

## EXPLORING THE IMPACT OF IMITATION & INNOVATION PRACTICES ON STARTUPS

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### Abstract

*The main purpose of this paper is to investigate whether a startup that adopts imitation practices is in position to generate entrepreneurial innovation. In addition, it examines whether a part of its entrepreneurial innovation can be attributed to imitation of other firm's innovative features. To this end, a literature review was carried out, in order to develop a research framework with factors related to imitation predicting the entrepreneurial innovation. Also, this research framework incorporates managerial and entrepreneurial skills as predictors of the entrepreneurial innovation. The empirical research was executed using a structured online questionnaire that was disseminated to startups' owners operating in Greece. A multivariable hierarchical linear regression analysis was used to predict entrepreneurial innovation. With regard to imitation strategies, it was confirmed that outcome-based imitation and trait-based imitation positively affect the development of entrepreneurial innovation. Moreover, the positive impact of managerial and entrepreneurial skills on the development of entrepreneurial innovation was also confirmed.*

**Key words:** *imitation, innovation, managerial skills, entrepreneurial skills, startups*

### 1. INTRODUCTION

A review of prior research reveals the critical role that imitation strategies play on firm's sustainability (Lieberman & Asaba, 2006; Schnaars, 1994) and its competitive position in comparison to other successful firms. In parallel, an imitation strategy enforces a firm's expectation to acquire benefits similar to other innovative firms within the same sector (Aarstad et al., 2010; Zhou, 2006). A firm that adopts strategic imitation practices can be benefited indirectly through a learning process (DiMaggio & Powell, 1983; Cohen & Levinthal, 1990; Aarstad et al. 2010) and can make changes and improvements within the business environment. In addition, a firm that imitates other firms' good practices within a creative manner is in position to generate innovative and enriched goods (Shankar et al., 1998; Schnaars, 1994). The firms' innovation absorption ability through imitation practices depends on certain factors like the expertise and experience of imitator and the complexity of innovative process (Lieberman & Asaba, 2006; Aarstad et al. 2010).

The current research reviews literature of imitation theories, policies and strategies (Haunschild & Miner, 1997) as well as the connection of them with entrepreneurial innovation (Schnaars, 1994; Shankar et al., 1998; Lee et al., 2000). The scope of this research is to investigate whether a firm that adopts imitation policies and strategies is in position to generate entrepreneurial innovation or a part of its innovation can be attributed to imitation of other firms' innovative features. Under this vein, a methodological framework was created for the evaluation of imitation features integration in entrepreneurial innovation. Following prior research, this study relies on the impact of several factors on the entrepreneurial innovation (Ordanini et al., 2008; Valdani & Arbore, 2007). The factors are namely the imitation strategies, managerial skills and entrepreneurial skills.

## 2. RESEARCH FRAMEWORK AND HYPOTHESES DEVELOPMENT

Having reviewed the relevant literature on innovation and imitation in the field of entrepreneurship, the following hypotheses have been developed in order to illustrate the role of imitation types and entrepreneurs' competencies on entrepreneurial innovation generation.

Each unique and innovative product constitutes a clearly recognizable and defined result which can be further developed under certain conditions (Schnaars, 1994). If an innovative product is perceived as a result, new ventures sometimes rely on the imitation of other companies' business models in order to become entrepreneurially innovative (Levitt, 1966; Link & Neufeld, 1986; Cohen & Levinthal 1989; Helpman, 1993; Kim, 1997). Occasionally, the attempt of a firm to dominate the market and achieve short-term gains at the least possible risk, leads to innovation by imitating similar results of other companies (Vorhies & Harcher, 2000; Weerawardena & O'Cass, 2004). Furthermore, imitation offers the imitator the potential to creatively adapt and improve existing products on the market and, according to Kim (1997), such imitation is both creative and provides alternatives for consumers. In line with Haunschild & Miner (1997) the ground for the dissemination of imitation is laid for multiple companies within the context of improving or redesigning an innovative product or result. Thus, we posit the following hypothesis

*H1. The outcome – based imitation strategy is positively associated with entrepreneurial innovation development.*

