

Psychological Types of Casual Inventors

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SRTT comparisons reveal significant differences between casual inventors and general population norms. The study indicates that the inventors are introverted thinkers.

Abstract

This study examined the psychological types of a group of "casual inventors" who indicated they spent approximately 40 hours a month working on their inventions. While slightly more than half (56%) had not patented any of their inventions, 36% indicated they had patented at least one. More than a third (36%) indicated that at least one of their parents was an inventor. Among the 16 types there was a significant overrepresentation of INTPs and ISTPs when comparing the inventors to Myers' high school general population norms. The results revealed the inventors were introverted thinkers.

Identifying personality characteristics has been one approach used to differentiate entrepreneurs from the general population. Early researchers believed that risk bearing was the main distinguishing feature of the entrepreneur (Mill, 1848). Later studies focused upon the need for achievement (McClelland, 1961) and the need to control outcomes (Rotter, 1966). Welch and White (1981) defined eleven personal characteristics they considered necessary for success in starting a business. Brockhaus and Horwitz (1986) concluded that there appears to be no general definition of the entrepreneur nor do we have the psychological instruments to discover it at this time. However, several characteristics do seem to emerge: achievement orientation, the need to control, and a strong emphasis on short-term problems. Brockhaus and Horwitz believed that characteristics which lead an entrepreneur to open a service business would be much different from those of a manufacturer, and that a comparison of entrepreneurs in different industries would be a productive avenue of research.

Although entrepreneurial behavior has yet to be clearly defined, Long (1983) recognized three recurring themes emerging from the various definitions. Entrepreneurship involves uncertainty and risk, complementary managerial competence, and creative opportunism. Much like the charismatic approach to leadership, a belief still exists that there are specific traits differentiating the entrepreneur from other managerial types.

Recent studies have once again explored

the role of personality characteristics in defining managerial behavior and decision making. Based upon problem-solving styles, individuals have been found to differ in how they define, conceptualize, and solve unstructured problems (Henderson & Nutt, 1980; Kolb, 1976; Slocum & Hellriegel, 1983). More recently, Ginn & Sexton's (1988) study of founders of the 1987 *Inc.* 500 firms using the Myers-Briggs Type Indicator (MBTI) revealed the presence of INTPs as the predominant type. The sample was especially dominated by introverts and a high proportion of Ts (87%). Hoy and Hellriegel's study (1982) revealed the difference between managerial types and entrepreneurs. Small business managers had an ST orientation and identified their major problems as internal to the organization.

A literature review reveals the paucity of research on inventors as one type of entrepreneur. Merrifield (1979) portrays them as highly creative people who are motivated by work and who can tolerate ambiguity. The *Inventor's Handbook* defines inventors as creative people who set and are firmly committed to reaching goals (Fenner & Everett, 1969). Inventors, in Hisrich's (1985) study, rated themselves as excellent in initiative, personal responsibility, drive, energy level, use of resources, and self confidence. Although many of these characteristics are indicative of behaviors other than those of inventors, the general profile emerges as one with a "free-thinking" approach to problem solving. If problem-solving styles influence the selection and solution of unstructured

problems, then identifying these specific styles would help define the characteristics of inventors. This study was designed to examine and compare the patterns of psychological types of inventors to a general population norm.

Method

Subjects. The participants in this study, 30 males and 2 females, identified themselves as "trial and error" or "free-lance" inventors. Their average age was 51 with a range from 26-77. They spent approximately 36 hours a month working on their inventions. Most (71%) indicated that their inventions were not limited to their primary occupation. More than half (56%) had not patented any of their inventions, while 36% indicated they had patented at least one. Thirty-six percent indicated that at least one of their parents was an inventor.

Procedure. A questionnaire asking both demographic information and questions relating to the inventing process was sent to the participants in a one-day workshop on inventing. The results of the questionnaire were forwarded to 76 respondents who indicated that they were interested in a summary of the data analysis. A letter was included in the summary asking for their further cooperation and requesting that they complete Form G of the MBTI. In analyzing the results, type differences between the inventors and male high school students taken from Myers' norms (Myers & McCaulley, 1985) were studied using Selection Ratio Type Table (SRTT) analyses (McCaulley, 1985). No attempt was made to differentiate the two female inventors. Participants were advised that MBTI results would be analyzed and feedback provided at the next scheduled inventors' workshop.

Results

Table 1 shows the type distribution of the 32 inventors along with an SRTT comparison with Myers' normative sample of 4,933 high school males (Myers & McCaulley, 1985).

The inventor sample was strongly I (69%) and T (78%) and predominantly N (63%). In the SRTT comparisons, ISTPs and INTPs were significantly overrepresented among the inventors. For the inventors IP, NT, NP, TP, and IN types were significantly overrepresented, while EP, ST, FP, and ES types were significantly underrepresented.

Discussion

This study presents some exploratory findings on the psychological types of a special type of entrepreneur, the casual inventor. The inventors, significantly overrepresented by INTPs and ISTPs, were introverted thinkers with T dominant. The incidence of INTPs as a predominant type is consistent with Ginn and Sexton's (1988) study of *Inc.* 500 founders which included 133 males and 26 females. The overrepresentation of INTPs in the inventor group supports MacKinnon's work with highly creative architects, mathematicians, research scientists, and writers where creativity and originality were associated with intuition and perception (Myers & McCaulley, 1985).

