



## Innovative Entrepreneurial Self-Efficacy and Career Choice

### **Dr. Kaneez Fatima Sadriwala<sup>1</sup>**

Assistant Professor, Accounting Department,  
College of Economics Management and Information Systems,  
University of Nizwa, Sultanate of Oman.

### **Dr. Zunith Ahmed<sup>2</sup>**

Assistant Professor, Department of Management,  
College of Economics Management and Information Systems,  
University of Nizwa, Sultanate of Oman.

### **Dr. Boumedyen Shannaq<sup>3</sup>**

Assistant Professor, Department of Information Systems,  
College of Economics Management and Information Systems,  
University of Nizwa, Sultanate of Oman.

### **Abstract**

Innovative Entrepreneurship as a career choice is dependent on many antecedent factors including individual factors like high need of control, confident, achiever, Intellectually lazy, ability to handle risks and goal oriented; social factors like childhood poverty, deprived state or family support, motivation from family and economic factors like growing economy, financial support, government initiatives that create business opportunities and resource network, among others. Innovative Entrepreneurs build the backbone of any country. Innovative Entrepreneurship is observed as a paramount sustainable strategy to cultivate country's economic growth and face global competitiveness. The aim of this paper is to identify the presence of various innovative entrepreneurial traits present in an individual. This research will also relate the entrepreneurial self traits to their career intentions. Innovative Entrepreneurial self-efficacy will be measured by a self-assessment scale. The items on this scale will represent competencies related to new business development and entrepreneurial success.

This research is a novelty as it focuses on the personal characteristics of an individual who can take new idea to the market, not imitating and proactively being responsive to the environmental changes thus creating distinctive business model. This work will contribute to the existing literature by identifying the Innovative Entrepreneurship self-efficacy (IESE) among Omanis and its influence on their career choice. Particularly, this research aims and attempts to establish relationship between Innovative entrepreneurial self-efficacy and individual attitude towards Starting own Business.

Keywords – Innovative Entrepreneurship, Innovative Entrepreneurial self-efficacy, career choice  
JEL classification



## Introduction

In this modern hi-tech society where everything is available at finger touch, innovation becomes one of the most crucial concept. It gains its importance because all businesses will have to transform sooner or later to the new trends in the society. Drucker (1985:17) also lays emphasis on Innovation, that entrepreneurs must take benefit of the changing environment and develop new process, new service or new means of doing business. To develop new idea for business, it is again imperative for the entrepreneurs to be creative and think differently and to visualize future business opportunity. Many entrepreneurship related studies prove that self-efficacy impacts an individual's behavior and the way in which he conducts his/her business. Entrepreneurs who were having high perceived self-efficacy were found to be more successful in comparison to those who had low efficacy. In this paper, the self traits or perceived entrepreneurial self-efficacy of individuals is linked with their innovative capability. According to Schumpeter, innovation and entrepreneurship have a deep connection with each other. As Kirton (1976) allures, creativity does not necessarily mean having a novice idea. The newness may be in method, in process or in the given context even converting businesses from tradition business to online business may be termed as novelty. Entrepreneurs are those who convert their ideas into reality.

In this paper the entrepreneurial traits have been examined with the right vs left brain use by a person which is termed as creativity verses logic. This is a novelty as unto the knowledge of the researchers association rules have never been developed between the entrepreneurial tendencies and right/left brain processing. This combined study is first of its kind in the context of university students in Oman. The outcomes of this study shall be helpful not only to the policy makers but for the development and training individuals to be successful businessman. The outcome of this research will provide guidelines on what soft skills training should be provided to change the mindset from structured thinking to unstructured thinking and creativity. This study comes at an appropriate time when all universities across Oman are mandatorily adopting entrepreneurship course in the university syllabus.

## Literature Review

"Entrepreneurship" has turned to be into a popular discussion lately. To thrive in future, one will have to think in term of entrepreneurship. The major reason being shrinking of jobs due to E-takeovers. The intra discipline, boundary less nature of business, entrepreneurs and their traits have turned out to be progressively prevalent. But still there is no clear definition of entrepreneurship



