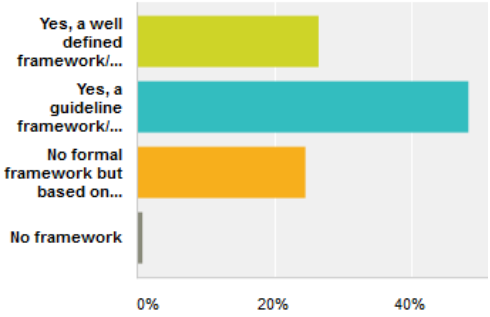
Graph 3 - Success factors

4.2.4 Frameworks, processes and tools usage

As shown in Graphs 4 and 5 there is a strong trend towards frameworks and process for investment management both in the pre and post investment phases. As expected, frameworks and processes are more used in the pre investment phase. Three participants skipped the former question and four skipped the later question.



Graph 4 - Framework or process in pre investment phase

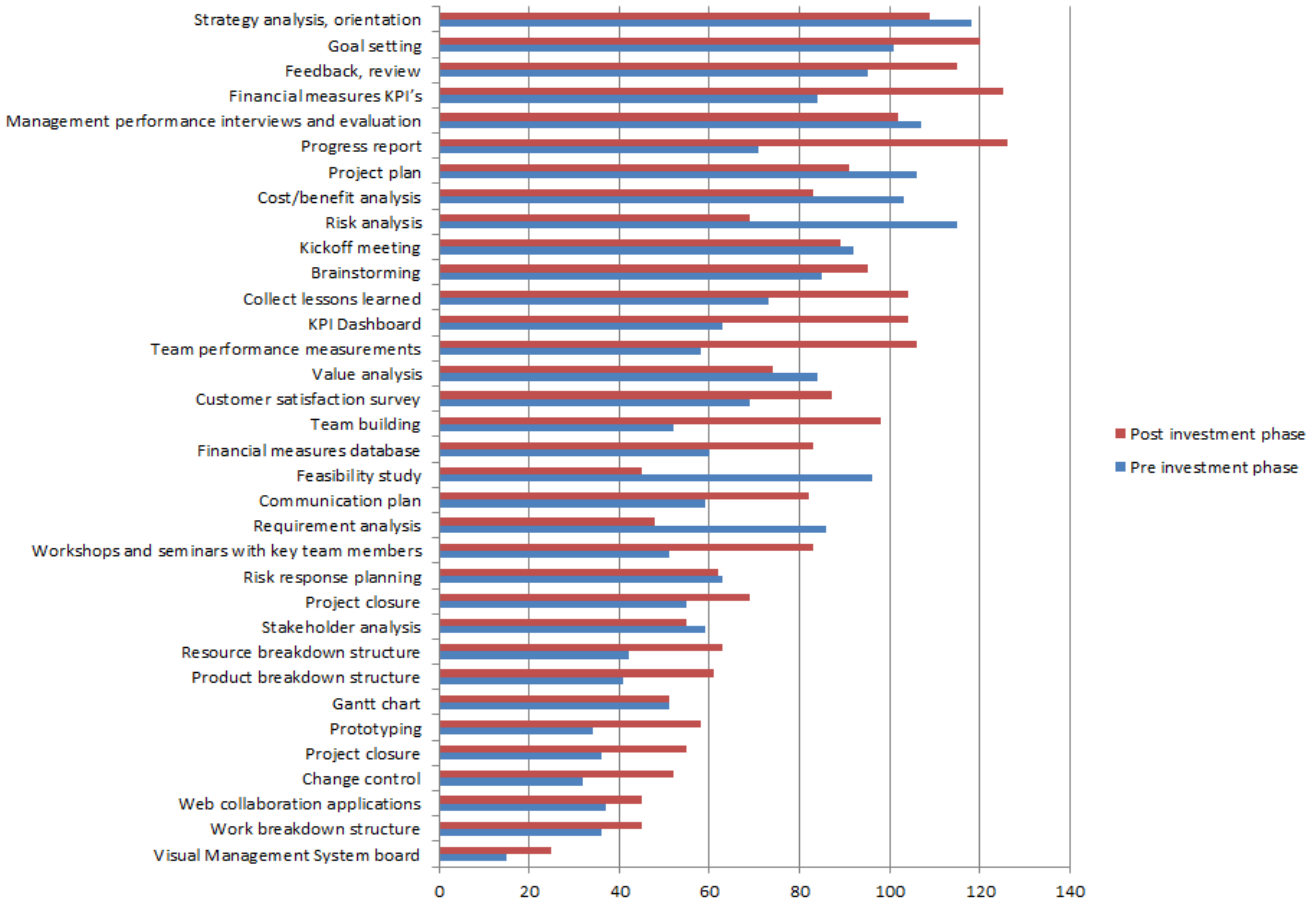


Graph 5 - Framework of process in post investment phase

Results were very decisive regarding whether frameworks and processes are considered beneficial and can help accelerate collaboration, learning and/or maturity of the venture firm. 95% consider frameworks and processes to be beneficial, while 90.7% consider them to accelerate collaboration, learning and/or maturity. Three respondents skipped both questions.

Graph 6 shows usage of tools in both the pre and post investment phases in descending order. It is interesting how strong tool usage is in both phases. Clearly strategy analysis, goal setting, feedback reviews, financial measures, performance interviews, progress reports, project plan, cost/benefit analysis, risk analysis, kickoff meeting, brainstorming, lessons learned, KPI dashboards and workshops are all highly used tools.

It is interesting that team building is strong in the post investment phase, indicating that venture capitalists take an active part in building the team and increase team spirit. This is contrary to what most said in the interviews where team building was regarded as the role of the company. A communication plan is also frequently used in the post investment phase highlighting the need for efficient communications. The low score of change control is interesting regarding that venture investments are fundamentally about changes.



Graph 6 - Tools and techniques

4.3 Implementation and exploitation

It is interesting how venture capitalists split into two groups when asked if they view their investments as projects. Analyzing the results shows that the "No" group has considerably more experience, 60% with more than 10 years experience, compared to only 44.6% of the "Yes" group. Thus, the more experience, the less likely they are to consider their investments to be projects. Another interesting trend is that the "Yes" group is strong in both small and large funds while the "No" group is dominant in the middle size funds. It is also interesting to see that the "Yes" group is predominantly in Europe (44.6%) while the "No" group is predominant in North America (51%).

Time dedicated to investment management is very similar for both groups. It is also interesting that in the "Yes" group the *Project efficiency* success criteria score considerably higher than in the "No" group, with 49.2% choosing both *Meeting schedule goals* and *Meeting budget goal* compared to only 33.33% and 41.11% respectively in the "No" group. Although both groups do choose multiple management tools the "Yes" group scores higher in the utilization of tools.

Table 5 shows a comparison between tool usage of the "Yes" and "No" group in the post investment phase. The "Yes" group is more likely to use well known project management tools such as project closure, change control, communication plan, workshops, work breakdown structure, stakeholder analysis, web collaboration applications and feasibility studies. On the other hand, the "No" group is more likely to use management performance interviews and brainstorming.

"Yes" group			"No" group
15-20% more use	**10-15% more use**	**5-10% more use**	**5-10% more use**
Project closure	Communication plan	Stakeholder analysis	Management performance interviews and evaluation
Change control	Workshops and seminars	Web collaboration applications	Brainstorming
	Work breakdown structure	Financial measures database	
		Feedback, review	
		Product breakdown structure	
		Feasibility study	
		Project plan	
		Resource breakdown structure	
		Requirement analysis	
		Value analysis	
		Progress report	
		Kickoff meeting	

Table 5 – Comparison of tool usage between "Yes" and "No" groups in post investment phase

Another interesting comparison is to compare the medium sized funds (50 – 250 million USD) to the large funds (250+ million). Of the medium sized only 31% view their investments as projects while 52% of the large funds view their investments as projects. The large funds dedicate more time to investment management, 62.2% claiming to use 16+ hours per month compared to 31% for the medium sized funds. This might be because the larger funds have to spend less time on raising follow up funds and have more economies of scale, giving investment managers more time to

focus on investments. If so, it is interesting that they choose to allocate the gained time into managing each investment instead of new investment screening and adding more investments. Larger funds are also more decisive when asked if they have a target time frame, with 90.7% saying yes compared to 81% of the medium sized funds. For the larger funds 60% claim that management time is the primary limitation factor to their investment capability compared to 36.5% of the medium sized funds. The larger funds rate the *project performance* success criteria *Meeting schedule goals* and *Meeting budget goals* higher than the medium sized funds or 54.7% and 57% compared to 35% and 45% respectively, while rating *Fulfilling customer needs* lower, 71.4% compared to the medium sized funds rating it 80%. The large funds place more weight on well defined frameworks in the post investment stage, with 34% saying they have a well defined framework, compared to 21% of the medium sized funds. However both have a strong believe in the benefits of frameworks.

When comparing the small funds (<50 million) to the medium sized funds (50 – 250 million) the small funds resemble the medium funds except that the small funds are more likely to view investments as projects or 46.9% compared to 30.8%. They allocate less time to managing each investment, 38.8% in the 0-8 hours range a month compared to 27.7% for the medium size funds. This is probably due to more time needed to raise follow up funds and less economies of scale leading to less time available to investment management. Fewer smaller funds have a formal framework for the pre investment phase but in the post investment phase it is similar.

Funds in the range 50-100M score highest in the utilization of all tools, closely followed by the funds in the range 100-250M. Second lowest are the largest funds, 500+M, and finally the smallest funds, <50M, score lowest in the utilization of tools and techniques. The following tools are the only tools where usage is found to consistently increase with increasing fund size; project plan, workshops and seminars, communication plan, feasibility study, requirement and risk analysis.

Managing of venture investments has often been described to be part art and part science with the art part often receiving a great deal of the credit. Therefore it is also interesting to compare responses based on experience in the field; less than 5 years of experience compared to more than 20 years of experience. One might think that more experienced would lead to less use of tools and techniques and more reliance on insight and experience.

From the data the opposite is observed as shown in Table 6 where more experience shows higher utilization of almost all tools. Only kickoff meeting, brainstorming, visual management systems, web collaboration applications, prototyping and product breakdown structure are used more by less experienced participants.

More than 20 years of experience			Less than 5 years of experience
>20% more used	**10-20% more used**	**0-10% more used**	**0-10% more used**
Communication plan	Risk response planning	Risk analysis	Kickoff meeting
	Requirement analysis	Change control	Brainstorming
	Performance interviews and evaluation	Value analysis	Visual Management System board
	Team building	Project plan	Web collaboration applications
	Gantt chart	Financial measures database	Prototyping
	Team performance measurements	Project closure	Stakeholder analysis
	Feasiblity study	Financial measures KPI's	Product breakdown structure
	KPI Dashboard	Collect lessons learned	
	Cost/benefit analysis	Strategy analysis, orientation	
	Customer satisfaction survey	Goal setting	
	Workshops and seminars	Resource breakdown structure	
	Feedback and review	Work breakdown structure	
	Progress report		

Table 6 - Difference in tool usage depending on experience

Interestingly, a higher percentage, 30%, of the least experienced venture capitalists claim to rely on experience when it comes to managing their investments compared to only 12.5% of the most experienced investors. Meanwhile 31.3% of the most experienced claim to rely on a well defined framework for management compared to 25% of the least experienced. Average time allocated to investment management is similar for both groups. The most experienced group also rates the project tracking success criteria of *Meeting schedule goals* and *Meeting budget goals* relatively higher than the less experienced group although both place most importance on the *Impact on customer* dimension.

To summarize, the most used tools by venture capitalists are strategy analysis, goal setting, feedback review, financial measures, management performance interviews, project plan and progress report. The comparisons of size and experience reveals that communication plan, risk analysis, risk response planning, workshops and seminars, team building and requirement analysis are tools used more extensively within larger funds or by those with more experience. This could indicate that they are underutilized by the other groups and have potential to deliver value to them.

It is interesting how low change control scores given that venture investments and management are fundamentally about changes and that was frequently highlighted in the interviews. An explanation could be that venture capitalists are simply not familiar with the term. It is suggested that it could be beneficial to them to have specific processes for how difficult changes like CEO transition are handled.

An interesting follow up research, now that it is clear that venture capitalists do use and rely on tools, would be ask them to rate tools depending on value. Also given the strong correspondence with a well defined framework for post investment management, 27% for all and 34% for funds >250 million, it would be interesting to investigate those frameworks in more detail and identify common elements.

5. CONCLUSIONS

Conclusions are summarized along the main research questions.

Do venture capitalists think of their investments as projects and manage them in that way?

It is clear that venture capital endeavors do possess many characteristics of projects. They are fundamentally about developing and creating a new unique product or service. They are only undertaken once and usually by a newly established team. In order to be executed or implemented they need resources and those resources need to be managed effectively. They are temporary in nature and as is evident from the interviews and questionnaire they usually have a predefined timeframe.

The investments also split into phases of initiating, planning, executing, monitoring and closing. Although majority of respondents do not think of their investments as projects it is clear that a large portion does. By itself though, the classification has little meaning, the interesting thing is that venture capitalists seem to plan, execute and monitor their investments as projects relying on tools and frameworks to influence a successful outcome. It is interesting that this holds for both groups although those that view investments as projects do utilize tools and techniques more and place more emphasis on meeting budget and schedule goals.

What overall management competences do venture capitalists consider the most important to the success of new ventures?

It is apparent that most emphasis is placed on behavioral competences and success factors such as leadership, teamwork and understanding of stakeholders. However, technical competences of communication and communications management, handling conflicts and crises, responding to change, reporting, planning, cost and finance management are also very important. The team needs to function well, be able to plan and execute on those plans.

It is interesting that more emphasis is placed on the technical competences and success factors by more experienced venture capitalists, larger funds and when participants consider their investments to be projects. This is especially true for communications management, planning and cost and finance management.

