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Toward a Matching Approach to Support CBM (Collaborative Business Model) Processes between Regional Entrepreneurs within the RIS3 Policy

Jérémie Faham¹, Maxime Daniel¹, Jérémy Legardeur^{1,2}

¹ ESTIA, F-64210 Bidart, France

{j.faham,m.daniel,j.legardeur}@estia.fr

² IMS, UMR 5218, Talence, France

Abstract. One of the objectives of the European Commission for 2014-2020 is to establish “Research and Innovation Strategies for the Smart Specialization” (RIS3). The originality of RIS3 is the “bottom-up” identification of regional priorities especially through the “Entrepreneurial Discovery” (ED) process. The Collaborative Business Models (CBM) approach has probably a role to play within this process as a suitable strategic tool to set up regional “value networks”. However, the preparatory stage of CBM and especially the identification and the matching processes among potential RE partners is often not addressed. This work is based on the need to support the discovering and the matching processes between “regional entrepreneurs” (companies, research, consulting, association, public authorities...) in order to improve the efficacy of CBM and RIS3. In this paper, we propose a review of the state of the art concerning the different dimensions linked to the matching processes.

Keywords: Matching, RIS3, Entrepreneurial Discovery, CBM, Profile Comprehension

1 Introduction

The “Entrepreneurial Discovery” process of RIS3 is an attempt to support the proactive participation of all the regional “entrepreneurs” (RE) (enterprises, universities, research institutes, consulting organizations, institutional authorities etc.) in the strategic orientations of their region. However there is a lack of operational propositions (tool, methodology...) to instrument the implementation of the ED process [1]. Thus, this ED engenders the same limitations of past policies: the usual regional “leaders” (big companies, high-tech start-up, big laboratories etc.) are often solicited during the launch of RIS3 policies whereas the smaller actors (SMEs, individuals, association, laypersons etc.) are rarely taken into consideration and feel unable to contribute to the definition of the economic orientations of their regions.

Therefore, one of the major challenge for the RIS3 is to find new ways to foster the collaboration between all the RE in order to facilitate the active involvement of a broader set of regional stakeholders into an open and more inclusive ED process. Previously, we developed the WeKeyInnovation (WKI) [2] which is an open and collaborative wiki-platform to share information about existing innovation supports and to stimulate the identification of all the RE. As a complementary approach, we analyzed how the Collaborative Business Model (CBM) processes [3] could be used for the design of innovative co-propositions led by RE at the territorial level [4]. However, the literature doesn't address the question of the preparatory stage of CBM processes but some works emphasize on the potential to gather the right partners before to start any CBM processes

[5]. Indeed, it is difficult to find mechanisms to help RE to identify the appropriate partners to achieve a successful collaboration. Thus, this paper is focused (section 2) on the need to improve the "Matching" efficiency between RE as a necessary pre-step of CBM processes. Then, we present in section 3 a deep characterization of RE profiles directed to support the comprehension of their respective expectations. In section 4 we propose a conclusion and some perspectives toward visual representations of RE profiles to support their potential of "Matching".

2 Enhancing the Matching Potential of RE to Increase CBM Efficiency

2.1 A More Comprehensive Profile Characterization to Enhance the "Matching" Potential of RE

Our main assumption is that achieving a better characterization of RE profiles before their participation to any networking or collaborative event increases the probability of matching among them. During this preparatory phase of CBM, it is a critical issue to enhance their mutual understanding and maximize their chances of collaboration. Moreover, getting a more comprehensive knowledge about the different aspects of each RE profile and their expectations when they meet during specific events is also strategic:

- for organizers of networking events (business meeting, seminar, workshop, conference...) to better prepare their affair with a more efficient consortium of participants;
- for RE participants that better explicit and specify their true needs concerning the event. They can also decide to attend or not to the different proposed events and identify, "filter" and match with more appropriate profiles of potential partners.

Indeed, we will face a plurality of RE profiles attending to the same event depending on:

- each RE individual socio-demographic characteristics (age, gender, education etc.), personality traits (need for achievement, risk predisposition etc.), values orientation (continuity, openness to change, self-enhancement) [6], [7];
- and according to its affiliated organization features (size, sector, structure etc.), its organizational culture (hierarchical, results-oriented, group-oriented etc.) [8], [9], its environmental confines (stability, uncertainty, hostility...), the hierarchical structure of its motivations or success criteria and its instantaneous strategic expectations in a specific context or regarding to the topic of one meeting [10], [11].