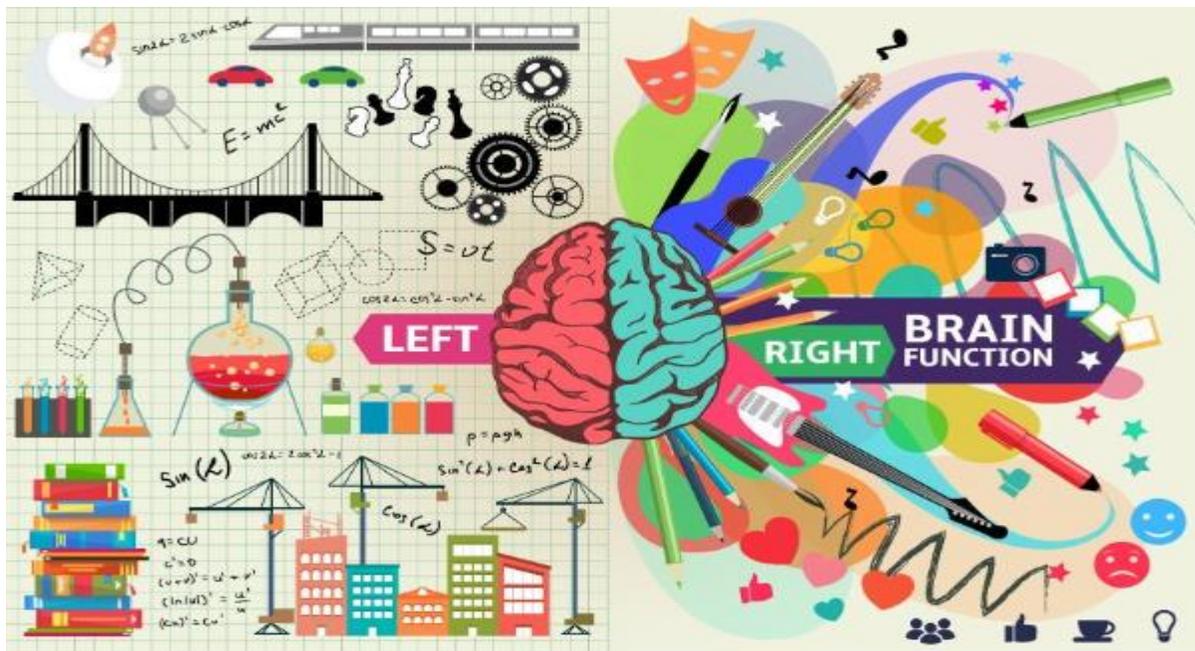
and the term is used in a very vague form (Iverson et al., 2008). Abundant researches and ideas are available on entrepreneurship which may be dated back to the eighteenth century when it was first defined by Cantillon. Even after 250 years, a cognizant definition has not yet been formulated. The basic grounds of entrepreneurship is nothing but to invest in a venture which is capable of producing something which can sell or provide services which people are ready to buy (Dinçer & Fidan, 2000). but there are many factors which influence entrepreneurial thrust, they may be emotional ego attack by any family member or friend, childhood poverty, desire to become rich, or even wanting to control things or esteem need. Along with these personal experiences, researchers have found that family background, culture, education, economic conditions, current trend, training opportunity, financial support, professional guidelines also play a very important role (Morrison 2000), (Curran and Stanworth 1987).

In one such research on university students, Zaidatol Akmaliah (2009) advocated that providing training on finance, basic accounting, banking, marketing and other basic aspects of management to the university students shall result in higher tendency towards entrepreneurship as their career choice. Research proves that there is direct influence of mentoring on career satisfaction St. Jean & Mathieu (2015). vice a versa, it sometimes also has a negative impact on satisfaction on the newly converted entrepreneur as he/she becomes aware of the challenges and thus retention becomes difficult. Another study by Melissa Sisco (2007) found that there was no significant relationship between education level, work experience and career decision of being entrepreneur. But Kristen A. Nasta (2007) in her study found performance achievements to be one of the strongest influencer on career self-efficacy.

### **Creativity (right brain vs left brain)**

Stephanie Staidly (2018), a renowned speaker and consultant believes that Creativity is the most valued quality possessed by CEO's all over the world. (<http://therightbrainentrepreneur.com/>)

In one research done on brain scans of entrepreneurs at MIT proved that normally people either use their right brain or left brain unconsciously, entrepreneurs have a different tendency of using their brains, but medical study also proves that some people think more from the right brain and some think more from the left brain. (<https://www.nuskool.com/learn/lesson/entrepreneur-right-brain-vs-left-brain/>)



**Relation among all variables : Red : Left , Blue :Right**

Studies have proved that people who use left brain more are more calculative, use reasoning and logical thinking and are systematic and tend to utilize the information from the past. Whereas people who use right brain more are found to be emotional, unstructured, believing on instincts, more creative and out of the box thinkers. But is there a clear difference between the two hemispheres? Medical science finds it debatable (Daniel Voyer, 1995) and remains a reason for investigation. In another brain scan research at the University of Utah, researchers found that both sides of the brain work together and on an average equally, with exception to higher activity level in some vector. It is interesting to know that; left brain works on languages whereas paying attention to language is done by the right brain says Dr. Jeff Anderson (2013).

