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Impacts of geographical locations and sociocultural traits on the Vietnamese entrepreneurship

Quan Hoang Vuong

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Impacts of geographical locations and sociocultural traits on the Vietnamese entrepreneurship

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Abstract:
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1. Introduction

Entrepreneurship has been formally recognized in Vietnam since early 1990s, a few years after the former planned economy had kicked off its extensive economic reform program. Entrepreneurial efforts by the populace are critically important because they promote creative business ideas, stimulate entrepreneurs to gather resources, hire workers and transform resources into goods and services for society's consumption (Frank 1988). One of the hard part in learning about entrepreneurship is dealing with sociocultural facets as these are associated with the elusive nature of preparedness, creativity, perseverance, and capability of transforming old values into more appropriate ones as the entrepreneur life starts.

Also, in a country with long history of more than 4000 years and complicated changes amid waves of geopolitical and socioeconomic changes throughout the history like Vietnam, a frequently omitted factor in studying entrepreneurship is the geographical locations. An early work such as Ralston, Thang, & Napier (1999) analyzes sociocultural values in conjunction with geographical differences, but only to a limited extent and with little focus on entrepreneurhip. To fill this knowledge gap, this study uses a data set obtained from a nationwide entrepreneurs' survey in 2015, taking into account geographical differences, to examine the possible effects of sociocultural traits on the Vietnamese entrepreneurship.

The paper starts with a brief literature review discussing major issues that lead to the subsequent consideration of the variables that enter analytical models. Then it proceeds to a presentation of the analytical models for investigating research questions. Third, the paper describes the data subsets that correspond to each research questions. The fourth section reports estimation results and associated statistics, empirical relationships built upon estimated coefficients. The article closes with a discussion of useful and striking insights.

2. A brief literature review

In this part, we discuss a limited body of literature that gives rise to related themes of research and corresponding questions, which this study aims at. The discussion also leads to relevant variables that will later enter estimating equations for deeper analysis.

Network and creativity:
Creativity is an important part of strategic management research (Runco 2014; Runco & Jaeger 2012) and entrepreneurship studies in both developed and developing economies (Woodman, Sawyer & Griffin 1993; Ireland, Hitt & Sirmon 2003; Napier & Vuong 2013).

In different economies, and perhaps in different regions of one country, creativity has varying impacts on entrepreneurs' perceptions about the outcome of their attempts (Frank 1988) which need to be further examined if one needs to understand entrepreneurship. In Vietnam, there is evidence demonstrating the effect of "destructive creation" where and when an overemphasis on resources is coupled with increasing costs of acquiring resources and persistent lack of innovation capacity, leading an entrepreneurial firm to financial distress (Vuong & Napier, 2014).

Theoretically, entrepreneurs also use their social and professional networks to improve performance through combining skills, experiences and creativity capacity (Basadur & Basadur 2013; Basadur, Gelade & Basadur 2014) thanks to the communication of business ideas and exchange of information (Runco 1994; Perry-Smith & Shalley 2003; Runco 2014; Vuong & Napier 2014b). Also, a related concept is "networked innovation" introduced by Harryson (2008).

Social responsibilities and entrepreneurs' perseverance:
Due to the social nature of entrepreneurship, social responsibilities ("CSR") can be considered a naturally embedded value in entrepreneurial processes (Runco 1994; Perry-Smith & Shalley 2003; Runco 2014) and for both creativity and entrepreneurial efforts to produce results, patience is a key ingredient for any success formula (Fillis & Rentschler 2010; Napier, Vu & Vuong 2012; Woodman, Sawyer & Griffin 1993).

Socially speaking, an entrepreneur has to assemble different types of resources in an entrepreneurial endeavor, social responsibility is hardly anything strange (Brush, Edelman & Manolova 2008), and closely related to his/her own ambitions (Bosma, Schutjens & Stam 2009). In addition, important tasks such as doing "homework" with entrepreneurial business plan, forming the team, defining sustained entrepreneurial growth, and so on... all require enormous patience (Vyakarnam, Jacobs & Handelberg, 1999; Davidsson 2006; Vuong & Napier 2015). A long-standing learning process that awaits every entrepreneur tends to stress the importance of these factors (Brown, 1993; Wagner 2007). As for entrepreneurs, family and relatives, friends and social networks' peers serve to be their resources in broad sense (Chang, Memili, Chrisman, Kellermanns, & Chua, 2009; Zahra, Hayton, Neubaum, Dibrell & Craig, 2008) any new venture would need legitimacy that those social relationships can potentially offer (Meyer & Rowan, 1977; Hannan & Freeman, 1984; Nagy, Pollack, Rutherford, & Lohrke, 2012) or the financial resources, whether traditional (Brown 1993; Weerawardena & Mort 2006) or unconventional (Mollick 2014; Huang & Knight 2015).

Transforming sociocultural values and decisiveness:
As any entrepreneurial venture involves a high degree of randomness, uncertainty and ambiguity (Fillis & Rentschler 2010) an entrepreneur is highly likely to be subject to a process of transforming own sociocultural values until an entrepreneurial mindset that contains emerging values to be formed (Vuong & Napier 2015). In this respect, cultural values and entrepreneurial decisions are closely related, and both linked to the entrepreneur's personality and cognitive style (Woodman, Sawyer & Griffin 1993; Ward 2004; Vuong & Napier 2015).