Communication management is probably underestimated by many participants and is believed by the author to play a high role. Good communication is important to maintain trust, between the entrepreneur and the venture capitalist, between board members and in the venture syndicate. As it is expected that problems and crisis will arise and plans change it is very important to maintain trust between people to increase the likelihood of understanding. The CEO needs to inform the board of all problems and the chairman should enforce that every board member is up to date on problems and actions being taken. When trust is maintained investors are much more likely to continue to support the venture and show understanding to changing or failing plans.

What methods and tools do venture capitalists use to manage their venture investment projects?

From the interviews and the questionnaire it is clear that venture capitalists do rely on a variety of management tools and processes to manage their investments and possess faith in them to influence the outcome. The widespread use of tools is indeed a surprise and was not initially expected. It is possible though that participant's interpretation of the tools varies.

The high usage of tool and frameworks indicates that they do add value. Combined with the high positive response regarding that frameworks accelerate learning and maturity indicates their usefulness in building institutional memory.

The most used tools in the post investment phase are strategy analysis, goal setting, feedback review, financial measures and progress report, they are used by almost all respondents.

Tool and technique usage seems to be mainly linked to the factors; experience and to view investments as projects, where more experience and project orientation leads to more tool usage. The observed increased tool usage with experience is interesting and possibly undermines the general believe that successful venture investing has more to do with art than science.

Possibly under utilized tools are communication plan, risk analysis, risk response planning, workshops and seminars, team building, requirement analysis and change control.

A challenge for investors is that as they come in and enforce their companies to become more professional and formal regarding management, they also need to be careful to not crush the spark of enthusiasm and passion in which the start-up thrives on with their involvement. Therefore, although tools and techniques might be useful and assist with execution it is very important not to neglect the other factors and maintain a healthy balance between the behavioral and technical competences.

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Appendix A – Project management knowledge areas and competences

Integration management	Assertiveness
Project plan	Lessons learned
Scope and deliverables management (Understanding of customer needs / requirements)	Openness (the ability to make others feel they are welcome to express themselves, so that the project can benefit from their input, suggestions, worries and concerns)
Time management	Creativity (the ability to think and act in original and imaginative way)
Cost and finance management	Result orientation (focus attention on key objectives to obtain the optimum output)
Quality management	Efficiency (use time and resources cost-effectively to produce the agreed deliverables and fulfill expectations)
Human resources management	Consultation (reason, present arguments, listen other point of views, negotiate and find solutions
Communications management	Negotiation
Risk and opportunity management	Handling conflict and crisis
Understanding of stakeholders / customers	Reliability (deliver at the time and quality agreed within the project specification)
Organizational maturity	Appreciation (the ability to perceive the intrinsic qualities in others and understand their point of view)
Problem resolution	Ethics
Reporting and communication (between CEO and investors)	Systems, products and technology
Teamwork / team spirit	Personnel management (recruitment, selection, retention, performance assessment and motivation)
Leadership	Relaxation (the ability to relax tension in difficult situations)
Engagement and motivation	Health, security, safety and the environment
Self-control	Legal (law and regulations on projects and programs)

Appendix B – Online survey

1. How many years of experience do you have in venture capital investing?

- ○ 0 - 5
- ○ 5 - 10
- ○ 10 - 20
- ○ 20+

2. What is the total active fund size your company has under management (in million dollars)?

- ○ 0 - 50
- ○ 50 - 100
- ○ 100 - 250
- ○ 250 - 500
- ○ 500+

3. In what region does your fund primarily operate?

- ○ North America
- ○ South America
- ○ Europe
- ○ Middle east
- ○ Africa
- ○ Asia
- ○ Australia

4. Given the following definition of a project „A project is a temporary endeavour undertaken to create a unique product, service, or result", do you consider venture investments to be a project?

- ○ Yes
- ○ No

5. How much time on average do you allocate for managing each investment per month?

- ○ 0 - 2 hours
- ○ 2 - 8 hours
- ○ 8 - 16 hours
- ○ 16+ hours

6. When you enter into a new venture investment do you have a target time frame for when a liquidity event will occur?

- ○ Yes
- ○ No

It depends (please explain further)

7. What do you consider the primary limiting factors on your investment capacity?

- ○ Fund size
- ○ Time constraints on funds
- ○ Time needed to manage investments

Other (please specify)

8. How important do you consider the following key performance indicators to track investments progress?

	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important
Burn rate	○	○	○	○	○
Cash at hand	○	○	○	○	○
Cashflow	○	○	○	○	○
Profit	○	○	○	○	○
Sales volume	○	○	○	○	○
KPI's that track product development	○	○	○	○	○
KPI's that track customer involvement	○	○	○	○	○

Other (please specify)

9. On average how frequently do you measure and track the most important key performance indicators?

- ○ Daily
- ○ Weekly
- ○ Monthly
- ○ Every other month
- ○ Quarterly

10. How important do you consider the following success factors to be to venture success?

	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important
Planning and control	○	○	○	○	○
Realistic schedule	○	○	○	○	○
Time management	○	○	○	○	○
Cost management	○	○	○	○	○
Quality management	○	○	○	○	○
Performance monitoring and feedback	○	○	○	○	○
Resource management	○	○	○	○	○
Leadership and team	○	○	○	○	○
Risk management	○	○	○	○	○
Clear goals, objectives and strategy	○	○	○	○	○
Change control / responding to change	○	○	○	○	○
Learning from experience	○	○	○	○	○
Communication management	○	○	○	○	○
Stakeholder management	○	○	○	○	○
Responsibilities plan	○	○	○	○	○
Customer feedback and consultation	○	○	○	○	○

11. How important to venture investment success do you consider the following criterias? Choose the five most important.

- ☐ Meeting schedule goals
- ☐ Meeting budget goal
- ☐ Meeting functional performance
- ☐ Meeting technical specifications
- ☐ Fulfilling customer needs
- ☐ Solving a customer's problem
- ☐ The customer is using the product
- ☐ Customer satisfaction
- ☐ Creating a large market share
- ☐ Creating a new market
- ☐ Creating a new product line
- ☐ Developing a new technology

12. Do you or your firm have a defined framework / process for choosing investments and conducting due diligence?

- ○ Yes, a well defined framework/process with specific elements and milestones
- ○ Yes, a guideline framework/process with some elements and milestones
- ○ No formal framework but based on experience a consistent set of management tools are applied
- ○ No framework

13. Do you or your firm have a defined framework / process for how the investment project is executed / managed post investment?

- ○ Yes, a well defined framework/process with specific elements and milestones
- ○ Yes, a guideline framework/process with some elements and milestones
- ○ No formal framework but based on experience a consistent set of management tools are applied
- ○ No framework

14. Do you belive that a defined framework/process is or can be beneficial?

- ○ Yes
- ○ No

15. Do you belive that a defined framework/process can accelerate collaboration, learning and/or maturity of the venture firm?

