THE ROLE OF PREDICTION IN NEW VENTURE INVESTING

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ABSTRACT

Early stage investors openly discount/ignore the predictions that entrepreneurs show in their business plans as they pitch to investors. At the same time, many predictions about the venture continue to anchor investor evaluations. However, investors' use of predictive and non-predictive information varies based on their own approach to dealing with uncertainty, their own entrepreneurial experience, and the steps in the evaluation process (i.e. screening, due diligence, and funding). Evaluating data from more than 2,700 individual investor evaluations of 150 new ventures, we find that investors with more entrepreneurial experience are more effectual in how they approach the development of new ventures. We also find that investors grade their area of emphasis more stringently, i.e. those who weight predictive information grade it "tougher." Overall, investors emphasize predictive information more than they might suppose, especially early in the selection process, but once a venture has moved through the funding process to due diligence and investment, non-predictive information is the key factor.

INTRODUCTION

New ventures face an interesting chicken and egg problem. They need to demonstrate their high potential in order to attract capital, yet often require that capital in order to demonstrate their potential. This is neither a new problem nor particularly insightful, but it does help one understand the desire of a great many people to identify the selection criteria and principles of investors willing to make these early stage investments.

Many studies on how formal venture capital (VC) investors select their ventures have been conducted, and the number of studies on the selection efforts of informal venture capital (angel) investors is growing. Checklists of potential factors are created and tested, with important items such as the potential of the venture's market, the talent of its management team, the competitive environment for its offering, the margins created from its price and cost, the various components of experience held by the team members, the completeness of the management team, demonstrated revenue or cash flows, and so on. For obvious reasons, investors prefer deals with lots of market potential, led by experts in the field who have prior entrepreneurial success, leadership experience, and with customers lined up waiting to buy their product.

The key is prioritizing this list, precisely because of the chicken and egg problem. If an entrepreneur only has the resources to deliver on a few of those items, which ones are most likely to lead to the goal of attracting more resources? What sequence is incrementally more valuable? For example, am I better off working on insightful market research in order to demonstrate the market potential, or am I better off completing the product or service so that the investor is confident our claims are real and attractive? Or am I better off focusing on winning over great management team members than on winning a good beta customer? These are genuinely important questions for resource constrained entrepreneurs.

As a balance is sought, puffery often comes into play. Market projections consistently show cash losses for the present time, but a tremendous increase in cash flow a mere 5 years from now. The management team is consistently of a very high caliber – a rare combination of brilliant talent yet responsible and coachable people. And so on. This is of course understandable, and in a sufficient number of cases is actually true enough that a world class organization results, leading to the creation of new markets and creating tremendous wealth for everyone involved. The optimism is an important part of the entrepreneurs' motivation.

As a result investors obviously discount this optimism with the lessons of experience. Even the best investors are wrong more often than they are right when it comes to selecting great new ventures in which to invest (Wiltbank, Read, Dew, & Sarasvathy, 2009). And so the predictions and claims of the entrepreneurs are received with suspicion, and a gut feel at times trumps the very best efforts of talented entrepreneurs to demonstrate the upside of their venture. But the entrepreneurs' predictions may anchor the evaluation of the venture more than one might think, influencing perceptions about exit opportunities, customer adoption, market size, competitive moves, and future valuation.

In this paper we contribute theoretical insight and empirical evidence to the discussion of the criteria by which investors select new ventures. The issue of prioritization of criteria is critical, as mentioned above. We will argue that the theory of effectuation provides a key distinction around the types of criteria involved and when in the selection process they are used. We hope this can connect the literature on venture investment selection criteria to the theoretical perspective of entrepreneurial expertise embodied in the theory of effectuation. As the single largest segment of angel investors consists of "cashed out" entrepreneurs (Wiltbank, 2005), this provides an interesting setting in which to evaluate how they apply their entrepreneurial experience to the task of venture investing.

THE SELECTION OF NEW VENTURES

Venture investors select startups based on a suite of factors that have a material influence on the evaluation of the entrepreneur, the management team, and the business opportunity. A significant amount of work has looked into the investment decisions of formal and informal venture capital investors. The important factors from this work include domain expertise; entrepreneurial experience; the commitment, passion, and trustworthiness of the leadership; the market growth and revenue potential of the opportunity; the competitive position of the venture; and its prospects for an attractive exit (e.g., Tyebjee & Bruno, 1984; MacMillan, Siegel, & Subba Narasimha, 1985; MacMillan, Zemann, & Subba Narasimha, 1987; Carter & Van Auken, 1992; Haar, Starr, & MacMillan, 1988; Dileep, Miller, & Bowman, 1992; Van Osnabrugge, 1998; Jensen, 2002; Sudek, 2006).

The evaluation of startups for investment decisions can vary by stage, and investors are quite deliberate about the stage of opportunities in which they invest (Gupta & Sapienza, 1992). At earlier stages in the life of a venture, the challenge of evaluating the business model, the actual market opportunity, and the potential for growth can be significantly more challenging (Triantis, 2001). This is one reason why at the earliest stages of development, entrepreneurs often struggle to attract formal VC investors, providing an opportunity for significant growth in the investment activity of informal venture investors, or angels (Freear & Wetzel, 1990; Wiltbank, 2005). Angel investors, as opposed to formal VCs, can economically do smaller rounds of investment and bring significantly more entrepreneurial expertise to the needs of earlier stage investment opportunities (Mason & Harrison, 1996; Van Osnabrugge & Robinson, 2000; Wiltbank et al., 2009).

Deciding whether to invest in a startup typically involves a process consisting of an initial screening of the opportunity, a more formal analysis of the investment opportunity, in depth due diligence, negotiation of terms and funding, and post investment involvement (Tyebjee & Bruno, 1984; Sudek, 2006). The initial screening phase is aimed to filter out "non-starters" where the business simply does not fit the broad interest of the investors, i.e. a real estate opportunity may simply not be of interest to an investor looking to be involved in a hardware and software opportunities, or where the stage of the opportunity is simply too late or too early for a particular investor. After some initial screening, a more formal presentation is made to additional investors in a longer format with additional questions, more detail, and probing and discussion around the nuances of the opportunity and the team. If there is a high level of interest among the investors, due diligence – investigating many details and testing the assumptions and assertions of the opportunity – takes place, with negotiation of valuation and terms upfront or along the way (Fried & Hisrich, 1994). That process may or may not come to a positive conclusion, at which point the investment decision is made.

DISTINCTIONS AROUND PREDICTION

In the literature on investment criteria, many theories are involved, looking at the fit with the evaluation criteria using ideas from agency theory, contracting, information asymmetry, and moral hazards. In this paper, we attempt to make sense of the criteria more holistically, rather than connecting one individual criterion as a screen to deal with a specific theoretical risk. Rather than evaluating the commitment of the entrepreneur in different ways that enable the assessment of agency risk, we explore the distinguishing role of predictive vs. non-predictive information around all of the criteria involved in the assessment of an opportunity. This approach has the potential to inform the prioritization of actions by entrepreneurs as they develop their opportunity.

Sarasvathy (2001) makes a distinction between causal and effectual approaches in the way people make decisions in uncertain situations. Causation represents an approach that involves goal setting, determining the causal factors that can lead to the accomplishment of that goal, and making decisions about resource acquisition, capability development, and courses of action that organize those causal factors based on their commitment to reaching the goal. Effectual approaches, by contrast, begin from means rather than goals, where the means of the decision maker guide decisions about courses of action, leading to resource acquisition and capability development in a more emergent manner. Clear goals emerge over time as a result of rather than as a cause of the decision process. The success of a causal approach is largely dependent on the accuracy of the predictions about which goals will maximize value and which resources and capabilities most effectively lead to accomplishing those goals. The success of an effectual approach does not rely on prediction, but on the creative use of means and the process of persuasion and discovery that connects them to additional resources and capabilities that are valued by others. The literature on strategic decision making hinges significantly on this distinction regarding the use of prediction to overcome uncertainty and efforts to significantly control how that uncertainty is resolved (Wiltbank, Dew, Read, & Sarasvathy, 2006).

