

19th CCSBE Annual Conference, Halifax, Nova Scotia, 2002
19e Colloque du CCPME, Halifax, Nouvelle-Écosse, 2002

The Ogre and the Onion: Beneath the Layers of Entrepreneurship Research

By

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Abstract

A critical examination of assumptions underlying social science paradigms in entrepreneurship research results in a call for deeper analysis of assumptions and a new set of assumptions more consistent with the observation of actual entrepreneurship. The classic assumptions of science include: (1) rational & logical processes, (2) sequential activities, (3) temporal and situational stability, (4) isolated processes, (5) concrete and static characteristics and processes, (6) measurable & observable phenomenon, and (7) control as a reasonable objective of science. These are inconsistent with the observed reality of: (1) affective and conative as well as cognitive processes, (2) non-sequential and iterative activities, (3) temporal and situational change, (4) holistic processes, (5) dynamic and ambiguous characteristics and processes, (6) relating to the world through perceptions & meaning, and (7) predict & influence as possible outcomes of science. The application of the new assumptions is demonstrated with an example from current psychological theory: attitude theory.

The Ogre and the Onion: Beneath the Layers of Entrepreneurship Research

The critical examination and evaluation of research in the social sciences, including entrepreneurship is often limited to an inspection of relatively superficial elements reported in research articles, reports, and presentations. This is much like the examination and evaluation one might do of an ogre one might chance upon. We are preoccupied with the external appearance or substantive matter just below the skin such as muscle, sinew, and bone that we can overlook the heart of the matter, is it a friendly ogre or will it eat me. Research is often evaluated on rather superficial criteria such as statistical analysis, significance levels, and the quality of citations in the reference section. Issues at the foundation of the research such as the quality of theory and paradigmatic assumptions are often ignored or left unchallenged while focusing on issues of methodology. This paper seeks to provide a framework for the analysis of research at multiple layers and then examine the most neglected layer, that of the assumptions at the foundation of entrepreneurial research or the metatheoretical level.

Shrek: For your information there is a lot more to ogres than people think

Donkey: Example

Shrek: Example, Ogres are like onions.

Donkey: They stink

Shrek: No

Donkey: They make you cry

Shrek: No, layer, onions have layer, ogres have layers. We both have layers.

There is a lot more to research than people think, like ogres and onions, research has layers. It is a complex set of activities that work together through a logical flow to provide evidence for hypotheses and theories through observation, analysis and interpretation. There are several rudimentary propositions related to the layers of research that can reveal the dynamics of each layer and the relationship between layers. First, each layer consists of a number of elements or activities that taken together constitute acceptable or valid practices for that particular level of the research. Second, as we move from one layer to another the complexity of the elements and subtlety of the issues and assumptions about the elements increase. Third, the inner layers are more fundamental than the outer layers in that the outer layers are dependent or built upon the foundation of the inner layer. Finally, as we move inwardly each layer is successively closer to the truth (which we hope resides at the core and around which the layers are built) and provide for deeper levels of analysis

The first layer of analysis consists of the surface of the onion, in research it is concerned with face validity. This constitutes the look and feel of the research in question. The elements of this layer include the written form of the research, the logical flow, the internal consistency, the support in the literature, and even the grammar and spelling. Also included in this level is the style used for the particular audience for which the research is intended. Taken together represents an important layer in the research, however, it is only the outward appearance or form and not the heart of the matter. It must not be confused with validity at the other levels of research or even “truth” which it is hoped is at the core of the onion.

The second layer is methodological. This consists of the research design, instrumentation, data gathering, analysis, and interpretation of the findings. Here too there is a logical flow, and although there is considerable latitude as to what constitutes acceptable practice, each element must support the others to a reasonable conclusion. It should also be noted that different fields of research focus on the elements in different ways based on assumptions consistent with that particular field of research (Low & MacMillan, 1988; Breiman, 2001; Low, 2001). For example, a psychometric approach may differ from an econometric approach within the latitude of acceptable practice and come to different conclusions relative to appropriate methods employed in the research. Further discussion of methodological differences is outside the focus of this paper, although similar differences will be addressed in conjunction with other layers.

The third layer is theoretical. Entrepreneurship research draws from a number of theoretical foundations or social science disciplines, including but not limited to psychology, sociology, economics, history, anthropology, philosophy, political science, and demography (Low & MacMillan, 1988, Low, 2001). There are a plethora of theories within each of these disciplines that are both used and sometimes useful in explaining the rich diversity of entrepreneurship. This borrowing of theories from other scientific disciplines has enabled entrepreneurship to move forward quickly in establishing itself as a legitimate field of inquiry. At the same time the transferring of theories from other disciplines carries with it certain dangers.