- ○ Yes
- ○ No

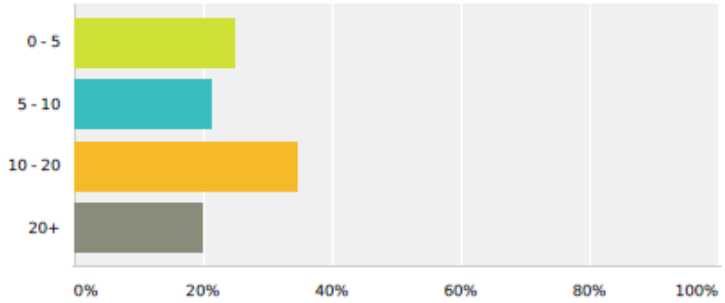
16. Which of the below management tools do you deploy to manage your investments (choose all that apply)?

	Not used	Used during due diligence	Used in the post investment stage	Used in all stages
Kickoff meeting	○	○	○	○
Project plan	○	○	○	○
Strategy analysis, orientation	○	○	○	○
Goal setting	○	○	○	○
Brainstorming	○	○	○	○
Project closure	○	○	○	○
Management performance interviews and evaluation	○	○	○	○
Feedback, review	○	○	○	○
Workshops and seminars with key team members	○	○	○	○
Team building	○	○	○	○
Communication plan	○	○	○	○
Feasibility study	○	○	○	○
Requirement analysis	○	○	○	○
Risk analysis	○	○	○	○
Risk response planning	○	○	○	○
Cost/benefit analysis	○	○	○	○
Collect lessons learned	○	○	○	○
Financial measures KPI's	○	○	○	○
KPI Dashboard	○	○	○	○
Progress report	○	○	○	○

Appendix C – Survey answers

Q1 How many years of experience do you have in venture capital investing?

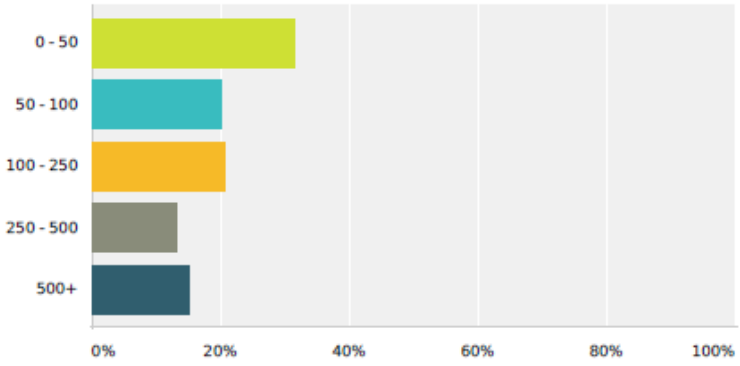
Answered: 162 Skipped: 3



Answer Choices	Responses	
0 - 5	**24.69%**	40
5 - 10	**20.99%**	34
10 - 20	**34.57%**	56
20+	**19.75%**	32
Total		162

Q2 What is the total active fund size your company has under management (in million dollars)?

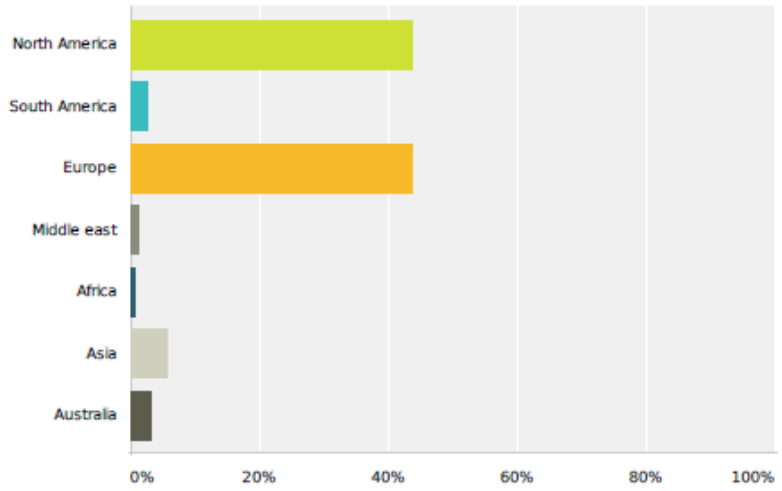
Answered: 160 Skipped: 5



Answer Choices	Responses	
0 - 50	**31.25%**	50
50 - 100	**20%**	32
100 - 250	**20.63%**	33
250 - 500	**13.13%**	21
500+	**15%**	24
Total		160

Q3 In what region does your fund primarily operate?

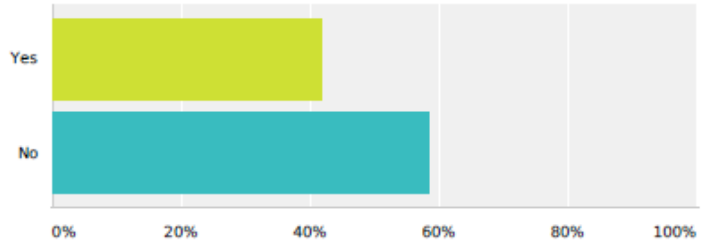
Answered: 161 Skipped: 4



Answer Choices	Responses	
North America	**43.48%**	70
South America	**2.48%**	4
Europe	**43.48%**	70
Middle east	**1.24%**	2
Africa	**0.62%**	1
Asia	**5.59%**	9
Australia	**3.11%**	5
Total		161

Q4 Given the following definition of a project „A project is a temporary endeavour undertaken to create a unique product, service, or result“, do you consider venture investments to be a project?

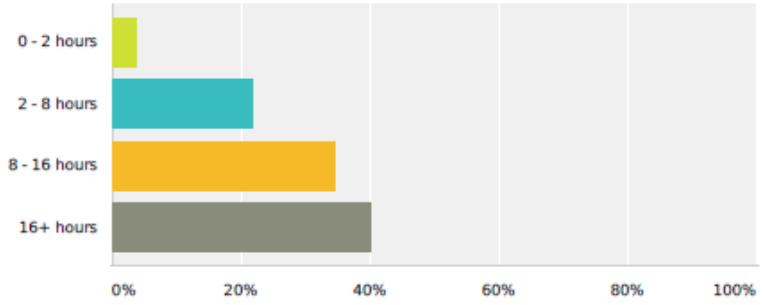
Answered: 161 Skipped: 4



Answer Choices	Responses	
Yes	**41.61%**	67
No	**58.39%**	94
Total		161

Q5 How much time on average do you allocate for managing each investment per month?

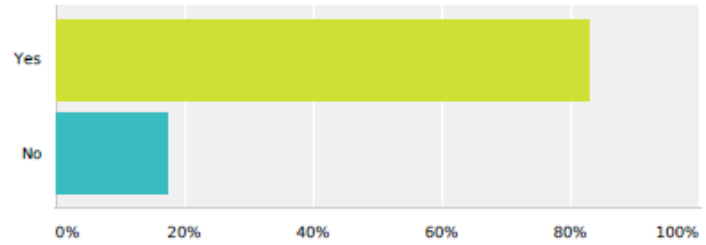
Answered: 162 Skipped: 3



Answer Choices	Responses	
0 - 2 hours	**3.70%**	6
2 - 8 hours	**21.60%**	35
8 - 16 hours	**34.57%**	56
16+ hours	**40.12%**	65
Total		162

Q6 When you enter into a new venture investment do you have a target time frame for when a liquidity event will occur?