This mindsponge process does not occur without a condition on an entrepreneurial self-efficacy construct consisting of such factors as innovation, marketing, management, risk taking and financial controls, therefore for a large group of prospective entrepreneurs to reach a start decision, their decisiveness will never be obvious and depending upon and efficient and effective transformations of relevant sociocultural values (Van de Ven, Hudson & Schroeder 1984; Chen, Green & Crick 1998; Chen, Yao, & Kotha 2009; Vuong & Napier 2014). Both theoretical and empirical studies have shown that these values are hard to be established without work experiences and coping strategies (Jennings & McDougald, 2007; Santos, Caetano & Curral, 2013). And since they are not costless (Markman, Baron & Balkin, 2005), entrepreneurs' decisiveness will also be neither inexpensive nor time-costless (Westhead, Ucbasaran & Wright 2009; Sullivan-Taylor & Branicki 2011; Schindehutte, Morris & Allen 2006).

Chance of success and lessons from others' failures:
Since the entrepreneurial experiences are in many cases the harsh realities and failures (Bosma, Schutjens & Stam, 2009; Cope 2011; Vuong & Napier, 2014), learning from failures helps improve entrepreneurs' preparedness and confidence, and thus perceived likelihood of success. The learning process involves the understanding of complication arising from the entrepreneurial process, in the forms of increasing risks and unexpected challenges (Santos, Caetano & Curral, 2013; Huang & Knight, 2015).

The relation between learned lessons and chance of success is also reflected through improved risk appetite and skills for implementing entrepreneurial plans (Hallak, Lindsay & Brown 2011; Audretsch & Link 2012), better appreciation of complexity and time lag to business success (Schoonhoven, Eisenhardt & Lyman 1990), and enhanced commitment (Zahra, Hayton, Neubaum, Dibrell & Craig 2008).

This review sought to identify important factors that may form plausible relationships, helping to: i) learn about the relevance of factors that enter our subsequent analysis of survey data; ii) explore possible relationships and directions of impacts on determination of entrepreneurial pursuits and chance of success / survival; and, iii) have an idea about which factors should be emphasized in an emerging economy context, while controlling for the difference in geographical locations.

3. Research questions and method
The consideration of key factors reviewed in the previous section leads to the next statement of research questions.

3.1. Research questions
Is there any relationship established among the following factors:

RQ1: Active participation in entrepreneurs' social networks and reported value of creativity
RQ2: Entrepreneurs' willingness to perform social responsibilities and their reported perseverance
RQ3: Capability of transforming and inducting sociocultural values and decisiveness
RQ4: Lessons learned from others' failures and perceived chance of survival / success.

These examinations are controlled for three values of location: North, Center and South referring to three major geographical divisions in Vietnam which make people think about distinct sociocultural and economic traits.

3.2. Research method

To address the above research questions, using the set of categorical data obtained from the survey (described in the section 4), the subsequent investigation employs the research framework of baseline-category logits (BCL). The subsection below briefly presents key ideas of the analytical framework and the way effects of measured data that reflect behaviors of predictor variables on response (dependent) variables are examined. A full account of technical treatments following the BCL modeling is provided in Agresti (2013) and an alternative to the BCL for analyzing categorical data is the log-linear model with practical analysis provided in Vuong, Napier, & Tran (2013).

The BCL analytical framework:
This study employs the BCL method to investigate the survey data set and its subsets corresponding to each research question. The framework is to estimate a multivariate generalized linear model (GLM), having the functional form of:

$$g(\mu_i) = X_i \beta,$$

where, $\mu_i = E(Y_i)$, corresponding to $y_i = (y_{i1}, y_{i2}, \dots)'$; row h of the model matrix X_i for observation i contains values of independent (also, predictor) variables for y_{ih}.

Following this method, as $\pi_j(x) = P(Y = j|x)$ represent a fixed setting for independent variables, with $\sum_j \pi_j(x) = 1$, categorical data are distributed over J categories of Y as either binomial or multinomial with corresponding probabilities $\{\pi_1(x), \dots, \pi_j(x)\}$. Thus, the BCL model aligns each dependent (response) variable with a baseline category: $\ln[\pi_j(x)/\pi_J(x)]$, with $j = 1, \dots, J - 1$.

As $\ln[\pi_a(x)/\pi_b(x)] = \ln[\pi_a(x)/\pi_J(x)] - \ln[\pi_b(x)/\pi_J(x)]$, the set of empirical probabilities from binomial/multinomial logits $\{\pi_j(x)\}$ can be computed from the formula:

$$\pi_j(x) = \frac{\exp(\alpha_j + \beta_j^T x)}{1 + \sum_h^{J-1} \exp(\alpha_h + \beta_h^T x)}.$$

The response and predictor variables used in investigating models are multinomial which are of categorical value by survey nature. Their coded names, together with values are given in each data subset tabulated following the corresponding research question. An example of response variable is "inno" referring to the self-reported degree of entrepreneurial creativity/innovation, which has values of: "much", "some" or "none"; and of predictor variable "member" referring to the entrepreneur's activeness in his/her social networks, having values of: "all", "some" or "none".