The two greatest concerns are first, the field may lack a true identity of its own (Shane and Venkataraman, 2000) and second, that each of these disciplines carries with it a history and a research culture that may not be appreciated by other researchers in the field (who are not directly acquainted with that research discipline). As with any culture there are subtle nuances in meaning and method that help to define and give meaning to the field. Until researchers understands the history and culture of a particular discipline there is a significant risk of using information and theory that is older and outdated, or not directly applicable to the question under consideration (Sexton 1987).

Referring to the world of art, a character in the novel "My Name Is Asher Lev" Potok (1972) describes the history and tradition in that field:

"This is not a toy. This is not a child scrawling on a wall. This is a tradition; it is a religion. ... It has its fanatics and its rebels. No one will listen to what you have to say unless they are convinced you have mastered it. Only one who has mastered a tradition has a right to attempt to add to it or to rebel against it. (pp. 203-204)" Chaim Potok

A great deal of research has been conducted in search of characteristics of entrepreneurs. Yet much of this research has been based upon older psychological and sociological theories. This problem has not gone unnoticed by scholars in the field. Robinson and Shaver (1995) noted that this has resulted in "a considerable amount of folklore and myth embedded in popular and some scholarly conceptualizations of the entrepreneur" (p.98). The basic problem underlying the use of older theories is that often these theories are based upon assumptions that are inconsistent with: (1) current theories in the social sciences, and (2) observations about entrepreneurs in the real world.

The fourth layer is paradigmatic or metatheoretical level. This deals with the scientific paradigms or assumptions that lie behind theories. All research, and entrepreneurship research in particular, is based on a complex set of assumptions that serve to both guide our actions and focus our perceptions. Assumptions at this level form the foundation for the theories and methods used in the research. There has recently been a significant amount of discussion in the entrepreneurship literature around the elements of the other layers in this model (ET&P, 2001; Low & MacMillan, 1988; Shane and Venkataraman, 2000; and Singh, 2001) and yet little emphasis has been placed on this particular level of analysis in entrepreneurship research. This paper will address this deficiency.

Finally, at the heart of the onion is truth, but only as it is perceived through the layers of theory and method with their supposition, conjectures, and beliefs which may obscure and mask the truth phenomena, “for now we see through a glass darkly (1 Corinthians 13:12).”

The remainder of this paper will address the deficiency in entrepreneurship research around the research paradigms and assumptions we make, overtly or tacitly. The discussion will be based on the individual and theories related to the psychological make-up of entrepreneurs. The same principles and assumptions can apply across a variety of fields in the examination of theories in those disciplines. However, such a broad ranging discussion is beyond the scope of this paper.

Assumptions of Classical Paradigms in Social Science

Robinson and Shaver (1995) provide a detailed discussion of the metatheoretical assumptions used in entrepreneurship research from a psychological perspective. The classic assumptions of science are at the foundation of many social science paradigms such as personality and trait theory, behaviorism, and psychoanalytic theories of psychology. These assumptions provide the following view of the individual entrepreneur:

1. Hard psychic realism - There is an identifiable entrepreneurial personality type, or at a minimum there are specifiable entrepreneurial traits or characteristics that may be treated separately from the individual for the purpose of study. An entrepreneur's psychological make-up is a relatively stable phenomenon across both time and situations.
2. Demonstrative reality - The entrepreneurial traits are real and may be demonstrated with proper instrumentation and scientific methodology. If we can find the right scale or instrument, we can measure the right characteristics. When technology is sufficiently advanced, we may even find direct linkages between psychological characteristics and brain function, such as right brain thinking vs. left-brain thinking, or even genetics.
3. Empirical validation - The study of entrepreneurs and their characteristics must be based on hard empirical data.
4. Extrospection - Objectivity is a reasonable and desirable goal of entrepreneurial research. It is possible to observe and measure new or recreated ventures without influencing or changing them.

5. Reductionism - The study of small isolated traits or characteristics of entrepreneurs will help us explain (predict and control) the behaviors of the individual entrepreneur, and beyond that, his or her venture and even the processes of economic development (such as need for Achievement (nAch) relating directly to economic development in third world countries and the historic rise and fall of economic empires).