Certain businesses tend to imitate innovation by focusing on other companies' practices or operations rather than a productive outcome. According to Haunschild and Miner (1997), trait – based imitation is interpreted as the tendency of a plethora of companies to imitate selective successful practices of other companies. When setting up a content of imitation traits, Schnaars (1994) incorporated everything that a company can imitate from another company as processes or strategies. Trait-based imitation seems to generate entrepreneurial innovation via a process of knowledge acquisition which is reflected in a set of empirical studies (Lane & Lubatkin, 1998; Dobson & Safarian, 2008; Song, 2015). At the same time, trait-based imitation seems to be directing business innovation, as Csaszar and Siggelkow (2010) note, thereby transferring optimal and beneficial practices between businesses. Likewise, according to DiMaggio and Powell (1983), the imitation of optimal business practices and traits occurs at a time when they are proving successful and can thus lead the imitator to an innovation regime since these practices can protect such companies from malicious or dubious practices.

*H2. The trait – based imitation strategy is positively associated with entrepreneurial innovation development.*

Frequency-based imitation, as defined by Haunschild and Miner (1997), is made up of routines or successful strategies often repeated by an innovative company. They provide a strong incentive for other companies to imitate; effectively leading them to innovation (McKendrick, 1995). A frequency-based imitation firm gathers information from its micro-environment while unconsciously learning from the innovator. Particularly, Bolton (1993) notes that the flow of information occurring in the imitating process can surpass innovation. The contribution of this imitation to innovation is also implied by Rogers (1995) and Mansfield (1961) who argue that the frequent use of beneficial innovations enhances the value of innovation as a whole and directs it towards ubiquitous endorsement. Finally, frequency-based imitation can lead to entrepreneurial innovation, as Darroch and McNaughton, (2002) and Kohli and Jaworski (1990) argue, on the grounds that the imitator collects reliable information from repeated innovator actions, utilizes them and forms new ideas that can further enhance the market.

*H3. The frequency – based imitation strategy is positively associated with entrepreneurial innovation development.*

As an integral part of a firm's intellectual capital, the managerial capabilities and skills of entrepreneurs generally constitute a determining factor in business development (Custódio et al., 2013). Sirmon et al. (2011) claim that the managerial skills of entrepreneurs have the potential to promote entrepreneurial innovation through the effective coordination of the available resources of

their organization and as a consequence to actively support its business model. According to Kraaijenbrink et al. (2010), the qualifications and managerial skills of the entrepreneur in conjunction with entrepreneurial innovation contribute to the maintaining of the competitive advantage and also leading them to recognise productive opportunities. Consequently, they are closely linked to innovation. In congruence to the implications drawn by many other studies, (Barney, 1991; Teece, 2007; Tidd and Bessant, 2009) Fitjar and Rodríguez – Pose (2013) the managerial skills of entrepreneurs exert a positive impact on the development of business innovation.

*H4. Managerial skills are positively associated with entrepreneurial innovation development.*

Entrepreneurial skills and abilities such as experience, knowledge and technological training have been explored that they contribute positively to the development of innovation within an organization (Dimov and Shepherd, 2005; Corbett, 2007; Marvel and Lumpkin 2007). Linking business innovation with the business model of a financial organization, the entrepreneur's business skills also seem to guide the development of entrepreneurial innovation as they improve and expand the business model (Bock et al., 2012; Johnson et al., 2008, George and Bock, 2011). Likewise, Gimeno et al. (1997) as well as Bates (1990) argue that the entrepreneur's experience and knowledge combined with a set of business qualifications direct the organization to produce positive results and therefore lead to innovation.

*H5. Entrepreneurial skills are positively associated with entrepreneurial innovation development.*

**3. METHODOLOGY**

A primary research based on quantitative approach was selected for the empirical part. Structured questionnaire was developed based on prior research as the tool of data collection. The questionnaire was distributed electronically by using a Google form to 486 startups in Greece and 289 responses were collected. The respondents of the sample come from around 18 sectors (Table I). The analysis of the data was executed by using the method of Hierarchical Regression Analysis of two steps.

All measures in this study used a seven-point Likert scale (1 = strongly disagree and 7 = strongly agree). All scale reliabilities were acceptable, exceeding the acceptable value of 0.70, recommended by Nunnally et al. (1967). Entrepreneurial innovation was assessed in our research by using the nine items construct, named “business model innovation” developed by Guo et al. (2013). Both managerial and entrepreneurial skills were measured by using the relevant constructs developed by Guo et al. (2013). The three types of strategy imitation were assessed by adopting the scale of Aarstad et al., (2018).

