Heuristics for Gaining Project Insights

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Abstract

This paper presents a collection of behaviours for gaining insights in projects of small, innovating organisations. An explorative study of 12 informants and their subject matter expertise are used to inform this work. The paper draws on three bodies of literature – Innovation Management, Knowledge Management and Project Management to inform the theoretical background. So far no framework has been developed that is tailored to the unique situation of Small Innovators as they aim to foster innovation within the organisation. A number of propositions are offered based on the qualitative data analysis and hermeneutic literature appraisal that address potential heuristics processes that could enhance a Small Innovator's ability to gain better insights while pursuing innovative project outcomes.

Keywords Heuristics, Project, Insights, Small Innovators, Innovation, Australia

1   Introduction

Fostering innovation within and beyond a particular project helps organisations ensure success for future endeavours as well as obtain long-term organizational success. Thus, attention is increasingly drawn to a better understanding of the ideation-process, the identification of innovation potentials and the capture of new but discarded ideas. As companies ideate, opportunities may be abandoned or ignored as a single trajectory is pursued. Heuristics which increase awareness of innovative ideas that are not pursued are an important aspect of the project lifecycle as they maintain potentials for future opportunities.

This can be especially important for Small Innovators (SIs), which very often do not have a broad product portfolio but rely on just a few products or ideas. