Centre Emile Bernheim
Research Institute in Management Sciences

Solvay Brussels School
Economics & Management

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Quang-Hoi Vu, Thu-Trang Vuong and Quan-Hoang Vuong

The notions of entrepreneurship and creativity in developed economies, despite having gained attention among researchers, remain embryonic in numerous emerging economies. Being focused on entrepreneurs in a typical transitional and emerging market economy, Vietnam, this paper aims to empirically explore the influence that past entrepreneurial efforts may exert on the perceptions of entrepreneurs about their own creativity performance. The study also seeks to understand how entrepreneurs social networks contribute to perceived creativity capacity by entrepreneurs who participate in those societies. The empirical research results suggest that entrepreneurs with business experience and active networking engagement are more likely to believe in their own creativity. This knowledge and insights in turn offer some implications for addressing the lack of radical creativity among Vietnamese entrepreneurs.

Keywords: Creativity/innovation, entrepreneurship, emerging economy, Vietnam

JEL Classifications: M13, O33, P21, P27

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Université Libre de Bruxelles - Solvay Brussels School of Economics and Management
Centre Emile Bernheim
ULB CP114/03 50, avenue F.D. Roosevelt 1050 Brussels BELGIUM
e-mail: ceb@admin.ulb.ac.be Tel.: +32 (0)2/650.48.64 Fax: +32 (0)2/650.41.88

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Quang-Hoi Vu[1]

Thu-Trang Vuong[2]

Quan-Hoang Vuong[3]

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[1] Quang Vu Hung Hoi Foundation; The Manor Towers, My Dinh, Tu Liem, Hanoi, Vietnam; Email: vuquanghoi@bitexco.com.vn

[2] Sciences Po Paris - Campus de Dijon; 14 Ave. Victor Hugo, 21000 Dijon, France; Email: thutrang.vuong@sciencespo.fr

[3] Corresponding author. Centre Emile Bernheim, Université Libre de Bruxelles (CEB/ULB); 50 Ave. F.D. Roosevelt, Brussels 1050, Belgium; and, FPT University School of Business (FSB), VAS-FSB Building, Block C, My Dinh 1, Tu Liem, Hanoi, Vietnam; Email: hoangvq@fsb.edu.vn

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1. Introduction

Long considered an essential element of market economies, entrepreneurship are becoming increasingly important in transition and emerging economies. Through entrepreneurial processes, resources are gathered to develop and implement emerging business ideas which, once becoming full-fledged, will in turn transform these resources into goods and services, as well as create both jobs and wealth. The creative performance undertaken by entrepreneurs under interaction of market forces is also the cause of economic change, as pointed out by Schumpeter (Frank 1988). Thus, "creativity" is the core element of the entrepreneurship system, along with its variants such as "innovation" or "technological change".

Despite the focus on entrepreneurial creativity in developed economies, the notions of both "entrepreneurship" and "creativity" – the latter especially – remained scarcely explored in emerging economies, and unliked more developed countries faced overwhelming challenges as discussed by Carayannis & Campbell (2014). As a typical transitional emerging market economy, Vietnam comes forward as an interesting object for studies because the ideas are relatively new for researchers to track how ideation and creativity in economic activities and entrepreneurial undertakings develop and evolve, while new models of entrepreneurship might also occur. The aim of this paper is to explore how Vietnamese entrepreneurs perceive the role of creativity and innovation in their own entrepreneurial attempts and self-estimated likelihood of success. Particularly, the research seeks to bring forth results from research on the perception of Vietnamese entrepreneurs about the creativity of their business model/product on their own entrepreneurial ventures. The paper also intends to determine the relationship between personal efforts along with community involvement and the entrepreneur's creative capacity.

Four main parts are structured as follows. The first section starts with a brief literature review, examining key factors that are useful for both our understanding of entrepreneurship creativity and subsequent modeling efforts. Second, the statistical model employed in exploring the research hypothesis is presented. The third section desricbes the data set and provides a corresponding analysis. A discussion of key insights and solutions closes the article.