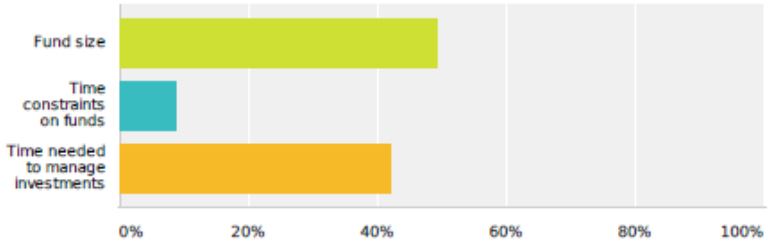
Answered: 156 Skipped: 9



Answer Choices	Responses	
Yes	**82.69%**	129
No	**17.31%**	27
Total		156
It depends (please explain further) (17)		

Q7 What do you consider the primary limiting factors on your investment capacity?

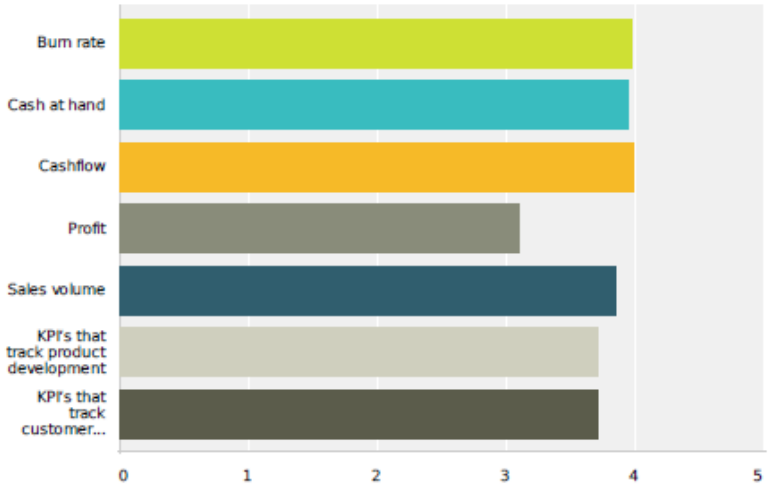
Answered: 138 Skipped: 27



Answer Choices	Responses	
Fund size	**49.28%**	68
Time constraints on funds	**8.70%**	12
Time needed to manage investments	**42.03%**	58
Total		138
Other (please specify) (28)		

Q8 How important do you consider the following key performance indicators to track investments progress?

Answered: 161 Skipped: 4

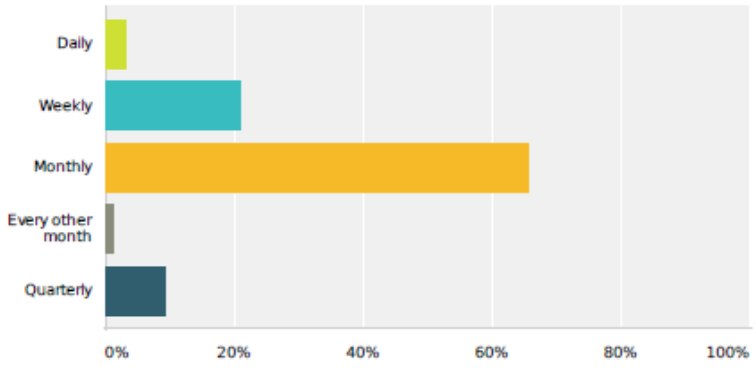


	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important	Total	Average Rating
Burn rate	**6.33%** 10	**3.16%** 5	**13.29%** 21	**41.14%** 65	**36.08%** 57	158	3.97
Cash at hand	**5.06%** 8	**4.43%** 7	**17.09%** 27	**38.61%** 61	**34.81%** 55	158	3.94
Cashflow	**1.28%** 2	**7.05%** 11	**19.23%** 30	**36.54%** 57	**35.90%** 56	156	3.99
Profit	**8.86%** 14	**23.42%** 37	**31.65%** 50	**20.89%** 33	**15.19%** 24	158	3.10
Sales volume	**4.40%** 7	**3.77%** 6	**18.24%** 29	**50.31%** 80	**23.27%** 37	159	3.84
KPI's that track product development	**1.92%** 3	**10.26%** 16	**28.21%** 44	**34.62%** 54	**25%** 39	156	3.71
KPI's that track customer involvement	**3.23%** 5	**8.39%** 13	**26.45%** 41	**38.06%** 59	**23.87%** 37	155	3.71

Other (please specify) (15)

Q9 On average how frequently do you measure and track the most important key performance indicators?

