The Role of Entrepreneurship, Innovation, and Intuition

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Abstract

In recognizing the importance of entrepreneurship and innovation as the principal drivers of economic growth, this paper focuses on the human attributes that govern the behavior of the entrepreneur and the societal perceptions that influence the human environment in which the entrepreneur operates. Foremost among these human attributes is the experience-based nature of the human cognitive system that prepares us well for dealing with events that are closely related to our past experience, but forces us to learn by failure as we apply past methods to new situations. In particular, the paper discusses the difficulties that the human dependence on experience poses to the entrepreneur in terms of the innate human aversion to change, the interpretation and assessment of new situations, and the formulation of appropriate plans and strategies within the practice of entrepreneurship.

The value and pitfalls of intuition are discussed in some detail, with particular reference to the precautions that the entrepreneur should exercise so as not to be misled by the various experience-based and emotional influences that govern intuitional processes. In addition, statistical data shows that the success rate of entrepreneurial ventures in terms of actually becoming operational and the amount of personal wealth created is far below common public perception. While entrepreneurship is a leading generator of economic growth, the financial benefit to the individual entrepreneur is likely to be little more than that provided by normal employment. This suggests that the entrepreneurial urge that manifests itself in a small minority of persons, who are willing to abandon the comforts of status quo, is driven more by a combination of personality traits such as adventurism, competitiveness, non-conformance, and passion than deliberate planning based on sound market analysis. The author concludes that the critical factor of whether an entrepreneurial venture will eventually become even moderately successful depends on the willingness of the entrepreneur to learn from early mistakes and acquire the necessary knowledge and skills that appear to be a prerequisite for business success.

Keywords

Business, entrepreneur, entrepreneurship, experience, immigrants, innovation, intuition, universities.

Introduction

The business community has known for some time that any economic recession, particularly a deep global recession of the kind that we have been experiencing since 2008, is followed by an array of new products and entirely new markets that were largely unforeseen. Market analyses

have shown that entrepreneurial capabilities and opportunities are the key drivers leading to economic recovery. The willingness of individuals to *think out of the box* and take the risk to pursue an idea with passion and hard work is the dynamic backbone of a national economy. According to United States (US) government statistics more than two thirds of all new jobs were created in 2007 by businesses that were less than 10 years old (Figure 1).