Previous works have been considered only unidirectional influencing factors that led to an increasing number of entrepreneurs' typologies or taxonomies [12], [13] which were strongly criticized because they were inappropriate to grasp entirely such a complex and multidimensional phenomenon [14]. Moreover, this set of heterogeneous entrepreneur's typologies and taxonomies led to the multiplication of contradictory results, classification or prescriptions which are impossible to compare [15] and casting doubt on the existence of homogeneous entrepreneurs' profiles. The limits are even stronger if we study this phenomenon through the perspective of RIS3 "entrepreneurs" i.e. the RE because it implies to consider a broader set of unusual socio-economic actors than in others entrepreneurship researches.

We present in the next section a methodology proposition to support a more detailed characterization of RE profiles in order to facilitate their matching and enhance their potential of collaboration.

3 Toward a More Comprehensive Characterization of RE Profile: a Configurational and Multidimensional Approach to Support their Potential of Collaboration

3.1 From entrepreneur to RIS3 “Regional Entrepreneur” characterisation

The characterization of ED is an increasing challenge because the two founding concepts of RIS3, the RE and the ED process broadens the scope of the fields and the range of socio-economic stakeholders to consider. RIS3 is open to all individuals and all types of organizations embedded in the society at regional level. In this context, studies which focused on specific aspects of the entrepreneurial dynamics are too narrow to grasp the full dimensions of the heterogeneous set of RE potentially affected by the ED process of RIS3.

Based on others studies which encompassed the use of classifications and quantitative analysis [16], our goal is to support RE during the process of identification-selection of potential partners. It requires to foster the matching efficiency which occurs between RE as a pre-step of any CBM attempt. The objective is only to bring them more information regarding to each RE characteristics and contextual expectations. Our purpose is to facilitate their mutual understanding in order to offer them an increased range of choices and possibilities of collaboration with unexpected regional actors. However, the challenges are multiple and it implies therefore to define which information to get, the adequate ways to collect it, and to choose the proper supports to use to make it accessible to all RE.

3.2 Embracing a Configurational Approach

We need to think in terms of crossed variables because the characteristics of RE profiles form a unique combinations of interconnected dimensions. We embrace a configurational approach [17], [18] ,[19] to overcome the shortcomings of past studies that restricted their analysis to one dimension of the entrepreneur's profiles or to precise aspects of entrepreneurship. The configurational approach enables to grasp much of the multiple areas interacting in the characterization of RE profiles. The definition of unique configurations of variables copes with the aim of this study because:

- It brings a more comprehensive understanding of the interrelated dimensions embedded into each unique RE profile and its specific expectations,
- It lets at the same time the possibility for further analysis of separated sets of different aspects (e.g. personality traits, organizational features, resources, environment etc.).

A strong literature review had been made to settle this configurational analysis of RE profiles. We selected the areas that correspond to the most often cited dimensions which influence their decisions and their behaviors. We gathered in (Table 1) the most complete set of items that have demonstrated constant significance in the relevant research or that were the most often cited in the literature review.

3.3 The Combination of Generic and Contextual Dimensions of RE profiles

We suggest to use both generic and contextualized information as an interesting alternative to get a more comprehensive understanding of each specific RE profile. Hence, all the items and RE profiles aspects that we gathered in the literature review were grouped into two distinct but complementary sets of “Generic” and “Contextual” dimensions (Table 1). The “generic dimensions” are RE characteristics which remain stable or that evolve very slowly in the long-term whereas the “contextual” ones are more inclined to change depending on each particular context [20].

To cope with this challenge, the “context-dependent” dimensions are listed as a set of possible dialogical (i.e. antagonistic but complementary) orientations [21]. RE will have to precise their expectations regarding to those dialogical orientations before to participate to any specific event. It is precisely the arbitration between pertinent and rival values which is guiding their attitudes and their behaviors in different acts, at different moments and in different contexts [22]. This consideration of each RE positioning can help them to clarify their oppositions but it also facilitates the identification of common or complementary interests. This effort toward a better mutual understanding between RE makes it easier to match and start a dialogue or a collaboration with a broader set of potential unexpected partners.