2. A brief literature review

While creativity does not have a universally agreed "standard" definition (Runco & Jaeger 2012), it is not only gaining attention as a research theme but has also gained an essential role in strategic management (Runco 2015).

Creativity is, in fact, a key factor for entrepreneurs in defining strategies when faced with limitations that would hinder longer-term businesses (Ireland, Hitt & Sirmon 2003; Napier & Vuong 2013; Campbell & Carayannis 2016; Vuong, Napier, Do & Vuong 2016). However, the complex nature of the social system of entrepreneurship makes creativity difficult to grasp and make use of (Woodman, Sawyer & Griffin 1993). Socio-cultural elements that contribute to shape the entrepreneurs' system of values also complicate the perceptions and real-world undertaking of creative performance (Ireland, Hitt & Sirmon 2003; Vuong & Tran 2009; Runco 2015; Campbell & Carayannis 2016).

Generally, entrepreneurial creative performance can be divided into two types: incremental and radical (Jaussy & Randel 2014). While the former focuses on continuous improvements in order to win over consumers and the market with more competitive products and lower costs, the latter emphasizes the

novelty of products, services and business processes themselves (Dabic, Ortiz-De-Urbina-Criado & Romero-Martínez 2011). This difference results in diverging requirements in resources and management structure, in terms of commercialization of creativity (Frank 1998) and the participation of so-called academic firms have come naturally (Campbell & Carayannis 2016). Therefore, subsequent analysis aims to explore the effects of related factors, in fact predictors, on entrepreneurs' perceived levels of their own creative performance.

In an increasingly connected world, entrepreneurs naturally require social and professional networks to combine creativity performance, experiences and skills to support their performance (Basadur, Gelade & Basadur 2014; Pettersen, Aarstad, Høvig & Tobiassen 2016). Moreover, communications of ideas and information are more likely to help improve creativity (Perry-Smith & Shalley 2003; Runco 2014; Vuong & Napier 2014b). The concepts of "strategic innovation" through the use of so-called transformation networks and "networked innovation" have also been introduced by Harryson (2008), further emphasizing the role of entrepreneur communities to entrepreneurial processes. Therefore, social networks will enter our analytical models as a possible element influencing entrepreneurs' self-assessment of their creativity (Basadur & Basadur 2013; Malmström & Johansson 2016; Pettersen, Aarstad, Høvig & Tobiassen 2016).

In addition, tenacity – an element closely related to continuous efforts – has been proven as a required factor for both creativity and entrepreneurial attempts to take off (Fillis & Rentschler 2010; Woodman, Sawyer & Griffin 1993). In reality, there has been evidence suggesting that entrepreneurs who have a business plan tend to start their entrepreneurial ventures earlier (Vuong et al. 2016). In addition, Fayolle et Al. (2015) also points out that entrepreneurial experience is critical for an entrepreneur in improving skills to implement an entrepreneurship plan. With this in mind, we have included in our analysis the entrepreneur's past efforts and experiences in business maintenance as an factor that might impact entrepreneurial creativity performance as perceived by entrepreneurs themselves.

While entrepreneurship is subject to ambiguity, uncertainty and randomness, particularly when put in wider business and social contexts (Fillis & Rentschler 2010), creativity is tied to entrepreneurs' personality and cognitive style, as a process embedded in entrepreneurship (Woodman, Sawyer & Griffin 1993; Ward 2004). The coupling of entrepreneurship and creativity in developed economies have been established and studied both theoretically and empirically; however, the policy framework on entrepreneurship and creativity is still lacking in cohesion and further empirical evidence (Audretsch & Link 2012).

What oftentimes happens in emerging economies – especially those in stages of transition – is that entrepreneurs face the same issue, or even more acutely: they often lack innovation, leading to weak entrepreneurship foundation, inefficiencies, and a waste of already scarce innovation "resources" (Dabić, Daim, Aralica & Bayraktaroglu 2012; Vuong & Napier 2014). Vuong et al. (2013) provide evidence supporting the argument that for a developing economy such as Vietnam, creativity and socio-cultural factors are associated in determining business efficiency, and creativity has a larger impact on firms in their entrepreneurial stage. At the same time, it is theoretically possible to say that novelty and relevance may influence entrepreneurial performance on different levels (Vuong & Napier 2014). In light of this, it is logical to examine entrepreneurs' self-perceived "creativity" (radical and non-radical) as a response variable to other factors.