The actual analysis that is provided in Section 5 (Estimations and results) follows the practice employed for the same type of data analysis in Vuong (2015).

4. Data

This section describes subsets of data extracted from the survey data set, which has been made publicly available in the data article by Vuong (2016) following a 2015 nationwide survey on entrepreneurial activities in different regions of Vietnam, through entrepreneurs meetings organized in five regional economic centers (Hanoi, Ho Chi Minh City, Da Nang, Buon Ma Thuot, Can Tho). Entrepreneurs who were willing to join the survey were explained about the purpose and how to complete the questionnaire given by authorized personnel. Answers were collected at the end of the each event. Among the estimated number of 50,000 entrepreneurs attended these events. The survey team randomly approached

about 10,000 during the survey period, from March to May 2015, and later collected a random data sample containing 3071 observations, representing answers in full or in part. In our subsequent analysis, each data set requires a specific structure reflected through the corresponding tabulated form, with the number of observations used varying depending upon appropriate treatments for missing data (for partial answers).

Data for RQ1:
The first question to be addressed considers the factor creativity, coded in the model as "inno", in broad sense, i.e. both creative performance and technological innovation capacity, since it has been regarded as one of the major sociocultural traits of entrepreneurs community and a driver of survival/success for an entrepreneurial effort. As a response variable, creativity has three categorical values : "much ", "some " and "none ". The purpose is to see if the factor "active participation in entrepreneurs' social networks" may have shown an significant impact on entrepreneurial creativity, controlling for distinct geographical locations ("place" having values of: "north", "south" or "central").

This question has N=2976 and the first data subset is given in Table 1. The ratio of Northern, Central and Southern entrepreneurs who participate in the data set is: 13.5%, 31.8% and 54.7%, respectively.

Table 1 (Data for RQ1): Geographical distribution of responses following activeness in social networks and creative performance capacity of entrepreneurs

"place"	"member"	"inno"		
		"much"	"some"	"none"
"central"	"all"	55	86	82
	"none"	38	165	258
	"some"	33	125	101
"north"	"all"	30	47	18
	"none"	30	68	82
	"some"	14	66	45
"south"	"all"	79	181	93
	"none"	86	342	446
	"some"	55	203	139

In all geographical regions, entrepreneurs appear to have not been confident of their creativity capacity. In general only 14% report positively about their creativity performance, while 1264 (out of 2976) do not see creativity as a significant factor in their business attempts. In addition, entrepreneurs seem to be less connected than most think about them, with more than 62% having no experience of participating in any social networks of entrepreneurs.

Data for RQ2:
The second data subset deals with entrepreneur's perseverance ("tforstart"), having values: "less12" (less than 12 months); "b1224" (from 12 to 24 months); and "g24" (till early signs of success). Apart from geographical locations as described above, the factor "csr" (corporate social responsibilities) plays an important role in the modeling, which has value of: "no" (do not see CSR as necessary); "yes.sale" (yes, but only if it helps to improve sales); and "yes.resp" (yes, as standard understanding of CSR). In this investigation, N=2886.

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The data show that nearly 73% of respondents intend to pursue their plan despite obstacles until early signs of success. A large portion of entrepreneurs show the tendency of doing CSR activities, >62% (see Table 2).

Table 2 (Data for RQ2): Distribution of respondents following factors perseverance and CSR, controlling for geographical locations.

"place"	"csr"	"tforstart"		
		"b1224"	"g24"	"less12"
"central"	"no"	22	27	2
	"yes.sale"	67	215	32
	"yes.resp"	74	455	24
"north"	"no"	4	5	1
	"yes.sale"	25	52	10
	"yes.resp"	52	226	14
"south"	"no"	21	44	15
	"yes.sale"	134	363	44
	"yes.resp"	176	716	66

Data for RQ3:
The third problem deals with decisiveness of entrepreneurs in starting their business attempt, coded "startplan". This factor has distinct values of "running" (currently operating an entrepreneurial firm); "soon" (going to start within 12 months); "cond" (only starting when having favorable socioeconomic conditions); and, "notstart" (not starting); and it serves to be dependent variables in the analysis. Besides the control variate "place", another predictor is the "mindsponge process" following Vuong & Napier's (2015) enlarged notion of acculturation, playing the role of independent variables. Coded as "msponge", this factor demonstrates the extent to which the mindsponge process activates sociocultural values inducting/ejecting mechanisms among entrepreneurs, and has value of either "strong" (to a large extent), "some" (to a limited extent), or "negl" (negligible).

In this modeling attempt, N=2851 observations. The data set is provided in Table 3.

Table 3 (Data for RQ3): Distribution of entrepreneurs' entrepreneurial decisions, following effects of mindsponge process outcomes, and controlling for geographical locations.