This effectual approach is used extensively, though not exclusively, by expert entrepreneurs (Sarasvathy, Simon, & Lave, 1998; Dew, Read, Sarasvathy, & Wiltbank, 2009; Read, Dew, Sarasvathy, Song, & Wiltbank, 2009). In these protocol studies, entrepreneurs with more experience consistently prefer to avoid relying on predictions as the basis for decision making in uncertain situations. Instead, they prioritize their ability to actually influence how the future will

evolve. As we hope to evaluate the use of prediction in evaluating venture investment opportunities, the entrepreneurial experience of the investor is likely to play an important role.

H1: Early stage venture investors with more entrepreneurial experience will rely less on predictive information.

H1B: Early stage venture investors with more entrepreneurial experience will rely more on information that shows their ability to influence their relevant environment.

This preference for one type of information over another is only relevant, of course, to the extent that it changes the way venture investors evaluate opportunities. To the extent that investors believe predictive factors (such as how fast the market is growing, what kind of market share the venture can hold, potential exit valuations, technology trends, etc.) will be better indicators of the future potential of a venture, they are likely to be very particular about the evaluation of those factors. That is, if predictive information forms the real basis of their investment preferences, they will tend to be more demanding on those factors, to "grade tougher." Conversely, investors who prefer to avoid predictive information are likely not to care very much about the predictive statements of the entrepreneurs, but instead be very demanding in their evaluation of factors that demonstrate the entrepreneurs' ability to influence/control their relevant environment of suppliers, buyers, partners, and so forth.

H2: Early stage venture investors will be more demanding in their evaluation of the criteria that reflect their preference to rely on or to avoid predictive information.

Whether they are used or not, a great amount of time and effort is spent creating predictions for new ventures. Some entrepreneurs do it to inform their strategic choices, and many entrepreneurs reluctantly do it as part of the standard process of most venture investors, regardless of the extent to which they prioritize these predictive statements. Even angel investors, who gather less of this type of information, have largely adopted the core ideas from the due diligence practices of VCs, which are extensively predictive (Wiltbank et al., 2009). As a result, it is likely that this information is put to use in some way or another, in spite of the fact that many investors state that they openly and dramatically discount, and even scoff at, the predictions of entrepreneurs about their new ventures. If the information was not used in the evaluation of ventures, its use would likely have trailed away over time, but the opposite has in fact happened. Sudek (2006) suggests that the predictive information presented by entrepreneurs is likely to influence investors' evaluations about the potential for a startup.

H3: The evaluation of predictive information will positively influence the recommendations and decisions regarding ventures proceeding through the funding process.

METHODOLOGY

We utilize a one-of-a-kind data set that captures the concurrent evaluation of 150 new ventures that presented to a group of angel investors over the course of two years. This method avoids retrospective bias, and cumulates over time in a way that enables us to control for biases of individual angel investors, and avoids any single rater biases as at least seven investors evaluate each venture.

The study involved members of the Tech Coast Angels (TCA) organization, one of the largest angel groups in the U.S., founded in 1997. As of January 2009, TCA had invested approximately $100 million in more than 150 companies. The group has approximately 280 angel investor members and consists of five chapters throughout Southern California. The results reported in this study are based on the evaluations from the members of one of those chapters. TCA typically provides funding in the range of $250,000 to $1,000,000 per venture. Investments are not made as a fund; rather, each angel investor makes an independent decision about whether to invest in a particular venture or not. The typical minimum investment per angel is $25,000.

The group has developed a formal process that flows from fielding new venture investment opportunities through to investment and post-investment monitoring. Entrepreneurs start with an online application, which leads to a "pre-screening." This involves an informal meeting with three to five angels to determine if the company should go to a full screening meeting. A screening consists of a 15-minute PowerPoint presentation, 15 minutes of Q&A, and 5–10 minutes of private discussion among the angels (with the entrepreneur out of the room). The evaluation data in this study were collected in these screenings, then subsequently by tracking due diligence and investment funding progress, from July 2006 through September 2008. Every company that was screened by the Orange County chapter is included in this data set and all of the evaluation data were tracked concurrently as the entrepreneur worked with TCA to explore the possibility of funding; there are no retrospective data on the ventures.

Participants in this study consisted of 63 investors evaluating 150 new ventures. The mean age of the entrepreneurs was 45 years, and the investors and entrepreneurs were overwhelmingly male – approximately 95%. Of the entrepreneurs, 73% had started companies prior to the one they were presenting at the screening. They had worked for the company they were presenting for a mean of 2.3 years, and had been working in startups for a mean of 11.2 years.