Table 1. Generic and contextual dimensions of Regional Entrepreneurs profiles

Dimension and aspects of RE profile	Items precisions	Sources
GENERIC DIMENSIONS		
<i>(Examples of Socio-demographic characteristics)</i>		
Personal characteristics		
Age	<ul style="list-style-type: none"> Less than 25 years, 25 to 29, 30 to 39, 40 to 49, 50 years and more 	(Espiritu-Olmos et al., 2015) (Robert et al., 2009) (Gartner, 1985)
Education level	No diploma, Professional ability certificate, professional diploma, Bachelor, Bachelor +3 years education or more	(Korunka 2003) (Robert et al., 2009)
Experience	Former work, Industry, Entrepreneurship, Family business precedents	(Robert et al., 2009) (Korunka 2003)
Entrepreneurial Position	Business-Owner, Non-Owner Manager, Auto entrepreneur, Latent, Student, Other	(Gorgievski et al., 2011) (Avenier, 1997)
Organization features		
<i>(examples)</i>		
Age Entrepreneurial Stage	Latent, pre-birth, nascent, post-natal, mature	(Vamvaka, 2014) (Jayawarma, 2013) (Zahra, 2009) (Miner, 1997)
Size	Very small enterprises, SMEs, MNT...	(Robert et al., 2009)
Type	Craft, Promotion, Admin	(Filley et Aldag, 1978) (Marmuse, 1992)
Activity-Skills	Sector, Expertise	(Jaouen 2008)
Area of development	Big city, small city, geographic area	(Espiritu-Olmos et al., 2015)
Family embeddedness	“family-in” vs “family-out”	(Espiritu-Olmos et al., 2015) (Crant, 1996) (Collins and Moore, 1970) (Shapiro, 1972)
Culture	Hierarchical, Entrepreneurial, Market-driven, Group-oriented	(Randerson et al., 2011) (Quinn & Rohrbaugh, 1983) (Cameron & Quinn, 2006) (Cherchem, 2009) (Zahra, 1993) (Ireland et al., 2009)
Structure	Degree of flexibility allowing to catch-up opportunities (Bureaucratic vs. Organic structures)	(Randerson, Fayolle, 2011) (Fayolle, 2008) (Covin et Slevin 1990, 91) (Lumpkin et Dess 1996) (Miller et Friesen, 1983)
Entrepreneurial Orientation	Innovation, pro-activity and risk-taking (Conservative vs. Entrepreneurial orientation)	(Randerson et Fayolle, 2011) (Stevenson et Gumpert, 1985) (Davies, 2010)
Organizational priority	<ul style="list-style-type: none"> LT Viability-Efficiency, Stability ST Gain-Growth Flexibility Balance 	(Jaouen et Lasch, 2015) (Marchesnay, 1992) (Marchesnay et Julien, 1996) (Laufer, 1975) (Miles and Snow, 1978)

