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THAT MAKES SENSE TO ME: OPENNESS TO CHANGE AND SENSEMAKING IN IDEA SCREENING

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This study examines how a person's sense of identity (expressed in terms of openness to change vs. conservation) influences the way in which they screen early ideas for innovation projects. To study this, we recruited 20 experts from a leading IT-consultancy firm to individually evaluate and comment on 12 R&D project ideas. This data was then analysed by using a configurational approach (fsQCA) to understand how different experts combine various evaluation dimensions together to make sense of and decide on the goodness of an idea. The findings show that experts who are open to change view ideas as opportunities and approach idea screening as a generative process, while conservative experts are more reserved in their idea screening activities.

Keywords: Sensemaking; idea screening; evaluation; values; identity; openness to change; conservative; fsQCA.

Introduction

Popular business press constantly lauds entrepreneurial and innovative individuals that are self-directed and able to envision potential futures. These people have been claimed to have the ability to understand the latent potential in fuzzy ideas — Elon Musk being one embodiment of this persona type.¹ While innovation

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¹<https://www.forbes.com/sites/joannmuller/2016/08/19/elon-musks-greatest-innovation-has-gone-unnoticed/#52c31d7a5bdf>.

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literature has examined the impact of personal expertise and domain knowledge on idea screening and evaluation of new products (Kristensson and Magnusson, 2010; Magnusson et al., 2016; Moreau et al., 2001; Onarheim and Christensen, 2012), the evaluators' persona and its effect on idea screening has received scant attention. The aim of this study is to fill this gap in our knowledge by examining how people that are either *open to change*, or *conservative* make sense of ideas and decide what are good ideas for innovation.

Our study builds on existing idea screening literature (Dean et al., 2006; Eling and Herstatt, 2017; Magnusson, 2009) and introduces openness to change (Schwartz, 2003) as a way to characterise the type of person evaluating ideas. To understand how people comprehend early ideas, we draw from sensemaking theory (Weick, 1995), which highlights that sensemaking is grounded on identity construction that affects the cues that people extract from a context, how that leads to understanding, and subsequent action. Thus, sense of identity influences cognitive maps which affect the person's understanding, resulting in certain decisions being made (Ring and Rands, 1989).

The rest of this paper is organised as follows. We first present the theoretical background and explain the context of idea screening, highlight how identity can affect sensemaking, and how openness to change can constitute a component in one's identity. Thereafter, we outline the methodological procedures for our empirical study, and present our findings. Finally, we discuss these findings in relation to existing theory.

Theoretical Background

Idea screening

Idea screening is a crucial step in the early stages of the innovation process, since it dictates which ideas will live or die (Cooper, 2014). The ability to engage in the right innovation projects differentiates successfully performing companies from their poorly performing counterparts (Koen et al., 2002). Consequently, the selection and implementation of good ideas plays a key role for the future success of a firm.

During idea screening, experts are usually challenged with evaluating the overall business potential of an idea, which is often represented by originality, use value, and feasibility (Eling et al., 2015; Kudrowitz and Wallace, 2013; Magnusson, 2009). In this context, originality relates to the novelty and uniqueness of the idea (Dean et al., 2006), which is a desirable characteristic of innovation projects (Magnusson, 2009). Use value captures the idea's importance and benefit for the user, representing the users' perspective (Sukhov, 2018). Feasibility, in turn, captures the producers' perspective by gauging the organisation's capability and

willingness to implement the idea (Magnusson, 2009; Sukhov, 2018). These three criteria have also been found to predict the overall quality of an early idea for innovation (Dean *et al.*, 2006; Diehl and Stroebe, 1987; Kudrowitz and Wallace, 2013; Magnusson *et al.*, 2014; Sukhov, 2018), where use value is an especially important characteristic (Sukhov, 2018).