Education plays a very important role in developing entrepreneurs. Using more of right brain as an entrepreneur, helps improve your creativity, makes you more confident, daring and risk taker. It also helps you in making higher profits (Scott Shane, 2013). In another brain study on managers and entrepreneurs, it was found that managers used less of the right side brain which is associated with logical thinking and entrepreneurs used the right brain which is associated with creativity. Kirby (1995) explored the development of entrepreneurship course and argued that a complete change is required in the education delivery system. Tradition method of teaching and learning will not work, if the universities were to develop entrepreneurs. Philip D. Olson (1985) in his study



identified attribute guidelines and proposed two entrepreneurial ability examining modes, one related with sequential, structured, rational mode and another emotional, intuitive, holistic approach. David & Nagwa (2011) also reviewed the Entrepreneurial Tendencies of students using the GET and suggested that a proper change in education system and training method, entrepreneurial culture can be developed. The study also examined brain dominance.

### **Measuring the entrepreneurial personality**

The rise and fall of business empires have been time tested, most new ventures fail and many do not grow, keeping aside the chance and environment of growth, much still depends on the Venturer. Abundant studies have been done on measurement of entrepreneurial personality in order to charter the characteristics or traits required to be an entrepreneur, numerous tests have been developed, either in form of statements or visuals, or both. The answers to these statements are perceived beliefs or attributes of the respondent, which are then analyzed. One of the instrument was developed far back in the year 1966 by Rotter, then in 1973 by Levenson. One of the widely used test is General enterprising Test (GET) , developed by researchers at Durham University Business School. Stormer et al. (1999) in their research found that this test could relate some of the attributes which may be useful for research purposes but predicting the success of small businesses on the basis of this test would not be acceptable. It is more personality based and was suggested that more task based approach should be adopted. Thus in this research, first, entrepreneurial tendency has been identified with the help of Pre tested scientific tool ‘Entrepreneurial Tendency Test’ by David A. Kirby. Secondly, we apply the ‘Test for left brain/right brain dominance’ on the same subjects.

### **Research Objective**

The main objective of this research is to link creativity with the entrepreneurial traits and to establish association rules between entrepreneurial tendency traits and creativity, left brain/ right brain dominance.

### **Research Methodology**

In this research ‘Descriptive research design’ has been adopted to observe and describe the behavior of university students without influencing them in any way. For this purpose two sets of questionnaire were used, one to know the entrepreneurial tendency and the second one on the same subject to test the creativity dominance.



### Data collection and Sampling

Secondary data is collected from books and scholarly writings, journals and databases available in University of Nizwa library, Google scholar, and other open access research papers, articles and blogs on internet. The primary data is collected by convenience sampling. The questionnaire were distributed during the class by the researchers to the students undergoing ‘Entrepreneurship’, ‘Organizational Behavior’ and ‘Masters in Business administration’. The mother tongue (spoken language) of the students is Arabic. The questionnaire prepared in English and distributed to 122 students. 27 from Entrepreneurship, 80 from OB and 15 from MBA level.

The first questionnaire was a set of 25 item, perception based self assessment, the items in this set were related with entrepreneurial characteristics and this tool was taken from David A. Kirby, ‘Nature, Characteristics and Behavior of the entrepreneur’, in Entrepreneurship, Berkshire:McGraw Hill (2003). The respondents were asked to read the statements carefully and circle their answers on the hardcopy provided. Since the students mother-tongue was not english, they were asked to use their smart phone and translators to understand the meaning of the words. They were also left free to discuss the statement with the researcher. A 3-point scale (Yes=3, Maybe=2 and No=1) was adopted for self rating. . Internal reliability was 0.67. and the validity was acceptable.

### Case Processing Summary

		N	%
Cases	Valid	53	77.9
	Ex-cluded(a)	15	22.1
	Total	68	100.0

### Reliability Statistics

Cronbach's Alpha	N of Items
.670	24



### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.477
Bartlett's Test of Sphericity	Approx. Chi-Square	390.093
	df	300
	Sig.	.000

The answers were summed and the total sum was used to classify the respondents as follows (weights were used as directed by the scientific tool)-