"place"	"msponge"	"startplan"			
		"running"	"soon"	"cond"	"notstart"
"central"	"negl"	10	15	75	39
	"some"	42	82	135	52
	"strong"	81	96	226	45
"north"	"negl"	4	8	17	11
	"some"	9	26	58	10
	"strong"	43	90	109	10
"south"	"negl"	10	17	121	79
	"some"	49	129	280	80
	"strong"	90	178	451	74

A first look at the data set unveils that a large portion of entrepreneurs, nearly 52%, tend to depend on specific socioeconomic conditions to make their decisions of starting a business or not. In addition, nearly 10% report that their sociocultural values have been transforming following their actual entrepreneurial attempts as an outcome of the mindsponge process, following Vuong & Napier's (2015) model.

Data for RQ4:
This last data subset, while controlling for "place", looks into such factors as valuable lessons learned from past failures ("failurel") and self-evaluated likelihood of survival/success ("chance"). The factor "failurel" reflects entrepreneurs' preparedness when prior to their entrepreneurial efforts, through learning lessons from past failures in the community, having values of "much" (carefully studied), "some" (to a limited extent), and "none" (little consideration of others' failures). The factor "chance" has one of the following values: "high" (seeing high chance of survival/success, >80%), "med" (50-80%), and "low" (<50%).

This subset has N=2842 observations, with its frequency distribution being provided in Table 4.

Table 4 (Data for RQ4): Distribution of entrepreneurs' reported chance following learning from failure lessons and controlling for geographical locations.

"place"	"failurel"	"chance"		
		"high"	"low"	"med"
"central"	"much"	107	24	87
	"some"	188	90	330
	"none"	25	12	20
"north"	"much"	57	12	38
	"some"	87	32	123
	"none"	8	9	12
"south"	"much"	139	37	185
	"some"	317	145	651
	"none"	26	26	55

A quick observation from Table 4 shows that the majority of entrepreneurs pay attention to failure cases they can access, regardless of their estimated chance of success, with the highest ratio belongs to people coming from the central region of the country who see a higher chance of success. This information is interesting as the central region of Vietnam is considered "land of the poor" where people have shown the sociocultural tradition of learning and thoughtfulness.

5. Estimations and results

Estimations and results for RQ1:
Details of estimations for research question of RQ1 is provided in Table 5, with most p's being smaller than 0.01, showing significant influence of predictor variables on values of the response variables.

Table 5. Reported results from RQ1 estimations.

	intercept	"place"		"member"	
		"north"	"south"	"all"	"some"
	β_0	β_1	β_2	β_3	β_4
logit(much|none)	-1.812*** [-14.484]	0.587** [3.278]	0.187 [1.435]	1.470*** [10.616]	0.594*** [4.074]

logit(some|none)	-0.513[***][-6.258]	0.372[**][2.785]	0.270[**][3.016]	0.810[***][7.567]	0.643[***][6.727]
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1, z-value in square brackets; baseline category for: "place": "central", and, "member": "none". Residual deviance: 12.132 on 8 d.f.					

The single largest coefficient is $\beta_3 = 1.470$ with a highly significant p-value (<0.0001), showing that activeness in as many social networks as possible exerts a strong influence on increasing the tendency of activating the creative performance factor in determining the outcome of an entrepreneurial effort.

From Table 5, the following empirical relationships (equations RQ1.1-1.2) are derived to "gauge" the influence of geographical locations and active participation in social networks on creativity capacity of entrepreneurs:

$\ln\left(\dfrac{\pi_{much}}{\pi_{none}}\right) = -1.812 + 0.587\text{North} + 0.187\text{South} + 1.470\text{allMem} + 0.594\text{someMem}$	Eq. (RQ1.1)
$\ln\left(\dfrac{\pi_{some}}{\pi_{none}}\right) = -0.513 + 0.372\text{North} + 0.270\text{South} + 0.810\text{allMem} + 0.643\text{someMem}$	Eq. (RQ1.2)

An example of computing empirical probability from Eqs. (RQ1.1-1.2) follows:

$$\pi_{much} = \frac{e^{(-1.812+0.587+1.470)}}{1 + e^{(-1.812+0.587+1.470)} + e^{(-0.513+0.372+0.810)}} = 0.302$$

Thus, there is a 30.2% probability that an entrepreneur who is located in the Northern region and actively participating in social networks would see his/her entrepreneurial effort to be able to activate the creative performance capacity in his/her entrepreneurship. Other probabilities are computed the same way, and their distribution is provided in Table 6.

Table 6. Empirical probability distributions of entrepreneurs' reported creativity following their social networks' membership, controlling for geographical locations.