Information was collected from TCA members through paper surveys that were collected at the screening and in an online survey. The instrument used for assessing attributes of new ventures at the screening was developed by Sudek (2007), relying heavily on previous investment criteria instruments (e.g., MacMillan et al., 1985; MacMillan et al., 1987; Sudek, 2006; Tyebjee & Bruno, 1984). The instrument can be found in Appendix 1. The Screening Evaluation Instrument was distributed to TCA members prior to the start of each screening. The angels were reminded to fill out the survey after the PowerPoint presentation, after the Q&A portion, and after the private discussion. Many of the angels attended multiple screenings and thus rated multiple companies. The number of surveys completed per company ranged from a low of 7 to a high of 22, with a mean of 16 angels evaluating each company.

Additionally, background information was gathered on the angel investors regarding their entrepreneurial experience, as well as their emphasis on prediction and control in new venture decision making. This instrument is identical to the one that Wiltbank et al. (2009) detailed in their paper on the use of prediction and control in angel investing. Complete background and preference data were gathered from 44 of the 63 investors (70%). Descriptively, all of them had college degrees, and 73% held graduate degrees. Half of the investors had started a company that had grown to have at least five employees, and survived at least 3 years, but typically their experience was well beyond this, with a mean of 13.8 years of entrepreneurial experience.

Dependent Variables. We utilized several dependent variables to capture the angel investors' assessments of the venture at steps throughout the venture process. In the screening meeting the key outcome is a decision of whether or not to go into full due diligence on the venture. We

captured each investor's rating on the item "I feel this company should go to due diligence" in a 5 point Likert scale immediately after the presentation by the entrepreneur (DD1: Due Diligence 1), and then again after the Q&A session with the entrepreneur (DD2) and then after the private discussion without the entrepreneur (DD3).

In addition to these Likert scale ratings from the screening meetings, we tracked the progress of ventures through the due diligence progress, up to the ultimate funding decisions made by the angel investor members of TCA. Specifically, we created a variable named Due Diligence Progress (DDP), which is a 4 state variable. The value of 0 means that the venture did not make it into due diligence, the value of 1 means that the venture made it into due diligence but then was ruled out as a result of the due diligence, the value of 2 means that the due diligence process was positive but the investors and entrepreneurs didn't come to agreement on value/terms, etc., the value of 3 means the venture was funded. Finally, we tracked the ultimate funding decisions relating to each venture, with 0 meaning the venture did not receive funding, and 1 meaning that it did receive funding from TCA members, as shown in Table 1.

INSERT TABLE 1 HERE**

Independent Variables. The independent variables consisted of three categories: venture evaluations, investor background, and investor prediction and control emphasis. The items and their descriptive information are detailed in Table 2.

*****INSERT TABLE 2 HERE*****

Venture evaluation data consist of the scores for each evaluation criterion captured concurrent to the evaluation of each investment opportunity, detailed in Appendix 1. For the purposes of this paper, we explored the theoretical dimension of prediction vs. non-predictive items. Predictive items are those that require forward-looking assessment of potential, where informed opinions of the best guess of what could happen with this venture are based on objective factors. The key is that they are forward looking. The non-predictive control items are those that are not anchored on forward-looking assessments, but instead reflect the subjective and objective assessment of past and present information. Empirically this distinction was quite clear, with two factors emerging from the data, one for predictive and the other for control information. The items are identified with their factor in Appendix 1. Analyses of the constructs revealed Cronbach's alpha score for the predictive items of .79 and .81 for the control items. It is worth noting that the CEO detailed assessment items (see Appendix 1) were very highly correlated with one another, leading us to collapse them into one item we named CEO Mean, which is the mean of these CEO items.