60-75 points- High tendency towards entrepreneurship

48-59 points- Needs skill training

37-47 points- Must search for complementary partner

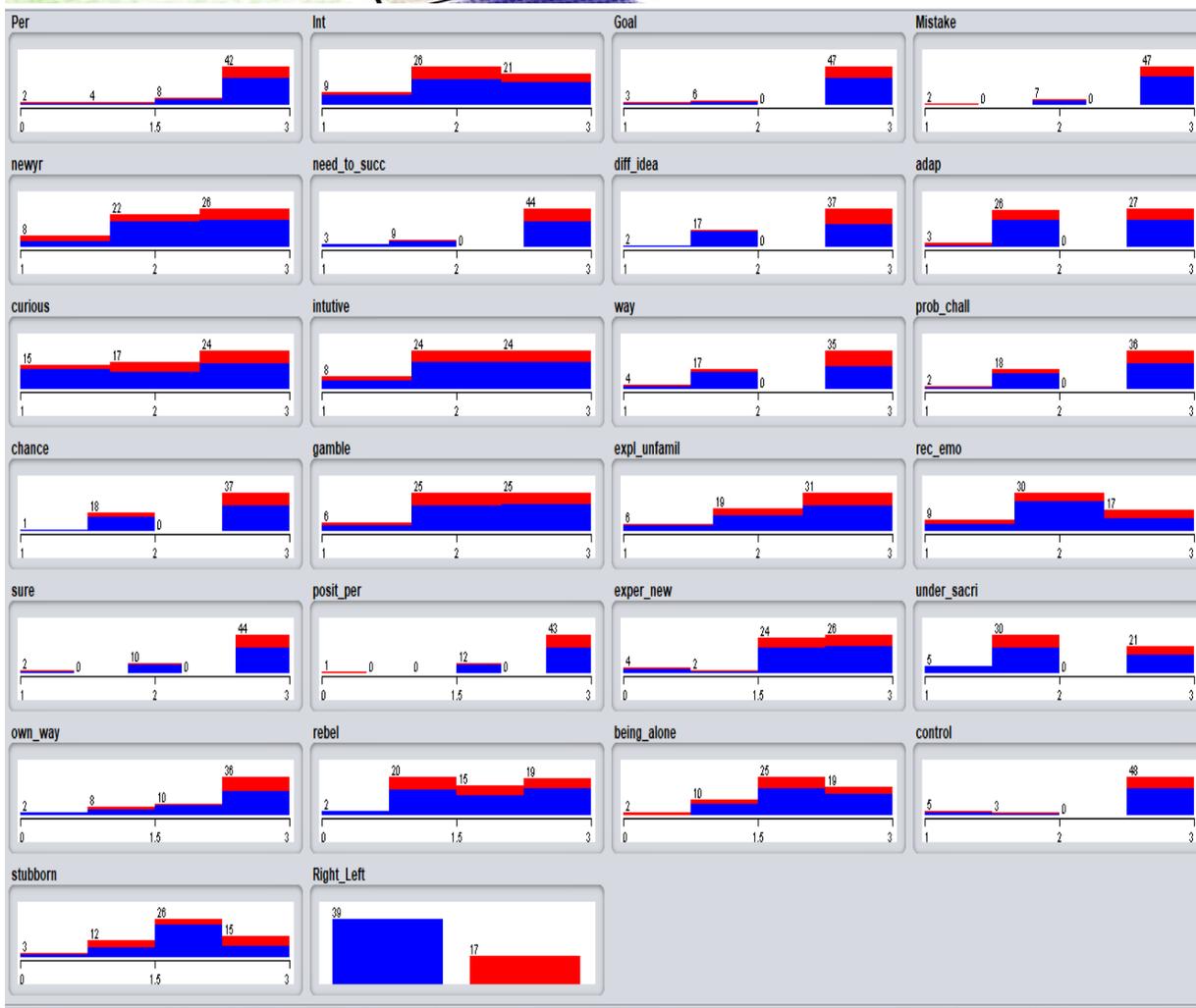
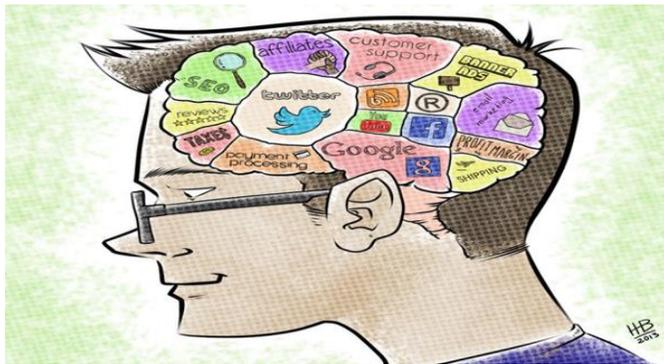
37 points and under- search good job with companies

The second questionnaire related with the 'Left-brain/right-brain dominance' had 32 items and this was also self administered. The items represented Creativity and left/right brain dominance, as per the literature, it is apparent that the adopter is much more left brain oriented than is the innovator. This test has been adopted from David A. Kirby, 'Nature, Characteristics and Behavior of the entrepreneur', in Entrepreneurship, Berkshire: McGraw Hill (2003). The items included were all related with measurement of language, logic, symbols and Emotions, intuitiveness and spatial functions.

The collected data has been analyzed with the help of SPSS and Business Intelligence Data Mining Tool.



## Analysis and Discussion



<https://www.nuskool.com/learn/lesson/entrepreneur-right-brain-vs-left-brain/>

### Relation among all variables; Red: Left , Blue :Right

We Rank the power attribute that have power effect to determined whether the leader is more close to the Right thinking or Left Thinking. The analysis of the above case proves that, if a candidate has entrepreneurial intentions, they are prone toward Blue:right brain.



**Attribute Evaluator (supervised, Class (nominal): 26 Right\_Left):  
Correlation Ranking Filter**

Ranked attributes:	0.08416	8 adap
0.30726 7 diff_idea	0.08066	15 expl_unfamil
0.22322 11 way	0.08012	5 newyr
0.21581 4 Mistake	0.06153	24 control
0.18009 6 need_to_succ	0.04757	10 intuitive
0.1691 23 being_alone	0.04734	12 prob_chall
	0.04504	14 gamble
0.15619 13 chance	0.04247	25 stubborn
0.13453 20 under_sacri	0.03148	18 posit_per
0.12214 21 own_way	0.02643	3 Goal
0.11681 1 Per	0.02054	22 rebel
0.10755 9 curious	0.01982	2 Int
0.0954 17 sure	0.00661	19 exper_new
0.0916 16 rec_emo		

Selected attributes: 7,11,4,6,23,13,20,21,1,9,17,16,8,15,5,24,10,12,14,25,18,3,22,2,19 : 25

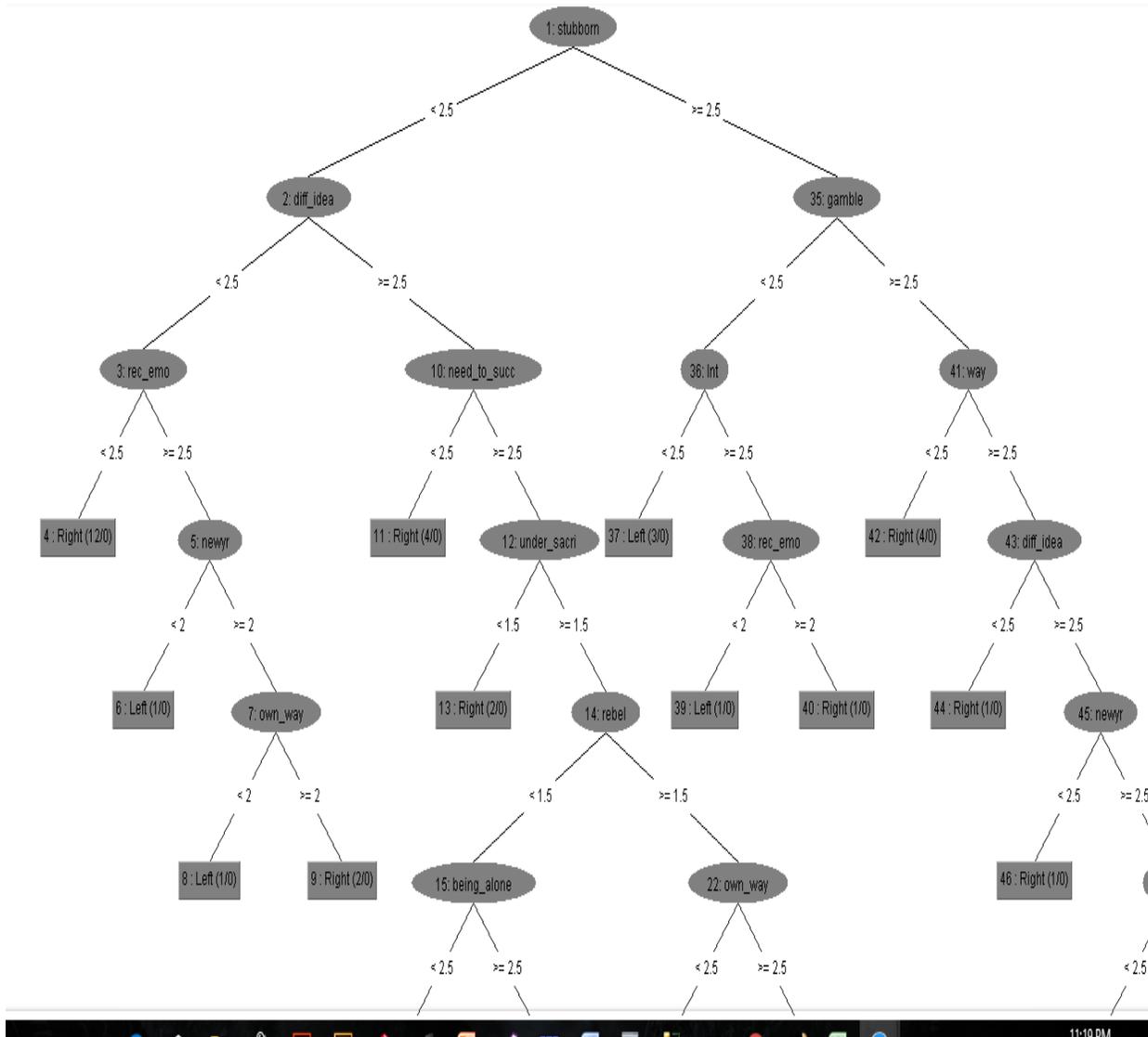
In the ranking above the strongest attribute is Statement no. 7. 'I have new and different ideas', the second rank is 'If something can't be done, I find a way' and so on. The first two fall in the Right Brain category.