6. Passive mind - Entrepreneurs are passive entities affected by, but not affecting, their experiences. Entrepreneurial characteristics are gained through early childhood experience such as being raised by a nurturing mother and domineering father, or close association with an entrepreneur role model.

Historically these assumptions, as applied to science in general, were in place through the early research on the characteristics of entrepreneurs dating back to the early 1900's with the theoretical work of Max Weber (1904) and Joseph Schumpeter (1934, 1947). The former expounded on a developmental model for industrious individuals, the latter constructed a listing of characteristics of individuals engaged in entrepreneurial ventures (as part of his work on innovation and economic development). The early works of McClelland and his associate in the 1950s (McClelland, 1961; McClelland, Atkinson, Clark, & Lowell, 1953) were based on the traditional personality models of the time. This and most of the work following that initial research has been dominated by the personality theories of psychology and its related methodology. Which in turn were firmly rooted in the traditional scientific paradigms and the assumptions discussed above

For example, the Thematic Apperception Test (TAT), was developed by Morgan and Murray (1935) as a short-cut method of free association in psychoanalysis and the Myers-Briggs Type Indicator (Myers, 1980) was founded on the psychology of Jung and Kretschmer (Keirsey & Bates, 1978). Both of these perspectives represent early personality models founded on many of the classical assumptions, and both have been regarded with suspicion by current social and personality psychologists (Falconer & Williams, 1985; Gergen, 1985; Manicas & Secord, 1983; and Mitchell & James, 1989).

This same foundation is still in place in much of the entrepreneurship research on individual characteristics coming out in the field today. One example is the use of the Locus of Control construct in entrepreneurship. Early theorizing about the "entrepreneurial character" led to the reasonable assumption that the entrepreneur was a person who firmly believed in personal control over his or her own destiny. This assumption is similar to the "generalized expectancy" regarding locus of control embodied in Rotter's (1954) social learning theory. Because there was (1) a simple scale available to measure Locus of Control, (2) a logical connection to an expected entrepreneurial characteristic, and (3) early positive empirical finding, there has been a great deal of Locus of Control research in the field of entrepreneurship. Those conducting this research usually consider locus of control to be a unidimensional trait of the entrepreneur.

Unfortunately, the majority of locus of control research in entrepreneurship has employed the first version of the Rotter (1966) scale. This scale has been factor analyzed a number of times (e.g., Collins, 1974; and Levenson, 1973), and is generally regarded as multidimensional, not unidimensional. Although the construct is an important one in social and personality psychology (Shaver & Ozer, 1977), and studies involving the concept literally fill volumes (e.g., Lefcourt,

1981), the original Rotter scale - even in a multidimensional version - is not entirely adequate (Paulhus, 1983).

The Call for Change

Starting in the late 1980's, researchers became concerned with (1) the non-significant or marginally significant empirical results and (2) the lack of or marginal predictive utility with the "personality" or trait approach to the study of entrepreneurship. Gartner (1988) led the charge criticizing the study of entrepreneurs which assumes "a fixed state of existence," (p. 12). Gartner advocated a focus not so much on what entrepreneurs are but more on what they do. That is a focus on entrepreneurial behavior. This approach begs the question why and how entrepreneurs interact with their environment and focus on what the behaviors and interactions are.

In reality the problem with the earlier approach is not the issue of personal characteristics, but the older, static, fixed state paradigms and assumptions used in past research. The focus was on the theory layer of the research onion with an assumption that all theories are equally suitable and applicable. Without an examination of theory from the paradigmatic layer there can be no critical evaluation except that based on (1) empirical results and (2) predictive utility.

If the empirical tests result in marginal or non-significant findings, the theoretical layer of the research onion relating to personal characteristics, the legitimacy of entire area on inquiry is questioned and rejected. On the other hand, some theoretical approaches may result in significant finding for spurious methodological reasons such as extremely large sample size, overly complex models with multiple items or variables, or just plain dumb luck (assuming reasonable methodology and integrity). These are analogues to type II and type I errors. An examination from the metatheoretical layer, assessing the fit between reality and the assumptions behind the theories, can significantly reduce the risk both types of error.