This review help determine some key factors that may affect entrepreneurial attempts and their results in the developing market, which include involvement in communities and past experience. The outcome is measured by their self-perceived degree of creativity, serving as the response variable of our investigation.

3. Research hypothesis and analytical framework

3.1. Research hypothesis

The research hypothesis that this article will attempt to examine and find evidence for is stated as follows:

> *Entrepreneurs' past entrepreneurial experiences and active participations in social networks – designed to facilitate entrepreneurship processes – will likely have positive influence on their perceived likelihood of stressing the role of creative capacity and innovation capabilities in their current or future entrepreneurial endeavors.*

As different entrepreneurs may have had different degrees of experience and participations, categorical values that correspond to such degrees will serve to be predictor variables for the categorical data analysis that will be performed for such a hypothesis. The next subsection provides a brief description about the analytical framework required for such hypothesis testing and statistical inference.

3.2. Analytical framework

This analysis on the likely effects of the predictor (independent) variables on entrepreneurial creativity capacity and innovation capabilities outcomes employed the framework of baseline-category logits (BCL). Key ideas with respect to the investigation on how independent variables are expected to impact responses follow.

The BCL method:

The BCL method provides a framework in which the data are estimated under specifications of a multivariate generalized linear model (GLM), generalized by:

$$\mathbf{g}(\boldsymbol{\mu}_i) = \mathbf{X}_i\boldsymbol{\beta},$$

where, $\boldsymbol{\mu}_i = \mathrm{E}(\mathbf{Y}_i)$, corresponding to $\mathbf{y}_i = (y_{i1}, y_{i2}, \dots)'$; row h of the model matrix $\mathbf{X}_i$ for observation i contains values of independent variables for y_{ih}.

Following this method, as $\pi_j(\mathbf{x}) = P(Y = j|\mathbf{x})$ represent a fixed setting for predictor variables, with $\sum_j \pi_j(\mathbf{x}) = 1$, count data are distributed over J categories of Y as multinomial with corresponding probabilities $\{\pi_1(\mathbf{x}), \dots, \pi_j(\mathbf{x})\}$. The BCL model aligns each response (dependent) variable with a baseline category: $\ln[\boldsymbol{\pi}_j(\mathbf{x})/\boldsymbol{\pi}_J(\mathbf{x})]$, with $j = 1, \dots, J-1$.

As $\ln[\boldsymbol{\pi}_a(\mathbf{x})/\boldsymbol{\pi}_b(\mathbf{x})] = \ln[\boldsymbol{\pi}_a(\mathbf{x})/\boldsymbol{\pi}_J(\mathbf{x})] - \ln[\boldsymbol{\pi}_b(\mathbf{x})/\boldsymbol{\pi}_J(\mathbf{x})]$, the set of response probabilities from multinomial logits $\{\boldsymbol{\pi}_j(\mathbf{x})\}$, can be computed from the formula:

$$\boldsymbol{\pi}_j(\mathbf{x}) = \frac{\exp(\alpha_j + \beta_j^{\mathrm{T}}\mathbf{x})}{1 + \sum_h^{J-1} \exp(\alpha_h + \beta_h^{\mathrm{T}}\mathbf{x})}.$$

The categorical variables used in the analytical model are all multinomial, as described in the data subsection, with their coded names and values are described in the corresponding Table 1. A relevant example of real-world analysis employing actual survey data is given in Vuong (2016a) while technical details for data estimations and inference are provided in Agresti (2013). Actual performance of estimations and hypothesis testing has been done using statistical software R (release 3.2.3).

Upon the confirmed significance of estimated coefficients, empirical relationships among variables (response and predictor) will be constructed, enabling the computing of empirical probabilities conditional on specific events of hypothetical influence.