A graphical form of the above ranking is given in the decision tree below:

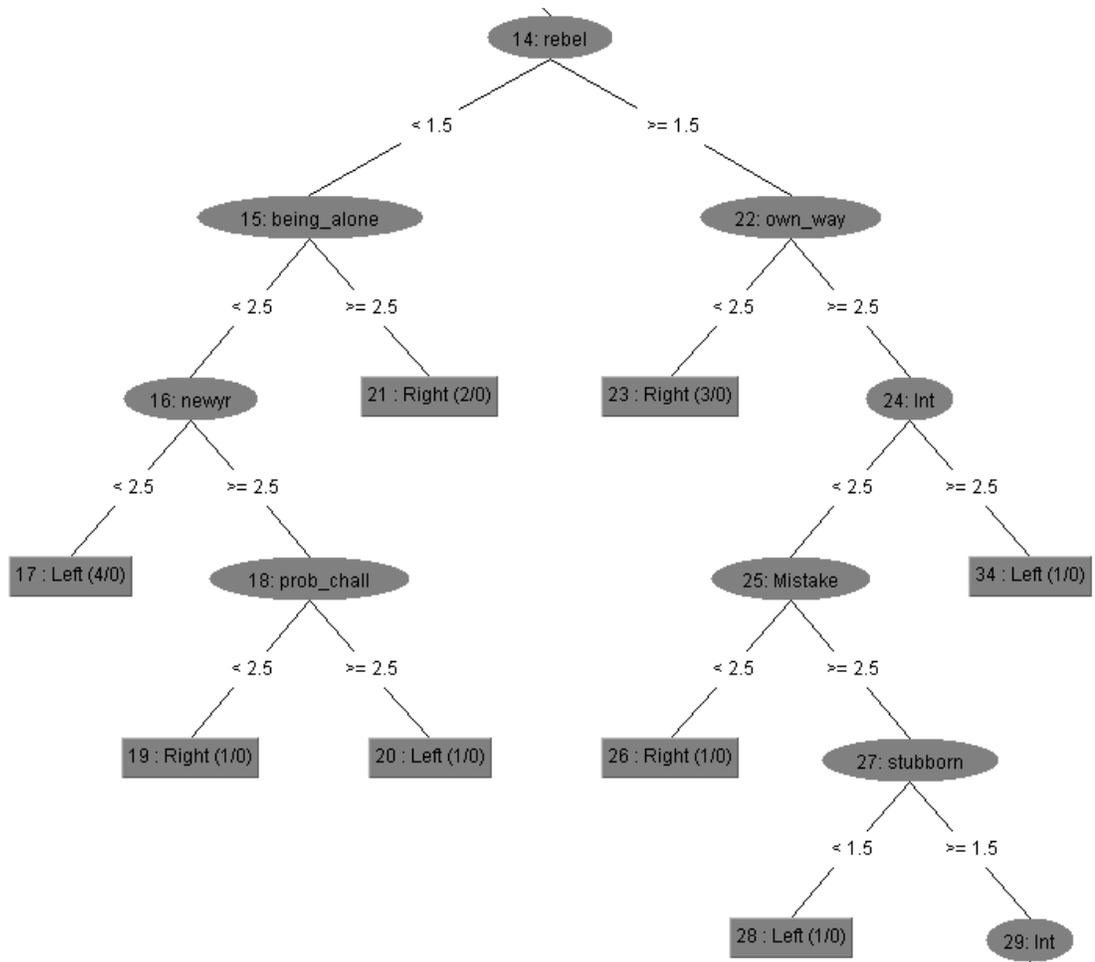


```
stubborn < 2.5
| diff_idea < 2.5
| | rec_emo < 2.5 : Right (12/0)
| | rec_emo >= 2.5
| | | newyr < 2 : Left (1/0)
| | | newyr >= 2
| | | | own_way < 2 : Left (1/0)
| | | | own_way >= 2 : Right (2/0)
| diff_idea >= 2.5
| | need_to_succ < 2.5 : Right (4/0)
| | need_to_succ >= 2.5
| | | under_sacri < 1.5 : Right (2/0)
| | | under_sacri >= 1.5
| | | rebel < 1.5
| | | | being_alone < 2.5
| | | | | newyr < 2.5 : Left (4/0)
| | | | | newyr >= 2.5
| | | | | | prob_chall < 2.5 : Right (1/0)
| | | | | | prob_chall >= 2.5 : Left (1/0)
| | | | | | being_alone >= 2.5 : Right (2/0)
| | | | rebel >= 1.5
| | | | | own_way < 2.5 : Right (3/0)
| | | | | own_way >= 2.5
| | | | | | Int < 2.5
| | | | | | Mistake < 2.5 : Right (1/0)
| | | | | | Mistake >= 2.5
| | | | | | stubborn < 1.5 : Left (1/0)
| | | | | | stubborn >= 1.5
| | | | | | | Int < 1.5
| | | | | | | | intuitive < 2 : Left (1/0)
| | | | | | | | intuitive >= 2 : Right (1/0)
| | | | | | | | Int >= 1.5 : Right (3/0)
| | | | | | Int >= 2.5 : Left (1/0)
stubborn >= 2.5
| gamble < 2.5
| | Int < 2.5 : Left (3/0)
| | Int >= 2.5
| | | rec_emo < 2 : Left (1/0)
| | | rec_emo >= 2 : Right (1/0)
| gamble >= 2.5
| | way < 2.5 : Right (4/0)
| | way >= 2.5
| | | diff_idea < 2.5 : Right (1/0)
| | | diff_idea >= 2.5
| | | | newyr < 2.5 : Right (1/0)
| | | | newyr >= 2.5
| | | | | Int < 2.5 : Left (2/0)
| | | | | Int >= 2.5
| | | | | | rec_emo < 2.5 : Right (1/0)
| | | | | | rec_emo >= 2.5 : Left (1/0)
```

