Understanding the “opportunity recognition process” in entrepreneurship, and consideration of whether serial entrepreneurs undertake opportunity recognition better than novice entrepreneurs.

“There is one thing stronger than all the armies in the world, and that is an idea whose time has come”

Victor Hugo
Table of Contents

“Determine that the thing can and shall be done, and then we shall find the way”
Abraham Lincoln

Acknowledgements

1. Introduction
   1.1 Entrepreneurship Theory
   1.2 Purpose of Dissertation
   1.3 Opportunity Recognition
   1.4 Importance of Opportunity Recognition to Individuals and Firms
   1.5 Dissertation Framework

2. The Entrepreneur and the Entrepreneurial Process
   2.1 Introduction
   2.2 The Entrepreneur
   2.3 The Entrepreneurial Process
   2.4 The “Opportunity”

3. Opportunity Recognition – Literature Review
   3.1 Introduction
   3.2 Opportunity Recognition as a Process
   3.3 Factors Unique to the Entrepreneur

4. Cambridge Serial Entrepreneurs Approach to Opportunity Recognition
   4.1 Introduction
   4.2 Methodology
   4.3 Observations

5. An Opportunity Recognition Framework
6. Conclusions

7. Bibliography

Appendices:

A - Cambridge Serial Entrepreneurs Interviewed
B - Opportunity Recognition Questionnaire
C - Prompts for Idea Generation
D - Creativity, Problem-Solving and Lateral Thinking Frameworks
E - Causes and Types of Opportunities, and Business Models to Exploit Opportunities
G - How to Increase Opportunity Recognition for Organisations
Acknowledgements

I would like to briefly thank Dr Shailendra Vyakarnam for his assistance and insight as supervisor for my dissertation, and also for the education in entrepreneurship I have received from both Shailendra and the Cambridge Entrepreneurship Centre (“CEC”) throughout the course of the year via the Basics of Building a Business course, the MBA Entrepreneurship Elective and the CEC Summer School.

I would also like to thank those entrepreneurs interviewed for this dissertation, namely Pilgrim Beart, Mark Bodmer, Sherry Coutu, Jack Lang and Adam Twiss. They are all extremely busy people but did not hesitate to lend me their time. I found these interviews incredibly insightful in relation to the dissertation, and also personally inspirational in terms of my own entrepreneurial aspirations. Also extremely helpful were Charlene Zietsma, Rob Singh and Georgia Papavasiliou who provided guidance and references to assist in my search for information.

Finally, a small dedication, to my father who contrary to the convention of the day chose early on to pursue life as an entrepreneur, and to New Zealand, a land of unparalleled beauty and now recognized as the leading entrepreneurial country in the world.

---

1. Introduction

“The journey of a thousand miles begins with one step”
Miyamoto Musashi

1.1 Entrepreneurship Theory

Why is it that some people recognise viable business opportunities where many others see only problems, or even worse, nothing at all? Opportunities are everywhere, yet many people do not see them. Entrepreneurs, however, have the capacity to see what others do not.²

The entrepreneurial process involving all the functions, activities, and actions associated with the perception of opportunities and creation of organizations to pursue them has generated considerable academic interest³. The key themes of the entrepreneurial process and context considered by academics is highlighted in the following diagram:

² Timmons (1999)
While an ever-increasing number of books dissect the entrepreneurial process, the recognition and exploitation of opportunity by entrepreneurs appears to be treated by publications on entrepreneurship as a minor aspect of the overall business development process.

Similarly, in recent years scholars have devoted much attention to studying the process of entrepreneurship. Within this body of research, much attention has been focused on opportunity evaluation as one important step towards launching a new venture. However, before an opportunity can be evaluated it must first be recognized and to date it appears opportunity recognition (theme 3 above), despite it often being considered to be the first critical step in the entrepreneurial process, has only received attention in recent years.

---

4 Hills & Schrader (1998), at P. 1
Indeed, one of the authorities in this area, Venkataraman\(^5\) argued that one of the most neglected questions in entrepreneurship research is where opportunities come from.

1.2 Purpose of Dissertation

The purpose of this dissertation is twofold. Firstly, it is to look at the most basic question: “how do entrepreneurs identify opportunities when many others face the same objective data, environment, circumstances etc\(^6\). In order to answer this, throughout the dissertation the writer will seek to understand how entrepreneurs come up with ideas, and how they evaluate these ideas to identify the one, or few, that potentially are viable opportunities to create an entrepreneurial venture. This occurrence is known as “opportunity recognition”. In considering this, the dissertation will also look at the “sensitivity” of entrepreneurs to opportunities, the cognitive processes they use to identify opportunities, and their self-perceptions regarding this phenomenon.

The second element of the dissertation is captured in the following; “although opportunities in a given environment may exist, the quality of the opportunity actually selected and operationalised is contingent upon the founders ability to recognize and envision taking advantage of the opportunity”\(^7\). Put simply, among entrepreneurs, are there some such as serial entrepreneurs that “do it”, namely opportunity recognition, better than others such as novice entrepreneurs, and if this is the case, what do they do better during this occurrence?

To answer this question, a series of interviews was conducted with serial technology entrepreneurs in Cambridge, to complement the literature review, in order to understand whether serial entrepreneurs are more advanced than a novice in this process, and if they are, how.

---


\(^6\) Woo, Daellenbach, & Nicholls – Nixon (1994), at P. 507

1.3 Opportunity Recognition

In terms of entrepreneurship, and the entrepreneurial process, the phenomenon of opportunity recognition is critical in that a major step in any entrepreneurial venture creation process is the recognition of the opportunity by the entrepreneur. To a degree, definitions of entrepreneurship have increasingly focused on opportunity as existing at the heart of our understanding of the phenomenon (although for this to be valid, it assumes that the entrepreneur actually then continued on to create the venture). This can be understood when we reflect on some of the most successful serial entrepreneurs of our time, such as Richard Branson (Virgin Group of Companies) and Stelios Haji-Ioannou (Easygroup), who have built their enterprises by being opportunity focused. They start with what the customers and market want, and do not lose sight of this.

Opportunity recognition was perhaps best defined by Christensen, Madsen, & Petersen as “perceiving a possibility for new profit through (a) the founding and formation of a new venture, or (b) the significant improvement of an existing venture”.

From this broad definition opportunity recognition can be considered as an activity that can occur both prior to establishment of a firm, and also post founding of a firm (throughout the life of the firm, and throughout the life of the entrepreneur).

Within the definition are two concepts, an “idea” and an “entrepreneurial opportunity”, that lead to the possibility for new profit which need to be distinguished. An idea for a business does not necessarily equate to an entrepreneurial opportunity, although it is always at the heart of an opportunity as an idea is the first step in the process of creating

---

8 Singh, Hills & Lumpkin (1999), at P. 1
9 Timmons, Muzyka, Stevenson & Bygrave (1987), at P.1
11 Christensen, Madsen, & Petersen (1989), at P.2
12 Singh, Hills & Lumpkin (1999), at P. 1
13 Timmons (1999), at P. 38
an opportunity. Therefore scholars suggest we can think of the “idea” as a stepping-stone that leads to an opportunity.

A myriad of other factors must exist to support that “idea” culminating in an observable customer demand for it to become an “entrepreneurial opportunity”. An entrepreneurial opportunity has the qualities of being attractive, durable, and timely and is anchored in products or services that create or add value for buyers or end users.

Given this distinction, and empirical studies conducted by themselves and others, Singh, Hills & Lumpkin therefore suggest opportunity recognition is a process rather than a one-time “eureka” experience. This suggestion is explored in the literature review and interviews with Cambridge serial entrepreneurs that follow.

In order to appreciate the boundaries of the opportunity recognition process, it is perhaps useful to understand those activities that may be considered to sit on the periphery of the process, but that are not part of opportunity recognition. These include:

- The circumstances, incentives, triggers (although these may prompt ideas) or “motivated propensity” that drive an individual to embark on opportunity recognition in order to pursue entrepreneurial opportunities; and
- Post identifying a viable entrepreneurial opportunity, whether the entrepreneur actually pursues the opportunity, and if so, the acquisition of new resources or effective management of existing resources in order to exploit the opportunity.

1.4 Importance of Opportunity Recognition to both Individuals and Firms

Given the assertion above that it is at the heart entrepreneurship, the topic of opportunity recognition is not only important to the individual entrepreneur, but also to any company, profit seeking enterprise, or indeed not-for-profit organisation seeking to innovate,

---

14 Singh, Hills & Lumpkin (1999), at P. 1
evolve, expand, or improve in the provision of any products and/or services they may provide.

The issue for these entities is that in and of itself, opportunity recognition is not an organisational process\(^{16}\) rather it is individuals within an organisation whose entrepreneurial activities contribute to the innovativeness of the company. Therefore for an organization to be more entrepreneurial first requires that its members act on more opportunities. Before acting on opportunities they must first see the opportunities. Seeing more possible opportunities increases the chances of finding appropriate ones to pursue. It is therefore vital for these organisations who are seeking to increase their entrepreneurial potential to understand how individuals recognise opportunities, so they in turn can provide the infrastructure to support (or avoid inhibiting) the perception of opportunities by their employees\(^ {17}\).

1.5 Dissertation Framework

The following provides an overview of the approach taken to review this topic for the purposes of this dissertation:

An Overview of the Dissertation Framework

After providing a brief introduction to the entrepreneurial process, the focus of the dissertation is on understanding the opportunity recognition process through a

---

\(^{16}\) O’Connor & Rice (2001)

combination of a detailed literature review and conducting interviews with a number of Cambridge serial entrepreneurs.

From this, an opportunity recognition framework is suggested, along with in the appendices providing, among other background information, practical frameworks to assist novice entrepreneurs in understanding what circumstances create opportunity, sources and approaches to prompt idea generation, and methods by which to evaluate those ideas to ascertain which is a viable entrepreneurial opportunity.
2. The Entrepreneur and the Entrepreneurial Process

“The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands at times of challenge and controversy”

Martin Luther King. Jr.

2.1 Introduction

As Timmons observed “entrepreneurship is a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced. At the heart of this process is the creation and/or recognition of opportunities, followed by the will and initiative to seize these opportunities…it can occur – and fail to occur – in new firms and in old; in small firms and large; in fast and slow growing firms; in the private, not-for-profit, and public sectors; in all geographic points; and all stages of a nation’s development, regardless of politics”\(^{18}\). What is unique about the phenomenon is that at the core of it is an individual, the entrepreneur, who propels forward an immeasurable amount of variables collectively to achieve his or her vision.

To understand opportunity recognition, it is first necessary to understand the make-up of the individual at its core, namely the entrepreneur and to understand the broader picture they are a part of, being the entrepreneurial process.

2.2 The Entrepreneur

The term “entrepreneur” has its origins in 17\(^{th}\) century France, where an entrepreneur was an individual commissioned to undertake a particular commercial project. An entrepreneur therefore is commonly understood to be someone who undertakes certain projects, and we recognize them, first and foremost, by what they actually do\(^{19}\).

\(^{18}\) Timmons, (1999)
\(^{19}\) Wickham, (2001)
There have been many studies trying to determine a psychological model of the entrepreneur. This research has focused on the influences of genes, family, education, career experience and so forth. However no acceptable model has ever been put forward to explain why successful entrepreneurs seem to be of either sex, and appear in every imaginable size, shape, colour and description.