**Table 1.** Distribution of startups in sectors of the economy

	<b>Frequency</b>	<b>% Relative Frequency</b>
Blockchain / FinTech	13	4,498
Agriculture/ Agri-food	13	4,498
Financial Technology	11	3,806
Creative Industries / Smart Cities	16	5,536
Entertainment / Lifestyle (Fashion, Sports, Gaming)	20	6,920
Advertising	15	5,190
Resource Management	18	6,228
Software	19	6,574

Logistics	11	3,806
Social Networking	12	4,152
Transportations	13	4,498
Finance	22	7,612
IT/ Telecommunications	23	7,958
Technology / Artificial Intelligence	25	8,650
Tourism	20	6,920
Food & Beverage	13	4,498
HealthTech	16	5,536
Other	9	3,114
All	<b>289</b>	<b>100,000</b>

#### 4. FINDINGS

Principal Axis Factoring was conducted to confirm constructs validity and then exported as factors all constructs of the current research. Most items were loaded significantly on their respective factors. Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity were executed to assess the appropriateness of using factor analysis on data. Both values were acceptable. The Durbin –Watson statistic index is 2.24, which is close to value 2, thus the assumption of independent errors is tenable. To test our hypotheses, a hierarchical analysis was conducted. The control variables (Number of employees: firm size, years of operation, owner work experience, gender, age, owner educational background) were entered in the first phase and the main effect independent variables were added in the second phase. Table II shows the model summary and Table III presents the ANOVA Test. Table IV displays the results of the hierarchical multiple regression analysis. The first – step results indicate that owner educational background has a strong statistically significant relationship with entrepreneurial innovation. The results of the second step exhibit that predicting variables exert a significant effect on entrepreneurial innovation at the p # 0.05 level of significance, with the exception of frequency – based imitation (FBI).

Moreover, the incremental variance explained by the predicting variables was statistically significant ( $DR^2 = 0.301$ , p # 0.001). Thus, the hypotheses H1, H2, H4 and H5 are accepted. The hypothesis H3 cannot be accepted because it reveals a negative association between frequency – based imitation strategy with entrepreneurial innovation. Trait based imitation strategy and managerial skills are shown as the predictors that exert the highest impact on entrepreneurial innovation.

**Table 2.** Model Summary, 2 step hierarchical regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,181 <sup>a</sup>	,033	,012	1,22547	,033	1,583	6	282	,152
2	,577 <sup>b</sup>	,333	,304	1,02821	,301	20,763	6	276	,000

**Table 3.** ANOVA Test

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14,263	6	2,377	1,583	,152 <sup>b</sup>
	Residual	423,502	282	1,502		
	Total	437,765	288			
2	Regression	145,972	12	12,164	11,506	,000 <sup>c</sup>
	Residual	291,793	276	1,057		
	Total	437,765	288			

**Table 4.** The results of Hierarchical Multiple Regression Analysis

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5,026	,477		10,538	,000
	NUM_OF_EMPL	-,094	,082	-,082	-1,149	,252
	OWN_WORK_EXP	-,120	,155	-,064	-,775	,439
	GENDER	-,167	,148	-,068	-1,133	,258
	AGE	,039	,106	,030	,373	,709
	ED_BACK	,244	,098	,149	2,484	,014
	YEAR_OF_OP	-,049	,140	-,026	-,348	,728
2	(Constant)	1,980	,528		3,750	,000
	OBI	,087	,062	,101	1,418	,015
	TBI	,132	,060	,147	2,220	,027
	FBI	-,108	,061	-,127	-1,792	,074
	MS	,135	,071	,130	1,906	,048
	ES	,049	,070	,047	,694	,038

## 5. DISCUSSION AND PRACTICAL IMPLICATIONS

With regard to imitation strategies, it was confirmed that outcome-based imitation and trait-based imitation positively impact the development of entrepreneurial innovation. The positive impact of managerial and entrepreneurial skills on the development of entrepreneurial innovation was also confirmed. More specifically, it was confirmed that trait-based imitation and managerial skills exert the highest positive impact on entrepreneurial innovation.