The investors' background information and their emphasis on prediction and control were captured in an instrument detailed in Appendix 2. The scenario in that instrument is identical to the instrument utilized in a published paper on angel investing and strategic decision making (Wiltbank et al., 2009), and has been tested and validated with 1,000 entrepreneurs, 200 angel investors, and 100 venture capital investors as one method for assessing their personal emphasis on prediction or control – causation or effectuation – in their approach to developing new ventures (Sarasvathy, 2001; Wiltbank et al., 2006). Each item represents a different interest in using predictive information to position for future expectations and different interests in trying to influence how the future is created. The overall flow of the data can be captured as follows:

Background of the angel investor

↳ Each investor's emphasis on prediction and control

↳ Investor evaluations of each venture investment opportunity

↳ The progress of each venture through due diligence

↳ The investment of TCA funding, or not, for each new venture

RESULTS

Our primary analysis consists of Ordinary Least Squares regression using the evaluation data from 150 different new ventures that proceeded entirely through the process with a major angel investor over 2 years. At least 12 investors evaluated each venture. The main units of analysis are the investor evaluation, subsequent recommendation regarding the venture, and then the progress of that venture through due diligence to funding. The results of these analyses are reported in Table 3.

We find evidence that the experience – entrepreneurial and investing – of these investors is significantly related to their use of predictive and control oriented information. Their emphasis on one or the other influences evaluation of each venture, and is associated with a tendency to use more prediction in their decision making, especially earlier in the evaluation process.

*****INSERT TABLE 3 HERE*****

H1 states that early stage venture investors with more entrepreneurial experience will rely less on predictive information, instead (H1B) relying on non-predictive control items, those relating to the ability of the venture to influence the creation of its environment. Table 3 shows evidence that supports these hypotheses. Investors with entrepreneurial expertise demonstrate a significantly stronger control emphasis ($B = 0.39$, $p < 0.001$) in their approach to venture creation (Appendix 2; Wiltbank et al., 2009), while at the same time demonstrating a tendency to reduce their emphasis prediction ($B = -0.07$, $p < 0.001$), thus supporting H1 and H1B.

H2 argues that differences in the emphasis on prediction and control will influence the way that investors tend to evaluate new ventures. When an early stage venture investor emphasizes prediction, they will be more demanding in their evaluation of that type of information and, conversely, when they emphasize non-predictive control they will be more demanding in their evaluation of that type of information since their emphasis is the primary component of their recommendations and decisions. In the 3rd and 4th columns of Table 3, one can see that where investors demonstrate control emphasis in their approach to venture development, they evaluate control information significantly lower ($B = -0.10$, $p < 0.001$) than investors who emphasize prediction, who actually show a significantly positive tendency ($B = 0.12$, $p < 0.001$) in their evaluation of control factors. And the opposite is also true, in the evaluation of predictive information related to a new venture, investors who emphasize prediction systematically evaluate predictive information lower ($B = -0.08$, $p < 0.001$) than investors who emphasize control.

H3 argues that in spite of investors' tendency to discount predictions made by entrepreneurs, assessments of predictive information significantly influence the evaluation of ventures as they proceed through the investment evaluation process. Table 3 shows that the evaluation of predictive information presented by entrepreneurs significantly ($p < 0.001$) and positively ($B = 0.52$) influences DD1, which is the initial recommendation of whether the venture should pass to due diligence. The evaluation of non-predictive control factors also influences DD1 significantly, but at only one-third the effect size ($B = 0.17$). Interestingly, while the evaluation of both predictive and control factors significantly influences recommendations and decisions about the venture, the relationship of predictive information with the dependent variables diminishes as the venture proceeds through the process. It goes from three times larger, to two times larger at DD3 (the recommendation to go to due diligence after the presentation, Q&A, and private discussion around a particular venture) and then inverts to about one half the effect size as the evaluation of control information in the relationship to how a venture proceeds through due diligence, and then one-third the effect size in relationship to whether a venture is funded or not. This supports H3, particularly earlier in the process, but suggests that investor evaluation changes as a venture proceeds to due diligence and actual funding.

IMPLICATIONS

The predictions of entrepreneurs do influence the evaluation of their ventures, especially early on in the process of investor evaluation. Prioritizing and positioning actions in a way that adds to the credibility of those predictions would appear to play an important part in allowing a venture to move successfully though the initial screening efforts of angel investors. As entrepreneurs move forward with potential investors, however, we observed that less importance is placed on those predictions, and the focus turns to non-predictive factors around execution and the ability to deliver and influence the market in which the venture is operating. Building a good team, improving traction with customers, and other steps that demonstrate the ability to hit milestones appear to be incrementally more important. Knowing how a particular investor approaches venture development – his or her relative emphasis on prediction and control – can then inform an entrepreneur's prioritization of different strategic moves as well as the positioning of moves already made, in terms of justifying predictions or demonstrating an ability to control how the uncertainty surrounding the venture opportunity is resolved.

