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Design entrepreneurship in product design education

Serkan Gunesa*

*Gazi University, Department of Industrial Design, Kirum Cad. 6. Sok, Emek, Ankara, Turkey

Abstract

Design entrepreneurship is about producing and marketing the intellectual properties of a viable concept in terms of assuming risks, financing and managing. So this study is about a discussion on building entrepreneurship skills in design education. With the changing role of the designer, the study supports the idea that teaching initiative entrepreneurial skills is essential as design skills for design students to survive in the business world. For this study will define design entrepreneurship with its sui generis requirements. The study also discusses ways for design students to improve their entrepreneurial capacity via specialized courses and proposes an initiative-intensive skillful curriculum.

Keywords: Industrial design, design education, design entrepreneurship;

1. Introduction

Entrepreneurship is one of the most popular key topic and debate on business economics and management studies at least for last 30 years. Although it is widely covered by business administration discipline (Zeithaml and Rice, 2005), there is an explosion of new interest in entrepreneurship from other disciplines such as engineering, design and even arts. Beginning with the Schumpeterian thought, to break away from the routine, to destroy pre-existing structure, to move the system away from the circular flow of equilibrium has been highly related with entrepreneurship and its activities and entrepreneur has been defined as a person who is never satisfied by the results based on existing innovations but who keeps searching for new opportunities (Schumpeter, 1942). Later, entrepreneurship is defined as creative form of an economy and entrepreneur is mentioned as a valid image of human action for the knowledge based company (Lahti, 2000). However, following Schumpeter, some authors like Kirzner characterized entrepreneur who spring into action upon recognizing a disequilibrium situations (Kirzner, 1999). As Schumpeter viewed entrepreneurship as the fourth factor of production, it is now seen as the source of technological opportunities, profit-driven R&D investments and design driven value innovation by firms.

As the global market is becoming increasingly competitive, many firms realized the importance of innovation and in particular radical innovations not only driven by technology but also by design. On this account many pioneering of them adopted a holistic design program to define and fulfill the requirements of the market (Blaich and Blaich, 1993) and, today, remaining majority reviewed their product development processes and positioned industrial design as core for the sake of surviving. So a new type of entrepreneurship is introduced dealing with concept-to-market that encourage designers to participate in decision making not only conventional design activities but also product planning, positioning and marketing (Yang et.al, 2005). Design entrepreneurship is basically about

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*Serkan Gunes. Tel.: +90-532-681-6769
E-mail address: serkangunes@gazi.edu.tr

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producing and marketing the intellectual properties of a viable concept in terms assuming risks, financing, marketing and managing. It is not just creating innovative product ideas by conventional design skill set but also organizing and operating a plan through idea into a physical profitable product by initiative skills.

On the other hand, the design education mostly focuses on design skills, originality and creativity, in brief, an idea or viable concept that can be produce or distribute to market. Sometimes students’ talent – the creative challenges and client facing issues - is not enough to sustain a design career if it does not supported by internal operational issues as design entrepreneurship and management. So, design education needs more attention on design entrepreneurship – particularly for people who are building their careers- to fulfill the demand of actual competitive business world.

2. The Fundamentals of Design Entrepreneurship

The conceptualization, production and marketing of a design idea are a critical case for a company’s growth and survival. Simultaneously design is a key strategic activity in many firms because new products contribute incessantly destroying the old one and define new competencies and qualifications in the market place. In other words, reutilization of innovation frequently embodies as a practice of new product design yet design include the discovery and creation of new kinds of consumer goods that covers creative thinking, planning and also brand, identity, packaging, color, finish and materiality, form, and user experience; in sum values for consumers. The amount of contribution of designer in value creation process has been a controversial issue for a long time; on the other hand, there is a very large pool of empirical studies promoting design and its result as added value in the literature.

A literature that began to emerge recently announces to us a new design approach; design entrepreneurship (Vienne, 2002; Heller and Talarico, 2008). Design entrepreneurship is about creating business and new opportunities by the help of design. It is a natural outgrowth of the typical design practice yet it is not limited by creating viable concepts but marketing their intellectual rights (Heller and Talarico, 2008). It means that to motivate industrial design activity to be more entrepreneurial for to take a product from concept to market which require giving the designers crucial and extra insights about the total product development process.