Other researchers recognized that the problem is not with the subject but with the underlying assumptions used to study it (Carland, Hoy, and Carland, 1988). There has been a strong call for an examination of the paradigms and assumptions underlying the theories and research on the characteristics of the individual, and a paradigm shift toward more current assumptions, theories and methodologies (Carsrud & Johnson, 1989; Carsrud, Olm, & Eddy, 1986; Robinson, Huefner & Hunt, 1991; Robinson, Stimpson Huefner & Hunt, 1991; Robinson & Shaver 1995, Stevenson & Harmeling, 1989, and Stevenson & Jarillo, 1990).

Carsrud (Carsrud & Johnson, 1989; and Carsrud, Olm, & Eddy, 1986) began the effort to examine paradigms and assumptions underlying the study of entrepreneurship. Carsrud and Johnson (1989) state that "the advancement of entrepreneurship research has been inhibited by the indiscriminate transfer of methodologies and theories from other disciplines," and cite the assumption of stable characteristics as one of four possible reasons for the overall disappointing results in adapting psychological theories to entrepreneurship (Brockhaus & Horwitz, 1986).

During that time there was a great deal written and said about the research and theorizing on the characteristics of the entrepreneur (Churchill and Lewis, 1985; Lawrmore, 1988; Vesper, 1988; and Wortman, 1986, 1987 to name a few). Yet the majority of the discussion focused on the

explicit aspect of the research the layers comprising methods, models, and theories, levels two and three of the research onion. For example, the TAT, which had long influenced entrepreneurship research lost favor mainly because of conceptual and methodological problems (Carsrud & Johnson, 1989; Klinger, 1966), and not because of an analysis of the assumptions underlying the theories and methods. Yet there were those who called for new paradigms for the study of entrepreneurship (Carsrud & Johnson, 1989; Carsrud, Olm, & Eddy, 1986; Robinson, Stimpson Huefner & Hunt, 1991; Stevenson & Harmeling, 1989)

The importance of examining the foundation of entrepreneurship research is obvious. Robinson and Shaver (1995) state that the “assumptions, upon which the current research paradigm is based, shape the way we see entrepreneurs and their ventures to the extent that other possibilities are not available to us. Consequently, an examination of this area can help provide a solid foundation on which to build the field of entrepreneurship, and may thus contribute to the field's academic acceptance while enhancing the "real world" applications of its research (p. 104).”

The examination of paradigmatic assumptions is not the concern of entrepreneurship researchers alone. In a special issue of the *Academy of Management Review* on Theory Development, Mitchell and James (1989) outlined a set of assumptions for a new paradigm in the social sciences with regard management theory in general. They call for:

"A new view that stresses the important attributes of people, their contexts, and their interactions. First the person is seen as fitting into an environment. Second, both the person and the environment change over time. Third, changes in the person can cause changes in the environment and changes in the environment can cause changes in people. Fourth, people are both active and reactive with respect to these changes. Fifth, people's views of their past and future influence whether they are active or reactive and how much or how little they change. Thus, what emerges is a human who is active psychologically and behaviorally, interacting in a dynamic way with a changing environment. For the person, there is both stability and change, there is [pro]active and reactive behavior, [and] there are abilities and acquired skills that merge (p. 147)."

This perspective has not gone unnoticed in the area of entrepreneurship. Several researchers have been proponents of a paradigm shift in entrepreneurship research away from the traditional personality or trait-based approaches to the more dynamic paradigm described above (Robinson, Huefner & Hunt, 1991; Robinson, Stimpson Huefner & Hunt, 1991; Robinson and Shaver, 1995; and Stevenson & Harmeling, 1989).

Questioning the classic assumptions about personal entrepreneurial characteristics leads to a perspective characterized by Robinson and Shaver (1995) as:

1. Soft psychic realism - Both entrepreneurs and their ventures are always in the process of changing. Thus, the "entrepreneurial type" cannot remain fixed from person to person, from time to time, from one situation to another, or from one culture to another. An individual may change and cease to be entrepreneurial after years of such activity, or another may become entrepreneurial who has not previously demonstrated such tendencies (Stevenson & Harmeling, 1989).

2. No demonstrative reality - If there is no fixed "entrepreneurial personality" within the individual, then regardless of technological improvements in measuring instruments, direct linkages between the entrepreneurial "character" and brain function will never be discovered.
3. Multiple validation criteria - Although empirical data from archival, observational, and experimental studies are valuable; insight into entrepreneurial activity can also be obtained from methods (such as case studies) that produce no hard data.
4. Bounded objectivity - Observation and measurement of new or recreated ventures may influence and change them.
5. Reductionism - Entrepreneurship must be understood in context. The complete picture of entrepreneurial activity cannot be obtained by studying one characteristic of an individual in isolation from the environmental (social, economic, cultural) factors in which the phenomenon occurs.
6. Active mind - Entrepreneurship is an interactive process that must be studied with interactive dynamic models. Trait theories cannot adequately account for changes that occur across time in entrepreneurial ventures and within the entrepreneurs.