4. Data, estimations and results

4.1. Data

The data set used in this article has been collected through a nationwide survey conducted in five economic centers in Vietnam (Hanoi, Ho Chi Minh City, Da Nang, Buon Ma Thuot, Can Tho) under the coordination by the Vietnamese Federation of the Youth and Students. Participating extant/prospective entrepreneurs (for short, "entrepreneurs") who were willing to share their opinions and experiences were given questionnaires by authorized personnel. Answers were collected only after participants had completed their participation and been well informed.

About 10,000 such entrepreneurs were randomly approached during the survey period, from March to May 2015, of whom, 2909 responded with data required for this analysis, given in Table 1. Explanations of the data follow.

Predictor variables:

Elements considered to influence entrepreneur's creativity include past experience of entrepreneurial efforts ("Starthis") and involvement with entrepreneurship associations/groups.

"Starthis" is a factor telling about past/current entrepreneurial efforts undertaken by a respondent. Entrepreneurial efforts have three distinct categories: the business is currently running ("running"), the business had been planned and later on dropped ("dropped"), and they have never had a serious business plan ("notyet");

Regarding the networking efforts by an entrepreneur, factor "Member" serves to be a predictor. It reports about the entrepreneur's participation in and involvement with entrepreneurship associations/groups includes: participation in all associations ("all"), in certain associations ("some"), and in none of the networks ("none").

Response variable:

With the above independent variables, the factor showing perceived degrees of creative performance that an entrepreneurial venture emphasizes is coded "Inno" in our analysis. The entrepreneur's perception about the creativity level of their business models or processes and their products' innovativeness ("Inno") will serve as an indicator to evaluate their creativity, which will be grouped into categories: very creative ("much"), somewhat creative ("some") and almost uncreative ("none").

These three groups of categorical variables are employed to construct the following distribution table (Table 1), with line categories showing names of predictor variables and column categories telling names of response variables.

Table 1. The set of categorical data for analyzing entrepreneurial creativity

"Starthis"	"Member"	"Inno"

		"much"	"none"	"some"
"dropped"	"all"	43	88	129
	"none"	62	319	256
	"some"	38	156	173
"notyet"	"all"	34	49	74
	"none"	45	356	185
	"some"	17	73	88
"running"	"all"	85	54	107
	"none"	42	92	118
	"some"	45	52	129

(Note: This data table is drawn from Vuong (2016a); DOI: 10.1016/j.dib.2016.01.034)

Distribution table of entrepreneurs' self-perceived creativity following their entrepreneurial experiences and involvement in entrepreneurship associations/groups. There are a total number of 2,909 observations in Table 1, corresponding to 2,909 extant or prospective entrepreneurs. It is noteworthy that only 14% of the respondents have judged their own product/model to be as creative. This percentage equals to 411 people, among which 262 have engaged in entrepreneurship associations and communities, whether they are active in just several or more than a few (select) groups as such.

Table 1 also shows that a large portion of entrepreneurs – more than 68%, equivalent to 1,988 people – have planned businesses in the past. Out of this number, only 724 entrepreneurs still have their business running up to present. The rest have dropped their plans.

4.2. Estimations and results

Employing data from Table 1, we have performed a multinomial logistic regression with response variable "Inno" and predictor variables "Starthis" and "Member". (See Appendix 1 for reproducible code in R–3.2.3)

The results obtained from this investigation are reported in Table 2.

Table 2. Estimated effects of entrepreneurial efforts and involvement in social networks on perceived creativity in business models/processes and products

	Intercept	"Starthis"		"Member"	
		"dropped"	"running"	"all"	"some"
	β_0	β_1	β_2	β_3	β_4
log(much|none)	-1.950*** [-15.489]	0.152 [1.022]	1.231*** [7.816]	1.269*** [8.863]	0.458** [3.046]
log(some|none)	-0.541*** [-6.987]	0.239* [2.541]	0.746*** [6.430]	0.692*** [6.333]	0.557*** [5.703]
Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 ''; z-value in square brackets; baseline category: "Starthis"= "notyet", "member"= "none". Residual deviance: 13.677 on 8 degrees of freedom.					