The real question in understanding entrepreneurs (and perhaps learning from them) is not to enquire as to their psychological make-up, but rather to enquire as to “what successful entrepreneurs do?” That is, how do they think, what actions do they initiate, and how do they go about starting and building entrepreneurial ventures? It has been observed that successful entrepreneurs share common innate personality ‘characteristics’ (a permanent part of their make-up) such as:

- Dedication;
- Are driven by an intense commitment and determined perseverance or “doggedness”;
- See the cup as half full (rather than half empty);
- They strive for integrity;
- Exhibit a competitive desire to excel and win;
- Are dissatisfied with the status quo and seek opportunities to improve almost any situation they encounter;
- They use failure as a tool for learning and avoid perfection in favour of effectiveness; and
- They believe they can personally make an enormous difference in the final outcome of their venture and lives\(^{20}\).

Just as there are many different aspects to an individual entrepreneur, so to be there differing types of entrepreneurs. Academic research have identified the following four generic types of entrepreneurs\(^{21}\):

\(^{20}\) Handy (1999), at P. 22 – 27, and Timmons (1999) at P. 44
<table>
<thead>
<tr>
<th>Type of Entrepreneur…</th>
<th>Commentary…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice</td>
<td>individuals with no prior business ownership experience as a business founder, an inheritor, or a purchaser of a business.</td>
</tr>
<tr>
<td>Nascent</td>
<td>individuals considering the establishment of a new business.</td>
</tr>
<tr>
<td>Habitual</td>
<td>individuals with prior business ownership experience.</td>
</tr>
<tr>
<td>Serial</td>
<td>individuals who have closed/sold their original business but at a later date have inherited, established, or purchased another business.</td>
</tr>
</tbody>
</table>

For the purposes of the second element of this dissertation, the definition above was used to identify a Cambridge entrepreneur as “serial” for the interviews conducted. Serial entrepreneurs gain their rewards from the establishment and building of businesses, not their long-term management. They can be further divided into two types\(^{22}\): those who start new businesses in sequence (“sequential” entrepreneurs e.g. James Dyson who started the ball-wheelbarrow business and then Cyclone vacuum cleaners), and those who run several businesses simultaneously (“portfolio entrepreneurs” e.g. Richard Branson and the Virgin group).

### 2.3 The Entrepreneurial Process

The entrepreneurial process involves all the functions, activities, and actions associated with perceiving opportunities and creating organizations to pursue them\(^ {23}\). An interesting observation made about the entrepreneurial process is its numerous contradictions. Because of its highly dynamic, fluid, ambiguous and chaotic character, its constant changes frequently poses paradoxes for the entrepreneur attempting to make sense of a process full of chaos, ambiguity and uncertainty. Examples cited include:

- An opportunity with no or very low potential can be an enormously big opportunity;

\(^{22}\) Wickham (2001)
\(^{23}\) Bygrave (1997) at P. 3
• In order to make money you have to first lose money;
• In order to create and build wealth, one must relinquish wealth;
• In order to succeed first, one must experience failure; and
• Entrepreneurship requires considerable thought, preparation and planning, yet is basically an unplannable event\textsuperscript{24}.

Given this, although every venture is different with its own history, it is useful to consider the process of entrepreneurship in a generalized way. The model most referred to in literature is that devised by Timmons\textsuperscript{25} who in his work proposed a model of successful venture creation on what he perceived to be the three driving forces of entrepreneurship. It is worth noting that he prefaced this model with the comment “the process starts with opportunity, not money, not strategy, not networks, not the team, and not the business plan”.

\textsuperscript{24} Timmons (1999) at P. 30 - 31
\textsuperscript{25} Timmons (1999) at P. 38
At the heart of the model is the entrepreneur, driving the whole process forward and at the same time constantly seeking to balance the three dynamic components, being (1) the team/organization who must be coordinated; (2) the resources, encompassing the money which is invested in the venture, the people who contribute their efforts, knowledge and skills to do it, and physical assets such as productive equipment and machinery, buildings and vehicles; and (3) the opportunity and recognition of it.

Surrounding the entrepreneurial process are such things as risk, chaos, information asymmetric, resource scarcity, uncertainty, paradoxes, and confusion, all of which complicate the process.

Only when all three components converge and fit despite the surrounding factors can entrepreneurship occur successfully. The challenge for the entrepreneur therefore is twofold: (1) to manipulate and influence the surrounding factors in real time to improve the chances for success of a venture; and (2) to continually monitor and re-align where
necessary both components and surrounding factors to ensure “fit and balance” is maintained.

2.4 The “Opportunity”

Opportunities are created, or built, using ideas and entrepreneurial creativity. Timmons suggests “in reality the process is like the collision of particles in the process of a nuclear reaction or like the spawning of hurricanes over the ocean. Ideas interact with real world conditions and entrepreneurial creativity at a point in time”. The product of this interaction is an opportunity around which a business venture can be created.

As previously mentioned, an opportunity has the qualities of being attractive, durable, and timely, and is anchored in a product or service that creates or adds value for its buyer or end user.\textsuperscript{26} For an opportunity to have these qualities, there must be a ‘window of opportunity’, which is opening and remains open long enough. Further, entry into a market with the right characteristics is feasible and the management team is able to achieve it. The venture has or is able to achieve a competitive advantage and the economics of the venture are rewarding and forgiving and allow significant profit and growth potential.

Opportunities are situational and are spawned when there are changing circumstances, chaos, confusion, inconsistencies, lags or leads, knowledge and information gaps, and a variety of other vacuums in an industry or market. Some conditions under which opportunities are spawned are entirely idiosyncratic, while, at other times, they are generalisable and can be applied across other industries, products or services. In this way cross-association can trigger in the entrepreneurial mind the crude recognition of existing or impending opportunities.

\textsuperscript{26} Timmons, (1999)
Constant vigilance is therefore a valuable habit and thus an entrepreneur with credibility, creativity, and decisiveness can recognize and seize an opportunity while others study it.

In the context of the entrepreneurial process model of venture creation and the opportunity, studies have suggested that there are two types of opportunity recognition within the process:

- First are externally stimulated (or proactive) opportunity recognition, where the decision to start a venture preceded opportunity recognition. These entrepreneurs engaged in an opportunistic search for opportunities with filtration of opportunities, massaging of ideas, and elaboration; or

- An alternative path found was internally stimulated (or reactive) opportunity recognition, where entrepreneurs discovered problems to solve or needs to fulfill, and only later decided to create a venture and become an entrepreneur.²⁷

3. Opportunity Recognition – Literature Review

“You must be the change you wish to see in the world”
Mahatma Ghandi

3.1 Introduction

Opportunity recognition is a multi-faceted phenomenon and also only recently a focus of academic research. Why, when, and how certain individuals identify and exploit opportunities appears to be a function of the joint characteristics of the process and nature of the individual and the breadth of literature available and reviewed demonstrates this. The following diagram seeks to indicate the “primary” factors researchers have suggested underpin this phenomenon, along with providing a roadmap illustrating the chronology and “space” the literature occupies within the phenomenon for the reader.
One key issue that arose from the literature review was the lack of clarity with respect to definitions and elements of the phenomenon, for example some writers mixed the terminology of “idea” and “opportunity”, two distinctly different constructs.

There are three points of definition that require clarifying for the purposes of this dissertation:

- First, the writer has sought to distinguish between an “idea”, and what “prompts an entrepreneur to conceive an idea”. A number of authors have suggested the

![Opportunity Recognition Literature Review “Roadmap”](image-url)
terminology for that latter as “sources of ideas” however the writer would suggest that an idea must be the entrepreneur’s alone. By this the writer means elements such as social networks, prior employment and customers all referred to as “sources of ideas” in the literature act merely as prompts for the entrepreneur to formulate their idea;

- Second, an “opportunity” is an idea that once evaluated either in a structured or unstructured way, is deemed (rightly or wrongly) by the entrepreneur to be such that it can underpin the creation of a viable new venture to meet an existing or potential market need; and

- Finally, there are “types of opportunities” such as new products and new services, and there are what Timmons refers to as spawners and drivers, “causes of opportunities” such as regulatory change and reconstruction of the value chain, to name a few.

Given the above, in some instances this terminology rather than the original authors’ categorisations has been used during this literature review to present a consistent commentary and understanding for the reader.

3.2 Opportunity Recognition as a Process

Gaglio & Taub’s (1992) paper was seen as the first step to uncover the opportunity recognition process. During this study, which focused on cognitive skills and strategies in the process, as well as differences between the sample groups used regarding opportunity recognition, an initial model of opportunity recognition process was presented:

28 This suggestion was prompted from an interview with Dr Jack Lang of 12 August 2002 at the William Gates Building, Cambridge.
Hills (1995) study sought to further explore opportunity recognition as a process. This paper was a pilot study of serial entrepreneurs and opportunity recognition, with a sample including 100 exceptionally successful entrepreneurs who were to be inducted into the UIC Entrepreneurship Hall of Fame.

The study addressed a number of issues in relation to opportunity recognition, including consideration of the extent to which it could be considered a deliberate process. Here over 90% agreed opportunity recognition was a process of several learning steps over time rather than a one-time occurrence. More than half also agreed ideas were “dime a dozen” and that evaluation was the key, which also suggested a stepped process.

Hills also looked at “entrepreneurial alertness” with the finding that all (but one) of the entrepreneurs perceived themselves as having a “special alertness or sensitivity towards opportunities”. Further they saw themselves as opportunistic, as seeing more opportunities, and enjoyed thinking about opportunities when compared to non-business owners.

In terms of the process, Hills explored what were the fundamental prompts for ideas and how did entrepreneurs come across these prompts. The leading prompts were social networks, customer problems, suppliers and employees. A collective list of these prompts, encompassing all those that appeared during the literature review, is provided in

---

29 Based on table 1 of the article, these entrepreneurs can be called “serial” with 50% having pursued 3 – 4 opportunities within the previous 5 years, and 29% having pursued 5 – 10 opportunities over the same timeframe.
Appendix C. While not strongly conclusive on any one mechanism as to how entrepreneurs came across these prompts, immersion in a particular industry and marketplace, listening extremely well to the customer, creativity, a deliberate search process and “accidental discovery” were all highlighted.

Finally Hills also considered how entrepreneurs evaluate those ideas to identify viable entrepreneurial opportunities. Entrepreneurs considered intuitive judgment or "gut feel" rather than formal evaluation frameworks to be the most important part of judging the “opportunity potential” of an idea. Further, over 90% agreed that the most important thing was to “believe” in the idea. Of note as a filter, was the observation that most of the entrepreneurs agreed that only new business opportunities that fitted their current strategies were acceptable. Again a collective list of evaluation techniques, encompassing all those that appeared during the literature review, is provided in Appendix F.

Hills, Lumpkin & Singh (1997) looked at the sensitivity of entrepreneurs to opportunities and the cognitive processes they use to identify opportunities (the variety and quantity of selected opportunity recognition behaviours), their self perceptions regarding this phenomenon (self-perceived entrepreneurial alertness), and to further explore the concept of opportunity recognition as a process. They did this by studying the opportunity recognition characteristics of “successful” (hall of fame) entrepreneurs against “other” randomly selected entrepreneurs. Interestingly they found only modest differences.