"inno"	"much" (a)			"some" (b)			"none" (c)		
"place"|"member"	"all"	"some"	"none"	"all"	"some"	"none"	"all"	"some"	"none"
"north"	0.302	0.167	0.136	0.462	0.519	0.402	0.236	0.314	0.462
"south"	0.237	0.125	0.099	0.487	0.524	0.396	0.276	0.351	0.505
"central"	0.232	0.122	0.093	0.440	0.468	0.340	0.328	0.410	0.567

Entrepreneurs coming from regions with different sociocultural traits differ in their perceptions and reliance on their creativity capacity, as shown in Fig. 1, depicting numerical values in Table 6.
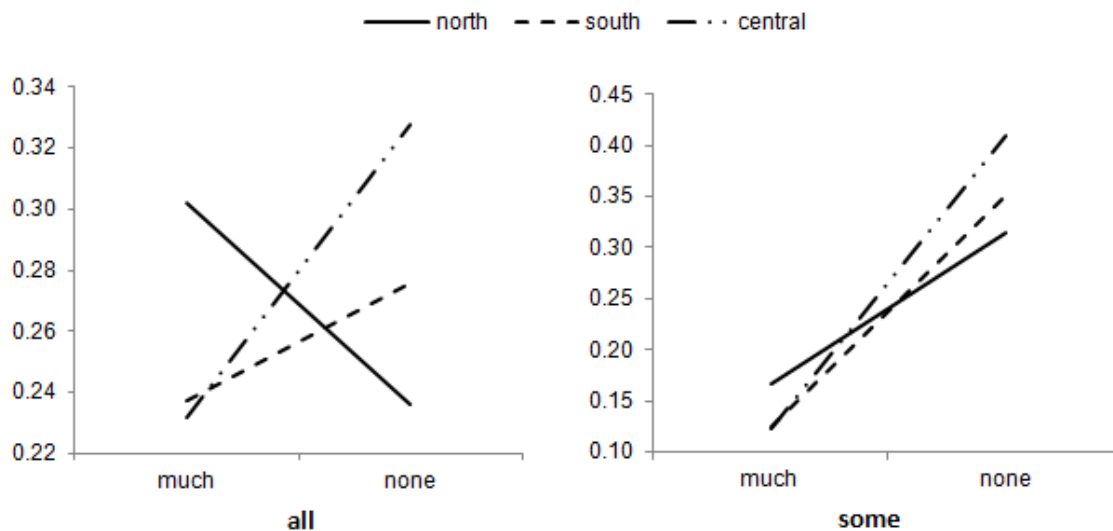
Figure 1. Reported creativity capacity of entrepreneurs coming from different regions, with varying degrees of activeness in social networks.

Estimations and results for RQ2:

Details of estimations for research question of RQ2 is provided in Table 7, with most p-values being smaller than 5%, showing significant influence of predictor variables.

Table 7. Reported results from RQ2 estimations.

	intercept	"place"		"csr"	
		"north"	"south"	"no"	"yes.sale"
	β_0	β_1	β_2	β_3	β_4
logit(b1224|g24)	-1.714***	0.306*	0.243*	1.074***	0.519***
	[-17.313]	[1.971]	[2.245]	[5.452]	[5.145]
logit(less12|g24)	-2.794***	0.180	0.303 .	1.166***	0.607***
	[-17.813]	[0.713]	[1.819]	[4.132]	[3.934]
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1, z-value in square brackets; baseline category for: "place": "central"; and, "csr": "yes.resp". Residual deviance: 17.472 on 8 d.f.					

Generally speaking, the results show that all levels of CSR efforts when combined with geographical locations have significant impacts on defining entrepreneurs' perseverance in their entrepreneurial efforts. Following the same practice when considering RQ1, equations (RQ2.1-2.2) establish relationships obtained from estimated coefficients of Table 7, and therefore enable the computing of empirical conditional probabilities provided in Table 8.

$\ln\left(\dfrac{\pi_{b1224}}{\pi_{g24}}\right) = -1.714 + 0.306\text{North} + 0.243\text{South} + 1.074\text{noCsr} + 0.519\text{yes.saleCsr}$	Eq. (RQ2.1)
$\ln\left(\dfrac{\pi_{less12}}{\pi_{g24}}\right) = -2.794 + 0.180\text{North} + 0.303\text{South} + 1.166\text{noCsr} + 0.607\text{yes.saleCsr}$	Eq. (RQ2.2)

Table 8. Empirical probability distribution of entrepreneurs' perseverance following willingness to perform CSR actions, and geographical locations.

| "tforstart" | "g24" (a) | | | "b1224" (b) | | | "less12" (c) | | |
| "place"\|"csr" | "no" | "yes.sale" | "yes.resp" | "no" | "yes.sale" | "yes.resp" | "no" | "yes.sale" | "yes.resp" |

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"north"	0.513	0.647	0.758	0.367	0.266	0.186	0.120	0.087	0.056
"south"	0.516	0.650	0.762	0.347	0.251	0.175	0.137	0.099	0.063
"central"	0.580	0.707	0.806	0.306	0.214	0.145	0.114	0.079	0.049