How the idea is presented also matters since even experts can have diverging views on whether an idea is good. Because early ideas can be abstract and not completely defined (Hatchuel and Weil, 2009), evaluators may perceive them to be unclear and ambiguous, which creates room for interpretation and misunderstandings (Sukhov, 2018; Yus, 1999). This relates to two idea characteristics, namely idea completeness and clarity. On the one hand, Dean *et al.* (2006) proposed that one needs to take into consideration the information content of an idea and how it is communicated. Thus, the completeness of an idea can be measured by whether the idea description includes the *what*, *who*, *where*, *when*, *why*, and *how* dimensions (Dean *et al.*, 2006). On the other hand, to account for the subjective comprehension of an idea, a rating of idea clarity can be used (Besemer and O'Quin, 1986; Doll and Torkzadeh, 1988). These two dimensions capture how well an idea is communicated and understood. In this regard, Sukhov (2018) further found that higher idea completeness improves the perception of idea clarity, which leads to more positive evaluation of an idea. Alternatively, lack of completeness can trigger people to reimagine and improve the idea in their own mind, due to the innate desire to fill the gaps in the idea description (Weick, 1995; Yus, 1999).

Confidence in a decision has also been put forward as a measure of one's knowledge in the idea's domain (Gregan-Paxton and Moreau, 2003; Licuanan *et al.*, 2007). Confidence is said to increase with the ease of recollection of past experiences, and decrease if past memories are difficult to recall [or are non-existent] (Schwarz, 2004). Thus, ideas that do not fall within the scope and knowledge of the individual could be more difficult to process, and as a result lead to a negative perception (Schwarz, 2004). Linked together with the criteria mentioned above, these dimensions are essential during early idea screening (Besemer and O'Quin, 1986; Dean *et al.*, 2006; Durand and Vanhuss, 1992).

Sensemaking, identity, and idea screening

Sensemaking can be broadly understood as a the “ongoing retrospective development of plausible images that rationalise what people are doing” (Weick *et al.*, 2005, p. 409). It enables individuals to comprehend what is happening around them and it acts as a precondition for actions, since the failure to make sense can incapacitate an individual (Weick, 1993). What makes sensemaking crucial for idea screening is that ambiguity and discrepancy are key triggers for sensemaking

(Sandberg and Tsoukas, 2015), and that these are common characteristics of early ideas for innovation (Hatchuel and Weil, 2009). Thus, sensemaking is crucial in idea screening since one has to generate a plausible understanding of the idea before making decisions about it.

While sensemaking is a multifaceted process (e.g., Thomas *et al.*, 1993; Weick, 1995; Weick *et al.*, 2005), our study focuses on three central interrelated dimensions of sensemaking that are pertinent to the idea screening situation. These are: (1) who evaluates the idea, (2) what cues that person extracts from the idea, and (3) what kind of an understanding the individual generates from these cues to make a decision on the idea. To put this process in plain terms: whom the idea evaluator perceives herself to be influences what aspects of the idea she will be focusing on, which leads to a perception of the idea that results in a decision. Below we describe the essentials of the sensemaking process.

First, sensemaking is grounded in how people construct their identities (Weick, 1995). The way in which an individual perceives herself also affects how she makes sense of the world around her. For instance, open-mindedness has been shown to affect sensemaking on both organisational and team level as it directs people to be receptive to new and different ideas (Akgün *et al.*, 2012; Neill *et al.*, 2007). Thus, identity construction is an important precursor to the act of sensemaking.

Second, based on their identities people extract different cues to make sense of phenomena. In essence, these cues are simple and familiar features such as expectations or acceptable justifications that enable a person to make sense of a larger whole (Weick, 1995; Weick *et al.*, 2005). In doing so, the individual selectively pays attention to the information she perceives to be important (Thomas *et al.*, 1993). Sensemaking then occurs through combining different cues together where the cues make sense as part of a configuration of cues rather than as independent instances (Weick, 1995).

Third, sensemaking leads to a plausible interpretation of an instance or an event. This eschews the idea that there would be a single way to make sense of a thing but rather multiple paths that lead to a plausible understanding (Weick, 1995). These meanings then materialise into language, talk, text, and communication that enable labelling an instance or an event (Thomas *et al.*, 1993; Weick *et al.*, 2005).

Finally, the creation of plausible understanding leads to actions, since actions are dependent on what is understood and how (Ocasio, 1997; Weick *et al.*, 2005). Thus, sensemaking is an important precondition for action (Ring and Rands, 1989). However, this should not be seen as a linear process since actions and interpretations intertwine with each other (Weick *et al.*, 2005).

Sensemaking theory foregrounds that when facing a complex situation individuals try to make sense of the situation and reflect upon themselves before making a decision. We next turn to the theory of human values as a way to understand identity by characterizing a person either as being open to change or conservative.

Openness to change and conservation

Shalom H. Schwartz (1992) has developed a theory of the content and structure of basic human values. It has been supported by studies across more than 80 countries with different cultures, geographical origins, languages, and occupations (Schwartz, 2003). Because human values are defined as desirable goals that vary in importance and serve as guiding principles in people's lives, they reflect a dimension of a person's identity outlined by Weick (1995). Each of us holds numerous values (e.g., stimulation, self-direction, tradition, security, conformity) that may vary in terms of importance. One value may be important to one person but unimportant to another. Schwartz (2012) argues that values serve as standards or criteria that guide the selection or evaluation of actions, policies, people, and events.

In the theory of basic human values, ten universal values build up four overarching categories and they are structured in a model of a circumplex, which is similar to a pie-chart (Schwartz, 2003). Some values partly overlap, and some are contrasting values that are placed on the opposite sides of the circumplex. The four overarching categories of basic human values are: openness to change, conservation, self-enhancement, and self-transcendence.

Schwartz (2012) argues that values influence action (i.e., they are likely to be activated) when they are relevant in the context and important to the actor. Therefore, it is likely that the values of openness to change and conservation are relevant in relation to idea management and innovation, where change to something new is at the core of the context. It can be argued that values related to openness to change foster creativity, independence of thought, and promote coping with challenges (i.e., seek stimulation and self-direction). On the contrary, conservation acts to maintain status quo (i.e., preserve tradition, resist change, and maintain order) and thus conflicts with innovation and acceptance of new solutions. Although important for the individuals' life in general, the values related to self-enhancement and self-transcendence do not include any associations related to idea evaluation, but rather focus more on the individual and her social relations.

Linking this categorisation to idea screening would suggest that an open to change person is more inclined to favour novel or radical ideas, whereas a conservative person would be more sceptical of the very same ideas. In order to see

whether these beliefs are reflected in real life situations during idea screening we present the following research question to guide our empirical study:

What are the differences between people who are open to change compared to conservative people in regards to their perception of a good idea?

Method

Data and sampling

A field study was conducted at a Swedish IT-consultancy company. Therein we contracted 20 expert employees (Mean age = 40.5 yrs, Mean experience = 14.8 yrs) to screen and comment on 12 R&D project ideas using an online survey. The initial R&D project ideas were generated from within the company and focused on augmented reality, applications for machine learning, big data analysis, and Internet-of-Things. Given that some instances of data were missing from the survey, we were left with 180 unique evaluations as a sample of cases suitable for analysis.

Measures

The respondents' personal values, measured by the level of *openness to change* vs. *conservation*, were operationalised based on Schwartz (2003). Four questions (items) related to openness to change and six related to conservation were answered on Likert scales ranging from 1 to 6. The openness to change and conservation items were then averaged separately, and thereafter combined into an openness to change index by subtracting the average score of conservation from the score of openness. The composite reliability of the multi-item construct of openness ($\chi^2 = 10.27$ (4), $p < 0.001$) and conservation ($\chi^2 = 30.93$ (6), $p < 0.001$), was above 0.78, which indicated a reasonably good representation of the constructs. This new index indicated the extent to which an individual is more open to change than conservative.

Idea characteristics included the objective information provided in the idea description with respect to completeness, that was determined by a qualitative analysis of the information content regarding what, who, when, where, why and how aspects of the idea (Dean et al., 2006; Sukhov, 2018), and assigning a score between 1 and 6 (containing one element e.g., 'what' gave a score of 1) that was performed by the authors. The subjective perception of the idea with respect to clarity was rated by the evaluators during the survey on a scale 1 to 7 (Besemer and O'Quin, 1986; Sukhov, 2018).

To capture the perceived quality of an idea, we used originality, use value and feasibility as criteria that was rated by the evaluators on a 7-point scale (Kudrowitz and Wallace, 2013; Magnusson, 2009).

The outcome variable that these causal factors were linked to was a measure of the holistic impression of the idea (on a scale from 1 to 7), which is often used during idea screening in stage-gates (Eling *et al.*, 2015; Magnusson *et al.*, 2016; Onarheim and Christensen, 2012). All scores were transformed into fuzzy set of membership scores (0.00–1.00) to enable comparison during the analysis (Ragin, 2008). The conditions used for analysis and their definitions are provided in Table 1.

To complement the quantitative data, we also collected open comments on each of the ideas. The purpose of this was to see whether certain individuals would be more or less triggered to generate new ideas or provide additional feedback.

Methods of analysis

We followed a configurational approach (Fiss, 2011) to understand how open to change and conservative experts combine together different cues (conditions) and decide on the holistic quality of an idea. Specifically, we used fuzzy set Qualitative Comparative Analysis (fsQCA), and the fsQCA 3.0 software for the data analysis. This method is grounded on Boolean algebra and enables identifying how different configurations of conditions lead to outcomes (Ragin, 2000). What makes fsQCA especially suitable for understanding sensemaking is that it accounts for: (1) conjunctural causation, which means that outcomes are caused by multiple interdependent conditions, (2) causal asymmetry, which means that the effect of a single condition is determined by the configurations it is part of, and (3) equifinality, which means that an outcome can be generated by multiple different configurations (Misangyi *et al.*, 2017; Sihvonon and Pajunen, 2018). This captures how individuals combine together different cues when making sense, that these configurations of cues should be understood as wholes, and that there are multiple simultaneous ways to make sense of a single idea.

Our analysis proceeded in the following manner. We first used the direct method (Ragin, 2008) to calibrate our fuzzy-set membership scores since our measures come from existing scales. This meant that the outcome (holistic idea quality) and each of the variables was assigned a fuzzy membership score that varied between full membership (1.00) and zero membership (0.00). The crossover point (0.50), indicating the maximum ambiguity of the scores regarding whether a case is more “in” than “out”, was set at the midpoint of each condition in relation to the respective scale. These membership scores were then assembled into a data matrix called a “truth table” (Ragin, 2008). These configurations were then

Table 1. Conditions and their definitions.

Dimensions	Conditions	Sub-categories	Definitions	References
Evaluator characteristics	Openness to change	Stimulation	Sense of excitement, novelty, and challenge in life	Schwartz (2003)
		Self-direction	Independent thought and action-choosing, creating, exploring	
	Conservation	Conformity	Restraint of actions, inclinations, and impulses to upset or harm others and violate social expectations or norms	
		Tradition	Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self	
Idea characteristics		Security	Safety, harmony and stability of society, of relationships, and of self	
	Idea clarity		The clarity and unambiguity of the idea description, meaning that the idea is well communicated	Besemer and O'Quin (1986); Kudrowitz and Wallace (2013); Sukhov (2018)
	Idea completeness		The extent to which the idea explains the aspects of who, what, where, when, why, and how	Dean <i>et al.</i> (2006); Sukhov (2018)
Idea evaluation criteria	Originality		Represents the originality of an idea by accounting for its novelty and uniqueness	Dean <i>et al.</i> (2006); Magnusson (2009)
	Use value		Represents the users' perspective on whether the idea will create value for its users	Magnusson (2009)
	Feasibility		Represents the producer's perspective on whether the firm is willing and capable to implement the idea	Kudrowitz and Wallace (2013); Magnusson (2009)
	Holistic idea quality		The holistic evaluation of idea quality (good/bad)	Magnusson <i>et al.</i> (2016); Onarheim and Christensen (2012)
Evaluation characteristics	Confidence		The confidence in the evaluation of the idea	Gregan-Paxton and Moreau (2003); Licuanan <i>et al.</i> (2007)

reduced by using the truth table algorithm of the fsQCA program to generate logically minimised configurations of conditions that lead to the outcome (high holistic idea quality). In order to determine whether a configuration uniformly leads to the outcome of interest we used 0.80 as a cut-off value for configuration consistency (Fiss, 2011). A frequency cut-off point is set to ensure that a minimum number of empirical observations is achieved for the assessment of subset relationships; we used the cut-off point of one to see what configurations were possible (Ragin, 2008).