In terms of opportunity recognition as a process, over 91% agreed “that identifying opportunities is really several learning steps over time, rather than a one time occurrence” and that a new venture idea was not necessarily an opportunity. The study also had the same results as Hills\(^{30}\) in relation to (1) self-perceived entrepreneurial alertness, with the further observation that hall of fame entrepreneurs appeared to have a higher locus of control and sense of self confidence and (2) evaluation, with “gut feel” and “belief in the idea” most important.

\(^{30}\) Hills (1995)
A focus of the paper was on the impact social networks has on the process. This included reference to relevant literature\textsuperscript{31}. In summary based on the “weak tie” and “structural hole” arguments\textsuperscript{32}, a potential entrepreneur who only interacts with a small group of tight knit friends has a much smaller chance of obtaining valuable information about a potential entrepreneurial [idea and] opportunity than one with an extensive network of contacts that includes many weak ties. They therefore suggested the proposition that “the greater the social network of the entrepreneur, the greater the exposure to ideas and thus more potential opportunities” – a form of measure for opportunity recognition capability.

They ultimately suggested that the opportunity search and identification characteristics of individual entrepreneurs tended to fall into two broad categories: a solo activity that involved creativity by opportunist entrepreneurs who had a good feel for the market and a network activity, that is, entrepreneurs who learnt of opportunities through contacts with others and assessed their viability through open discussion and trial and error. The two opportunity recognition modes, in turn, were uniquely related to other personal preferences and features of business creation.

Hills and Schrader (1998) study examined multiple dimensions of opportunity recognition among a group of exceptionally successful entrepreneurs and a control group


\textsuperscript{32} “Weak ties” and “structural holes” within a network may be indicators of accessibility to information that could lead an entrepreneur to an opportunity. Granovetter argued that weak ties act as “bridges” to information sources not necessarily contained within an individual’s immediate (strong tie) network that are likely to know each other far more intimately, as they are likely to provide unique information that the immediate network cannot. Burt’s work on “structural holes” followed a similar rationale. He argued that it was not the strength of the relationship between network ties that predicts access to unique information, but rather the “spaces” between network relationships. Defining the space between non-redundant contacts as “structural holes”, he shows the potential benefits and importance of the holes within a network. While a large network can offer more information, if an entrepreneur has a highly dense network (one where everyone knows everyone else) the entrepreneur will be exposed to redundant information. Theoretically, an entrepreneur with a network, which contains many structural holes, will have access to a much more expansive and diverse level of knowledge. This can give him a competitive advantage in terms of recognizing and taking advantage of opportunities by exposing him to greater quantities of non-redundant information.
of more randomly selected entrepreneurs. Once again there were few differences between the groups noted by the authors.

In terms of examining opportunity recognition as a process, some 92% agreed that identifying opportunities was really several learning steps over time, rather than a one-time ‘eureka’ occurrence. They suggested from this that entrepreneurs should allow time for the chance of encountering ideas and evaluating them to understand if they were viable entrepreneurial opportunities.

As with the previous studies, both groups strongly saw themselves as entrepreneurially alert. Similarly, prior experience, qualitative (rather than quantitative i.e. formal market research) immersion in a marketplace, listening to customers, and responses to specific problems were the common sample responses in terms of prompts for ideas, along with the concept that ‘one idea often leads to another idea more viable’. A further element explored in relation to this was the importance of “creativity” in identifying potential ideas and the observation that a number of the sample set aside a few minutes a day or week to be creative in this regard.

In terms of evaluation of idea, again as with previous studies, the sample considered the entrepreneurs’ collective, qualitative judgment as most important which led the authors to suggest “that this must be weighted most heavily in evaluating opportunities”.

Singh, Hills & Lumpkin (1999) again tested the many elements of the opportunity recognition process, with several interesting observations.

They had proposed opportunity recognition as a process of “initial new venture ideas, that after some additional thought and/or evaluation, entrepreneurs recognize that their ideas are potential new venture opportunities and then decide to start a new venture”33.

---

33 See Figure 2 “Basic Steps of the Opportunity Recognition Process”.

Page 25
As an aside, the third step, being a decision to start a new venture, is suggested by the writer to sit outside the process based on the rationale that irrespective of whether a decision to proceed with the venture or not is made, an opportunity has still been recognized.

On the question of whether entrepreneurs differentiated between an “idea” and an “opportunity”, over 96% of those sampled\(^34\) agreed that a clear distinction existed between an “idea” and an “opportunity”\(^35\). Further, the authors found that entrepreneurs identified twice as many ideas as opportunities (which supports the proposition that not all ideas are opportunities) and that they are different activities that take place at different times within the process. On this, the authors tested to assess the length of time between the idea and opportunity and found for most entrepreneurs, a substantial amount of time passed before the idea for their business became the opportunity for their business. More than 45% described the length of time to be months or even years, with 37% noting their ideas were recognized as opportunities within a matter of days or weeks, and only 16% recognizing opportunities from their ideas in little or no time.

An interesting observation in relation to the process is made in reference to work undertaken by Long and McMullan\(^36\), which describes the process as being at least partially under the control of the entrepreneur. They suggest that in order to realize the potential of an opportunity, a significant amount of preparation is required. And it is this

---

\(^34\) Final sample consisted of 256 information technology consulting founders
\(^35\) Singh, Hills & Lumpkin (1999), at P. 5
preparation that “personalizes” the opportunity, making it generally inaccessible to most other people. According to their model, a confluence of factors, including both uncontrolled factors (cultural, social, economic and job forces, and personality) and controlled factors (alertness, job selection, study, moonlight venturing, and lifestyle), affect the ability of a potential entrepreneur to recognize the opportunity. Through these factors, an individual can have what the authors call an ‘aha’ experience when the opportunity is recognized. They too suggest the process includes deciding whether or not to proceed (refer previously to the authors argument querying this proposition). Also interestingly they note that during this “strategic elaboration stage,” the opportunity may be honed and modified to better fit the market and to maximize the profit potential, which suggests the process is iterative (an observation that is consistent with the views of the entrepreneurs interviewed for this dissertation).

The study focused on the role of personal contacts within the entrepreneurs’ social network\(^{37}\), with those networks being described as the “most significant resource of the firm” because individuals are limited in their ability to process and store information, resulting in “bounded rationality\(^ {38}\)”. Given this observation, people within an entrepreneurs’ social network could help expand the boundaries of this rationality by expanding the knowledge and information levels of entrepreneurs, which could then lead to the identification of more ideas and potentially recognition of more opportunities.

From the sample, some 42% of the sample suggested their social network as a prompt for ideas, and over 75% used their network to test the idea to see if it were an opportunity.

Again, contrary to conventional academic thought that suggested systematic search and/or careful strategic planning as a recommended path for identifying entrepreneurial opportunities\(^ {39}\), “gut feel” was considered more important to entrepreneurs when it came to evaluating ideas. These results reinforced the changing view at the time that personal

---

37 Singh, Hills & Lumpkin (1999), at P. 2
39 Timmons, Muzyka, Stevenson & Bygrave (1987)
insights and intuitive processes were as important, if not more, for identifying opportunities as systematic search or planning\textsuperscript{40}.

Hills, Schrader, & Lumpkin (1999) recognized that few opportunity recognition studies focused on the creative aspects of the process. Their paper proposed a creativity-based model of opportunity recognition based upon the individual (i.e. they regarded opportunity recognition as a unique application of the creative process), rather than a multifaceted process referred to in previous literature.

Their proposed model consisted of the same elements of the creative process introduced by Wallas\textsuperscript{41} and a fifth element, elaboration (or advancing a creative idea), introduced by Kao\textsuperscript{42}:

- \textit{Preparation} – meaning, neither in a systematic nor deliberate way, the background and experience (personal background, training, work knowledge and knowledge of the field) that an entrepreneur brings to the process;
- \textit{Incubation} – where the entrepreneur is contemplating or “mulling over” an idea (in the sense of intuitive, non-linear, non-intentional style of considering possibilities or options) and not in a systematic analysis or conscious problem solving fashion;
- \textit{Insight} – a moment of recognition or “eureka” where the whole answer or core solution springs into awareness suddenly and spontaneously, for example the problem is solved or an idea becomes available from the entrepreneur’s social network;
- \textit{Evaluation} – where insights are analysed for their viability as a bonafide opportunity; and
- \textit{Elaboration} – where the creative insight is actualized, in the sense that the process of business planning and venture creation commences.

\textsuperscript{40} Singh, Hills & Lumpkin (1999), at P. 3
\textsuperscript{41} Wallas, G. (1926) “The Art of Thought” New York: Harcourt-Brace
They suggest this creative process is characterized by feedback loops and iterations that are necessary before an idea becomes verified as a viable entrepreneurial opportunity. In terms of this suggested process, it would appear that a more natural progression would be evaluation, and then insight (or Eureka) confirming a viable entrepreneurial opportunity, rather than insight followed by evaluation, which may or may not confirm a viable opportunity. Again the writer refers to the previous arguments questioning whether elaboration should be considered part of the opportunity recognition process.

Of note, is an observation in relation to the work of Mosakowski\textsuperscript{43} who in the context of a resource-based view of the firm identified four entrepreneurial resources that were likely to contribute to competitive advantage: creativity, foresight, intuition, and alertness. Interestingly, these are key elements of the opportunity recognition process, suggesting a material competitive advantage can be gained by the entrepreneur should they maximise their use of these cognitive aspects of their “make-up” in the process.

Schwartz & Teach (2000) in their paper sought to suggest a model of opportunity recognition building from those suggested by Gaglio & Taub (1992), Bhave (1994), and Singh, Hills & Lumpkin (1999). They believed there was a general model of opportunity recognition and exploitation that may be unchanging over time, although they proposed that there will be firm type and industry specific differences in the application of model strategies. A key point to note here is that the model does include exploitation post the opportunity recognition phase, which suggests more a model of the entrepreneurial venture creation process.

From their sample of 68 firms (technology and non-technology service and product firms) from incubators included in the 1997 National Business Incubation Association directory they proposed the following model:

Following from Singh, Hills & Lumpkin (1999), they suggested the various steps may be sequential or some may be skipped, and that time and industry specifics would play a role in how steps are taken.

A further elaboration on the process to consider for this dissertation was suggested by Craig & Lindsay (2001) who proposed in their research\textsuperscript{44}, among other hypotheses, that the opportunity recognition process was divided into two phases: the generic opportunity recognition phase and the situation opportunity recognition phase - basically while in general everyone may agree something is an ‘opportunity’, it may not be an ‘opportunity’ for everyone. While agreeing with the observation of two phases, it would appear that they relate more to the evaluation phase of the process, than to the idea generation element.

Their findings provided tentative support for the proposition that there are other factors that influence the process to moderate opportunity recognition. These factors focus on “fit” between the opportunity and the entrepreneur. Fit is determined by such items as risk propensity, prejudices against or preferences for particular opportunities (e.g. industries, technology etc.), individual backgrounds and objectives associated with a potential opportunity.

\textsuperscript{44} Which involved testing seven hypothesis against a sample of 262 entrepreneurs and financiers
3.3 Factors Unique to the Entrepreneur

The extent to which individuals recognise opportunities and search for relevant information can depend on the make-up of the various dimensions of an individual’s human capital. The following provides a brief overview of the material factors that affect the opportunity recognition process.