Most coefficients are statistically significant, with p-value<0.005, which shows the relationship between past efforts, involvement in associations/groups and self-perceived level of creativity in business model/product by entrepreneurs.

From Table 2, regression equations are established in order to concisely quantify the influence of past entrepreneurial efforts and engagement into social networks for entrepreneurs on entrepreneurs' creativity in business models/proceses and products/services, as shown below:

$$\ln\left(\frac{\pi_{\text{much}}}{\pi_{\text{none}}}\right) = -1.950 + 0.152\text{dropStart} + 1.231\text{runStart} + 1.269\text{allMem} + 0.458\text{someMem} \quad \text{Eq.1}$$

$$\ln\left(\frac{\pi_{\text{some}}}{\pi_{\text{none}}}\right) = -0.541 + 0.239\text{dropStart} + 0.746\text{runStart} + 0.692\text{allMem} + 0.557\text{someMem} \quad \text{Eq.2}$$

Equation (Eq.1) suggests that participation in all relevant associations/groups provides the largest boost to entrepreneurial creativity in business processes and service/products, with β_3=1.269 (p-value<0.0001). Probabilities of degrees of perceived creativity following past efforts and social networks involvement are presented in Table 3, using coefficients obtained from (Eq.1) and (Eq.2). Detailed calculations are provided in Appendix 2.

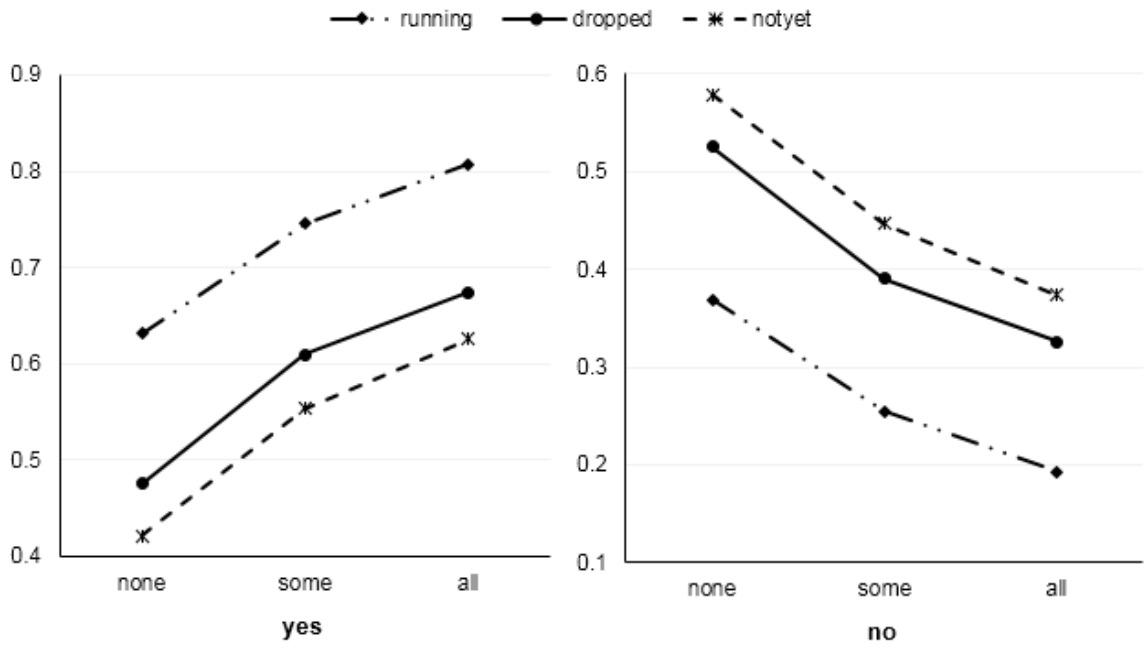
Table 3. Probabilities of perceived creativity against past efforts and networks participation

"Inno"	"much"			"some"			"none"		
"Starthis" | "Member"	"all"	"some"	"none"	"all"	"some"	"none"	"all"	"some"	"none"
"running"	0.334	0.197	0.179	0.473	0.548	0.452	0.193	0.255	0.369
"dropped"	0.192	0.103	0.087	0.482	0.506	0.388	0.326	0.391	0.525
"notyet"	0.190	0.100	0.083	0.436	0.453	0.338	0.374	0.447	0.579