Fig. 8 represents a contrast between two entrepreneur groups with different levels of perseverance, controlling for different geographical regions, based on computed numerical values of Table 8.
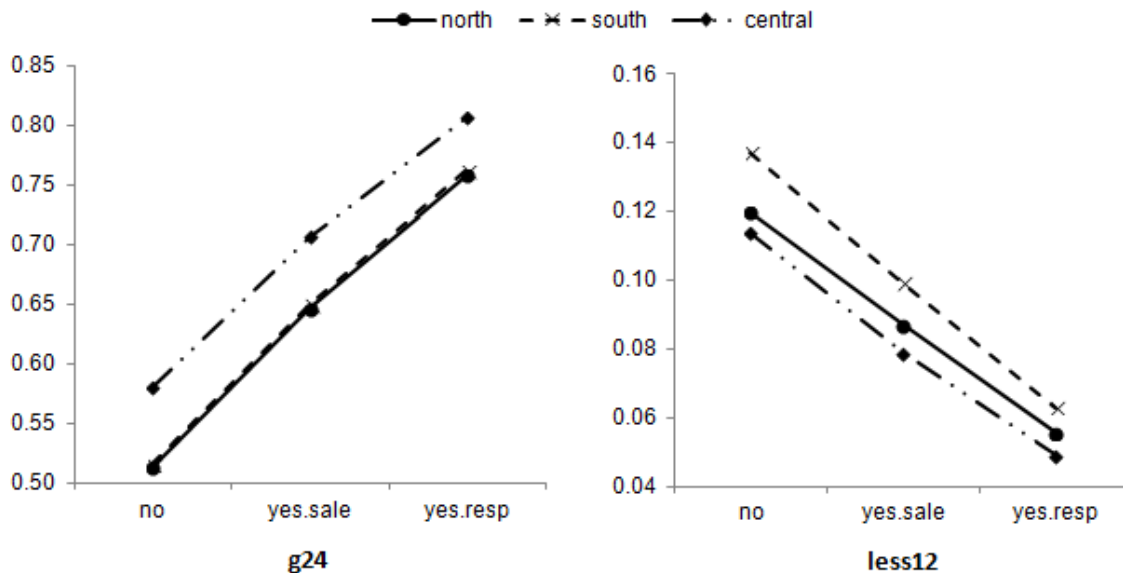

Figure 2. Evidence showing that the sociocultural value of CSR tends to increase the probability among higher perseverance groups.

Estimations and results for RQ3:
Estimating the data of Table 3 helps investigate research question RQ3 on effects of the mindsponge process on entrepreneurial decisions. Detailed estimations are provided in Table 9.

Table 9. Reported results from RQ3 estimations

	intercept	"place"		"msponge"	
		"north"	"south"	"negl"	"some"
	β_0	β_1	β_2	β_3	β_4
logit(running|notstart)	0.674*** [4.442]	0.457 . [1.756]	-0.459** [-2.788]	-2.168*** [-8.688]	-0.824*** [-4.779]
logit(soon|notstart)	0.923*** [6.530]	0.914*** [3.883]	-0.052 [-0.362]	-2.164*** [-10.361]	-0.474** [-3.196]
logit(cond|notstart)	1.682*** [13.259]	0.508* [2.300]	0.108 [0.863]	-1.286*** [-8.753]	-0.584*** [-4.320]
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1, z-value in square brackets; baseline category for: "place": "central"; and, "msponge": "strong". Residual deviance: 17.693 on 12 d.f.					

Most coefficients are statistically significant with p-values being smaller than 0.05. As hypothetical relationships among factors "place", "msponge" and "startplan" are accepted, stylized facts are reflected in the equations (RQ3.1-3.3).

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	Eq. (RQ3.1)
$\ln\left(\dfrac{\pi_{\text{running}}}{\pi_{\text{notstart}}}\right) = 0.674 + 0.457\text{North} - 0.459\text{South} - 2.168\text{neglMs} - 0.824\text{someMs}$	Eq. (RQ3.1)
$\ln\left(\dfrac{\pi_{\text{soon}}}{\pi_{\text{notstart}}}\right) = 0.923 + 0.914\text{North} - 0.052\text{South} - 2.164\text{neglMs} - 0.474\text{someMs}$	Eq. (RQ3.2)
$\ln\left(\dfrac{\pi_{\text{cond}}}{\pi_{\text{notstart}}}\right) = 1.682 + 0.508\text{North} + 0.108\text{South} - 1.286\text{neglMs} - 0.584\text{someMs}$	Eq. (RQ3.3)

Then from Eqs. (RQ3.1-3.3), computed probabilities are provided in Table 10.

Table 10. Empirical probability distribution of entrepreneurs' decisions against transforming sociocultural values following entrepreneurial attempts, controlling for geographical differences

"startplan" "place"|"msponge"	"running"			"soon"			" only with favorable conditions "			"not to start"		
	"negl"	"some"	"strong"	"negl"	"some"	"strong"	"negl"	"some"	"strong"	"negl"	"some"	"strong"
"north"	0.078	0.121	0.160	0.159	0.347	0.325	0.543	0.443	0.463	0.220	0.089	0.052
"south"	0.046	0.085	0.117	0.089	0.233	0.225	0.539	0.524	0.564	0.326	0.158	0.094
"central"	0.075	0.134	0.181	0.096	0.244	0.232	0.495	0.467	0.495	0.334	0.155	0.092