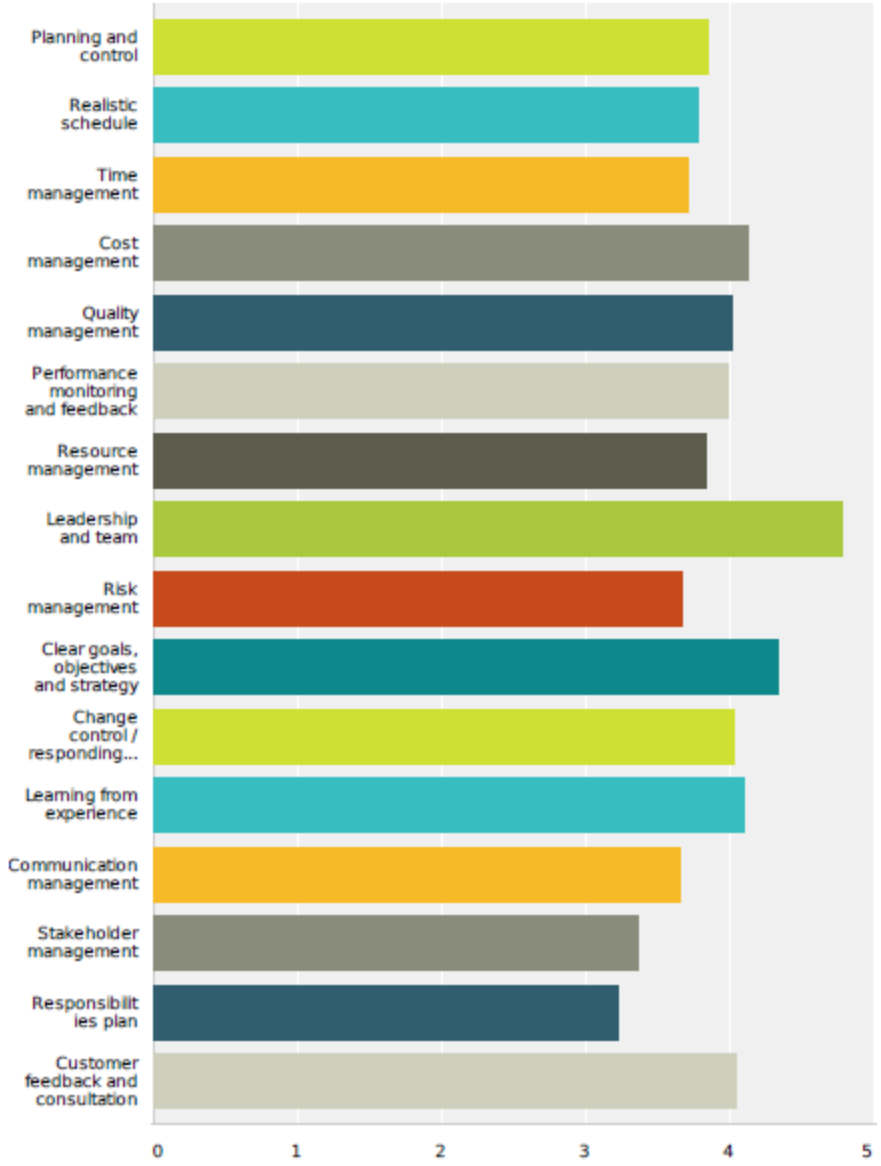
Answered: 163 Skipped: 2



Answer Choices	Responses	
Daily	**3.07%**	5
Weekly	**20.86%**	34
Monthly	**65.64%**	107
Every other month	**1.23%**	2
Quarterly	**9.20%**	15
Total		163

Q10 How important do you consider the following success factors to be to venture success?

Answered: 158 Skipped: 7

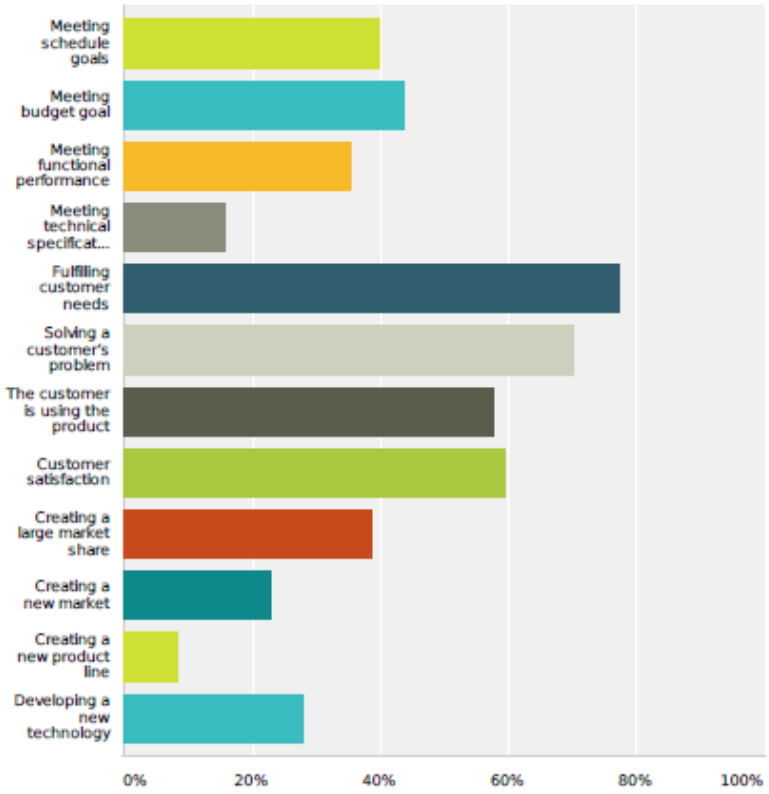


	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important	Total	Average Rating
Planning and control	**0.65%** 1	**3.87%** 6	**27.74%** 43	**45.81%** 71	**21.94%** 34	155	3.85
Realistic schedule	**0%** 0	**2.55%** 4	**33.12%** 52	**48.41%** 76	**15.92%** 25	157	3.78
Time management	**0%** 0	**5.73%** 9	**33.12%** 52	**45.22%** 71	**15.92%** 25	157	3.71

Cost management	**0%** 0	**3.82%** 6	**14.65%** 23	**47.13%** 74	**34.39%** 54	157	4.12
Quality management	**0%** 0	**4.46%** 7	**22.29%** 35	**40.76%** 64	**32.48%** 51	157	4.01
Performance monitoring and feedback	**0%** 0	**5.73%** 9	**18.47%** 29	**47.13%** 74	**28.66%** 45	157	3.99
Resource management	**0%** 0	**5.77%** 9	**25.64%** 40	**48.72%** 76	**19.87%** 31	156	3.83
Leadership and team	**0%** 0	**0%** 0	**2.55%** 4	**17.83%** 28	**79.62%** 125	157	4.77
Risk management	**0.65%** 1	**6.54%** 10	**38.56%** 59	**34.64%** 53	**19.61%** 30	153	3.66
Clear goals, objectives and strategy	**0%** 0	**1.28%** 2	**11.54%** 18	**39.74%** 62	**47.44%** 74	156	4.33
Change control / responding to change	**0.64%** 1	**4.49%** 7	**20.51%** 32	**39.74%** 62	**34.62%** 54	156	4.03
Learning from experience	**0.64%** 1	**3.18%** 5	**15.92%** 25	**45.86%** 72	**34.39%** 54	157	4.10
Communication management	**0%** 0	**7.79%** 12	**34.42%** 53	**42.21%** 65	**15.58%** 24	154	3.66
Stakeholder management	**1.28%** 2	**12.18%** 19	**44.87%** 70	**32.05%** 50	**9.62%** 15	156	3.37
Responsibilities plan	**4.55%** 7	**13.64%** 21	**44.16%** 68	**29.87%** 46	**7.79%** 12	154	3.23
Customer feedback and consultation	**0.64%** 1	**3.18%** 5	**23.57%** 37	**36.94%** 58	**35.67%** 56	157	4.04

Q11 How important to venture investment success do you consider the following criterias? Choose the five most important.

Answered: 158 Skipped: 7

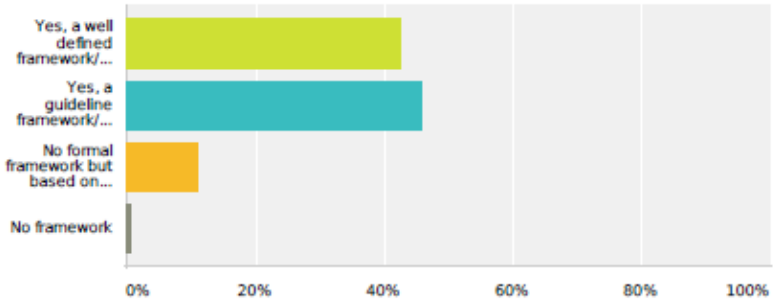


Answer Choices	Responses	
Meeting schedule goals	**39.87%**	63
Meeting budget goal	**43.67%**	69
Meeting functional performance	**35.44%**	56
Meeting technical specifications	**15.82%**	25
Fulfilling customer needs	**77.22%**	122
Solving a customer's problem	**70.25%**	111
The customer is using the product	**57.59%**	91
Customer satisfaction	**59.49%**	94
Creating a large market share	**38.61%**	61
Creating a new market	**22.78%**	36
Total Respondents: 158		

Creating a new product line	**8.23%**	13
Developing a new technology	**27.85%**	44
Total Respondents: 158		

Q12 Do you or your firm have a defined framework / process for choosing investments and conducting due diligence?