Already entrepreneurship is not a foreign concept to the design area. Both are working to shape the future by the new one as well as denying the past. According to Simon “Everyone designs who devise courses of action aimed at changing existing situations into preferred ones (Simon, 1996: 111)” From this state, entrepreneurship seems one of the sine qua non and indispensable action or condition of design practice. However, the design entrepreneurship does not see the value it deserves. Because many designers think that the talent and creativity at design work is sufficient for success. Yet talent and creativity required creating only viable concepts. On the other hand, marketing the viable concepts requires entrepreneurship skills. Most designer candidate seem to be confused in their future practice if they settle for set of activities such as concept development and CAD work as required skill set. Nevermore the perception of design entrepreneurship is limited under the establishment a design firm or sometimes designs automation. But the establishment of a firm does not mean entrepreneurship. As the most entrepreneurial ventures somehow involve a firm (Foss and Klein, 2004); the clear link between the establishment of a design firm and fulfill the requirements of being entrepreneur seems logical at the preliminary stage, on the other hand, firms serves just mechanisms for individuals to expose their entrepreneurial spirits and opportunities.

Based on all of these discourses, we should set out clearly what the design entrepreneurship is. Design entrepreneurship is the collection of correct skills and abilities to develop the right ideas and market them as the successful design products. These skills are not limited with conventional ones as idea generation or CAD drawing but skill for today's modern entrepreneurial and knowledge-based economy like high level of executive responsibility, business planning and management for creative and marketing issues and so on.

As a result, all designers aren’t same as the Wilson quote the “… difference between a designer who just wants to go to his computer and design things in a vacuum or design things to a brief and not maybe be challenged too much, and a designer that can actually see the connections and challenge the brief and push back and create something that’s disruptive to what’s in the market right now (Glei, 2012)”.
3. Entrepreneurship Education and Design Entrepreneurship

Entrepreneurship education is both major and academic discipline (Katz, 2003) and like any discipline it can be taught and learned (Drucker, 1985; Timmons and Spinelli, 2004). According to Alberti, Sciascia and Poli (2004) entrepreneurship education is “...the structured formal conveyance of entrepreneurial competencies, which in turn refers to the concepts, skills and mental awareness used by individuals during the process of starting and developing their growth oriented ventures”. As the global market is becoming increasingly competitive and the job market is brutal; an increase in the field of entrepreneurship education is experienced (Kuratko, 2005). The issue of teaching and developing entrepreneurial skills and mindsets are essential for students to create new jobs in future and to become major drivers of economic growth through creativity and innovation. Some researches indicate that people who have received entrepreneurship education perform better at running their own business (Shane, 2010). So, entrepreneurship education should be embedded in to the curriculums for all levels; specifically in design schools curriculums to build designer candidates ability to turn product ideas (concepts) into the action as intellectual property rights.

The aim of university education maybe to train a person for a job or to create perfect human beings and to build knowledge based society or to prepare individuals various situations that life offers. But, as a result, in all mentioned conditions there will be a gap between what students learn at school and what they are required to do in practice after graduation (Ball, 2002). One of these gaps is adequacy on entrepreneurship skills. The development of entrepreneurial skills requires process knowledge and experience. Universities can contribute to entrepreneurship both indirectly, through education of future innovator candidates, and directly by commercialization of research within the university and by being the seedbed for new ventures (Rasmussen and Sørheim, 2006). However, for the creation of the basics of entrepreneurship, entrepreneurship education should be given or the entire curriculum should be established on the practice of entrepreneurship skills. Yet, most of the empirical studies indicate that entrepreneurship skills can be taught or at least encouraged (Kuratko, 2005). According to Solomon, Duffy and Tarabishy (2002) entrepreneurial education must include skill building courses in negotiation, leadership, new product development, creative thinking and exposure to technological innovation.

It can easily be understood that, the two concepts; new product development and entrepreneurship are common in essence. As one of the foundations of entrepreneurship is to create a new one, it shares same roots with new product development. So entrepreneurship orientation will helps firms to take personal control and thereby promote great improvement in NPD activities (Li, Liu and Zhao, 2006) and entrepreneurship orientation positively affects product design activities and performance (Atuahene-Gima and Ko, 2001).