A visual presentation of a subset of these probabilities, controlling for two values of mindsponge process outcome "strong" and "negl" is provided in Fig. 3.
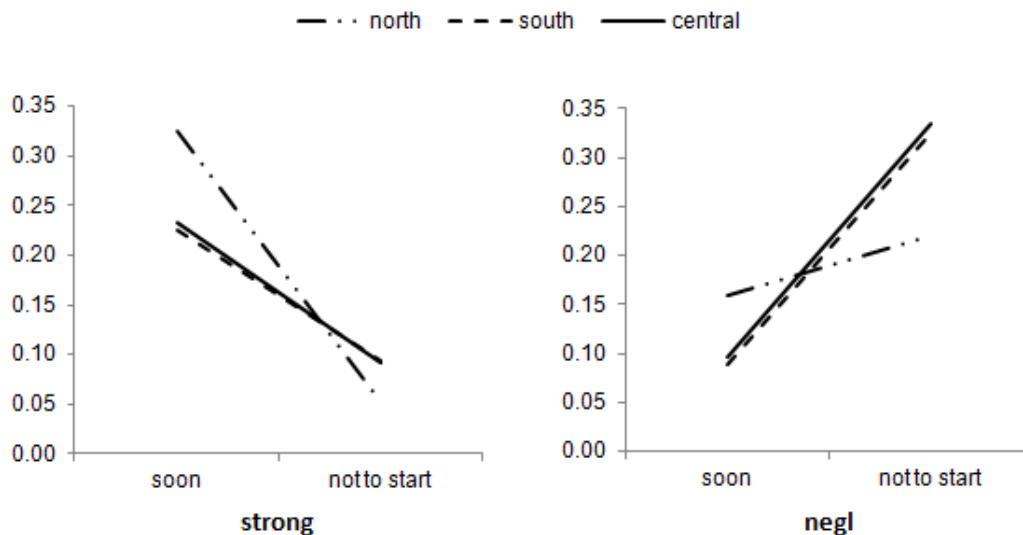

Figure 3. Outcomes of the mindsponge process effects help determine different trends of empirical probabilities for entrepreneurial decision to start "soon" or "not to start".

In general, when the effect of mindsponge process is strong, the probabilities decrease from starting soon to no starting. And the trend is in reverse when the mindsponge outcome is weak (negligible; "negl"). It is ready to see that although the trend is shared among entrepreneur groups in all three regions North, South and Central, the North group shows some clear difference in magnitudes of change as seen in Fig. 3.

Estimations and results for RQ4:
This last estimating effort is focused on relationships between such factors as lessons learned from other entrepreneurial failures ("failurel") and perceived likelihood of survival/success ("chance"), where

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"chance" serves to be a group of response variables, and "failurel" predictors, using the same control variate of the geographical differences. Estimated results are provided in Table 11.

Table 11. Reported results from RQ4 estimations

	intercept	"place"		"failurel"	
		"central"	"north"	"much"	"some"
	β_0	β_1	β_2	β_3	β_4
logit(high|med)	-0.545** [-3.144]	0.296** [3.166]	0.456*** [3.627]	0.358 . [1.908]	-0.229 [-1.295]
logit(low|med)	-0.716*** [-3.802]	0.215 . [1.689]	0.264 [1.505]	-0.836*** [-3.745]	-0.801*** [-4.137]
Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1, z-value in square brackets; baseline category for: "place": "south"; and, "failurel": "none". Residual deviance: 8.426 on 8 d.f.					

The estimations yield significant relationships for variables entering the model, and suggesting that learning from past failures would likely impact perceived chance of success for entrepreneurs, from all three regions. The section on final remarks will offer additional explanation. Using the reported coefficients, equations (RQ4.1-4.2) represent relationships established through the empirical data set.

$$\ln\left(\frac{\pi_{high}}{\pi_{med}}\right) = -0.545 + 0.296\text{Central} + 0.456\text{North} + 0.358\text{muchFail} - 0.229\text{someFail} \quad \text{Eq. (RQ4.1)}$$

$$\ln\left(\frac{\pi_{low}}{\pi_{med}}\right) = -0.716 + 0.215\text{Central} + 0.264\text{North} - 0.836\text{muchFail} - 0.801\text{someFail} \quad \text{Eq. (RQ4.2)}$$

Likewise, Eqs. (RQ4.1-4.2) enable the computing of empirical probabilities tabulated in Table 12.

Table 12. Probability distributions of entrepreneurs' perceived chance of success following learning from past failures, with control variate of geographical locations

"chance"	"high"			"med"			"low"		
"place"|"failurel"	"much"	"some"	"none"	"much"	"some"	"none"	"much"	"some"	"none"
"central"	0.469	0.328	0.327	0.421	0.528	0.419	0.110	0.144	0.254
"north"	0.506	0.361	0.359	0.387	0.497	0.392	0.107	0.142	0.249
"south"	0.406	0.274	0.280	0.490	0.595	0.484	0.104	0.131	0.236

Table shows that perceived chance of success improves when entrepreneurs spend time to study past failures of other entrepreneurial attempts; and vice versa.

6. Discussion / final remarks
The above analysis has yielded confirmatory effects of such factors as active participation in social networks, CSR willingness, transformed sociocultural values and lessons from past failures on determining: i) entrepreneurial creativity (RQ1); perseverance (RQ2); decisiveness (RQ3); and, perceived likelihood of success (RQ4), together with stylized facts and computed empirical probabilities, controlling for geographical differences. This final section offers a brief discussion with remarks on useful insights.