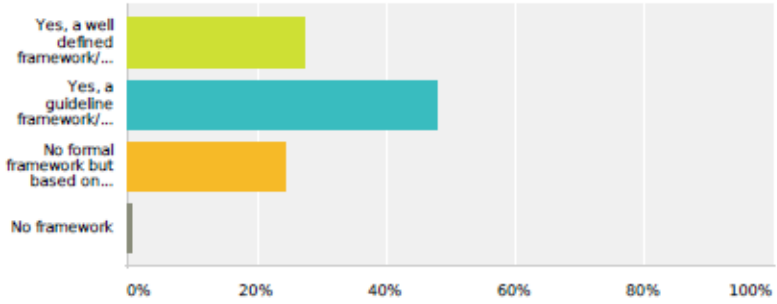
Answered: 162 Skipped: 3



Answer Choices	Responses	
Yes, a well defined framework/process with specific elements and milestones	**42.59%**	69
Yes, a guideline framework/process with some elements and milestones	**45.68%**	74
No formal framework but based on experience a consistent set of management tools are applied	**11.11%**	18
No framework	**0.62%**	1
Total		162

Q13 Do you or your firm have a defined framework / process for how the investment project is executed / managed post investment?

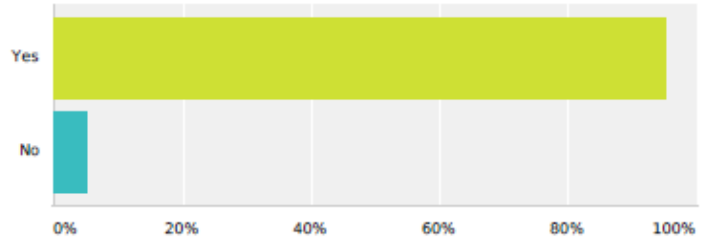
Answered: 161 Skipped: 4



Answer Choices	Responses	
Yes, a well defined framework/process with specific elements and milestones	**27.33%**	44
Yes, a guideline framework/process with some elements and milestones	**47.83%**	77
No formal framework but based on experience a consistent set of management tools are applied	**24.22%**	39
No framework	**0.62%**	1
Total		161

Q14 Do you belive that a defined framework/process is or can be beneficial?

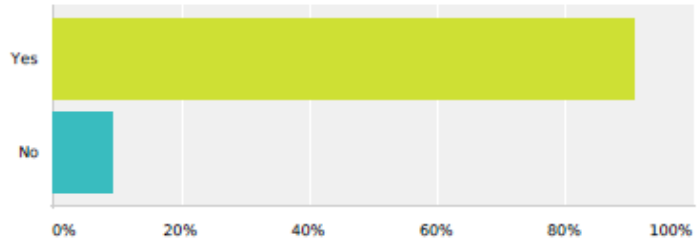
Answered: 162 Skipped: 3



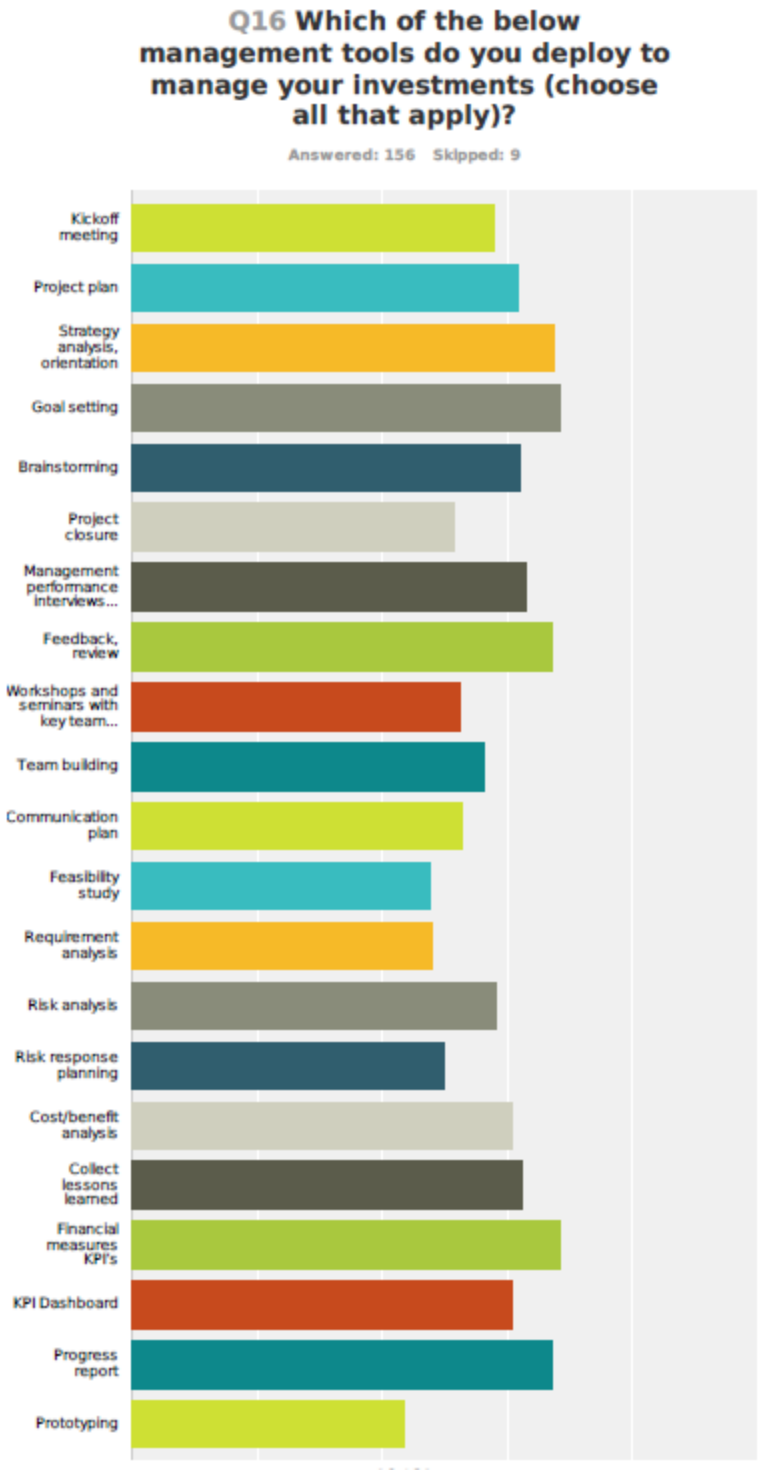
Answer Choices	Responses	
Yes	**95.06%**	154
No	**4.94%**	8
Total		162