Personality traits			
Entrepreneurial Sensitivity	Rational-Cautious vs. Sentimental-Emotional	(Jaouen, 2008)	
Need for achievement	Perception of your capacity to take-up challenges to reach a personal achievement	(Randerson, Fayolle, 2011) (Stefanovic and al. 2010) (Filley and Aldag, 1978)	
Locus of control	Perception of your capacity to control your behavior and your destiny believing that success depends more on your actions than on the influence of external factors.	(Randerson, Fayolle, 2011) (Korunka 2003) (Frese et al., 1997) (Krampen 1991)	
Self-efficacy	Perception of your capacity to succeed in achieving specific tasks and take-up challenges instead of seeking the <i>statu quo</i>	(Poon et al. 2006) (Wood et Bandura 1989) (Boyd et Vozikis 1994)	
Risk taking	Aversion vs. propensity to take risks	(Espiritu-Olmos et al., 2015) (Jaouen et Lasch, 2015)	
Tolerance for ambiguity	Find ambiguous situations challenging	(Teoh and Foo, 1997)	
Neuroticism	Normal, Calm, Relaxed, Anxious	(Zhao and Seibert, 2006)	
Kindness (socialization skills)	Tendency to be cooperative, attentive, friendly, modest and ability to build collaborative relationships	(Schneck, 2014) (Vamvaka et Botsaris, 2014) (Pearce and Doh, 2005)	
Emotional intelligence	Appraisal and expression of emotions, regulations of emotions (self & others), utilization of emotions	(Cross and Travaglione, 2003) (Goleman, 1998) (Mayer, Caruso et al., 1990)	
Entrepreneurial intention	Quality that leads an individual to pursue a career in self-employment or establish his own business	(Espiritu-Olmos et al., 2015) (Vamvaka et Botsaris, 2014) (Fayolle & Liñan, 2014) (Cherchem & Fayolle, 2010) (Thompson 2009) (McGee et al., 2009)	
Positive Role model	<ul style="list-style-type: none"> Family tradition influence Admiration-idolatry 	(Jayawarna et al., 2013) (Robert et al., 2009)	
Psycho-technic characteristics	Personal achiever, Empathic super sales, Real manager, Expert idea generator:	(Miner, 1997)	
Personal values orientation			
Refined version of Basic HUV	(19) <i>Universal Human Values</i>	(Cieciuch et al., 2014) (Knoppen, 2009) (Schwartz, 1992)	
Organization culture			
Organization Culture Profile	(54) <i>OCP-Items</i>	(Borg et al., 2011) (Bilsky 2002) (O'Reilly, Chatman, Caldwell, 1991)	
Success Criteria	(10) <i>Success-Items</i>	(Gorgievski, 2011)	
	Profitability, Public recognition, Growth, Firm survival/continuity, Contributing to society, Satisfied Stakeholders, Utility – Usefulness, Innovation, Personal Satisfaction, Work-life balance		
Motivations criteria	(6) <i>Motivations-Items</i>	(Jayawarna et al., 2013)	
	Materialism-money, Status-power-control, Necessity, Community, Achievement-challenge, Flexibility		
CONTEXTUAL DIMENSIONS			
Instantaneous expectations & environmental confines	<i>(capacity-strategy needs and goals related to a specific context/topic)</i>		
View of the future	Prediction	Creation	(Sarasvathy, 2001; 2005) (Silberzahn, 2014)
Basis to take action and acquire Stakeholders	Goals	Means	-
Predisposition toward Risk Planning	Expected Return	Affordable loss	-
	Commitment	Contingency	-
Basis for Commitment	Should	Can	-
Attitude toward outside Firms	Competition	Partnership	-
Decision for action if	Desirable	Possible	(Bruyat, 1993)
-	Coherence	Contingence	-
Desired Strategy	Global Vision	Local Action	(Avenier, 1997)
Hierarchical level	Global	Local	-
Goals orientation	LT Goals	ST Objectives	(Marshall, 2013) (Collins et Porras, 1996)
Position Seeking	Rules-Security	Risk	(Borg et al., 2011)
-	Results	Relations	-
Value Seeking	Self-enhancement	Self-transcendence	(Schwartz, 1992)
	Conservation	Openness to change	-
Decision Drives	Acquire	Connect	(Schwartz, 2006) (Lawrence & Nohria, 2002)
-	Defend	Learn	-
Drive motive	Business	Passion Life style	(Vega & Kidwell, 2007) (Randerson et al., 2011)
Desired return	Financial ROI	Social ROI	(Zahra, 2009)