(a) Prior Knowledge

Shepherd & DeTienne (2001) in their study simultaneously considered the constructs of prior knowledge and potential financial reward to provide a deeper understanding of the discovery of opportunities. They referred to Shane (2000) in clarifying the three major dimensions of prior knowledge that were important to the process of entrepreneurial discovery, being: prior knowledge of markets, prior knowledge of ways to serve markets, and prior knowledge of customer problems.

They found that prior knowledge of a particular field provides individuals with the capacity to recognize certain opportunities (a “knowledge corridor”) and that those individuals with greater prior knowledge of customer problems were able to discover more opportunities and opportunities of a greater scale (more innovative).

An interesting observation relates to the impact of prior knowledge on an entrepreneur’s motivation. They found that in the presence of prior knowledge, a strong intrinsic motivation is aroused and is the primary incentive that “switches on” alertness, with possible financial reward (extrinsic motivation) less motivating. Further, financial reward provided minimal incentive for those that had considerable knowledge of customer problems. Rather it was dissatisfaction with the status quo, which arose from knowledge of market anomalies that appeared to be the primary motivator for entrepreneurial discovery.

(b) Experience

Research, and indeed common sense, suggests experience is vital in identifying entrepreneurial opportunities. Those entrepreneurs with experience have seen them before, they have an ability to recognise quickly a pattern and an opportunity at an unconscious level whilst it is taking shape.

Rae (1999) suggested experience was the development, over time, of a set of thinking patterns or personal theories that enable the entrepreneur to perceive, filter, analyse, decide and act on opportunities more effectively than others. In a similar vein, Timmons (1999) coined the phrase “pattern recognition” when discussing experience, which he described as “the recognising of patterns as a creative process that is not simply logical, linear, and additive”.

Timmons suggests in reference to work by Simon⁴⁶ that the process is often intuitive and inductive, involving the creative linking, or cross association, of two or more ‘in-depth’ chunks of experience, know-how, and contacts. The process of sorting through ideas and recognizing a pattern was compared to the process of fitting pieces into a three-dimensional jigsaw puzzle, in that experience allows the entrepreneur to see the relationships between, and be able to fit together seeming unrelated pieces to make the whole visible.

In terms of quantifying this, it was suggested that it could take ten or more years to accumulate this experience, termed ‘50,000 chunks’, that enable entrepreneurs to be highly creative and recognize patterns or familiar circumstances that can be translated from one place to another. The writer would suggest another element to this may be the “quality” of that experience, rather than just the “quantity”, as there are numerous examples in Cambridge alone of serial entrepreneurs with much less experience in terms

---

of duration, appearing to be highly successful in applying “experience” in this way to recognise potential entrepreneurial opportunities.

(c) Social Networks

As previously noted, an entrepreneur’s personal social network has been called the “most significant resource of the firm”. Researchers have noted that social encounters between an entrepreneur and their network contacts are often a source of new venture ideas. Further, no person has perfect information with which to make choices and decisions because they experience “bounded rationality” due to their limited ability to process and store information.

An entrepreneur’s social network can help expand the boundaries of rationality by offering access to knowledge and information not possessed by the individual entrepreneur. It was hypothesized that as the boundary is extended, more new venture ideas and opportunities and potential competitive advantages may be identified/recognised, screened and assessed, and then, if appropriate acted upon. However, little research had to date looked at opportunity recognition through social networks. Singh, Hills, Hybels & Lumpkin (1999) sought to progress this by looking at the importance of entrepreneur’s social network characteristics, such as network size, weak ties and structural holes, to the opportunity recognition process.

Their study found, using 256 information technology entrepreneurs, that network size and the number of weak ties in an entrepreneur’s network were significantly and positively related to the number of new venture ideas identified and opportunities recognized. The authors correctly hypothesized that network entrepreneurs used their network contacts to

---

access a wider range of information from which feasible opportunities could be recognized, in other words expanding their “boundaries of rationality”.

In support of Hills et al. (1997) they concurred with their findings that that network entrepreneurs identified significantly more opportunities than solo entrepreneurs, and were significantly less likely to go through a formal search for ideas. Further, they agreed that network entrepreneurs learned of more opportunities than solo entrepreneurs and were more likely to took advantage of opportunities in industries which they had no direct experience or were not immersed in, potentially as a result of their wider exposure to potential ideas.

(d) Cognitive and Behavioural Factors

One of the main areas of difference between individuals that may help us understand why certain individuals recognize opportunities while others do not is cognitive and behavioural differences.

Cognitive psychology is that branch of the psychological sciences that is concerned with how human beings acquire, store and process information about the world. It attempts to understand how we make decisions, act and react in different situations. It is recognized that we all have our own cognitive styles that we use to process information and that we adopt particular cognitive strategies when called upon to use that information in order to solve problems. Cognitive processes are split into three types:50

- Perception processes - these are concerned with how we see the world and gather information about it e.g. complexity/simplicity – the number of dimensions that are used to categorise the world;
- Problem-solving processes - these govern how information is used when an individual is called upon to make a decision e.g. adaption/innovation – the preference for established solutions or new solutions; and

50 Wickham (2001), at P. 18.
• **Task processes** - these are concerned with determining the way in which we approach particular jobs e.g. uncertainty accepting/cautious – the willingness to take on tasks with an element of risk in them.

Cognitive styles are distinct from “personality”. Personality can be defined as the consistent, and persistent, profile of beliefs, feelings and actions that make one person distinct from another. Both personality type and trait are seen as innate and there is no real evidence to suggest there is a single ‘entrepreneurial personality’. In contrast our cognitive approaches are subject to learning and may be modified, either intentionally or unintentionally, in the light of experience.

This is an area of developing research and as such it is premature to suggest entrepreneurs as a group, share any particular set of cognitive approach. However as the following research indicates it is true that, among other cognitive qualities, entrepreneurs do tend to be innovative, receptive to new ideas, and set out to find new ways of doing things.

Woo, Daellenbach & Nicholls-Nixon (1994) looked at potential explanatory factors for exploring the interpretative process of entrepreneurs. They suggest their rationale to accord greater significance to the interpretations and perceptions of entrepreneurs was demonstrated in a study\(^{51}\) that reported entrepreneurs’ self-assessment of their chances of success. The study established a high degree of disparity between entrepreneurial perceptions and objective factors pertaining to opportunity assessment. For example, the entrepreneurs invariably assigned high probabilities of success to their own ventures, while prescribing noticeably lower odds to other ventures like theirs, and their assessments were found to be detached from past macroeconomic data and from characteristics typically associated with high performing new firms.

---

They proposed that interpretations, actions and decision could be understood within the context of the entrepreneur’s (1) beliefs, (2) frames of reference and (3) past experiences.

With respect to the first factor, they observed two types of beliefs: one views the environment as concrete, measurable and determinant. Entrepreneurs with this belief rely heavily on rational analysis and data collection. They view success as the ability to discover the 'right' relationship. Their interpretations emerge from linear deductions premised on existing 'rules' or norms. The second group holds the belief that the environment emerges through interactions with actors and organizations. As such, the environment is non-deterministic and cannot be captured through passive forecasting techniques. They therefore intuit, break rules, and insert personal will in their interpretation. They are less dependent on data and rely as much on qualitative inputs as on quantitative indicators.

With regard to the second factor, frames of reference are one form of heuristics used by decision-makers to simplify the environment, organize information and identify solutions in the context of limited capacity processing. Two examples cited were, “escalation of commitment” where the entrepreneur, with a strong need to be proved right, is compelled to justify past mistakes by increasing commitment to the same course of action, and “prospect theory” where if the current position is one of loss and uncertainty prevails, the entrepreneur may reject a safe alternative which may leave him with a smaller but sure loss in favour of a risky alternative which may eliminate the loss - the motivation for an unwise course of action is not one of self-justification, but emerges from the desire to recover from, rather than minimize, losses.

The final factor was interpretation being affected by the degree of expertise of the entrepreneur. Simply put, “what people know influences what they can know”. For example, they cite studies comparing experts and novices, noting that:

- Experts differ from novices in the way cognitive schema are constructed (the expert's schema are more detailed, more elaborate and meaningful);
• Experts also demonstrate better recall of relevant information, are more cognisant
  of the inconsistencies in the information, and are less biased in their evaluations;
• They apply different and often more efficient problem-solving strategies; and
• Experts also forge a stronger link between problem identification and problem
  solution.

Hostager, Neil, Decker, & Lorentz (1998) looked at four cognitive and behavioural
aspects related to the performance of individuals during the opportunity recognition
process, namely, ability (knowledge, skill, creativity, experience), efficacy (belief, track
record), motivation, and desirability.

Ability from the comments above is largely self-explanatory. Efficacy is defined as the
belief or “conviction that one can successfully execute the behaviour required”\textsuperscript{52}.
Perceptions of self-efficacy develop as we gain experience and competence in various
cognitive, social, linguistic, and physical tasks. Since self-efficacy is a form of cognitive
self-evaluation, there is no guarantee that perceptions of abilities will accurately represent
actual abilities. However Krueger\textsuperscript{53} found that increased efficacy leads to perceptions of
more opportunities and less threats that, in turn, leads to an increased likelihood of risk-
taking behaviour. Combined, they suggest the degree of individual efficacy and ability
will effect:

• The frequency of initiating opportunity recognition activity;
• The amount of time spent on opportunity recognition activity;
• The amount of effort spent in opportunity recognition activity;
• Learning more about how to recognise opportunities;
• Seeing greater number of opportunities;
• Seeing fewer number of perceived threats; and

Entrepreneurial Exposure of Perceptions of New Venture Feasibility and Desirability”, Entrepreneurship
Theory and Practice, Vol 18, No. 1, P. 5 - 21
• An increased likelihood of risk-taking behaviour.

The final two factors were “motivation”, where the entrepreneur will differ in the specific factors which they perceive as motivating, and “desirability” which is dependent on a number of factors including: attitudes towards the act, social norms, intrinsic rewards, and extrinsic rewards. The higher the motivation/desirability levels, the higher the incidence of the factors above.

An interesting observation was made when looking at the evaluation of opportunities. Here the authors suggested the viability of an opportunity was a function of both the nature of the opportunity and of the entrepreneur’s capabilities and desires\textsuperscript{54} i.e. is this an opportunity for me?\textsuperscript{55} They defined an opportunity as “a future situation that is deemed desirable and feasible” and therefore they go on to suggest that efficacy and desirability act as natural perceptual screens to evaluate ideas in order to ascertain if it “is an opportunity for me”.

Zietsma (1999) looked at, among other elements, how entrepreneurs frame their activities differently to non-entrepreneurs\textsuperscript{56} in relation to the opportunity recognition process. In her literature review, a number of interesting observations were cited including:

• Suggestions that entrepreneurs and non-entrepreneurs differ in both their cognitive structures (schema), and their cognitive processes (the use of heuristics and biases), and that entrepreneurs may invoke schemas that are more predisposed towards entrepreneurial events, allowing them to make sense out of uncertainty;


\textsuperscript{55} Much like that proposed by Craig & Lindsay (2001) who suggested that the opportunity recognition process was divided into two phases: the generic opportunity recognition phase and the situation opportunity recognition phase.

\textsuperscript{56} In this case the sample included 52 high technology entrepreneurs and 22 senior managers in technology businesses.
Similarly that entrepreneurial sense-making is important to venture initiation:
‘acting as if’ the venture is unequivocal allows entrepreneurs to proceed where
others might be paralyzed by uncertainty;
• When entrepreneurs enact their venture with confidence, they increase its chances
of success, as their actions create and reinforce the reality they perceive; and
• That entrepreneurs used heuristics and biases, especially overconfidence and
representativeness, to a greater extent than managers, so as to for example allow
them to act quickly before an opportunity is lost, and allow them to overcome risk
aversion.

From the study Zietsma found that what clearly differentiated the groups were
confidence, consideration of risk and committed connection to the venture. Zietsma
observed that entrepreneurs were more confident about venturing successfully than were
non-entrepreneurs, they spoke less of risks, and they spoke more passionately about their
venture ideas.

Other findings consistent with the cited observations included entrepreneurs being more
committed to their ventures and more identity-entwined with them, with the framing of
the opportunity seeming to be more closely connected to their personal identity.
Overconfidence supported their commitment, and allowed them to act as if their success
was guaranteed. Consistent with the suggestion of the way one’s enactment of one’s
frame tends to reinforce it, entrepreneurs’ enactment of their overconfidence appeared to
contribute to the successes of their ventures. As a note of caution, Zietsma observed that
overconfidence was also suggested by their willingness to commit to the opportunity
without doing a thorough objective analysis.

Forbes (1999) paper focused on reviewing the cognitive studies of the process of new
venture creation. Cognitive qualities such as perception, information acquisition and
decision-making were explored. The paper did this by looking at entrepreneurs scanning
for opportunities, their information sources and how they interpret information
(comprehending the meaning of information using decision-making heuristics and schema that emphasise opportunity and controllability)

Forbes’ findings included:

- Entrepreneurs appear to base their intentions to create a new venture on the basis of perceived feasibility and the desirability of that action. He noted that this finding argues against the view that “entrepreneurs are born, not made”;
- Entrepreneurs preferred informal sources of information to more formal sources; and
- That there was preliminary evidence for the existence of “entrepreneurial cognition” – a distinctive set of thought processes that entrepreneurs use to interpret data – that included an unusually high reliance on decision-making biases and a tendency to interpret equivocal situations favourably.

Forbes provided the following useful figure to illustrate his view of the key cognitive concepts in the development of new ventures:

---

**Forbes Cognitive Stages in the Development of New Ventures**

- **Intention**
  - Perceived feasibility
  - Perceived desirability
- **Scanning**
  - Breadth of information sources
  - Locus of information sources
  - Intensity of information search
- **Interpretation**
  - Use of heuristics and biases
  - Perceptions of opportunities and threats
- **Action**
  - Decision-making practices
- **Performance**

---

Krueger (2000) suggests that individuals do not find future opportunities rather they construct them. Therefore he suggests opportunities are very much in the eye of the beholder and that perceptions and other cognitive phenomena are critical to recognising opportunities. In this paper Kruger argues for taking a cognitive approach to insights into the nature of innovative activity and how to nurture it, and therefore proposes an
intentions-based model of the cognitive infrastructure to support how individuals perceive opportunities in an organizational context.

In order to present his model he makes some interesting observations about opportunity perceptions relevant to this dissertation. First of all, he notes that organizations do not see opportunities, individuals do.

Second, he suggests we have a natural tendency to simplify the world around us by categorizing situations, for example perceptions of opportunity depend closely on perceptions that a situation is positive and that it is controllable (similarly, perceptions of threat depend on perceptions that the situation is negative and uncontrollable).

Third, opportunity perceptions reflect an intentional process. Mental models of what we intend reflect why we intend an action, put simply, intentions are driven by perceptions of feasibility (e.g., controllability) and by perceptions of desirability (e.g., positiveness). An interesting observation Krueger makes is that information is important, but the impact of that information is even more important.

Fourth, Krueger notes academics have some understanding of the mental models entrepreneurs share, the scripts and schema that differentiate entrepreneurs and it seems probable that we have cognitive access to both an `opportunity' schema and a `threat' schema. Which schema is activated first (or activated more strongly) depends on critical cues from the environment.

Fifth, the decision to undertake entrepreneurial activity requires a pre-existing belief that the activity is both desirable and feasible, coupled with some personal propensity to act on opportunities and some sort of precipitating factor.

Finally he suggests that at the heart of these scripts and schemas are critical perceptions that map onto a common framework of intentionality. For example, we know that perceptions of competence strongly influence our perceptions of whether a situation is
controllable. Perception of self-efficacy is a substantial antecedent of perceived opportunity. If we see ourselves as competent we are more likely to see a course of action as feasible, thus we are more likely to see an opportunity.

From these observations, Krueger proposed his “intentions model of opportunity perception”.

**Krueger’s Intentions Model of Opportunity Perception**

![Diagram of Krueger’s Intentions Model of Opportunity Perception]

A further observation about cognitive aspects of the entrepreneur is made by McCline, Bhat & Baj (2000). They focused on the “attitudinal” interpretation toward the entrepreneurial opportunity. Their findings suggested that the entrepreneurial process was contingent on both the situation and the individual. They observed that the entrepreneur may, depending upon the situation, demonstrate an entrepreneurial attitude toward opportunity e.g. act on the opportunity, demonstrate passion, and initiate strategy based upon related beliefs about the opportunity. This suggests that entrepreneurship is primarily a “situational phenomenon” and that context-specific elements – behaviour, emotions and cognitions – tend to converge and result in venture undertakings.

Ucbasaran, Westhead, & Wright (2001) in their paper noted an interesting observation about serial entrepreneurs, aside from those covered previously in the literature review. That is the suggestion that experience may not strictly enhance opportunity recognition ability as the serial entrepreneur may also develop “poor practices” such as over-confidence, subject to blind spots, illusion of control etc.
4. Cambridge Serial Entrepreneurs Approach to Opportunity Recognition

“One hundred percent of the shots you don’t take don’t go in”
Wayne Gretzky

4.1 Introduction

In order to test the many observations made in the academic literature reviewed, and also to assess the second element of the dissertation\(^5^7\), nine Cambridge serial entrepreneurs were approached to be interviewed for this dissertation. Only five of those were able to participate in the survey. Those interviewed primarily have been, and still are, involved in technology orientated entrepreneurial ventures. For reference, brief profiles of those interviewed are provided in Appendix B.

4.2 Methodology

For the purposes of this dissertation, a qualitative approach was taken with the questionnaire. This was justified on the basis of the limited sample size, and also observations made by Zietsma (1999)\(^5^8\) who in reference to cited works noted that many aspects of the phenomenon of entrepreneurship are not very likely to be understood with quantitative and survey method techniques. Secondly, that the qualitative approach allows the researcher to hear participants’ assessments of entrepreneurial opportunities in their own words, freeing respondents from the constraints of researcher-defined categories. And finally, that hearing respondents’ stories in their own words allows the interviewer to be able to assess the way respondents’ framed the entrepreneurial opportunities.

The questionnaire was divided into four broad sections to assess the key material aspects of the dissertation, namely:

\(^5^7\) Namely, whether serial entrepreneurs undertake opportunity recognition better than novice entrepreneurs, and if so, what elements of the process they do better.

\(^5^8\) Zietsma (1999) at P. 2
• The distinction between an “idea” and an “opportunity”, and the consideration of whether opportunity recognition is a process;
• Idea generation;
• Idea evaluation to assess if it was a viable entrepreneurial opportunity; and
• Whether serial entrepreneurs undertake opportunity recognition better than novice entrepreneurs, and if so, what elements of the process they do better.

A copy of the questionnaire is provided in Appendix C.

4.3 Observations

(a) The distinction between an “idea” and an “opportunity”, and the consideration of whether opportunity recognition is a process:

Without exception all of those interviewed agree there was a clear distinction between and idea and an entrepreneurial opportunity, which concurs with the research previously noted. In terms of opportunity recognition as a process, all those interviewed agreed, although three did suggest that it was also a mix of a process and a “eureka” experience. An interesting observation was that perhaps the “eureka” was “the process” in a non-linear, non-formulaic sense, in that all the elements of a process are colliding together in one moment rather than over an extended duration. As Adam Twiss suggested “when you are immersed in an industry as an entrepreneur the opportunity recognition process can become intuitive or instinctive”. Finally, it was noted by three of the sample that the process was also an iterative one.

(b) Idea Generation:

As with the studies in the literature review, the entire sample agreed that they had a special “alertness” to potential entrepreneurial ideas. By alertness, they meant both thinking of ideas themselves, ideas being prompted or actively sought from their
surroundings i.e. “ears to the ground”, and being very open to ideas or as Mark Bodmer put it “a preparedness to accept ideas and enjoy change”. An interesting observation was that this alertness was generally within the entrepreneurs’ related field(s) of expertise.

The majority of those sampled stated that they actively and deliberately sought ideas rather than accidentally discovered them. Again, an interesting observation from the sample was that the entrepreneurs were constantly putting themselves in a position to come across ideas, be it deliberately or opportunistically. An interesting quote in this regard put forward was “fortune favours the prepared mind” suggesting that they put themselves in the right environment to complement their active search process, with the potential to accidentally come across prompts for ideas.

In terms of prompts for ideas, the key theme flowing through from the sample was of identifying problems and then solving those problems or providing solutions to customers. The ability to do this they suggested was enhanced by immersion in an industry to enable this to happen. This aside, there was no conclusive commentary on other primary prompts for ideas arising from the list provided in the questionnaire. An interesting observation in this regard was that “social networks”, almost always was the leading prompt in the studies covered in the literature review, was not a primary source for the sample.

To complement prompts for ideas, the entire sample also agreed that creativity was an important element in the process of idea generation, which intuitively would seem correct on reflection.

The final issue addressed was whether the sample thought idea generation was an intangible personal quality or something that could be taught and improved, essentially the “nature and nurture” argument. Interestingly, the key theme was that there were frameworks and elements of creativity that could be taught or improved, but the key differentiating factor was that intangible quality that motivates an entrepreneur to

---

59 Mark Bodmer quoting golfer Lee Trevino.
generate, seek or position themselves to come across ideas. Unanimously, the sample agreed it was unlikely this could be taught, rather it was an innate personal quality within the “make-up” of an entrepreneur.

(c) Idea evaluation to assess if it was a viable entrepreneurial opportunity:

With the exception of one, the sample agreed that gut feel/intuition must be satisfied first before any other evaluation is undertaken. It was then suggested that some type of formal evaluation was overlaid this gut feel/intuition to assess the idea as a viable entrepreneurial opportunity, but also to identify any weaknesses or information gaps in relation to the idea. As one of the sample termed it “to validate your gut feel to yourself and those potentially involved in the venture”.

Again, with the exception of one, the sample did not have a generic formal framework to evaluate ideas. Rather from experience they had a concept of the key factors that any opportunity would need e.g. sustainable under-served market, barriers to entry, team, financial viability etc, and then they addressed the other criteria that were unique to this idea such as industry or technology specific issues.

An interesting observation in this regard reflects that picked up in the literature review. This is the observation, that as part of an evaluation of the idea, the entrepreneurs would ask themselves if it was an opportunity for them, and whether it motivated them to pursue it – essentially personalizing the evaluation process.

Other key evaluation tools were personal networks to provide objective 3rd party assessments of the idea, and testing the concept with potential clients and customers. Frameworks from the questionnaire that the sample considered less applicable were in-depth formal customer surveys, market analysis, and preparation of a business plan.
(d) Whether serial entrepreneurs undertake opportunity recognition better than novice entrepreneurs, and if so, what elements of the process they do better:

Without exception, the serial entrepreneurs sampled perceived that there were aspects of the opportunity recognition process they did better than novices. Again these results are very much in agreement with those provided in the studies covered in the literature review.

The entrepreneurs did not think that they were any more effective at idea generation than a novice, however without exception, they suggested that they would be far more effective and efficient at the evaluation stage of the process. The primary reasons put forward for this was a refined evaluation framework (be it tangible or intangible) and “entrepreneurial experience” that allowed them to recognize patterns associated with success (and failure) that novices don’t, to avoid the mistakes that novices make in this phase, and to also appreciate the key issues/challenges and how to overcome them, if that is possible. An interesting observation put forward though was to suggest that we shouldn’t equate “duration” (i.e. how many years you have been an entrepreneur) of experience with “quality” of experience. As a tangible example of this, it was suggested Michael Owen or David Beckham may have only played football for 15 years or less, but the quality of their experience would far outweigh an average follower of the game with 40 years playing and coaching experience.

The other key areas of the process where the sample suggested where they recognize opportunities better than a novice were:

- **Knowledge** – of “how to do it”, for example, how to get funding, whom to get on the team etc, all of which helps with the evaluation phase to validate if it is a viable entrepreneurial opportunity; and
• **Cognitive and Behavioural Factors** – such as increased self-confidence and self-efficacy, a reduced fear of failure, and a less frenetic and more composed approach to the entrepreneurial venture creation process.
5. An Opportunity Recognition Framework

“You see things and say ‘why’, but I dream things that never were; and I say ‘why not’”
George Bernard Shaw

Based on the literature reviewed and the interviews with serial entrepreneurs in Cambridge the following opportunity recognition framework is proposed:

The framework builds on from those proposed by Gaglio & Taub (1992), Singh, Hills & Lumpkin (1999), Hills, Schrader & Lumpkin’s (1999) and Schwartz & Teach (2000) that considered opportunity recognition as a process, and is intended to capture in a collective framework all those aspects of the process that were identified by the various articles and verified in the case study interviews.

The framework is conceived in terms of an individual who is at the core of it propelling forward an immeasurable amount of variables collectively to achieve their vision rather
than the organization\textsuperscript{60}. The process can occur both prior to establishment of the firm (externally stimulated) and also post founding (internally stimulated) of the firm, and indeed throughout the life of both the firm and individual\textsuperscript{61}.

The framework adopts those phases identified in Hills et. al. (1999) creativity based model. While identified in the framework, “Elaboration” sits on the periphery and is not considered part of the opportunity recognition process for the reasons previously outlined, rather it is the next step in the venture creation process post opportunity recognition and is illustrated as such. Similarly, the “Preparation” phase that encompasses both controlled and uncontrollable factors relating to the individual entrepreneur as proposed by Long & McMullan (1984) sits on the periphery as it precedes the process. These factors all go into the make-up of the entrepreneur, although controllable factors such as social networks, experience etc. are also relevant in the idea and evaluation phases.

The incubation phase identifies that “surrounding factors” exist that prompt an entrepreneurial idea. These factors are identified in Appendix C. These are complemented by features unique to the entrepreneur, such as knowledge, experience, cognitive factors\textsuperscript{62} and behavioural factors\textsuperscript{63}.

Once the idea is conceived, it is then evaluated (rather than the “Insight” stage as suggested in Hills et. al. creativity based model). As suggested by Craig & Lindsay (2001), it is divided into two stages: the generic evaluation, and then the situational evaluation to ascertain whether the opportunity “fits” the entrepreneur. Among some of the evaluation techniques are cognitive factors such as “gut feel”/intuition and a belief in the idea, less formal evaluation frameworks such as testing the idea with through social networks and with customers, and the more formal frameworks such as those suggested in Appendix F.

\textsuperscript{60} Hills, Schrader & Lumpkin (1999), Timmons (1999) & Krueger (2000)
\textsuperscript{61} Singh, Hills & Lumpkin (1999)
\textsuperscript{62} For example perception, problem-solving and task processes, alertness, creativity etc
\textsuperscript{63} For example efficacy, motivation, desirability, ability etc
The final stage is “Insight” or eureka, where all these factors culminate in a point in time to suggest that an entrepreneurial opportunity exists. As Singh et. al. (1999) noted, the framework suggests to arrive at this point through the process can take a moment or it can take months. Similarly, recognising Hills & Schrader (1999) observation, it can be very straightforward or it can be very iterative, characterised by many feedback loops and continued refinement of the idea.
6. Conclusions

“Whether you think you can, or think you can’t – you are right”

Henry Ford

As Timmons noted, it is clear that the venture creation process starts with an opportunity, not money, not strategy, not networks, not the team and not the business plan. Before starting with an opportunity however, the entrepreneur must first see or recognise the opportunity, hence opportunity recognition is critical to the entrepreneurial process.

As mentioned in the introduction, the purpose of this dissertation was twofold, firstly to more thoroughly understand “opportunity recognition” in entrepreneurship, and secondly, to consider whether serial entrepreneurs undertake opportunity recognition better than novice entrepreneurs.

In relation to the first aspect of the dissertation, this has been undertaken through the process of a detailed review of the relevant literature on the topic and then the testing of the observations made in that literature with a small sample of Cambridge serial entrepreneurs. From this a collective framework has been suggested in Section 5 that attempts to “pull together” all those dimensions identified such as process, experience, knowledge, social networks, and cognitive and behavioural factors in order to more thoroughly understand the process in its entirety.

In relation to the second aspect of the dissertation, the literature review studies indicated there were relatively few differences between serial and novice entrepreneurs in relation to the process. These differences were highlighted in the interviews conducted where serial entrepreneurs perceived that there were aspects of the opportunity recognition they did better than novices. They suggested that they would be far more effective and efficient at the evaluation stage of the process for reasons such as a refined evaluation framework (be it tangible or intangible) and “entrepreneurial experience”. The other key areas the sample suggested they do better than a novice were in relation to “knowledge”
of ‘how to do it’, and cognitive and behavioural factors such as increased self-confidence and self-efficacy, a reduced fear of failure, and a less frenetic more composed approach to the entrepreneurial venture creation process.

It is hoped that this work has helped in a small way with development of the body of research into opportunity recognition, or at least contributed to providing in one paper, work a more comprehensive understanding of all the dimensions of the process. As a result of the research undertaken, an attempt to compile in the appendices some practical frameworks to assist those novice entrepreneurs with tools to assist them in some small way in the opportunity recognition process has been made.

As a final observation, opportunity recognition which is crucial to the success of the entrepreneur and their venture would appear from the above research and commentary to be “under-taught” in terms of entrepreneurship education, and only briefly touched on in entrepreneurial books (with the exception of Timmons who devotes significant attention to ‘opportunity’ and the process). These courses and books often focus on the “how to” of writing business plans, obtaining financing etc yet without a viable entrepreneurial opportunity none of this would be possible. Perhaps if there were more focus on this area, especially of education and guidance in the evaluation phase, then the incidence of failed start-ups and ventures may fall.

---

64 Singh, Hills & Lumpkin (1999), at P. 12
7. Bibliography

“Only those who dare to fail greatly, can ever achieve greatly”
Robert F. Kennedy


Appendix A - Cambridge Serial Entrepreneurs Interviewed

“Here’s to the crazy ones. The misfits. The rebels. The trouble-makers. The round heads in the square holes. The ones who see things differently. They’re not fond of rules, and they have no respect for the status-quo. You can quote them, disagree with them, glorify, or vilify them. But the only thing you can’t do is ignore them. Because they change things. They push the human race forward. And while some may see them as the crazy ones, we see genius. Because the people who are crazy enough to think they can change the world, are the ones who do”

“Think Different” Advertisement, Apple Computers

**Entrepreneur:** Sherry Coutu  
**Company:** Interactive Investor International  
**Contact Details:** 01223-846-302, sherry@coutu.com  
**Interview Details:** Interview by telephone, 8 August 2002

Sherry was the founder of Interactive Investor International, a software company for financial services firms, which was established in 1994, floated in 2000, and later acquired in 2001. Prior to this, in 1993 after completing her MBA at Harvard Business School, Sherry founded a software company providing an emerging markets database to financial institutions. Sherry currently teaches Entrepreneurship at the London Business School, holds several directorships, and privately invests in start-up companies.

**Entrepreneur:** Dr Mark Bodmer  
**Company:** Lorantis Limited  
**Contact Details:** 01223-702-500  
**Interview Details:** Interview at Lorantis, 9 August 2002

Mark joined Lorantis in February 2000 as Chief Executive Officer. Lorantis is an immunology drug discovery and development company creating novel therapeutics for the induction of antigen-specific tolerance based on newly discovered mechanisms of immune regulation. Prior to this, Mark was involved in founding Hexagen in 1996, which sought to commercialise academic scientific developments. The company was
sold in 1998 and Mark joined the acquiror as Vice President, Research & Development for one and a half years before joining Lorantis. Prior to this role, Mark worked for Celltech for 14 years after gaining his PhD in Genetics.

**Entrepreneur:** Dr Jack Lang  
**Company:** Interactive Digital Television  
**Contact Details:** 01954-212-500  
**Interview Details:** Interview at the William Gates Building, 12 August 2002

Jack is a successful serial entrepreneur and business angel with high-tech and internet companies. Notable businesses founded by Jack include, Electronic Share Information Ltd, one of the first online brokerages which was subsequently sold to E*trade USA and the United Kingdom’s first interactive digital television channel which was subsequently sold to NTL. Jack is a member of the University of Cambridge Entrepreneurship Centre, and runs an acclaimed business studies course for the University Computer Laboratory. He recently wrote “The High-Tech Entrepreneur’s Handbook”.

**Entrepreneur:** Pilgrim Beart  
**Company:** Seedcorp  
**Contact Details:** 01223-872-166, 07961-125-282  
**Interview Details:** Interview at Browns Restaurant, 13 August 2002

Pilgrim graduated with a degree in Computer Engineering and worked in a number of start-ups for twelve years in both the United Kingdom and the United States, which included six years in Silicon Valley. In 1998 he returned to the United Kingdom to start up ActiveRF, a wireless tracking company. Pilgram subsequently spun-out Antenova, a company focused on antenna technology. He was CEO for both companies. Pilgrim is now also a Director of Seedcorp, a technology accelerator, seeking to provide expertise, management time and funding to early stage ventures.
Entrepreneur: Adam Twiss
Company: Saviso Group Ltd/Zeus
Contact Details: 01223-422-440
Interview Details: Interview at the St Johns Innovation Centre, 14 August 2002.

Adam studied at Cambridge from 1993 – 1996. While in his 2nd year Adam set up Zeus, which was an internet software company whose product is now used by approximately 3% of the world’s websites. He subsequently left the company in 2001, and has set up Saviso Group which includes a company looking to help set up high-tech businesses, and another looking to provide specialist high-tech consultancy through which Saviso intends to create a platform to develop and then spin-out further start-ups.
Appendix B - Opportunity Recognition Questionnaire

“Don’t judge those who try and fail, judge those who fail to try”
Unknown

Name:

Company:

Contact Details:

Entrepreneur’s Background:

Type of Entrepreneur: Novice / Nascent / Habitual / Serial / Portfolio

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice</td>
<td>Individuals with no prior business ownership experience as a business founder, an inheritor, or a purchaser of a business</td>
</tr>
<tr>
<td>Nascent</td>
<td>Individuals considering the establishment of a new business</td>
</tr>
<tr>
<td>Habitual</td>
<td>Individuals with prior business ownership experience</td>
</tr>
<tr>
<td>Serial</td>
<td>Individuals who have closed/sold their original business but at a later date have inherited, established, or purchased another business</td>
</tr>
</tbody>
</table>

Do you consider there to be a difference between an “idea” and an “entrepreneurial opportunity”?

Do you consider “Opportunity Recognition” a process (i.e. a set of several learning steps over time) or a “eureka” experience?

If a process, is it an iterative one?

Idea Generation:
“Alertness” or sensitivity towards new Ideas?

Causes of Ideas - actively sought (i.e. deliberate search process – how?) or accidentally discovered?

Prompt(s) for Ideas?

- Social networks (family/friends/business contacts)
- Customers/clients
- Employees
- Suppliers
- Consultants
- Investors
- Solution to a specific problem
- Perceived “customer need”
- Trade publications
- Media - Newspapers/Magazines/ Radio/Television
- Technical literature
- Libraries
- Patent filings
- Prior employment
- Profound market or technical knowledge
- Immersion in a market
- Hobby/Personal Interest
• Thinking by analogy/saw a similar business
• Market research

• It just came to mind
• One idea leads to another idea
• Foresight

• Other

Role of creativity in idea generation

Do you believe idea generation can be taught or is it an intangible personal quality such as “alertness”?

Idea Evaluation - Approach to Identifying Entrepreneurial Opportunities from Ideas:

Structure versus unstructured – formal evaluation or “gut feel/intuition”

If structured, evaluation techniques?

• Social networks (family/friends/business contacts)
• Potential customers/clients e.g. in-depth formal customer surveys
• Formal objective opportunity evaluation criteria – if so, what criteria do you apply?
• Market analysis
• Enter the market, then make changes as you go based on customer/market feedback
• Preparation of a business plan
• 3rd party objective assessment (e.g. consultants, business associates, trusted partners)
If unstructured, how would describe the approach?

- Gut feel
- Intuition
- A total belief in the idea
- None, just knew idea was an entrepreneurial opportunity (perhaps represent individuals who are highly alert to opportunities or perhaps those who have higher levels of self-efficacy)

**Role of Entrepreneurial Experience in the Opportunity Recognition Process**

_Do you believe greater experience leads to greater confidence and greater alertness to ideas and evaluation of those ideas?_ (This will influence the number of ideas entrepreneurs will generate, as well as where and how they search for opportunities. Experience with previously successful opportunities will influence the processes and strategies used and where future potential opportunities will be sourced and evaluated)

_As a serial entrepreneur what do you believe you do better than a novice in the opportunity recognition process:_

- Idea Generation
- Idea Evaluation
- Knowledge (and information) differences;
- Cognitive differences (schema, biases, heuristics, perceptions)
- Behavioural differences (belief, self efficacy, intentions, motivation, desire)
Academics suggest “opportunity recognition” depends on ability, efficacy, motivation and desirability – do you believe a Serial Entrepreneur does any of these better than a Novice?
Appendix C - Prompts for Idea Generation

“Seek and ye shall find”
Unknown

This collective list of prompts for idea generation was accumulated over the course of researching this topic and can be attributed to many of the authors provided in the bibliography, without any one providing a major contribution.

• Social networks (family/friends/business contacts)
• Customers/clients
• Employees
• Suppliers
• Distributors
• Consultants
• Investors
• Competitors
• Trade shows

• Solution to a specific problem
• Perceived “customer need”

• Trade publications
• Media - Newspapers/Magazines/ Radio/Television
• Technical literature
• Libraries
• Patent filings
• Product licensing (universities, corporations, not for profit organization)

• Prior employment
• Profound market or technical knowledge
• Immersion in a market
• Hobby/Personal Interest

• Thinking by analogy
• Examine a similar business
• Buy an existing business
• Franchises
• Market research

• It just came to mind
• One idea leads to another idea
• Foresight
Appendix D – Creativity, Problem-Solving and Lateral Thinking Frameworks

“If you can imagine it, you can achieve it. If you can dream it, you can become it”
William Arthur Ward

Throughout the course of research, three common themes emerged in relation to idea generation. These were creativity, problem-solving and lateral thinking. All of these are covered by vast amounts of literature that provide frameworks on how an entrepreneur can improve on each of these. I found those provided by Dobbins & Pettman (1999) to encompass most of the suggestions, and more, than those articulated elsewhere.

*Creativity:*

Creativity is a skill that can be learned and developed. Key to this is the law of belief – we know that we will always behave in a manner consistent with our beliefs. If we believe we are creative, then we behave in a manner consistent with being creative.

Four key aspects to generate creativity:

- Clarity – try to see the big picture and identify causal relationships, identify specific and measurable goals;
- Focus and concentration – set aside time, focus on outcomes, define and describe the perfect outcome, focus and concentrate on the issue, investigate all options, keep notes, make lists;
- Adaptive thinking – avoid attachment to one idea, keep an open mind, be adaptive and flexible, ask questions, ask others for their ideas, invent to the void, no-criticisms & no-negatives; and
- Use systematic methodology – 20 ideas (i.e. there are 20 ways of achieving everything, everything can be improved at least 10%, group and individual brain storming spontaneously, lateral thinking, surround yourself with creative people).
Problem Solving:

A key prompt for ideas was identifying and solving customer’s problems. A useful approach to problem solving involves:

- Define the problem with absolute clarity;
- Collect all the facts (not just the convenient ones);
- Ask others for advice;
- Seek the solution from your conscious mind, your sub-conscious mind and your super-conscious mind;
- Always catch the moment – record useful thoughts, ideas etc;
- Ask focused questions;
- Understand and list all possible causes of the problem – focus on solutions to the problems, talk about the future, focus on opportunities;
- Assign responsibility and a timeline for fixing it;
- Take the necessary action;
- Inspect and review what is done; and
- Use deadlines on yourself and others.

Lateral Thinking:

Key strategies to approach this include:

- Reversal – instead of thinking of the problem as a problem, think of it as an opportunity from which you can benefit;
- Random Association – allows you to make mental connections which we are not in the habit of making;
- Shift the dominant idea – instead of asking how to increase market share from 3% to 10%, why not ask why 97% of the market do not buy from us;
- Argue the case for the opposition; or
• Fantasize – visualize the perfect outcome and then use your creativity to find a way forward to achieve that outcome, or seek to reverse engineer it, to take you back to your original position.
Appendix E – Causes and Types of Opportunities, and Business Models to Exploit Opportunities

“The problems of the world cannot possibly be solved by skeptics or cynics whose horizons are limited by the obvious realities. We need men who can dream of things that never were.”

John F. Kennedy

A useful way to assist in the opportunity recognition process is to understand the causes of opportunities, the types of opportunities that may exist and how those can be exploited through available business models. The following provides some useful examples of each accumulated during the process of researching this dissertation.

Causes of Opportunities

A summary of “spawners and drivers” of opportunities was provided by Timmons:

- Regulatory change
- 10-fold change in 10 years or less (e.g. Moore’s law)
- Reconstruction of value chain and channels of distribution
- Proprietary or contractual advantage
- Existing management/investors burned out/under-managed
- Entrepreneurial leadership
- Market leaders are custom obsessed or customer blind
- Unexpected events
- Change in industry structure
- Demographic changes
- Changes in customer values
- New knowledge
Types of Opportunities

In his book, Wickham produced a useful summary of types of opportunities:

- New products
- New services
- New production techniques
- New operating practices
- New ways of delivering the product or service to the customer
- New means of informing the customer about the products
- New ways of managing relationships within the organization
- New ways of managing relationships between organizations

Or a combination of any, or all, of the above.

This type of thinking about types of opportunities can be then usefully applied to the Ansoff model noted by Rae (at P. 61), a diagram of which is provided below:

---


---
Business Models for an Opportunity:

Jack Lang provides a simple list of business models to exploit opportunities in his book:

- Selling things for more than they cost;
- Charging a commission;
- Selling subscriptions;
- Selling advertising;

“Little drops of water tear down big stones”
Russian Proverb

As Timmons observed, superior Opportunities have four anchors:

- They create or add significant value to a customer or end user;
- They do so by solving a significant problem, or meeting a significant need or want, for which someone is willing to pay a premium;
- They have a robust market, margin, and money making characteristics; and
- They are a good fit with the founders and management team, and in the marketplace, and with the risk/reward balance.

Research and feedback from the interviews indicated a primary informal evaluation tool was “gut feel” and/or intuition, and a slightly more formal tool was social networks and potential customers/clients.

Some suggested formal evaluation frameworks are provided in the following. Of note, many have a number of common themes and topics that emerge:

Wickham suggested a framework that sought knowledge of:

- The technology behind the product or service which is produced;
- How the product or service is produced;
- Customers needs and the buying behaviour they adopt;
- Distributors and distribution channels;
- The human skills utilized within the industry;
- How the product or service might be promoted to the customer; and
- Competitors; who they are, the way they act and react.
Jack Lang suggested that any evaluation of an idea had to consider the following:

- Global, sustainable, under-served market need;
- Strong management team;
- Defensible technological advantage;
- Believable plans; and
- 60% internal rate of return, with a viable exit route.

Dobbins & Pettman in their book provided the following evaluation tool with respect to understanding whether an idea was a viable entrepreneurial opportunity:

- Clearly define what the new idea is;
- What is the benefit it produces;
- What does it do;
- What does it cost;
- Does it make at least a 10% difference to customers;
- Why should anybody buy this benefit from me;
- What else could produce exactly the same benefit;
- What does the alternative cost;
- Who will competitors react;
- Will it do the job it is intended to do;
- Is it at least 10% better than the existing alternative;
- Is it a significant improvement;
- Is it compatible with human nature;
- Would you recommend it to your family and friends;
- Would you buy it yourself;
- Is anybody prepared to be a product champion for this product/service;
- Is it too soon (or late) for this product;
- Is it worth the expense; and
• Will people (your target customers) understand it.

Finally, Sherry Coutu provided two frameworks to consider, the first is taught to MBA students on the entrepreneurial course at the London Business School, and is as follows:

• Does the opportunity match my experience, skills & interests;
• Can I recruit and lead the team needed to exploit the opportunity;
• Do the resource needs of the opportunity shorten the odds on success;
• Is the timing of the opportunity right i.e. does a window of opportunity exist, and if so, will it remain open long enough;
• Does the opportunity constitute a scaleable (and sizeable) business;
• Does the opportunity offer good margin potential; and
• Am I developing an opportunity or simply an idea.

The second, is a useful one-page evaluation framework. It is based on the framework originally set out by Timmons, Muzyka, Stevenson, & Bygrave (1987) which sought to outline a complete set of characteristics common to successful ventures across markets and industries. Commentary on the Timmons et.al. framework follows the one-page summary below:
### Market

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need identified</td>
<td>Identified</td>
<td>Unfocused</td>
</tr>
<tr>
<td>Customers reachability</td>
<td>Reachable</td>
<td>Unreachable, Loyal to others</td>
</tr>
<tr>
<td>Payback to user</td>
<td>Less than one year</td>
<td>3 years or more</td>
</tr>
<tr>
<td>Value added</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Product life</td>
<td>Durable</td>
<td>Perishable</td>
</tr>
<tr>
<td>Market structure</td>
<td>Imperfect/Emerging Comp.</td>
<td>Perfect / Concentrated</td>
</tr>
<tr>
<td>Market size</td>
<td>$ 100 Million</td>
<td>Unknown, &lt; 10 M &gt; Billion</td>
</tr>
<tr>
<td>Market growth rate</td>
<td>30-50 % or more</td>
<td>Less than 5 %</td>
</tr>
<tr>
<td>Gross margins</td>
<td>40-50 % or more</td>
<td>Less than 20 % or fragile</td>
</tr>
<tr>
<td>Market share (Year 1)</td>
<td>20 % or more</td>
<td>&lt; 5 %</td>
</tr>
<tr>
<td>Cost structure</td>
<td>Low Cost Provider</td>
<td>Declining Cost</td>
</tr>
</tbody>
</table>

### Competitive Advantage

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production F&amp;V costs</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Marketing F&amp;V costs</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Distribution FV costs</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

### Degree of Control

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prices</td>
<td>Moderate to Strong</td>
<td>Weak</td>
</tr>
<tr>
<td>Costs</td>
<td>Moderate to Strong</td>
<td>Weak</td>
</tr>
<tr>
<td>Channels of Distribution</td>
<td>Moderate to Strong</td>
<td>Weak</td>
</tr>
</tbody>
</table>

### Barriers to Entry

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response / Lead Time</td>
<td>Have or can get</td>
<td>None</td>
</tr>
<tr>
<td>Legal, Contractual</td>
<td>Proprietary or Exclusive</td>
<td>None</td>
</tr>
<tr>
<td>Contacts / Networks</td>
<td>Well Developed , High Quality</td>
<td>Crude</td>
</tr>
<tr>
<td>Necessary Resources</td>
<td>Adequate</td>
<td>Weak or Inadequate</td>
</tr>
</tbody>
</table>

### Management Team Issues

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurial Team</td>
<td>Existing, Strong, Proven</td>
<td>Weak, Solo Entrepreneur</td>
</tr>
<tr>
<td>Competitors Mind Set</td>
<td>Competitive, Focused</td>
<td>Dumb, self destructive</td>
</tr>
</tbody>
</table>

### Fatal Flaw / Risk

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existence - Fatal Flaw</td>
<td>None</td>
<td>Many</td>
</tr>
<tr>
<td>Risk</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>
1. **Product Market Structure:**

- Identification of the “true market” for the ventures product – a well defined notion of the actual customers, the rationale for purchasing the new product or service, and the benefits and economic payback realized by the customer;

- Venture that will provide to the customer a clear defined economic payback in less than 18 months;

- Ventures that are likely to serve a clearly defined market with an annual size between US$10m – US$100m or greater (although if the market is too large it tends to attract many competitors i.e. large corporations);

- Reasonably conservative and researched expectations as to long run market share;

- Market with a potential growth rate of 30% - 60% or greater (although if the market growth rate is excessive it tends to attract many new entrants);

- Ventures that are based on a product which incorporates or is manufactured by a process that incorporates legally protected or highly unique technologies or features – barriers to entry

- Ventures whose product or service can be served by similar products or services or the easy combination of similar products or services less likely to be successful – require a product or service with new features;

- Ventures whose product or service can be duplicated by the relatively immediate extension of the product line of an existing competitor less likely to be successful - require a product or service with unique features;
• Ventures, which produce products or services of higher quality than substitute or competitive products, have a higher likelihood of success.

2. Competitive Dynamics:

• Ventures that face strong and vindictive competitors in their served market segment or adjacent market segments are less likely to succeed – need limited or passive competition;

• Ventures which compete on the basis of product differentiation and technology innovation are more likely to be successful than those that compete on price – differentiation strategy the key;

• Ventures which compete on the basis of technology innovation or a differentiated product are more successful if the technologies or products are not perceived to be as threatening to the competitors or have an inherently long head time for competitive response;

• Ventures that can (1) attain and maintain a high relative market share in excess of 20%, (2) be able to exercise price leadership based on market share position, and (3) attain and maintain a low or lowest cost position are most likely to be successful;

• Ventures which can grow in a market niche protected by extensive barriers will succeed, when compared to no barriers;

• Ventures with low barriers to initial entry, and therefore, lower costs are more successful;
• Ventures which rely on one innovative product with little or no possibility for expansion or extension are less likely to succeed than ventures which rely on a product concept which can lead to a product line

3. Business Economics

Economic Value Add created by the Business:

• Ventures with a clearly defined and stable position in a value added stream (understand nature, size and durability of value add) and a durable and high value added have a better chance of success;

• Successful ventures require stable gross margins of between 20% - 50%

Supplier/Distributor Relationships:

• Ventures having clearly defined inputs and multiple factor inputs and sources of supply for these inputs have a greater chance for success than those which must develop sources of supply or that must determine how to best manufacture or provide the product or service;

• Ventures that have clearly defined, accessible, and established product distribution channels are more likely to be successful than ventures with poorly defined or non-existent product distribution channels;

• Ventures, which have an exclusive or unique relationship with suppliers and/or distribution channels, are more likely to be successful.
Investment Streams:

- Ventures which require multiple rounds of funding tend to be more successful than those that require only small or very large investments, or those with very irregular capital requirements;

- Ventures which are planned, proposed and funded largely in a single investment stage are typically less successful than those segmented for both planning and funding purposes into smaller logical segments with discrete and measurable performance criteria;

- Ventures which are asset intensive are typically less successful than ventures with moderate or low asset intensity;

Mechanisms to capture the Business’s Value Creation:

- Ventures should have a clear exit path (IPO, sale) or that have a clear and reasonable chance of operating as a separate entity are usually more successful;

- Ventures, which are funded with the expectation that the best exit option for the venture capitalist is a buyback by the management, are less likely to succeed than ventures with an externally and independently apparent value.

4. Business Performance

Time related standards:

- Ventures planned for final disposition within 4 – 7 years are likely to be more successful than ventures with usual life cycles involving early sale or longer-term disposition;
• Ventures with a reasonably planned breakeven of between 18 – 36 months likely to be successful – too short likely to mean low barriers to entry, too long likely to mean intrinsically risky and possibly unrealistic assumptions.

Cash Flow and Profit:

• Durable after tax profits of between 10% - 15%

• Planned positive cash flow beginning between 18 and 36 months after investment

• Return of 10x investment to venture capitalists within five years

• Initial ROI of 25% - 30%

Management

• Proven, integrated management team with high integrity – experience in general management, and in a start-up scenario

• Key management experience with the venture technology and/or products

• Teams that include one or two “industry superstars” with prior profit and loss, marketing and/or technological experience in the industry

• Management teams that can work in a complementary fashion toward achieving the overall objective, and a uniform orientation toward the opportunity

• Require “appropriate” general management incentives
• General Manager who is able to identify and maintain organizational focus, exhibits strong leadership skills and projects a strong vision of the overall venture objectives, an understanding of how to manipulate incentives for fellow employees, and skilled at configuring, implementing, and operating appropriate (and minimal) organizational systems for monitoring and resource allocation.
Appendix G - How to Increase Opportunity Recognition for Organisations

“When you get into a tight place and everything goes against you till it seems as though you could not hold on another minute longer, never give up then, for that is just the place and time that the tide will turn”
Harriet Beecher Stowe

Krueger provided an interesting summary on how to improve the supportive cognitive infrastructure of an organisation in order to increase the incidence of opportunity recognition by individuals within the organisation. This is summarised below:

- **Explicit Cues** - One of the most common recommendations one finds is that top management give clear, unambiguous signals of support for key elements of innovative activity

- **Strategic Controls** - Organizations' control mechanisms exert considerable influence over the intensity of R&D spending: long-term strategic controls help much better than short-term financial controls. Long-term controls can reward opportunity seeking while short-term controls inadvertently cause short-term setbacks.

- **Information Flows** - If information supportive of innovative activity is relatively unavailable, but data about its downside is easily accessible, innovation may not occur. While this is true of both informal and formal flows of information, making innovation-supportive information readily available through formal channels sends a signal of its true importance to the organization about its mission.

- **Benchmarking and Best Practice** - Increasing the visibility of what is truly feasible is central to benchmarking, but it also increases the credibility of what is feasible: "If a competent competitor can do this, so can we." The credible example
of a competitor's success may also increase the desirability of the new opportunity.

- **Teams** - Teams represent an especially useful means for promoting perceptions of feasibility and desirability. Objectively, teams provide tangible resources for innovation. Teams also provide the multiple perspectives and schemata offered by different team members, thus teams, not 'lone wolves,' are the best internal source of feasible ideas. Teams also provide a cognitive and emotional buffer from the rest of the organization. The social reinforcement of one's team can promote perceptions of collective efficacy and supportive social norms without the perception of negative reinforcements by the bureaucracy. Encouragement and support from team members can also promote perceptions of personal desirability and of personal efficacy.

- **Changing Structure** – In the extreme, successful organizations have chosen to physically separate innovative groups from the rest of the organization. Such separation has symbolic implications for reducing barriers to opportunity seeking.

- **Mentors & Champions** - Mentoring is often promoted as vital for management development in general and for innovation development in particular. One specific variation on the mentoring process is the concept of 'champions' or 'change masters' (Kanter & Richardson, 1991; Day, 1994; Shane, 1994). The existence of a 'champion,' someone who will fight for a new venture, sends a clear signal that the organization at least tolerates entrepreneurial activity. That signal alone should increase perceptions of supportive social norms. However, mentors and roles affect entrepreneurial intentions only insofar as they first affect key attitudes such as self-efficacy. We should expect that a skilful champion would contribute to stronger perceptions among organisation members of an innovation's desirability and feasibility.
• *Developmental Experiences* - Any organization can profit by providing its members with diverse range of developmental experiences (McCall, 1992). Here, experiences can provide explicit cues that the organization supports innovation and members can internalise those into appropriate attitudes, thus intentions. The more that we expose organizational members to innovation and the more they understand its nature, the more likely they are to see innovation as feasible and desirable. McCall notes that for managers, there is no substitute for having 'bottom-line' responsibilities in charge of a new or turnaround venture.
“It is not the critic who counts, not the man who points out how the strong man stumbled, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena; whose face is marred by dust and sweat and blood; who strives valiantly; who errs and comes short again and again; who knows the great enthusiasms, the great devotions, and spends himself in a worthy cause; who, at the best, knows in the end the triumph of high achievement; and who, at worst, if he fails, at least fails while daring greatly, so that his place shall never be with those cold and timid souls who know neither victory nor defeat”.

Theodore Roosevelt