As observed in Table 3, in all cases, entrepreneurs are likely to judge their model/product to be somewhat creative, while the chance of entrepreneurs having sufficient information to regard their business as radically creative remains the lowest. More precisely, an entrepreneur who has a running business and is involved in all relevant entrepreneur communities is 33.4% likely to perceive their business model/product as very creative. In other conditions, however, the probabilities of highly creative model/products as judged by the entrepreneurs themselves are lower than 20%.

By grouping the categories "much" and "some" of response variable "Inno" into "yes" – signifying the presence of creativity in business model/product as perceived by entrepreneurs themselves – and representing "none" as "no" – implying that the business model/product has no creativity – the impact of "past entrepreneurial efforts" and "involvement in entrepreneur communities" can be clearly visualized in the following Fig.1 (constructed using results from Appendix 3).

Figure 1. Changing probabilities of creativity degrees as perceived by entrepreneurs conditional on past efforts and involvement in entrepreneurship social networks



The difference between the left-hand-side graph and right-hand-side as shown in Fig.1 represents the change in probabilities of defined creativity and the lack thereof in business models/processes and services/products, following changes in level of past efforts as well as community involvement.

First, on the "yes" figure (creative business model/product), there is an obvious upward tendency as the lines move from "none" – no involvement in startup associations/groups – to "all" – member of all communities. The reversed trend is shown on the "no" figure (business model/product perceived as not creative) on the right. This shows that the more engaged they are in entrepreneurs associations and groups, the more likely entrepreneurs are seeing themselves as creative. It appears that entrepreneurs tend to gain more confidence, in this consideration about their perceived creativity, from the crowd.

Observing the changing patterns and positions of different lines as shown in Fig.1 is also crucial in evaluating the impact of past efforts on entrepreneurs' creative capacity. The "running" line represents the level of creativity in entrepreneurs who are managing a running business; in the same manner, the "dropped" and "notyet" lines also embodies entrepreneurs' creativity in the case where they have made and dropped a business plan in the past and where they have never had a serious business plan, respectively.

Also, from Fig.1 (LHS), it can be remarked that the "running" line is on the very top, followed by "dropped" and "notyet". This switching of positions, as well as the gap between the lines, indicate that entrepreneurs who have made efforts in entrepreneurship in the past, especially those who manage to maintain their business to this day, have a much higher chance of being creative, as opposed to those who have never had a serious business plan.

5. Final remarks

The analysis gives us insights on an alarming reality: Entrepreneurs in Vietnam have yet to appreciate or be capable of radical creativity in business model/product due in part to their cultural roots (Vuong & Tran 2009). Their present efforts and experiences seem to spark but a few novelties in their startup plans. The research suggests a few solutions based on the following concluding remarks.

Past/current entrepreneurial efforts in real-world business competition have proved to have positive effects on entrepreneurial creativity. In fact, for those who have had experiences with starting up a business in the past, whether they succeeded or not, the possibility of a higher evaluation of their own creative capacity is still greater than that of those who have never made an effort. This is likely due to the fact that entrepreneurs realize the importance of creativity in entrepreneurial processes as an element of success, and thus seek more actively for innovations in their projects. Another possible explanation is that experienced entrepreneurs are more seasoned in establishing methods and mechanics that favor innovations and novelties. Whichever the case, creativity in future business projects is to be boosted, provided that Vietnamese entrepreneurs do not shy away from making plausible business plans and getting ready to implement them as soon as possible.

Along with past efforts, the role of entrepreneur communities is stressed as crucial. Entrepreneurship associations and groups provide the spirit, culture, and a common place to exchange skills and methods, which not only contribute to and reinforce entrepreneurial creativity in general but also help to eliminate implausible ideas through constructive criticism. Through this process, business models/products can be perfected as entrepreneurs advance towards success, one step at a time. It is also interesting to see that entrepreneurs show have had some experiences in running a real-world venture tend to see themselves as more dependent on radical creativity/innovations to survive market competition.