Size of the tree : 51



The association rule in the above tree shows that, If a candidate has an attribute of ‘I have a reputation for being stubborn’ positive , check for attribute ‘I have new and different idea’ negativebut ‘I have strong need to succeed’ positive, and ‘willing to undergo sacrifices’ is positive ‘I tend to rebel against authorities’ and ‘I usually do things my own way’ positive the candidate is likely to tend towards right brain, and as the literature proves that there is strong connection between entrepreneurial tendencies and right brain, the candidate is likely to succeed in his/her entrepreneurial venture. Another example is, if a person is Low on ‘being rebel’, low on ‘enjoy being alone’, low on ‘keeping new year resolutions’ is a person with highly prone towards left brain behavior and need training on skills to be an entrepreneur.



An interesting difference is revealed when it comes to research tasks. Here is what Professor Zollo himself writes about this:

"We found out that when entrepreneurs performed research tasks, they used both the left and right upper lobe of the brain, the entire so-called prefrontal cortex, while the managers used, first of all, the left anterior part of the brain. This is an important difference, since the right the side of the prefrontal cortex is associated with creative functions, including the highest level of thinking (poetry, fine arts, etc.), while the left side is associated with rational decision making and logical thinking."

We found that Professor Zollo inaccurately investigated the difference. It is necessary to give the same task to both. And compare it to solve the task of achieving broad goals and extracting greater profits, we must turn off that part of the brain that knows conscience. There would be no conscience, the rest will be utilized as per the available facts and logical behavior.



## Conclusion and Suggestions

Thus, based on the analyzed data, this work found that entrepreneurs are able to use their brains at full capacity (management functions), while managers are narrowly focused on rational and logical reasoning. This does not mean that entrepreneurs are more intelligent. But when they investigate the problem, their brains work more actively. It is difficult to say whether this is something inherent, or it can be learned. Entrepreneurs are dealing with very different problems and spend working time very differently. Further research may be conducted to establish rules of association between entrepreneur brain and neurosciences. Provided training to make the brain work actively, we are likely to develop more entrepreneurs. The study suggests that the university curriculum must include innovative, skill oriented programs and stimulate out of the box thinking. Simulation exercises and management games may be helpful in stimulating right brain and creativity.

## References

1. Alison Morrison, (2000) "Entrepreneurship: what triggers it?", *International Journal of Entrepreneurial Behavior & Research*, Vol. 6 Issue: 2, pp.59-71, <https://doi.org/10.1108/13552550010335976>
2. Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84, 191-215
3. Caird, Sally (2013). General measure of Enterprising Tendency test. [www.get2test.net](http://www.get2test.net).
4. Chen, C.P. (1997). Career projection: Narrative in context. *Journal of Vocational Behavior*, 54, 279-295.
5. Curran, J., and Stanworth, J., (1987) 'Training for Enterprise: Approaches to Small Business Education', *Business Education*, Vol. 8, No. 1.
6. D. Voyer (1995) Effect of practice on laterality in a mental rotation task, *Brain and Cognition*, volume 29, Issue 3, 326-335.
7. D. A. Kirby and Y. Fan, (1995) Chinese Cultural Values and Entrepreneurship: A Preliminary Consideration, *J. Enterprising Culture* 03, 245.
8. David A. Kirby, (2004) "Entrepreneurship education: can business schools meet the challenge?", *Education + Training*, Vol. 46 Issue: 8/9, pp.510-519,
9. David A. Kirby, in *Entrepreneurship: McGraw-Hill*, ISBN 0077098587.
10. David A. Kirby, Nagwa Ibrahim (2011) Entrepreneurship education and the creation of an enterprise culture: provisional results from an experiment in Egypt, *International Entrepreneurship and Management Journal*, June 2011, Volume 7, Issue 2, pp 181–193]
11. Dincer, O. Fidan, Y. (2000). *Isletme Yonetimine Giris*, Beta Basim Yayim Dagitim AS., Istanbul
12. Dr.Hemantkumar P. Bulsara, Dr. Shailesh Gandhi and Dr. P. D. Porey (2010)A Comparative Study of Enterprising Tendency with the help of Select Cases in India, *International Journal of Trade, Economics and Finance*, Vol.1, No.4, December, 2010
13. Drucker, P.F. (1985) *Innovation and Entrepreneurship*. Oxford: Butterworth- Heinemann
14. Étienne St-Jean and Cynthia Mathieu (2015) Developing Attitudes Toward an Entrepreneurial Career Through Mentoring: The Mediating Role of Entrepreneurial Self-Efficacy, *Journal of Career Development*, Vol. 42, Issue 4, pp. 325 - 338
15. <http://dx.doi.org/10.1037/0021-9010.61.5.622>
16. <http://scholarworks.uark.edu/etd/2130>
17. <https://doi.org/10.1142/S0218495895000131>
18. <https://www.cairn.info/revue-journal-of-innovation-economics-2014-2-page-157.htm>
19. Iverson, J. M., Capirci, O., Volterra, V., & Goldin-Meadow, S. (2008). Learning to talk in a gesture-rich world: Early communication in Italian vs. American children. *First Language*, 28(2), 164–181. <http://doi.org/10.1177/0142723707087736>
20. Kirton, M. (1976). Adaptors and innovators: A description and measure. *Journal of Applied Psychology*, 61(5), 622-629.



21. Kristen A. Nasta (2007) Influence of career self-efficacy beliefs on career exploration behaviors. State University of New York at New Platz
22. Nielsen JA, Zielinski BA, Ferguson MA, Lainhart JE, Anderson JS (2013) An Evaluation of the Left-Brain vs. Right-Brain Hypothesis with Resting State Functional Connectivity Magnetic Resonance Imaging. PLoS ONE 8(8): e71275. <https://doi.org/10.1371/journal.pone.0071275>
23. Philip D. Olson (1985), Entrepreneurship: Process and Abilities, Entrepreneurship Theory and Practice, Vol. 10, Issue 1, pp. 25 - 31.
24. Philip D. Olson(1985) Entrepreneurship: Process and Abilities, Entrepreneurship Theory and Practice, Volume: 10 issue: 1, page(s): 25-31
25. R. Cantillon (1732), Essay on the Nature of Commerce in General) [https://www.bvef.lu.lv/.../Theoretical\\_aspects\\_of\\_entrepreneurship\\_Krumina.pdf](https://www.bvef.lu.lv/.../Theoretical_aspects_of_entrepreneurship_Krumina.pdf)
26. Schumpeter, Joseph A, Entrepreneurship as Innovation (2000). Entrepreneurship: The Social Science View, Vol. , p. 51-75 2000.
27. Scott Shane and Nicos Nicolaou (2013), The genetics of entrepreneurial performance, International Small Business Journal, Vol. 31, Issue 5, pp. 473 - 495 <https://doi.org/10.1177/0266242613485767>
28. Sisco, Melissa W.,(2014) "Career Decision-Making Self-Efficacy: Examining the Effects of Career Choice, Education, and Work Experience of Entrepreneurs". Theses and Dissertations. 2130.
29. Stephanie Staidly (2018), [therightbrainentrepreneur.com/about-2/stephanie/](http://therightbrainentrepreneur.com/about-2/stephanie/)
30. Stormer, F. ; Kline, T. ; Goldenberg, S. (1999), Measuring entrepreneurship with the General Enterprising Tendency (GET) Test: Criterion-related validity and reliability, Human systems management : HSM Amsterdam [u.a.] : IOS Press, ISSN 0167-2533, ZDB-ID 8639395. - Vol. 18.1999, 1, p. 47-52
31. The Entrepreneur Brain: How Is It Wired Differently? - NuSkool <https://www.nuskool.com/learn/lesson/entrepreneur-right-brain-vs-left-brain/>
32. ZAL Pihie, Z Akmaliah (2009) Entrepreneurship as a career choice: An analysis of entrepreneurial self-efficacy and intention of university students, European journal of social sciences, Vol. 9, issue 2, 338-349