Definitions of design have changed due to the sophisticated production and distribution of design tools. This has increased the scope of the capabilities of designers and the way that build their partnerships. As a result of these developments, design entrepreneurship is quickly expanding as a part of design business. But the increase in the capabilities does not guarantee the emergence of entrepreneurship an entrepreneurial perspective should be developed beginning from design education.

Entrepreneurship based design education is a crucial foundation for creativity and innovation driven economic development. It is about developing awareness of entrepreneurship and seeks to provide design students with the managerial, economic and strategic thinking knowledge, as well as design skills and motivation to encourage entrepreneurial success. It should also provide role models, mentorship and expertise (mainly success stories at local, national and international level) to encourage young candidates to pursue their creative potential and should be conduct with a cross disciplinary approach to introduce new way of thinking, frameworks and to build critical links and new interactions through teams.

The main motivation of design entrepreneurship education is raising students’ awareness of self employment as a career option and develops attitudes, behaviors and capacities at individual level to establish growth oriented ventures. It should not be confused with small business training (Wilson, 2004; Zeithaml and Rice, 2005) or SME management courses it is mostly focused on identifying novel business and entrepreneurial opportunities, eliminating fear of failure, facilitating networks and partnerships and providing inspiration to create long term benefits to directly individuals but at the same time to society and economic growth.
To create high-growth-oriented ventures or “gazelles” (Birch, 2002) a sample and stages of design entrepreneurship education should cover the following issues:

- **Basics**: Basics of economics, introduction to microeconomics, concepts of economic thought and consumption and consumer culture.

- **Competency Awareness**: The nature of competition, market economies, the importance of strategic innovation and design thinking, decision making and economic environment, entrepreneurs, practicing entrepreneurial skills, designer as an entrepreneur, social and cultural aspects of entrepreneurship, future role of industrial design.

- **Creative Application**: Enabling students to be self-employed and self-reliant, learn how to create high-growth-oriented design ventures, clarifying the confusion exists between entrepreneurship and small business training, networking as a basic driver

- **Business Models**: State of art competitive models as Blue Ocean Strategy, Disruptive Innovation Theory, Co-creation Value, Design Driven Innovation, Karaoke Capitalism, New Economy, Funky Business, Spaghetti Organization, Everyone is Designer, IKEA Effect, Trophy Effect and I Design Myself.

4. Conclusion

Entrepreneurship education is increasing in importance and contemporary business models are seeking design entrepreneurs who have ability to manage the whole NPD process. Current design education mostly focus on to leverage design skills as concept generation and 2D/3D presentation skills on the other hand training on creating business mostly growth-oriented design ventures and new opportunities as well as markets and marketable intellectual property right are required to fulfill the demand of actual competitive business world.

Yet the conventional design education alone cannot prepare design students as entrepreneurs, a specific curriculum can be conducted which should be supported by role models, mentorship and expertise and provide managerial, economic and strategic thinking knowledge. The curriculum should raise students’ awareness of self-employment as a career option and facilitate appropriate level of knowledge on all functions of NPD for the sake of communication with other disciplines.

Stages of design entrepreneurship education should cover first basics of economics, introduction to microeconomics, concepts of economic thought and consumption and consumer culture for gaining knowledge on business ecosystem and to become familiar with the concepts of scarcity, choice and opportunity cost; demand, supply and price; profit-maximizing objective of a firm; cost and output of a firm; depreciation and cost and so on. It should also emphasis on the nature of competition, market economies, the importance of strategic innovation and design thinking, decision making and economic environment, entrepreneurs, practicing entrepreneurial skills, designer as an entrepreneur, social and cultural aspects of entrepreneurship, future role of industrial design to get proper knowledge on the fundamental concepts of analyzing the mass production and mass consumption opportunity in the market place. The design entrepreneurship education should also introduce creative applications and hands on projects to practice on entrepreneurial skills and state of art business models that depends on innovation based competition.

To sum up, designers are natural entrepreneurs due to working to shape the future by the new one as well as destroying the past. From this state, entrepreneurship is an indispensable action or condition of design practice. So designers should be educated or at least encouraged on entrepreneurial skills to establish high-growth-oriented ventures and to be self-employed and practiced on the management of all NPD processes to produce viable concepts and marketing their intellectual properties.