The fsQCA analysis offers two types of configurations that include necessary and sufficient conditions. These configurations contain present, absent, or “do not care” conditions. Further, the necessary and sufficient conditions lead to distinctions between core and peripheral elements. Core elements are the ones with a strong causal link with the outcome, whereas peripheral elements are those with a weaker one (Fiss, 2011).

Analysis

The analysis revealed six different configurations leading to high holistic idea quality (see Table 2): one general configuration (1), two configurations for people who are open to change (2a, 2b), and three for conservative people (3a, 3b, 3c).

General configuration

Configuration 1 depicts an idea which is perceived to be clear, original, useful, feasible, and the person is confident in the evaluation. Use value is the only central condition, which means that it has the strongest impact on the holistic perception. Here, the overall positive scores lead to an impression that the idea is good independent of openness to change or conservation. Idea completeness did not matter in this configuration, which indicates that as long as the evaluator perceives the idea to be clear and rates it high on all criteria, he/she is confident that the idea is good.

Open to change

When the experts are open to change (configurations 2a and 2b), the configurations indicate that idea completeness, originality, and use value (core condition) are necessary for a high holistic score. Thus, experts who are open to change appreciate novelty that is grounded with use value. When comparing the two configurations, we can further note that most cases are explained by configuration 2a,

Table 2. Configurations leading to a perception of high holistic idea quality.

	Configuration					
	General	Open to change		Conservative		
	1	2a	2b	3a	3b	3c
Evaluator characteristics						
Openness index		●	●	⊗	⊗	⊗
Idea characteristics						
Idea clarity	●	●	⊗	●	⊗	●
Idea completeness		●	●	●	●	●
Idea evaluation criteria						
Originality	●	●	●	●	⊗	●
Use value	●	●	●	●	●	⊗
Feasibility	●		●	●	●	⊗
Evaluation characteristics						
Confidence in the evaluation	●	●	⊗		●	●
Consistency	0.98	0.96	0.97	0.97	0.98	0.98
Raw Coverage	0.66	0.41	0.30	0.45	0.27	0.23
Unique Coverage	0.11	0.01	0.02	0.03	0.01	0.01
Frequency	20	10	1	14	1	1
Overall Solution Consistency			0.97			
Overall Solution Coverage			0.76			

Note: Black circles indicate the presence of a condition, and circles with “X” indicate its absence. Large circles indicate core conditions; small one’s peripheral conditions. Blank spaces indicate: “don’t care”.

although in one occurrence (configuration 2b) an idea is perceived to be good even when it is not clear, and the expert is not confident in his/her evaluation.

The tendency of seeing potential in the ideas was also visible in the open comments that we collected, since people that were open to change provided positive and constructive feedback (26 comments), acknowledging that the idea is good and suggesting how it could be improved further. As an illustrative example, one of the participants commented the following on an idea related to augmented reality application:

“The use value of this idea could be high, but it does not sound very feasible since it would have many different areas of implementation with only ‘simple glasses’ as the tool. According to this idea, these glasses are made only for this specific purpose and that one does not use some sort of readymade augmented reality

glasses, for example, HoloLens. If one would create new 'simpler glasses', which would decipher texts in more intelligent manner, this idea would require a very large investment and a long development time. . ." (participant No. 12)

Overall, these findings are in line with the idea that people who are open to change appreciate novelty and are willing to take risks (Schwartz, 2003), and that openness results in receptiveness of new ideas (Akgün *et al.*, 2012; Neill *et al.*, 2007).

Conservation

For conservative experts (configurations 3a, 3b, and 3c), idea completeness was the only condition present in all configurations. When we examine the different configurations more closely, configuration 3a follows the generic configuration, but additionally includes completeness, and the evaluators' confidence does not matter. In configuration 3b (single occurrence), the expert distinguished the idea as incremental due to its high use value and feasibility, and the lack of originality (see Magnusson, 2009). In configuration 3c (single occurrence), the idea was distinguished as being radical because it was original, but not useful or feasible (see Magnusson, 2009). This indicates that it is possible for conservative experts to appreciate both radical and incremental ideas.

The analysis of open comments revealed that conservative experts provided less feedback and the feedback was also critical in nature (3 comments), which suggests that they were not triggered to further improve the ideas. For instance, one of the more conservative participants simply commented that it would be "*Better to skip the monitor.*" (participant No. 15) when commenting on an idea related to augmented reality.

Overall trends

We also find that use value and completeness are generally present in all configuration when an idea is considered to be good. This means that use value is central for the way in which experts make sense of ideas for innovation. It appears that use value can help in translating an abstract idea into concrete practice by representing the user perspective and guiding the evaluator to think in terms of a relevant need that can be resolved. This is also in line what Sukhov (2018) has suggested. As for completeness, its presence indicated that high degree of information can help make sense and leads to a more positive evaluation (Sukhov, 2018; Thomas *et al.*, 1993).

To further account for causal asymmetry (Misangyi *et al.*, 2017; Sihvonon and Pajunen, 2018) we searched for configurations that led to low holistic idea quality. The results showed three configurations with a distinction between open to change versus conservative experts.

Open to change experts disliked ideas when the ideas lacked clarity, originality, feasibility, use value, and they were not confident in their evaluation. They also disliked the ideas when the idea simply lacked use value, despite being perceived positively with regards to all of the other conditions.

For conservative experts, we found that when there was presence of originality but complete absence of feasibility and use value the idea was perceived as bad. This was otherwise similar to configuration 3c (which led to a positive evaluation) but the only difference was that during perception of a bad idea, absence of use value and feasibility were the central as opposed to peripheral conditions. This shows that conservative experts can appreciate radical ideas, but dislike ideas that are too radical. These findings also foreground the importance of use value during idea screening since its absence leads to the perception that the idea is bad.

Conclusion

Our findings show that people who are open to change or conservative make sense of the same ideas in different ways. Experts that are open to change appreciate ideas that are oriented towards novelty together with use value and dislike ideas when use value is absent. It is also evident that they approach idea screening as a generative process, since they are keen to comment and suggest improvements to ideas. Conservative experts, on the other hand, require the idea to be original, have use value and be feasible, and they are not triggered to comment and improve the ideas during screening. Thus, we observe differences in how experts make sense of the ideas and the idea screening activity, which affects their impression of a good idea.

Across different configurations the presence of completeness and clarity (idea characteristics), along with originality and use value (evaluation criteria) are the most frequent conditions for a good holistic perception of an idea. With regards to completeness and clarity, adding more information to the idea description helps in making sense through providing a clearer perception of the narrative which leads to more positive evaluations (Sukhov, 2018; Thomas *et al.*, 1993). With regards to evaluation criteria, use value (central condition in most cases) helps in translating abstract ideas into concrete practice (Weick, 1995), since by employing the user perspective the evaluators can contextualise and see the potential benefits of the idea.

Research implications

Our findings provide some answers to the challenges related to consensual panel evaluations. Specifically, we show how the potential differences among experts can be attributed to individual human values and the way in which experts make sense of ideas, and how they view the idea screening process. This allows us to extend our theoretical framework beyond the commonly used dominant knowledge theory (Luo and Toubia, 2015; Luthje and Herstatt, 2004; von Hippel, 1994), and highlight the significance of identity and sensemaking to decision-making.

Limitations and further research

The present study was conducted at a single company and with a limited number of experts, which is a limitation. That being said, fsQCA is a suitable method for such analyses, and the study was performed on actual experts that evaluated real R&D project ideas, giving the study high ecological validity. However, this leaves room for further studies. Specifically, we call for further research to examine how different dimensions of identity affect idea screening, and how identity plays a role in different types of strategic decision-making situations.

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