From the perspective of the theory of effectuation, the experience of angel investors plays a role in the criteria on which they tend to focus. Angel investors with a more extensive entrepreneurial background are less likely to value the predictions put forward by entrepreneurs, and instead focus on the non-predictive components of the leadership, their relationships, and their ability to influence the market in which they play. Related to this focus, they evaluate these non-predictive factors more stringently than angel investors with less entrepreneurial experience. This is consistent with effectuation, where expert entrepreneurs demonstrate a preference to avoid predictive information and emphasize non-predictive control; in this case, applying that expertise to new venture decisions from the role of angel investor (Wiltbank et al., 2006).

Interestingly, angel investors with more investing experience have a significantly different emphasis, weighting predictive information about the venture more intensely and underweighting non-predictive factors regarding the team of entrepreneurs. Related to this focus, they evaluate the predictive factors more stringently, a reversal of the relative emphasis of more entrepreneurial angel investors with less angel investing experience. Interesting research will likely be done that looks into how and why this difference develops. While this is merely supposition, the role of the investor and the norms associated with making good investment decisions seems to involve

significantly more prediction than decision-making approaches associated with entrepreneurs generally. Thus, angel investors' role taking and normative environment may change the way they view opportunity and decision making in highly uncertain settings.

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Table 1 Dependent Variable List and Descriptive Information

Variable	Mean	Std Dev	Item
DD1	3.49	1.07	I feel this company should go to due diligence [after presentation only, Prior to Q&A]
DD2	3.32	1.17	I feel this company should go to due diligence [after presentation and open Q&A]
DD3	3.02	1.29	I feel this company should go to due diligence [after private discussion]
DDP2	1.49	1.15	4 category variable tracking due diligence progress: 0 = no due diligence, 1 = failed quickly in due diligence, 2 = good due diligence, no agreement, 3 = good due diligence & funded.
Funded	.22	.42	Binary variable tracking the ultimate funding of a venture, 0 = no 1 = yes

*the DD1/DD2/DD3 variables are measured on a 5 point Likert scale

Table 2 Independent Variable List and Descriptives

Variable	Mean	Std Dev	Item
InvEntre	.60	.49	Investor had successfully started and run a venture as an entrepreneur
InvAngel	12.1	13.8	Number of investments the angel investor had made prior to the evaluation
Prediction Emphasis	17.9	1.6	Investor's preference for predictive approaches to new ventures (Appendix 2)
Control Emphasis	14.1	1.5	Investor's preference for control approaches to new ventures (max of 20)
EvalPrediction	16.1	3.5	Investor's evaluation of a venture's predictive elements (Appendix 1) (max of 25)
EvalControl	14.3	2.9	Investor's evaluation of a venture's control elements (max of 20)

Table 3 Regression Analyses

Dependent Variable	Control Emphasis		Prediction Emphasis		Eval Control		Eval Prediction		DD1		DD3		DDP2		Funded	
	std beta	sig														
Constant	13.45	0.00	17.68	0.00	6.79	0.00	8.55	0.00	-2.16	0.00	-3.41	0.00	0.10	0.50	-4.07	0.00
Inv Entre	0.39	0.00	-0.07	0.00	0.01	0.67	-0.10	0.00								
Inv Angel	-0.08	0.00	0.30	0.00	-0.13	0.00	0.01	0.64								
Eval Prediction					0.51	0.00			0.52	0.00	0.42	0.00	0.09	0.00	0.05	0.05
Eval Control							0.53	0.00	0.17	0.00	0.21	0.00	0.16	0.00	0.17	0.00
Prediction Emphasis					0.12	0.00	-0.08	0.00								
Control Emphasis					-0.10	0.00	0.05	0.04								
	N = 1938 Adj R2 = .15		N = 1938 Adj R2 = .10		N = 1901 Adj R2 = .315		N = 1901 Adj R2 = .292		N = 2283 Adj R2 = .455		N = 2383 Adj R2 = .409		N = 2109 Adj R2 = .046		N = 2156 Adj R2 = .040	

All models report results of OLS Regression.
While DDP2 and funded are categorical, they are distributed such that the results are essentially identical between OLS and multinomial or binary logistic regression.