References

Alberti, F., Sciascia, S. and Poli, A. (2004). Entrepreneurship Education: Notes on an Ongoing Debate. Proceedings of the 14th Annual IntEnT Conference, University of Napoli Federico II, Italy, 4-7 July.

Atuahene-Gima, K., & Ko, A. (2001). An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation. *Organization Science*, 12(1), 54–57.
Ball, L. (2002). Preparing graduates in art and design to meet the challenges of working in the creative industries: a new model for work. *Art, Design, & Communication in Higher Education, 1*(1), 10-24.

Birch, D. (2002) Slump, what slump, *Fortune Magazine*, Small Business, December.

Blaich, R. & Blaich, J. (1993). *Product design and corporate strategy: Managing the connection for competitive advantage*. New York: McGraw-Hill Inc.

Drucker, P.F. (1985). *Innovation and entrepreneurship*. New York: Harper & Row.

Foss, N. & Klein, P. (2004). Entrepreneurship and the economic theory of the firm: Any gains from trade?. *DRUID Working Papers*, 04 (12).

Glei, J. K. (2012). Scott Wilson: Do what you think is right & apologize later. 99 Net Magazine, Retrieved from http://the99percent.com/articles/7011/Scott-Wilson-Do-What-You-Think-Is-Right-Apologize-Later

Heller, S. & Talarico, L. (2008). *The Design Entrepreneur: turning graphic design into goods that sell*. Massachusetts: Quayside Publishing Group.

Katz, J.A. (2003). The chronology and intellectual trajectory of American entrepreneurship education 1876–1999. *Journal of Business Venturing, 18*(2), 283-300.

Kirzner, I. (1999). Creativity and/or alertness: A Reconsideration of the Schumpeterian entrepreneur. *Review of Austrian Economics, 11*, 5-17.

Kuratko, D.F. (2005). The emergence of entrepreneurship education: development, trends, and challenges. *Entrepreneurship Theory and Practice, 29*(5), 577-598.

Li, Y., Liu, Y. & Zhao, Y. (2006). The role of market and entrepreneurship orientation and internal control in the new product development activities of Chinese firms. *Industrial Marketing Management, 35*, 336–347.

Lahti, A. (2000). *Creative Entrepreneurship and New Economy: the Challenge of the Nordic IT Cluster*. Helsinki: Publications of Helsinki School of Economics. 57-63.

Rasmussen, E.A. & Sørheim, R. (2004). Action based entrepreneurship education. *Technovation, 26*, 185-194.

Schumpeter, J.A. (1942). *Capitalism, Socialism and Democracy*. New York: Harper & Row

Simon, H. (1996). *The Sciences of the artificial*. Massachusetts: MIT Press.

Shane, S. (2010). Does entrepreneurship education make people better entrepreneurs?, *Startup Trends*, Retrieved from http://smallbiztrends.com/2010/09/does-entrepreneurship-education-make-people-better-entrepreneurs-2.html

Solomon, G.T., Duffy, S., & Tarabishy, A. (2002). The state of entrepreneurship education in the United States: A nationwide survey and analysis. *International Journal of Entrepreneurship Education, 1*(1): 65-86.

Timmons, J.A. and Spinelli, S.(2004). *New venture creation: Entrepreneurship for the 21st century*. Boston: McGraw Hill Irwin.

Vienne, V. (2002). The education of a Design Entremetteur. In S. Heller (Eds.), Education of a Design Entrepreneur (pp.4-8). New York: Allworth Press.

Wilson, K. (2004). Entrepreneurship education at European universities and business schools: Results of a joint pilot study. *European Foundation for Management Development*, Retrieved from http://www.efmd.org/.

Yang, M., You, M. & Chen, F. (2005). Competencies and qualifications for industrial design jobs: Implications for design practice, education, and student career guidance. *Design Studies, 26*, 155-189.

Zeithaml, C.P. and Rice, G.H. (2005). Entrepreneurship/Small business education in American universities. *Journal of Small Business Management, 25*(1), 44–50.