The results identify accurately the behaviors associated with the inventing process. The inventors identified their inventing as "free-lance" which is done outside of their regular job. It is, in effect, an avocation from which they gain satisfaction beyond the job. For example, more than half indicated that they derived no monetary value from their invention.

The ISTP types are described as people who are especially skilled with their hands and who get satisfaction from outcomes that are immediate. The focus of these inventors and their products tended to be toward technical and mechanical things. Their view of the world is concrete (sensing) yet they approach the world in an open-ended way (perceiving).

INTPs, who represent the other significant dominant introverted thinking type, are described as having an inner reflectiveness (introversion) which allows them to explore possibilities (NP). Their objectivity (thinking) allows for an analysis of the information and their flexibility (perceiving) prompts them to be responsive to new data. The casual inventor, as an introverted thinker, is concerned with ideas. INTPs have a drive for flawlessness, competency, and self-mastery. At times they may become more interested in the challenge of reaching a solution than in seeing the solutions placed into practical use. Interestingly enough, in this study 83% of the respondents indicated their invention had been used little or not at all commercially.

There is no single definition of entrepreneurship, and this makes it difficult to identify behaviors characteristic of that activity. Although measuring personality

Table 1. Type Distribution of Inventors and SRTT Comparison with Myers' Estimated Male Population Norms
N = 32 *I* = 1% of *N*

ISTJ <i>n</i> = 1 (3.1%) <i>I</i> = 0.36 III	ISFJ <i>n</i> = 2 (6.3%) <i>I</i> = 1.40 IIII I	INFJ <i>n</i> = 1 (3.1%) <i>I</i> = 1.95 III	INTJ <i>n</i> = 2 (6.3%) <i>I</i> = 1.69 IIII I	E <i>n</i> = 10 (31%) <i>I</i> = 0.50*** I <i>n</i> = 22 (69%) <i>I</i> = 1.80***	S <i>n</i> = 12 (37%) <i>I</i> = 0.57*** N <i>n</i> = 20 (63%) <i>I</i> = 1.83***	T <i>n</i> = 25 (78%) <i>I</i> = 1.28* F <i>n</i> = 7 (22%) <i>I</i> = 0.56*	J <i>n</i> = 12 (37%) <i>I</i> = 0.72 P <i>n</i> = 20 (63%) <i>I</i> = 1.30	IJ <i>n</i> = 6 (19%) <i>I</i> = 1.01 IP <i>n</i> = 16 (50%) <i>I</i> = 2.56*** EP <i>n</i> = 4 (12%) <i>I</i> = 0.44* EJ <i>n</i> = 6 (19%) <i>I</i> = 0.56	ST <i>n</i> = 9 (28%) <i>I</i> = 0.69 SF <i>n</i> = 3 (9%) <i>I</i> = 0.37 NF <i>n</i> = 4 (13%) <i>I</i> = 0.90 NT <i>n</i> = 16 (50%) <i>I</i> = 2.47***	SJ <i>n</i> = 4 (13%) <i>I</i> = 0.32** SP <i>n</i> = 8 (25%) <i>I</i> = 0.91 NP <i>n</i> = 12 (37%) <i>I</i> = 1.82* NJ <i>n</i> = 8 (25%) <i>I</i> = 1.86	TJ <i>n</i> = 7 (22%) <i>I</i> = 0.63 TP <i>n</i> = 18 (56%) <i>I</i> = 2.15*** FP <i>n</i> = 2 (6%) <i>I</i> = 0.29* FJ <i>n</i> = 5 (16%) <i>I</i> = 0.91	ESTP <i>n</i> = 2 (6.3%) <i>I</i> = 0.70 IIII I	ESFP <i>n</i> = 0 (0.0%) <i>I</i> = 0.00	ENFP <i>n</i> = 0 (0.0%) <i>I</i> = 0.00	ENTP <i>n</i> = 2 (6.3%) <i>I</i> = 0.98 IIII I	ESTJ <i>n</i> = 1 (3.1%) <i>I</i> = 0.18 III	ESFJ <i>n</i> = 0 (0.0%) <i>I</i> = 0.00	ENFJ <i>n</i> = 2 (6.3%) <i>I</i> = 2.20 IIII I	ENTJ <i>n</i> = 3 (9.4%) <i>I</i> = 1.76 IIII III	IN <i>n</i> = 13 (41%) <i>I</i> = 3.00*** EN <i>n</i> = 7 (22%) <i>I</i> = 1.06 IS <i>n</i> = 9 (28%) <i>I</i> = 1.15 ES <i>n</i> = 3 (9%) <i>I</i> = 0.23***
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**p* < .05
 ***p* < .01
 ****p* < .001

characteristics as a means of identifying entrepreneurs has not been successful, the data presented here suggest that the casual inventor is one type of entrepreneur who may indeed be represented by specific types. The study raises some interesting questions for further investigation. Do successful and unsuccessful inventors have different types? How closely do the full-time job requirements of the casual inventor match the preferences of their individual type? Do inventors who successfully market their product, one of the most difficult hurdles in inventing, differ from those who don't? Because the casual inventor plays a very critical role in the entrepreneurial process, further research seems warranted.

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