This research revealed methodological framework for the evaluation of how different kinds of imitation strategies can lead to entrepreneurial innovation. The contribution of this research is that this framework of analysis applies for the first time in startups of Greece. This model introduced by this study would be exploited both by several entrepreneurial associations and researchers who survey the field of imitation in business. This is the first startup – focused research linking imitation strategies

with entrepreneurial innovation. Moreover, investigation of this link was extended beyond the production of innovative products and services to include effective practices as well as operational functions of startups.

## REFERENCES

- Aarstad J., Ness H, Haugland S.A. & Kvitastein O.A. (2018), Imitation Strategies and Interfirm Networks in the Tourism Industry: A structure – agency approach, *Journal of Destination Marketing & Management*, Vol.9, pp. 166 – 174
- Barney J.B., (1991), Firm resources and sustained competitive advantage, *Journal of Management*, Vol.17, No.1, pp. 99 – 120
- Bates T., (1990), Entrepreneur human capital inputs and small business longevity, *Review of Economics and Statistics*, Vol.72, No.4, p. 551
- Bock A.J, Opsahl T., George G. & Gann D.M., (2012), The effects of culture and structure on strategic flexibility during business model innovation, *Journal of Management Studies*, Vol.49, No.2, pp. 279 – 305
- Bolton M.K., (1993), Imitation versus innovation: Lessons to be learned from the Japanese, *Organizational Dynamics*, Vol.21, No.3, pp.: 30 – 45
- Cohen W.M. & Levinthal D.A., (1989), Innovation and Learning: The two faces of R&D, *The Economic Journal*, Vol.99, pp. 569 – 596
- Cohen W.M & Levinthal D.A., (1990), Absorptive Capacity: A New Perspective on Learning and Innovation, *Administrative Science Quarterly*, Vol.35, No.1, pp.: 128 – 152
- Corbett A.C., (2007), Learning asymmetries and the discovery of entrepreneurial opportunities, *Journal of Business Venturing*, Vol. 22, No.1, p.97
- Csaszar F.A. & Siggelkow N., (2010), How much to copy? Determinants of Effective Imitation Breadth, *Organization Science*, Vol.21, No.3, pp.: 661 – 676
- Custódio C., Ferreira M. & Matos P., (2013), Do General Managerial Skills Spur Innovation, SSRN Electronic Journal, DOI: 10.2139/ssrn.2289701
- Darroch J. & McNaughton R., (2002), Examining the link between knowledge management practices and types of innovation, *Journal of Intellectual Capital*, Vol.3, No.3, pp. 210 – 222
- Dimaggio P.J., Powell W.W., (1983), The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields, *American Sociological Review*, Vol.48 (2), pp. 147 – 160
- Dimov D.P. & Shepherd D.A., (2005), Human capital theory and venture capital firms: Exploring “home runs” and “strike outs, *Journal of Business Venturing*, Vol.20, No.1, pp. 1–21
- Dobson W. & Safarian A.E., (2008), The transition from imitation to innovation: an enquiry into China’s evolving institutions and firm capabilities, *Journal of Asian Economics*, Vol.19, No.4, pp. 301 – 311
- Fitjar R.D & Rodríguez – Pose A., (2013), Firm collaboration and modes of innovation in Norway, *Research Policy*, Vol.42, pp. 128 – 138
- George G. & Bock A., (2011), The business model in practice and its implications for entrepreneurship research, *Entrepreneurship Theory and Practice*, Vol.35, No.1, pp. 83 – 111
- Gimeno J., Folta T., Cooper A. & Woo C., (1997), Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms, *Administrative Science Quarterly*, Vol.42, pp. 750–783