The application of these assumptions will be covered later in the paper. The adoption of these assumptions actually opens up the field and legitimizes a much broader range of research methods, models, and theories without giving up the rigor of good science.

Theory and Reality

In addition to being consistent with more current theories in social science, research based on these assumptions is more consistent with observed entrepreneurial phenomena. Table one summarizes a comparison of the theory and reality of entrepreneurship based on tradition research paradigms. To be relevant for meaningful application in education, public policy, assistance programs, and consulting, theories must be consistent with the realities of individuals starting and growing new ventures.

Entrepreneurship: Theory and Reality:

Rational & Logical	vs.	Both Rational and Emotional
Sequential	vs.	Interactive with Sequential Elements
Stability	vs.	Change with Stable Elements
Isolated	vs.	Holistic
Static	vs.	Dynamic
Concrete	vs.	Ambiguous with Concrete Elements
Measurable & Observable	vs.	Perceptions & Meaning of Observations
Control	vs.	Predict & Influence

Table One: Entrepreneurship theory and reality

Extrapolating from the assumptions of classical social science, researchers would see entrepreneurship and business development as based on rational & logical processes or at best bounded rationality. What we find is that decision-making processes are strongly influenced by affective processes (Forgas, 1992).

Based on classical assumptions entrepreneurship is seen as a sequential set of activities with practitioners developing checklists and linear models to guide the neophyte businessman through the process of building a company. In reality, the process is not linear and stages may need to be revisited, often multiple times, from the pre-startup through the multiple growth stages a business may go through.

Traditional business education and research reduces businesses to basic fundamental elements or “functional areas,” such as marketing, finance, accounting, strategy, or human resource management that can be studied and taught in isolation from one another. A typical business student will take a “capstone” course that will integrate all of these areas of business into a functional whole. Entrepreneurship education is more holistic usually built around or incorporating elements of business planning and experiential learning. This constitutes a holistic approach to education. Research must follow suit.

Classical psychology such as personality theory assumes temporal and situational stability. That is the characteristics of an entrepreneur are developed early in life and are consistent throughout life and across many environmental situations. The creed “Once creative always creative” applies across time and situations in everything from art to music to finance and marketing. In truth, people change across time and across situations. People may start businesses, grow tired of the routine and stop and work for someone else until they lose motivation for that and start another company. This in fact is often the case with Silicon Valley entrepreneurs in the computer industry where entry barriers are low and business failure is not a stigma but a phase. Research also support the fact that what was once thought of as personality traits such a Locus of

Control change in intensity from one situation to another.

Traditional science seeks to observe and measure characteristics believing that in doing so there will be no effect on the object of the investigation. In reality, as we study an individual or business the opposite effect also occurs, the subject of the study learns and changes as a result of the interaction as in the case of the Hawthorne Effect in psychology (Roethlisberger and Dickson, 1939).

Finally, With the understanding garnered from the research, manipulations can be made that will allow for controlled response and the desired outcome. For entrepreneurship it means that science should be able to find the key traits, genes, motives, intentions, or demographic characteristics. Once found we can enhance the effect of the key characteristics through education programming or government policy to achieve more effective and efficient entrepreneurs with all the positive outcomes of job creation, economic growth, and increased innovation associated with successful entrepreneurship. At worst research should enable us to identify potential entrepreneurs at an early age and fast track them through special programs to accomplish the same end.

In reality, entrepreneurs interact with the world, creating meaning out of experience. Their perceptions of the experience are focused through the lenses of their past experience, education, knowledge, understanding, emotions, etc. As Mitchel and James stated above, “what emerges is a human who is active psychologically and behaviorally, interacting in a dynamic way with a changing environment. For the person, there is both stability and change, there is [pro]active and reactive behavior, [and] there are abilities and acquired skills that merge.”