Appendix 1

Screening Evaluation Instrument

Score the following items as it relates to moving the company to due diligence

D=Disagree, PD=Partially Disagree, N=Neutral, PA=Partially Agree, A=Agree

1.00	Wait until PowerPoint Presentation is complete but before Q&A to score	D	PD	N	PA	A
1.01	I feel this company should go to due diligence (if I had to decide now)	1	2	3	4	5
2.00	Wait until Q&A is finished but before lunch discussion to score	D	PD	N	PA	A
2.01	PREDICTIVE The market has a large growth potential	1	2	3	4	5
2.02	PREDICTIVE The company revenue potential is large	1	2	3	4	5
2.03	PREDICTIVE The business model is strong	1	2	3	4	5
2.04	PREDICTIVE Company has reasonable barriers of entry against competitors entering market	1	2	3	4	5
2.06	CONTROL The management team appears strong	1	2	3	4	5
2.07	*CONTROL The CEO/presenter is passionate about the company	1	2	3	4	5
2.08	The domain expertise of the CEO/presenter is strong	1	2	3	4	5
2.09	The CEO/presenter appears honest	1	2	3	4	5
2.10	The CEO/presenter is very enthusiastic	1	2	3	4	5
2.11	The CEO/presenter appears coachable	1	2	3	4	5
2.12	The CEO/presenter appears trustworthy	1	2	3	4	5
2.13	CONTROL The CEO/presenter has a proven track record	1	2	3	4	5
2.14	PREDICTIVE The company appears to have a reasonable exit plan	1	2	3	4	5
2.15	CONTROL The company has strong advisors/directors	1	2	3	4	5
2.17	I feel this company should go to due diligence (if I had to make a choice now)	1	2	3	4	5
3.00	Wait until after private discussion to score	D	PD	N	PA	A
3.01	I feel this company should go to due diligence	1	2	3	4	5
3.02	Interest in investing 0 = no interest, 1 = some interest, 2 = interested, 3 = very interested	0	1	2	3	

*The CEO assessment items collapse into 1 item for the CEO, and this item is a component in the Non-Predictive Control Factor.

Appendix 2

Angel Background and Prediction and Control Instrument

1. Have you ever started a company with a minimum of 5 employees and stayed in business for at least 3 years?
2. How many years have you worked as an entrepreneur (enter 0 if you have no entrepreneurial experience)?
3. How many companies have you been part of the founding team?
4. How many boards have you been on of startup companies?
5. Highest level of education completed? (Did not complete High School, High School, Bachelors, Master, PhD)

Entrepreneurial Situation
We would like to understand how you like to deal with the challenges of entrepreneurship. Please use your imagination to put yourself in the context of the entrepreneur in this scenario:

During your 12-year tenure as an engineer at a major computer manufacturer, you work on your own time to invent a computer device that recognizes and responds to eye movements. You imagine it might make a great alternative to the computer mouse. You can make it rest on the user's head much like headphones and set it up so that point-and-click navigation is accomplished with even the most minor head and eye movements. You are convinced there is a huge potential for change in the way things are currently done. But when you attempt to interest your current company in licensing the idea from you, they are uninterested. There are no firms currently offering anything close to this and you possess all the technical skills to create the product effectively and efficiently. You quit your job to further develop this idea.

1. As you assemble information, you will:

Disagree		*Neutral*		*Agree*	
1	2	3	4	5	Talk with people you know to enlist their support in making this become a reality.
1	2	3	4	5	Study expert predictions of where the market is heading.

2. As you develop a marketing approach you will:

1	2	3	4	5	Forecast which segments will be most valuable and focus on them.
1	2	3	4	5	Focus on customer segments you can reach through your existing relationships.

3. Predictions of trends and demand in this market are:

1	2	3	4	5	Useful to create forecasts of what your business might accomplish.
1	2	3	4	5	Misleading as they do not incorporate the impact of your firm.

4. As you learn about the expectations other people have for this industry, you:

1	2	3	4	5	Discount their projections, as they have not accounted for the impact of your venture.
1	2	3	4	5	Form updated predictions of likely outcomes for the business.