	(Market-driven)	(Organization mission)	(Vega & Kidwell, 2007)
-	Necessity	Pleasure	(Jaouen et Lasch, 2015)
Interest Focus	Personal	Social	(Schwartz, 2006)
Environmental Position	"determinism" (adaptive organization)	"reality" (creative organization)	(Gartner, 1985)
Environmental Perception	Full of threats	Full of opportunities	(Randerson et al., 2011) (Jaouen, 2008)
-	Stable-predictable	Dynamic-Uncertain	(Randerson et al., 2011) (Zahra, 1993) (Miller et Friesen, 1983)
Environmental Push	Necessity-push	Opportunity-push	(Jayawarma et al., 2013)
-	Reactivity	Proactivity	(Vega & Kidwell, 2007) (Dana, 1995)
-	Competition	Fill market failures	(Williamson, 1975) (Porter, 1980)
Additional Contextual Features			
Project Maturity	Opportunity search	Opportunity recognition	(Fayolle, 2007)
-	Decision to act on Opportunity	Opportunity exploration	-
Degree of Autonomy/Flexibility	Watchful Supervision	High Autonomy	-
Available time & Degree of urgency	Short-term urgency	Long-term possibility	-
Perceived effort of start-up process	Hard NVC	Easy	(Korunka, 2003)
Failure consideration	High	None	-
Nature of the "Adaptive" problem	Entrepreneurial	Engineering	(Miles & Snow 1978)
Social need level	Broader (Social System)	Small-scale (Local)	(Zahra et al. 2009) (Baker and Nelson, 2005)
Desired Impact on Social Community	High	Low	(Dana, 1995)
Partners Proximity	Close Environment	« Far » Environment	(Torres, 2008)
Self-identity /Individual life issues & Business Strategy Alignment	Full Alignment	Not at all	(Randerson, Fayolle, 2011) (Mills and Pawson, 2012) (Fonrouge, 2002) (Fayolle, 2008) (Marcketti et al. 2006)

The combination of such a complementary set of characteristics and the hybridization of the generic and the contextual dimensions of RE profiles in a configurational approach is a promising path to facilitate their interaction and to increase their possibilities of collaboration at regional level. However, this list is not exhaustive and it is still adjustable by and for all organizers-facilitators regarding to the topic and the goals of each event. It also requires to be completed to further improvements, reductions or extensions directed by complementary researches and empirical testing.

4 Conclusions and Further Perspectives

As a conclusion, the goal of our study is to get a better profile characterization of each RE to facilitate their mutual comprehension and increase their probability of "Matching" successfully. The aim is to enhance the "collaboration" between RE at regional level and to support a broader participation of smaller actors in the flow of the "bottom up" propositions of the ED process of RIS3. This work is also opening a research perspective for the design of new tools to support the recognition and the comprehension of each personalized RE profile or expectations in order to facilitate their "matching" (Figure 1).

This paper highlighted several shortcomings in different levels and areas of regional innovation strategy. We underlined first the limits of the actual ED process and the need for its instrumentation within heterogeneous European regions. Secondly we presented the use of the CBM approach as a suitable strategic tool to support the collective participation of a broader set of RE within the RIS3. However we pointed out the necessity to

focus on the preparatory stage of those CBM processes in order to increase their efficiency. Third, we emphasized on the necessity to get a comprehensive characterization of RE profiles. We presented a table embracing a configurational approach which combine both generic and contextual dimensions of RE profiles.

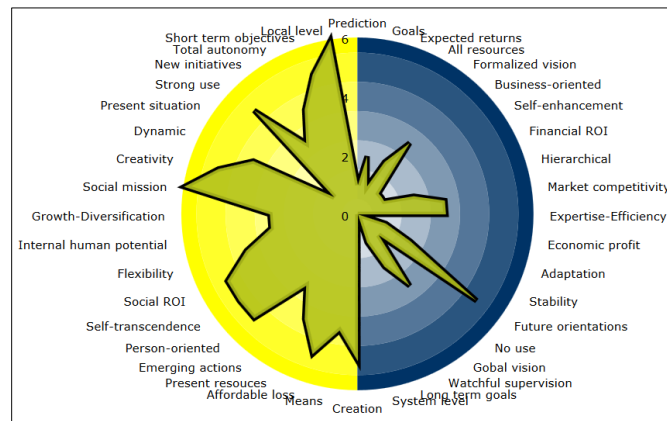


Figure 1. An example of radar-charts to give a visual representation of RE profile

This contribution aims to grasp much of the multiple dimensions which characterize each single and unique RE profile. The main objective is to:

- Include a broader set of unexpected RE which have not previously been consulted about the RIS3 initiative;
- Reach a more comprehensive view of their respective and instantaneous expectations;
- Facilitate their mutual understanding and their interactions;
- Support the identification of potential partners and foster their probability of “matching”;
- Enhance the potential of collaboration between all RE in the long term to feed a continuous dynamic of co-constructed propositions within the ED process of RIS3.

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