Examples of New Paradigm Research

Although it may seem that science under the new assumptions is difficult at best there are many examples of research theories and methods that are consistent with or at least compatible with the new paradigms. The rest of this paper will explore attitude theory as an example of one of these research paradigms. Although psychology can be conceptualized as being compatible with the new paradigm, many aspects of psychology carry the baggage (assumptions) from the older research paradigms such as personality theory and trait theory. Individual researcher must embrace the newer paradigm and build their theoretical models consistent with those assumptions. What is presented here is a theoretical paradigm in psychology that can serve as foundations for psychological models, consistent with the assumptions presented above, for the study of the individual entrepreneur.

Attitude Theory

Although many researchers and theorists have recognized the importance of attitudes in understanding the entrepreneur (Drucker, 1985; Gasse, 1986; Greenberger & Sexton, 1987; Olson and Bosserman, 1984; and Robinson, Stimpson, Huefner and Hunt, 1991), the attitudes that have generally been considered in the past have lacked both systematic organization with empirical and theoretical backing and/or the richness of social psychological attitude approaches.

The concept of "attitude," in a current social psychological context, is a dynamic and interactive way an individual relates to a specific object in the environment such as a person, place, thing, event, activity, idea, or life style. The dynamic nature of the concept implies that attitudes change across time and from situation to situation. The rate of change varies depending on the strength of the attitudes with stronger attitudes being more predictive of behavior, persistent over time, and resistant to change (Petty, Cacioppo, and Haugtvedt, 1992; Krosnik and Petty, 1995; and, Thompson, Borgida, and Lavine, 1995.). Thus an individual who has been an entrepreneur all his life and identifies with that life style may continue behaving in an entrepreneurial fashion unless some catastrophic event, such as bankruptcy or the death of someone very close, causes a fundamental change in attitudes related to entrepreneurship. Greenberger and Sexton (1987) provide some insight into factors that may influence and are influenced by experiences we have, actions we take, and how we think and feel about those experiences.

Attitude objects are external to the person, but the evaluation of those objects is affected by the person's cognitive capabilities and motivation at a given point in time. Furthermore, external pressures, and public commitment (of the kind that might accompany progress through time in the process of entrepreneurship), can act to alter or to maintain and strengthen attitudes. Thus, the measurement of an attitude should be done in relation to an object and the context in which the object is embedded. This specificity accomplishes two things. First, it limits generalization of the instrument to the object of the attitude and its context, and second, it increases the predictive utility of the instrument because of its limited scope. Limiting the applicable domain of the instrument increases the accuracy within the specified domain by eliminating the variance (both error and systematic) associated with areas outside the domain of the instrument and its theory base. Thus attitude scales differ from measures of general expectancy (such as the Myers Briggs Type Indicator, the Rotter Locus of Control scale, and other personality based instruments) in their level of specificity and the focus on the attitude object.

This specificity mandates the development of research instruments that deal specifically with entrepreneurship. There have been very few instruments developed specifically for research in this area of entrepreneurship (Wortman, 1986), and those that have been developed have been largely ineffective (Hull, Bosley, & Udell, 1980). Two notable exceptions are; first an instrument developed by Gasse (1986) based on beliefs rather than personality traits, and second the Entrepreneurial Attitude Orientation (EAO) developed by Robinson (Robinson, Stimpson, Huefner and Hunt, 1991). In this respect the field has not progressed much since 1982, when Hornaday wrote that "to develop more effective means of measuring entrepreneurial characteristics" is one of eight research areas yet to be adequately explored in entrepreneurship (Hornaday, 1982, p. 29).

Within social psychology, attitudes have traditionally been thought to consist of three components, a cognitive, an affective, and a conative component (Allport, 1935; Becker, 1984; Olsen & Zanna, 1993; Chaiken & Stangor, 1987; Kothandapani, 1970; Ostrom, 1969; Rosenberg & Hovland, 1960). The cognitive component consists of the non-critical beliefs and thoughts an individual has about an attitude object. The affective component consists of the feelings about the object, including the values and emotions that lead to an evaluation of experiences in positive or negative terms and in turn predispose behaviors in positive or negative terms. Finally, the conative or behavioral component consists of past behaviors, such as habitual behavior patterns

as well as any predispositions and intentions to behave in a given way. A more detailed review of this perspective in entrepreneurship can be found in Robinson, Stimpson, Huefner, & Hunt (1991).

This particular model has been around for some time (Allport, 1935). What is relatively new is the use of the model in developing instruments that evaluate all three components. Many instruments that purport to measure attitudes key into only one or two of the components mentioned above and ignore the others. In entrepreneurship, Gasse (1986, p. 49) developed a "Belief-Based Approach" using "situation ally as well as culturally defined conditions that may be designated in their most general way as 'Cognitive orientations' and 'Values.'"