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Appendix

Appendix 1. Example of R code for exploring the empirical relationship

```
> inno=read.csv("D:/Ent/2016Ent/Data/tab2.9.14.csv",header=T)
> attach(inno)
> library(VGAM)
> contrasts(inno$Starthis)=contr.treatment(levels(inno$Starthis),base=2)
> contrasts(inno$Member)=contr.treatment(levels(inno$Member),base=2)
> fit.inno=vglm(cbind(much,some,none)~Starthis+Member,data=inno,family=multinomial)
> summary(fit.inno)
```

Appendix 2. Calculation of conditional probabilities in Table 3

$\pi_{much} = \frac{e^{(-1.950+1.231+1.269)}}{1+e^{(-1.950+1.231+1.269)}+e^{(-0.541+0.746+0.692)}} = 0.334$	("all","running")
$\pi_{much} = \frac{e^{(-1.950+0.152+1.269)}}{1+e^{(-1.950+0.152+1.269)}+e^{(-0.541+0.239+0.692)}} = 0.192$	("all","dropped")
$\pi_{much} = \frac{e^{(-1.950+1.269)}}{1+e^{(-1.950+1.269)}+e^{(-0.541+0.692)}} = 0.190$	("all","notyet")
$\pi_{much} = \frac{e^{(-1.950+1.231+0.458)}}{1+e^{(-1.950+1.231+0.458)}+e^{(-0.541+0.746+0.557)}} = 0.197$	("some","running")
$\pi_{much} = \frac{e^{(-1.950+0.152+0.458)}}{1+e^{(-1.950+0.152+0.458)}+e^{(-0.541+0.239+0.557)}} = 0.103$	("some","dropped")

$\pi_{much} = \frac{e^{(-1.950+0.458)}}{1+e^{(-1.950+0.458)}+e^{(-0.541+0.557)}} = 0.100$	("some","notyet")
$\pi_{much} = \frac{e^{(-1.950+1.231)}}{1+e^{(-1.950+1.231)}+e^{(-0.541+0.746)}} = 0.179$	("none","running")
$\pi_{much} = \frac{e^{(-1.950+0.152)}}{1+e^{(-1.950+0.152)}+e^{(-0.541+0.239)}} = 0.087$	("none","dropped")
$\pi_{much} = \frac{e^{(-1.950)}}{1+e^{(-1.950)}+e^{(-0.541)}} = 0.083$	("none","notyet")
$\pi_{some} = \frac{e^{(-0.541+0.746+0.692)}}{1+e^{(-1.950+1.231+1.269)}+e^{(-0.541+0.746+0.692)}} = 0.473$	("all","running")
$\pi_{some} = \frac{e^{(-0.541+0.239+0.692)}}{1+e^{(-1.950+0.152+1.269)}+e^{(-0.541+0.239+0.692)}} = 0.482$	("all","dropped")
$\pi_{some} = \frac{e^{(-0.541+0.692)}}{1+e^{(-1.950+1.269)}+e^{(-0.541+0.692)}} = 0.436$	("all","notyet")
$\pi_{some} = \frac{e^{(-0.541+0.746+0.557)}}{1+e^{(-1.950+1.231+0.458)}+e^{(-0.541+0.746+0.557)}} = 0.548$	("some","running")
$\pi_{some} = \frac{e^{(-0.541+0.239+0.557)}}{1+e^{(-1.950+0.152+0.458)}+e^{(-0.541+0.239+0.557)}} = 0.506$	("some","dropped")
$\pi_{some} = \frac{e^{(-0.541+0.557)}}{1+e^{(-1.950+0.458)}+e^{(-0.541+0.557)}} = 0.453$	("some","notyet")
$\pi_{some} = \frac{e^{(-0.541+0.746)}}{1+e^{(-1.950+1.231)}+e^{(-0.541+0.746)}} = 0.452$	("none","running")
$\pi_{some} = \frac{e^{(-0.541+0.239)}}{1+e^{(-1.950+0.152)}+e^{(-0.541+0.239)}} = 0.388$	("none","dropped")
$\pi_{some} = \frac{e^{(-0.541)}}{1+e^{(-1.950)}+e^{(-0.541)}} = 0.338$	("none","notyet")
$\pi_{none} = 1-\left(\frac{e^{(-1.950+1.231+1.269)}}{1+e^{(-1.950+1.231+1.269)}+e^{(-0.541+0.746+0.692)}} + \frac{e^{(-0.541+0.746+0.692)}}{1+e^{(-1.950+1.231+1.269)}+e^{(-0.541+0.746+0.692)}}\right) = 0.193$	("all","running")
$\pi_{none} = 1-\left(\frac{e^{(-1.950+0.152+1.269)}}{1+e^{(-1.950+0.152+1.269)}+e^{(-0.541+0.239+0.692)}} + \frac{e^{(-0.541+0.239+0.692)}}{1+e^{(-1.950+0.152+1.269)}+e^{(-0.541+0.239+0.692)}}\right) = 0.326$	("all","dropped")
$\pi_{none} = 1-\left(\frac{e^{(-1.950+1.269)}}{1+e^{(-1.950+1.269)}+e^{(-0.541+0.692)}} + \frac{e^{(-0.541+0.692)}}{1+e^{(-1.950+1.269)}+e^{(-0.541+0.692)}}\right) = 0.374$	("all","notyet")