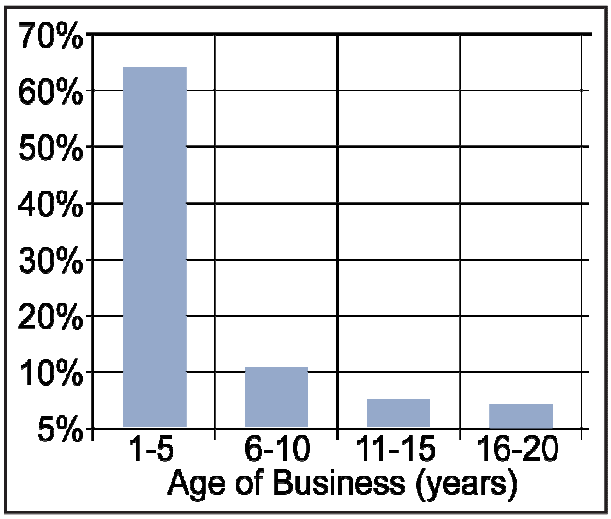

Figure 1: Job creation by business size

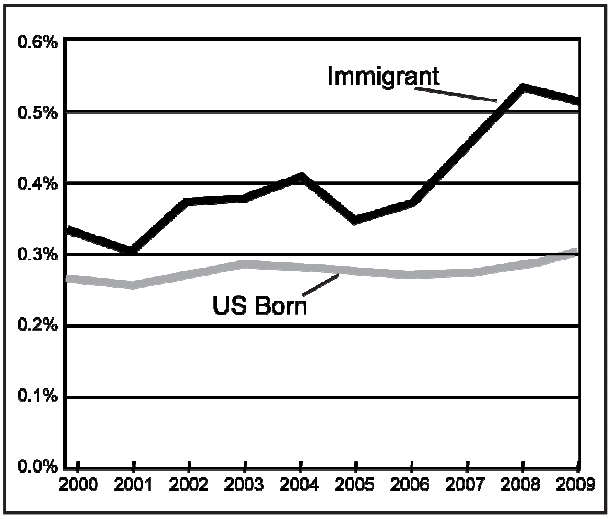

Figure 2: Entrepreneurial activity by nativity

Contrary to expectations, several economic constraints marked by lack of consumer demand and high unemployment appear to present a strong stimulus for innovation. This is consistent with past experience, which shows that the innate human aversion to change tends to be overcome more effectively when persons encounter severe difficulties in maintaining status quo. In blunter terms, the greater the pain experienced in the current situation the greater the desire to explore alternative opportunities. It should therefore not come as a surprise[1] that immigrants are disproportionally more likely to start new businesses. In the US, as shown in Figure 2, the disparity between new businesses (i.e., start-ups) formed by US born and immigrant entrepreneurs has increased significantly between 2000 and 2009 (Schramm 2011).

According to prevailing economic theory, growth of output in an economy is largely governed by the growth of input; - namely physical capital, human capital and innovation. By far the most important of these are human capital (i.e., labor and skill level) and innovation (Litan and Cook-Deegan 2011). Universities due to their educational and knowledge creation (i.e., research) roles play an important part in economic growth. Through education they add to the available skills in the labor force. More highly skilled workers are more adaptable to the dynamics of the marketplace by their generally more superior ability to teach themselves new skills. This makes them potentially more resourceful entrepreneurs. However, the need for these abilities to be applied will be most pronounced in the presence of challenges. An environment that is economically and socially comfortable is less likely to generate within individuals the strong urges for improvement that lead to entrepreneurial undertakings. This is no doubt one reason

[1] It may be hypothesized that since non-refugee immigrants have already demonstrated their willingness to take risks by leaving their country of origin to start a new life in a largely unfamiliar environment, they are less prone to adhere to status quo.

why immigrants and young persons who strive for economic respectability are key players in generating economic growth.

The relationship to universities lies in the fact that these two demographic groups tend to be more effective in generating economic growth if they are well educated. Furthermore, the higher their level of education the more instrumental they become in disseminating the knowledge that is created within universities through research. In other words, the dissemination of the knowledge that is created in universities occurs not only through academic publications and conferences, but also through the application of this knowledge when their graduates enter the workforce.

Definitions and relationships

As foreshadowed by the title of this paper the human cognitive characteristics of entrepreneurship, innovation and intuition are interrelated. Entrepreneurship is commonly defined in business terms as a pioneering activity. The word entrepreneur originates from the French word, *entreprendre* which means to undertake, such as to embark upon a new kind of business. Accordingly, the Webster Dictionary defines *entrepreneur* as a person who organizes, manages, and assumes the risks of a business or, in more general terms, an enterprise (Webster 1999, 440).

The Austrian economist Joseph Schumpeter (1883–1950) associated entrepreneurship directly with innovation leading to new manufacturing methods, products, markets, and forms of organization. In this regard entrepreneurial activities are expected to result in benefits such as the creation of new demands and wealth. In other words, the successful entrepreneur will combine various factors in an innovative manner so that the value of the result will exceed the cost of the input factors.

Intuition is one of the principal cognitive tools available to the entrepreneur to look beyond the experience of the past to what might be possible in the future. It plays a fundamental role in entrepreneurial activities because innovation is by definition a departure from existing practices and knowledge. An intuitive conclusion is not based on the deliberate and logical analysis of information that exists in our brain, but rather a leap of imagination that is typically at odds with past experience. However, the ability of the human mind to think in analogous terms by relating existing knowledge and solutions in one application domain to another unrelated domain appears to be a core component of intuition.

Humans are situated in their environment

The reason why entrepreneurship, innovation and intuition are exceptional qualities, on which we place a high value, is because they are contrary to normal human behavior. Human beings and their activities are almost entirely governed by the environment in which they exist. We are stimulated by the environment through our physical senses and respond largely in a reactive mode. These physical stimuli trigger mental processes that accumulate in long term memory as experience. Reasoning about such stimuli in the context of this experience allows us to make useful decisions as long as the environment does not change in a major manner. The nature of our cognitive processes prepares us well for dealing with events that are closely related to our past experience, but provide us with little if any means for dealing with entirely new, unforeseen events or projecting into the future.

It can be argued that we are situated in our environment not only in terms of our physical existence but also in terms of our psychological needs and understanding of ourselves. We depend on our surroundings for both our mental and physical well being and stability. Consequently, we view with a great deal of anxiety and discomfort anything that threatens to separate us from our environment or comes between us and our familiar surroundings. This extreme form of *situatedness* is a direct outcome of the evolutionary core of our existence. The notion of evolution presupposes an incremental development process within an environment that represents both the stimulation for evolution and the context within which that evolution takes place. It follows, firstly, that the stimulation must always precede the incremental evolution that invariably follows. In this respect we human beings are naturally reactive, rather than proactive. Secondly, while we voluntarily and involuntarily continuously adapt to our environment, through this evolutionary adaptation process we also influence and therefore change our environment. Thirdly, our evolution is a rather slow process. We would certainly expect this to be the case in a biological sense. The agents of evolution such as mutation, imitation, exploration, and credit assignment, must work through countless steps of trial and error and depend on a multitude of events to achieve even the smallest biological change (Pohl 1999).

In comparison to biological evolution our brain and cognitive system is capable of adapting to change at a somewhat faster rate. Whereas biological evolution proceeds over time periods measured in millenniums, the evolution of our perception and understanding of the environment in which we exist tends to extend over generational time periods. However, while our cognitive evolution is of orders faster than our biological evolution it is still quite slow in comparison with the rate of change that can occur in our environment.

Human barriers to entrepreneurship

In the short term, the experience-based nature of our cognitive system creates a general resistance to change and, therefore, also to entrepreneurship (Pohl 2002). This resistance to change is exacerbated by a very strong survival instinct. Driven by the desire to survive at all costs we hang onto our past experience as insurance. In this respect much of the confidence or lack of confidence that we have in being able to meet the challenges of the future rests on our performance in having met the challenges of the past (i.e., our success in solving past problems). We cling onto the false belief that the methods we have used successfully in the past will be successful in the future, even though the conditions may have changed. As a corollary, from an emotional viewpoint we are inclined to perceive (at least subconsciously) any venture into new and unknown territory as a devaluation of our existing experience. Accordingly, the fear of failure is a severe emotional obstacle that is faced by every entrepreneur.

The absolute faith in and adherence to our experience manifests itself in several human behavioral characteristics that present themselves as potential barriers to entrepreneurship. First among these obstacles is the strong aversion to change, discussed above. Normal human tendency is to change only subject to evidence that failure to change will threaten our current existence in a significant way. Instances of the inability or unwillingness to recognize market changes driven by both technical advances and the desire of customers to take advantage of these advances abound in the business world. For example: International Business Machines (IBM) dominated the mainframe computer market but missed the emergence of minicomputers; Digital Equipment Corporation (DEC) dominated the minicomputer market but missed the rise of the Personal Computer (PC) market; Apple Corporation led the PC market with its user-friendly

computing environment but lagged five years in portable computers; and, Microsoft underestimated the importance of the Internet and had to play catch up with its Internet Explorer browser.

A second barrier is our systemic need to apply old and tried methods to new situations, even though the characteristics of the new situation may be quite unlike the situations in which the existing methods were found to be useful. This typically casts us into an involuntary experimental role, in which we learn from our initial failures. Examples abound, ranging from the development of new materials (e.g., the flawed initial introduction of plastics as a substitute for steel in traditional building structures in the 1950s) to the reluctance of the military to change their intelligence gathering and war fighting strategies long after the conclusion of the Cold War era in the 1990s.

A third barrier is our tendency to view new incremental solutions as final comprehensive solutions. A well known example of such a problem situation was the insistence of astronomers from the 2nd to the 15th Century, despite mounting evidence to the contrary, that the heavenly bodies revolve in perfect circular paths around the Earth (Taylor 1949, 108-129). This forced astronomers to progressively modify an increasingly complex geometric mathematical model of concentric circles revolving at different speeds and on different axes to reproduce the apparently erratic movement of the planets when viewed from Earth. Neither the current scientific paradigm nor the religious dogma of the church interwoven within the social environment allowed the increasingly flawed conceptual solution of Ptolemaic epicycles to be discarded. Despite the obviously extreme nature of this historical example, it is worthy of mention because it clearly demonstrates how vulnerable the rational side of the human cognitive system is to social influences (Pohl et al.1997, 10-11).

The practice of entrepreneurship

By virtue of our experience-based biological nature we are inextricably situated in our environment and are entirely dependent on the knowledge that we have gained from interacting with this known environment. This may be characterized as a *box* within which we exist and that under normal circumstances provides us with the degree of security and comfort that we seek. Strong forces are required to overcome our innate fear of the unknown and drive us to *look out of the box*. If our current environment becomes untenable because of a serious threat to our physical safety or our social acceptance, then we may be persuaded to either attempt to modify our existing environment or find a new environment. Examples of such forces include unemployment, religious or political persecution, lack of law and order, and disease.

Apart from these negative or threatening forces there may also exist an entirely different kind of force that may precipitate change. This force is related to the inherent human desire to compete and exercise leadership that varies in strength from person to person. It is this force that drives innovation and entrepreneurship in some persons even if there are no threatening reasons why the environment should be changed. The underlying causes of entrepreneurship are therefore based more on personality traits such as opportunism, conviction, motivation, and confidence than on the fundamental human need to survive.

At face value this may suggest that innovation and entrepreneurship are human characteristics that naturally exist in certain individuals and cannot be acquired by others. This belief is promoted by the false impression that the principal ingredient of successful entrepreneurship is a

brilliant idea. In fact, as Drucker (1993, viii) points out "… entrepreneurship is neither a science nor an art" but "… a practice". Seldom, if ever, do innovative ideas originate from random thoughts. They are normally based on the carefully monitoring of the existing environment, the identification of trends, and the agonizingly difficult task of determining the causes of these trends. Determination of the core cause of a particular problem situation is difficult because it tends to be hidden by a plethora of symptoms that were generated by the situation but are not in themselves responsible for the creation of the problem.

The practice of successful entrepreneurship is therefore dependent on a systematic process that requires the continuous monitoring and analysis of the existing environment. It cannot be too broad in scope, but must be focused on a particular subset of the environment that appears to be a cause of concern and therefore presents an opportunity for innovation. An evaluation framework will need to be created to analyze the symptoms of the problem and determine the core cause(s). This is often a tedious undertaking that requires a great deal of research, thought, and patience. Yet, it is only the very beginning of the sequence of entrepreneurial tasks that need to be performed before there can be any thought of a successful venture. However, the identification of the core problem is a critical task that will determine the eventual success or failure of the entire venture. Naturally, if the core problem has not been identified correctly then no amount of innovative thinking will lead to any worthwhile conclusion.

Once the core problem has been identified and carefully characterized the process of innovation commences in earnest. Even though *innovation* is commonly associated with some form of inspirational creativity, the word *process* is nevertheless appropriate. It involves consideration of many factors that are related not only to the core problem itself, but also to the context within which the solution will need to be implemented. Such factors include market conditions, timing, availability of expertise, cost, solution acceptance criteria, deployment alternatives, and so on. Accordingly, while the innovation process certainly requires some degree of creativity, much of the work involved is exploratory in nature. It involves careful evaluation of the factors that could conceivably impact the final solution, research into technical areas that the entrepreneur may not be familiar with, hypothesis and/or model testing, and a great deal of verbal and written communication. The documentation tasks alone can be daunting. They range from layperson explanations of the principles involved to detailed patent applications, from preliminary level of effort and budget projections to detailed cost estimates and milestone schedules, and from initial market research to elaborate business plans. While the initial concept of the innovation may have been conceived through an inspirational thought process, the translation of the inspiration into a final solution that meets most of the necessary criteria can be a demanding and time consuming undertaking. The period of time involved in the innovation process may vary from months to years and can easily derail into failure if the entrepreneur loses focus or motivation or both.

Finally, successful innovations are typically surprisingly simple. Anything new that is complex is unlikely to be successful. Indeed, the statement "… this is obvious, anyone could have thought of it" is the highest praise that the entrepreneur could wish for.

Entrepreneurship myths

There are several myths surrounding the practice of entrepreneurship. Most of these myths have been created as the result of persons trying to explain the success or failure of entrepreneurial ventures after the fact without reference to factual statistical data collected mostly by government agencies. According to Shane (2008) these myths are predominantly related to

financial issues and are promulgated as much by persons who have no entrepreneurial experience as by the entrepreneurs themselves.

Starting a business is easy! In fact, most attempts to start a company do not materialize in an operational business. According to statistical data, after seven years of operation two thirds of these companies cannot show a profit in three consecutive months.

Entrepreneurs have an intuitive feeling about where to start a business! Unfortunately, in many cases that intuition leads to failure. Many entrepreneurs do not select the most attractive industry to start a business in. There is a greater than 75% correlation between the industry selected by start-ups and the number of companies failing in that industry.

It takes wealth to create wealth! With the exception of some information technology and biotech companies, most successful start-up companies did not start with strong financial backing. Entrepreneurs typically start business ventures with little capital and very lean operations; - renting instead of buying and paying commissions instead of salaries, wherever possible.

Entrepreneurial talent rather than business type determines success! In fact, the reverse is true. The particular industry that has been selected for a new business venture is the stronger determinant of potential success and growth. While less than 0.01% of start-ups in the hotel/motel and restaurant industries have reached the Inc-500 list of fastest growing companies during the past 20 years, 4% of start-ups in the information technology industry have reached that lofty goal. In other words, the odds are at least 500 times more favorable for an information technology start-up.

Entrepreneurs become very wealthy! While it is true that entrepreneurship creates a great deal of wealth, the wealth is very unevenly distributed among only a few. According to Shane (2008) most entrepreneurs end up earning less money in their business venture than they would have been earning as employees.

Venture capital is a good source for financing a new business! Again, with the exception of information technology and biotech companies that receive about 80% of all venture capital in the US, the chances of a start-up receiving venture capital are only about 1 in 4000. Of the 3000 or so companies that receive venture capital in the US each year less than one third are start-ups.

Banks are not likely to lend money to a start-up company! According to US Federal Reserve data about 15% of all financing provided to companies that are no more than two years old comes from bank loans. Even though 15% is still a relatively low figure it is much higher than other sources such as venture capital, government grants, family loans, and other investment sources.

Clearly, the general perception of entrepreneurial enterprises by both entrepreneurs and the public is considerably at odds with reality. It would appear that our human intuition plays a significant role whenever we move from a current situation into a new situation. Even though intuition must in some manner be based on an assessment of experience, that assessment appears to be governed largely by subconscious processes. To what extent these subconscious processes are influenced by emotions and involuntary volition is not known, however, there is no doubt that the outcome can be misleading. Therefore, the next section of the paper will explore some of

the intuitive influences that can easily bias our decisions and conclusions, when there is inadequate factual information or knowledge.

Uses and abuses of intuition

Intuition is an important cognitive mechanism available to entrepreneurs as they explore innovative solution approaches. In many cases the inspiration for a particular solution will come from outside the problem area by analogy or as a spontaneous hunch that some vaguely defined idea might work. In this respect, intuition can be defined formally as the power or faculty of attaining knowledge or cognition without evident rational thought and inference. While there is still no complete understanding of the process of intuition, it appears to be a form of subconscious pattern recognition that operates largely on experience.

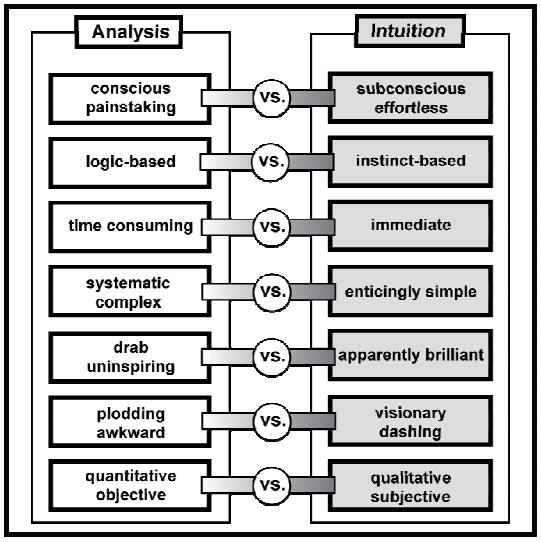

Figure 3: Intuition is very attractive

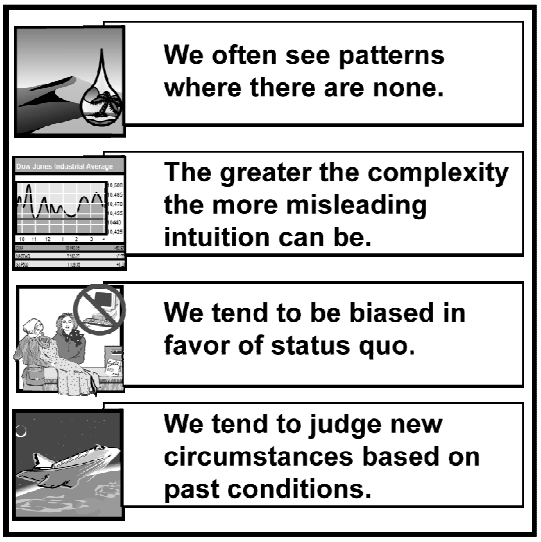

Figure 4: Intuition can be quite misleading

However, the popular perception of intuition differs markedly from this formal definition. It is typically associated with the elegance of effortless brilliance due to innate instinct, professional judgment, common sense, and superior pattern recognition (Figure 3) There are of course good reasons for this superficial perception. While analysis is consciously painstaking, logic-based and time consuming, intuition appears to be subconsciously effortless, instinct-based and immediate. Furthermore, while analysis is complex, drab and uninspiring, plodding, quantitative and objective, intuition appears to be enticingly simple, brilliant, visionary, qualitative and subjective.

In reality intuition has many pitfalls and is therefore fraught with danger (Figure 4). For example: we often see patterns where there are none; the greater the complexity the more misleading intuition can be; intuitive conclusions are often biased in favor of status quo; and, due to our experience-based nature we tend to judge new circumstances on the basis of past conditions. The entrepreneur must be aware of at least six well known decision-making dangers that are influenced by intuition.

> ***Anchoring Trap:*** We tend to use the first information received as a reference point for comparing subsequent information. For example, the question "Is the distance from San Diego to Chicago greater than 5,600 miles?" will intuitively suggest to the respondent

that the distance must be somewhere in the vicinity of 5,600 miles. To safeguard against this fallacy we need to view a problem from several different perspectives and use more than one reference point. The entrepreneur should seek opinions from multiple sources and must be careful not to influence the source while asking for advice. In the above example the question would be better framed as "What is your estimate of the distance between San Diego and Chicago?"

Status Quo Trap: It is our human nature to feel more comfortable with the status quo unless there is a compelling reason for taking the apparent risk of changing. A change from existing practice or the norm will seem to be risky because the consequences of the change are not part of our existing experience. However, what appears to be a risk may not be a risk at all. The tendency is to delay or avoid the change altogether by telling ourselves to rethink this later or to wait until things settle down. This can be particularly unnerving to entrepreneurs because they are likely to be surrounded by persons who do not share their optimism of success. Entrepreneurs need to continuously reaffirm their confidence: by considering whether the status quo would be good enough if it were not the status quo; by tracing the historical path to the current status quo conditions to see how the current situation has come about; by evaluating the status quo in relationship to the expected future conditions; and, by the detailed analysis of alternative courses of action.

Confirming Evidence Trap: Entrepreneurs will be tempted to seek advice from others who have recently made decisions that are similar to the decision path that is being contemplated, even though they suspect that the advisor is likely to be biased. To avoid this pitfall entrepreneurs must be willing to carefully question all confirming evidence and be honest with themselves about their motives in seeking advice. In particular, care must be taken to avoid asking the advisor leading questions that invite confirming answers. At times this may require the entrepreneur to play devil's advocate and force consideration of counter arguments.

Framing Trap: A poorly framed question can easily bias a decision. For example, we can be unduly influenced by risks associated with potential losses, even if there is only a remote possibility that these losses could occur. It is therefore important for the entrepreneur to consider gains and losses equally. Strategies for achieving this objective include casting the problem in several different ways and reconsidering the problem from different reference points.

Sunken Cost Trap: We are often unwilling to admit past errors in judgment and thereby can easily bias our viewpoint. Not only must we be willing to admit an earlier mistake to ourselves, but we must also allow others to admit mistakes without penalizing them. In particular, we must be willing to examine our motives and try to determine why a previous mistake may be distressing to us. In this respect, seeking the advice of persons not involved in the previous decision can be helpful.

Forecasting Trap: An entrepreneur must be careful not to be either overconfident without corroborating experience or too prudent by relying on worst case scenarios. It is necessary to take a disciplined approach in assessing the probabilities of alternative outcomes. Three strategies can be helpful in this regard. Firstly, we need to carefully examine all assumptions to ensure that none of them are biased by unusual past

experience. Secondly, it is good practice to commence the analysis by considering the extremes (i.e., the most optimistic and pessimistic outcomes). Finally, it is important to test the projected outcomes over a reasonable range of estimates.

The principal value of intuition is that it helps us to assess situations in some holistic manner based on the sum total of our past experience. The mechanism that the human cognitive system utilizes in this mental process is not fully understood. It is likely to be some form of macro pattern matching that operates at the abstract (i.e., conceptual) level rather than the logical level. We somehow develop a feeling about a certain situation that can be heavily influenced by our emotions and psyche.

Profile of the entrepreneur

Although the word *entrepreneur* is commonly associated with brilliant foresight, wealth, and effortless success, with very few exceptions quite the contrary is the case. Many entrepreneurial ventures either never reach an operational stage or are eventually abandoned for lack of financial viability. It seems that at most what the average entrepreneur can wish for is an income that is no higher than the expected salary level if the entrepreneur had continued as an employee. So, what drives entrepreneurs to forsake the comfort of status quo to embark upon an out of the ordinary and seemingly risky venture?

There appear to be at least two underlying forces that drive the entrepreneurial spirit. Firstly, entrepreneurs typically have a strong desire to be more successful than others. The competitive urge is deeply rooted in the human psyche. It has been demonstrated throughout human history in both a negative and a positive manner. As a primary cause of conflict and war it has cost the lives of millions of our fellow human beings. In sport it allows individuals to excel and serves as a source of inspiration, excitement and enjoyment to both the competitors and the spectators. Secondly, entrepreneurs are typically dissatisfied with at least some aspect of their surroundings, current situation or themselves. In this respect entrepreneurs are often restless persons who are continuously looking for something better. While this quality does not necessarily make an entrepreneur good social company, it does lead to a reexamination of existing conventions, a critical review of some piece of commonly accepted technical or scientific knowledge that may in fact be fragile, and usually results in a concerted effort to create something new.

While there may be considerable variation among individual entrepreneurs in respect to the degree to which dissatisfaction and competition drive their efforts, there is one other personality trait that is applicable to all of them; - namely a very strong work ethic. An exaggerated optimism of success forces the entrepreneur to work extremely hard to achieve this success. To be able to take advantage of opportunities that may arise in the future the entrepreneur has to prepare well beforehand. In other words, the preparations that are necessary to take advantage of an opportunity have to be well in hand before the opportunity arises. This forces the entrepreneur to undertake a great deal of work that may never yield appropriate benefits, because due to a dynamically changing environment the expected opportunity may not eventuate. The entrepreneur has to be highly motivated and extremely strong in maintaining emotional confidence, to withstand the nonchalant and disparaging comments of friends and acquaintances who of course do not see the reason for the work.

Therefore, contrary to common perception, entrepreneurs typically do not lead a comfortable life. They tend to work long hours, often not being able to fully justify the potential benefits of

their labors since the work is in preparation for future events that may never occur when viewed from a status quo vantage point. Accordingly, entrepreneurs are almost continuously immersed in what appears to be a high risk atmosphere. Since most of their fellow humans do not have the appropriate temperament or personality for this kind of lifestyle, the entrepreneur tends to lead what would appear to be a somewhat lonely life. However, driven by conviction, focused on the necessary preparatory work for the realization of future opportunities, and continuously motivated by the vision of success, most entrepreneurs would tell us that they live an exciting life of their choice.

Concluding Remarks

It appears that the majority of entrepreneurs are drawn into their ventures by psychological desires and emotional states that are based on personality traits rather than rational thought and deliberate planning. This hypothesis would provide a plausible explanation for the relatively high failure rate of small businesses and the many myths that surround the practice of entrepreneurship. Among these personality traits adventurism is likely to play as important a role as competitiveness, dissatisfaction with status quo, and unwillingness to compromise. These characteristics provide the entrepreneur with the energy to succeed but not the knowledge and skills that are required for business success. If this energy is sufficiently strong to sustain the entrepreneur from initial mistakes through a learning phase, during which the necessary skills are acquired by careful analysis and rational thought, then the chances of eventual success are greatly increased.

Statistical evidence unfortunately suggests that in the majority of cases the initial passion is either too strong to succumb to rationalization or too weak to sustain the necessary willpower for the entrepreneur to continue. It is surely surprising that even with the odds being so high against the success of the entrepreneur that the impact of those relatively few entrepreneurial efforts that do succeed should have such a significant impact on economic growth.

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