Even when more than one component is used, there is seldom organization within the instrument to relate one component to the others. In most instruments, if more than one component is used, the multiple elements are combined in an additive way, which reduces the effectiveness of measuring multiple components. Carlson (1985) devised a scoring system for a three-component instrument, beyond a simple additive scoring procedure, which considers the consistency among the affective, behavioral, and cognitive components as well as the strength of each component.

There are two general ways in which attitudes are organized. The first is best considered an internal or vertical organization. This approach addresses the degree to which an individual's thoughts, feelings, and behaviors are consistent with one another as they relate to the particular attitude object. It is analogous to focusing one's thoughts, feelings and behavioral intentions on the object of the attitude, be it a person, event, or business activity, etc.

The second way in which attitudes are organized is externally or in the "horizontal structure" formed by distinct attitudes. Attitudes do not exist in isolation from one another; therefore, this horizontal structure refers to the interconnections among attitudes toward the same or various interrelated objects. For example, the attitude toward one's mother would be closely related to attitudes toward women in general, motherhood, family, parenting, and many others. By considering a constellation of many related attitudes, a better understanding of an individual's general attitude orientation toward any particular object or class of objects may be better understood. The degree to which these attitudes form a comprehensive and orderly pattern might be taken as an indication of the degree of unity in an individual's orientation toward the object (Gasse, 1986).

In applying this attitude model to entrepreneurship, the consistency aspect gives structure to the entrepreneur's experience. Internal consistency becomes an indication of focus on the attitude object, in this case entrepreneurship. External consistency indicates a general orientation toward entrepreneurship.

Methodologically, internal consistency reduces the variance associated with the scale value, resulting in increased accuracy of the instrument. The horizontal structure of an attitude indicates that in conjunction with any attitude object, such as entrepreneurship, there exists a group of closely related attitudes. The use of such constellations can be used to increase our understanding and our ability to predict entrepreneurial behaviors.

Beginning with the tripartite conception of attitude as involving cognition, affect, and behavior

(Allport, 1935) and including more recent models such as balance theory (Heider, 1958; Insko, 1984) and various probabilistic models (e.g., Fishbein & Ajzen, 1975), attitude theory has incorporated the reciprocal influence of the person and the environment. For example this is done explicitly in the Ajzen & Fishbein (1980) model of "reasoned action" and its sequel, the model of planned behavior (Ajzen & Fishbein, 1980; and Ajzen & Madden, 1986).

This model begins with three distal influences on behavior: the person's attitude toward the object or behavior, the subjective norms that govern performance of a particular action in a specified setting, and the individual's perceived behavioral control, roughly comparable to "controllability" or "personal control". Each of these distal factors is a predictor of the individual's behavioral intentions toward the attitude object, and these intentions are the only direct influence on behavior.

The major difference between the revised model and the earlier model of reasoned action is that the model of planned behavior permits the final activity undertaken to be affected indirectly by perceived control as well as directly by intentions. In brief, this addition takes account of the fact that environmental constraints may preclude actual behavior even with the exercise of even the strongest intentions. Thus the model of planned behavior, more than any preceding attitude theory, incorporates the dynamic interaction between person and environment that is suggested by the metatheoretical criteria discussed above. The fact that attitude theories incorporate elements of the dynamic theme underlying entrepreneurship suggests that this area of theory would serve as a good candidate for future investigation. Regardless of the ultimate usefulness of attitude theory, this example and the next one suggest how metatheoretical criteria may be used to evaluate psychological theory and research in the field of entrepreneurship.

Conclusion

It is now time for research into the nature of the entrepreneur to be based on psychological theories that adhere to a standard of quality equal to the stringent standards we set for methodology. Exploratory expeditions using borrowed instruments and inadequate samples have not been acceptable for some time, but research driven by poor theories borrowed from other fields without a careful examination of the underlying assumptions should not be acceptable either. Theory driven research is not enough. We need research driven by theory whose assumptions are consistent with the entrepreneurial enterprise. Such advances can be attained only by examining the assumptions upon which a theory is based and using standard evaluation criteria. Entrepreneurship is in a unique and enviable position with regard to research on the individual. As a discipline, it is young enough and yet capable enough to set a course that will lead past the pitfalls of leadership research and trait research to a solid foundation based on a clear knowledge of the assumptions being made.

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