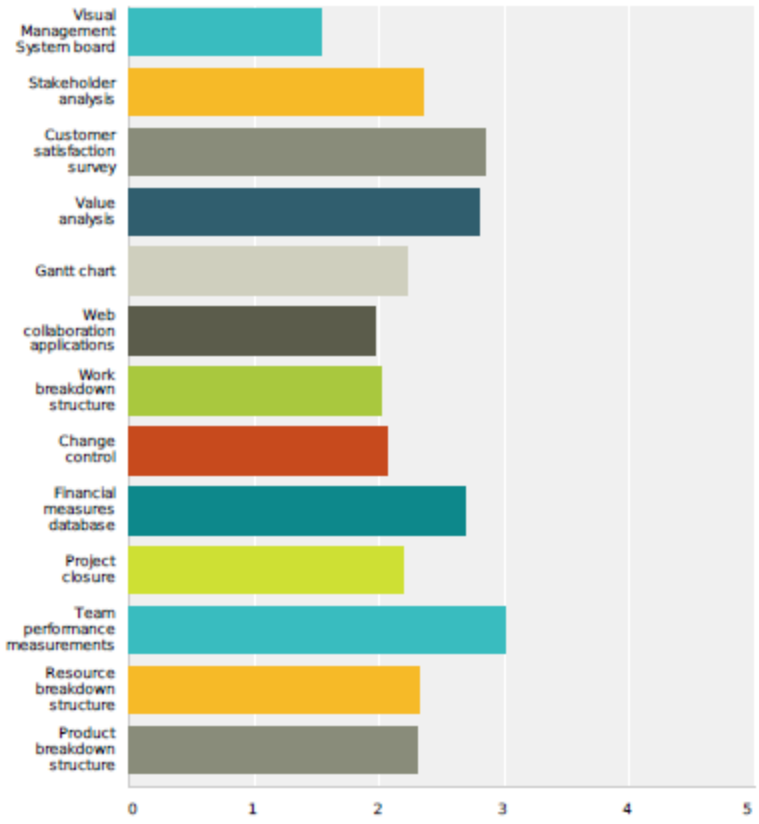
Q15 Do you belive that a defined framework/process can accelerate collaboration, learning and/or maturity of the venture firm?

Answered: 162 Skipped: 3



Answer Choices	Responses	
Yes	**90.74%**	147
No	**9.26%**	15
Total		162


Q16 Which of the below management tools do you deploy to manage your investments (choose all that apply)?
Answered: 156 Skipped: 9
Kickoff meeting
Project plan
Strategy analysis, orientation
Goal setting
Brainstorming
Project closure
Management performance interviews...
Feedback, review
Workshops and seminars with key team...
Team building
Communication plan
Feasibility study
Requirement analysis
Risk analysis
Risk response planning
Cost/benefit analysis
Collect lessons learned
Financial measures KPI's
KPI Dashboard
Progress report
Prototyping



	Not used	Used during due diligence	Used in the post investment stage	Used in all stages	Total	Average Rating
Kickoff meeting	**11.33%** 17	**26%** 39	**24%** 36	**38.67%** 58	150	2.90
Project plan	**11.64%** 17	**22.60%** 33	**11.64%** 17	**54.11%** 79	146	3.08
Strategy analysis, orientation	**1.35%** 2	**21.62%** 32	**14.86%** 22	**62.16%** 92	148	3.38
Goal setting	**0.68%** 1	**13.61%** 20	**27.89%** 41	**57.82%** 85	147	3.43
Brainstorming	**16.06%** 22	**11.68%** 16	**18.25%** 25	**54.01%** 74	137	3.10
Project closure	**26.32%** 35	**18.05%** 24	**27.82%** 37	**27.82%** 37	133	2.57
Management performance interviews and evaluation	**2.67%** 4	**26.67%** 40	**22.67%** 34	**48%** 72	150	3.16
Feedback, review	**8.28%** 12	**8.28%** 12	**22.07%** 32	**61.38%** 89	145	3.37

Workshops and seminars with key team members	**30.07%** 43	**8.39%** 12	**30.07%** 43	**31.47%** 45	143	2.63
Team building	**23.61%** 34	**4.86%** 7	**38.19%** 55	**33.33%** 48	144	2.81
Communication plan	**29.58%** 42	**9.86%** 14	**28.17%** 40	**32.39%** 46	142	2.63
Feasibility study	**20.55%** 30	**44.52%** 65	**10.96%** 16	**23.97%** 35	146	2.38
Requirement analysis	**27.86%** 39	**34.29%** 48	**7.14%** 10	**30.71%** 43	140	2.41
Risk analysis	**7.75%** 11	**39.44%** 56	**7.04%** 10	**45.77%** 65	142	2.91
Risk response planning	**32.84%** 44	**17.16%** 23	**17.16%** 23	**32.84%** 44	134	2.50
Cost/benefit analysis	**8.63%** 12	**28.06%** 39	**13.67%** 19	**49.64%** 69	139	3.04
Collect lessons learned	**15.11%** 21	**6.47%** 9	**30.22%** 42	**48.20%** 67	139	3.12
Financial measures KPI's	**4.14%** 6	**5.52%** 8	**33.79%** 49	**56.55%** 82	145	3.43
KPI Dashboard	**17.27%** 24	**4.32%** 6	**35.25%** 49	**43.17%** 60	139	3.04
Progress report	**3.50%** 5	**4.20%** 6	**44.76%** 64	**47.55%** 68	143	3.36
Prototyping	**47.37%** 63	**6.77%** 9	**26.32%** 35	**19.55%** 26	133	2.18
Visual Management System board	**74.63%** 100	**4.48%** 6	**13.43%** 18	**7.46%** 10	134	1.54
Stakeholder analysis	**41.61%** 57	**14.60%** 20	**10.95%** 15	**32.85%** 45	137	2.35
Customer satisfaction survey	**24.29%** 34	**10%** 14	**22.86%** 32	**42.86%** 60	140	2.84
Value analysis	**24.82%** 34	**18.25%** 25	**9.49%** 13	**47.45%** 65	137	2.80
Gantt chart	**47.41%** 64	**11.85%** 16	**11.85%** 16	**28.89%** 39	135	2.22
Web collaboration applications	**58.21%** 78	**7.46%** 10	**13.43%** 18	**20.90%** 28	134	1.97
Work breakdown structure	**56.92%** 74	**6.92%** 9	**13.85%** 18	**22.31%** 29	130	2.02
Change control	**53.79%** 71	**5.30%** 7	**21.21%** 28	**19.70%** 26	132	2.07
Financial measures database	**33.58%** 46	**4.38%** 6	**21.17%** 29	**40.88%** 56	137	2.69
Project closure	**48.06%** 62	**6.98%** 9	**22.48%** 29	**22.48%** 29	129	2.19