Networked creativity:
Fig. 1 and the empirical computations confirm the so-called "networked creativity" phenomenon suggested by Harryson (2008). The known impact of geographical location also suggests that the North group of networked entrepreneurs tend to report a higher reliance on creative perform in their entrepreneurial attempts, followed by the South group, then the Central.

The "networked creativity" is also profound when taking geographical locations into account, as for strongly networked entrepreneurs, the trends of probability change become distinct, with similar trend but varying magnitudes for the South and Central groups, but opposite trend for the North group.

CSR-supported perseverance:
There appears to have been a close relationship between one's unwillingness to take part in CSR activities and one's lower degree of perseverance (<24 months) in entrepreneurial attempt. This perhaps reflects a noteworthy transforming sociocultural traits of perseverant entrepreneurs: CSR-willingness. It is highly possible that because the willingness and belief in social values of CSR, an entrepreneur may have higher trust in their final success, and the reverse also holds.

Entrepreneurs from the central region appear to be more CSR-willing, with a probability of 80.6% for the subgroup of CSR-willing from the Central group to remain perseverant in their startup endeavors. In Vietnam, people from the central region are often regarded as hard working, socially supportive and showing humility. Fig. 2 also shows that the "perseverance probability line" of the Central group is above the North and South (left-hand side figure).

Mindsponge-based decisiveness:
The computations of empirical probability support the theoretical value of the "mindsponge" concept as developed in Vuong & Napier (2015), with all coefficients being highly significant. More importantly, when its value is "negligible" (that is, entrepreneurs' mindsponge outcome is minimal or virtually non-existent) the probabilities of entrepreneurs' decisiveness in their business action diminish. In contrary, when its value is "strong", entrepreneurs' decisiveness increase sharply (see Fig. 3). Apparently, these do not happen by chance but due to entrepreneurs' capabilities of transforming sociocultural values to match with their plans and pursuits, when taking up their role of an entrepreneur. In addition, since mindsponge deals with the transforming of beliefs and values, different geographical regions should theoretically show varying degrees of effect. Both Fig. 3 and probabilities reported in Table 10 are useful in verifying this hypothetical statement. There is evidence that the distinct difference is seen with the North group, while the remaining groups show a similar trend. This probably helps to partly explain why there are more Northern business people starting in the Central region and in the South than the other way around. In general, the stronger the mindsponge process is, the more willing and decisive the entrepreneur appears to become. It may suggest that the demand for transforming sociocultural values within the entrepreneurs' community is higher than the Vietnamese society thinks about normally.

Improved chance of success based on lessons from the past:
Although it is learned from the empirical observation that learning from past failures helps improve confidence of entrepreneurs, the limit is still 51% for the high chance of success group, that is the probability of flipping a fair coin (see Table 12). Its main meaning, as expected, confirms the effect of decreasing the probabilities of low perceived chance (<50%).
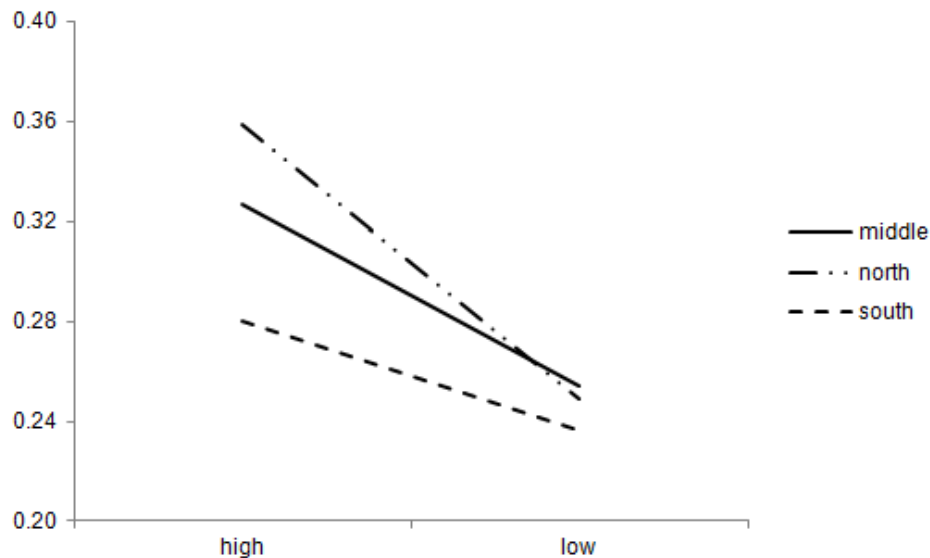
Figure 4. Estimated probabilities of chance of success for those without knowledge about others' past failures, controlling for geographical differences.

In addition, Fig. 4 is noteworthy. When controlling for geographical locations, entrepreneurs who have no knowledge about others' failure lessons tend to agree on a probability of low chance but disagree on the probabilities of higher chance of success. More strikingly, for those without knowledge of past failures, they tend to overestimate their chance of success, regardless of where they come from. The most overoptimistic are Northern entrepreneurs.

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