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$\pi_{none} = 1 - \left(\frac{e^{(-1.950+1.231+0.458)}}{1+e^{(-1.950+1.231+0.458)}+e^{(-0.541+0.746+0.557)}} + \frac{e^{(-0.541+0.746+0.557)}}{1+e^{(-1.950+1.231+0.458)}+e^{(-0.541+0.746+0.557)}} \right) = 0.255$	("some","running")
$\pi_{none} = 1 - \left(\frac{e^{(-1.950+0.152+0.458)}}{1+e^{(-1.950+0.152+0.458)}+e^{(-0.541+0.239+0.557)}} + \frac{e^{(-0.541+0.239+0.557)}}{1+e^{(-1.950+0.152+0.458)}+e^{(-0.541+0.239+0.557)}} \right) = 0.391$	("some","dropped")
$\pi_{none} = 1 - \left(\frac{e^{(-1.950+0.458)}}{1+e^{(-1.950+0.458)}+e^{(-0.541+0.557)}} + \frac{e^{(-0.541+0.557)}}{1+e^{(-1.950+0.458)}+e^{(-0.541+0.557)}} \right) = 0.447$	("some","notyet")
$\pi_{none} = 1 - \left(\frac{e^{(-1.950+1.231)}}{1+e^{(-1.950+1.231)}+e^{(-0.541+0.746)}} + \frac{e^{(-0.541+0.746)}}{1+e^{(-1.950+1.231)}+e^{(-0.541+0.746)}} \right) = 0.369$	("none","running")
$\pi_{none} = 1 - \left(\frac{e^{(-1.950+0.152)}}{1+e^{(-1.950+0.152)}+e^{(-0.541+0.239)}} + \frac{e^{(-0.541+0.239)}}{1+e^{(-1.950+0.152)}+e^{(-0.541+0.239)}} \right) = 0.525$	("none","dropped")
$\pi_{none} = 1 - \left(\frac{e^{(-1.950)}}{1+e^{(-1.950)}+e^{(-0.541)}} + \frac{e^{(-0.541)}}{1+e^{(-1.950)}+e^{(-0.541)}} \right) = 0.579$	("none","notyet")

Appendix 3. Probabilities of presence of creativity in business model/product as perceived by entrepreneurs conditional on past efforts and involvement in entrepreneurs associations/societies and social networks

"Inno"	"yes"			"no"		
"Starthis"|"member"	"all"	"some"	"none"	"all"	"some"	"none"
"running"	0.807	0.745	0.631	0.193	0.255	0.369
"dropped"	0.674	0.609	0.475	0.326	0.391	0.525
"notyet"	0.626	0.553	0.421	0.374	0.447	0.579