- Guo H., Zhao J. & Tang J., (2013), The role of top managers' human and social capital in business model innovation, *Chinese Management Studies*, Vol. 7, No.3, pp. 447 – 469
- Haunschild P.R. & Miner A.S., (1997), Modes of Interorganizational Imitation: The Effects of Outcome Saliency and Uncertainty, *Administrative Science Quarterly*, Vol.42, No.3, pp. 472- 500
- Helpman E., (1993), Innovation, Imitation and Intellectual Property Rights, *Econometrica*, November, pp. 1247 – 1280
- Johnson M.W., Christensen C.M. & Kagermann H., (2008), Reinventing your business model, *Harvard Business Review*, Vol.86, pp. 57 – 68
- Kim L., (1997), "Imitation to innovation", *Harvard Business School Press*, Boston
- Kohli A.K. & Jaworski B.J., (1990), Market orientation: The construct, research propositions and managerial implications, *Journal of Marketing*, Vol.54, No.2, pp. 1 – 19
- Kraaijenbrink J., Spender J. - C. & Groen A.J., (2010), The resource-based view: A review and assessment of its critiques, *Journal of Management*, Vol.36, pp. 349-372
- Lane P.J. & Lubatkin M., (1998), Relative absorptive capacity and Interorganizational learning, *Strategic Management Journal*, Vol.19, No.5, pp.: 461 – 477
- Lee H., Smith K., Grimm C. & Schomburg A., (2000), Timing, order and durability of new product advantages with imitation, *Strategic Management Journal*, Vol.21, pp. 23 – 30
- Levitt T., (1966), Innovative Imitation, *Harvard Business Review*, September – October, pp. 63 – 70
- Lieberman M.B., & Asaba S., (2006), Why do firms imitate each other, *Academy of Management Review*, Vol.31, No.2, pp. 366 – 385
- Link A. & Neufeld J., (1986), Innovation Versus Imitation: Investigating Alternatives R&D Strategies, *Applied Economics*, December, pp. 1359 – 1363
- Mansfield E., (1961), Technical Change and the Rate of Imitation: *Econometrica*, Vol. 61, pp. 741 - 766
- Marvel M.R. & Lumpkin G.T., (2007), Technology Entrepreneurs' Human Capital and its Effects on Innovation Radicalness, *Entrepreneurship Theory and Practice*, Vol.31, No.6, pp. 807 – 828
- McKendrick D., (1995), Sources of Imitation: improving bank process capabilities, *Research Policy*, Vol.24, No.5, pp.: 783 – 802
- Nunnally, J.C., Bernstein, I.H. and Berge, J.M.T. (1967), *Psychometric Theory*, McGraw-Hill, New York, NY
- Ordanini A., Rubera G., & DeFilippi R., (2008), The many moods of organizational imitation: a critical review, *International Journal of Management Reviews*, Vol.10, No.4, pp. 375 – 398
- Rogers E., (1995), *Diffusion of Innovations*, 4<sup>th</sup> Edition, New York: Free Press
- Schnaars S.P., (1994), "Managing Imitation Strategies, How Later Entrants Seize Markets from Pioneers", *Free Press*, New York
- Shankar V., Carpenter G.S. & Krishnamurthi L.,(1998), Late mover advantage: How innovative late entrants outsell pioneers, *Journal of Marketing Research*, Vol.35, No.1, pp.54 – 70
- Sirmon D.G., Hitt M.A., Ireland R.D. & Gilbert B.A., (2011), Resource orchestration to create competitive advantage: breadth, depth and life cycle effects, *Journal of Management*, Vol.37, No.5, pp.1390 – 1412
- Song Z., (2015), Organizational learning, absorptive capacity, imitation and innovation: Empirical analyses of 115 firms across China, *Chinese Management Studies*, Vol.9, No.1, pp. 97 – 113
- Teece D.J., (2007), Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance, *Strategic Management Journal*, Vol. 28, pp. 1319 – 1350

Tidd J. & Bessant J., (2009), *Managing Innovation: Integrating Technological, Market and Organizational Change*, Chichester: John Wiley & Sons

Valdani E., Arbore A., (2007), “Strategies of Imitation: An Insight”, *Problems and Perspectives in Management*, Vol.5, No.3, pp.198 – 205

Vorhies D.W. & Harcher M., (2000), The Capabilities and Performance Advantage of Market – Driven Firms: An Empirical Investigation, *Australian Journal of Management*, September, No.25, pp. 145 – 171

Weerawardena J. & O’ Cass A., (2004), Exploring the Characteristics of the Market – Driven Firms and Antecedents to Sustained Competitive Advantage, *Industrial Marketing Management*, July, No.33, pp. 419 – 428

Zhou K.Z., (2006), “Innovation, imitation, and new product performance: the case of China”, *Industrial Marketing Management*, Vol.35, No.3, pp.394 – 402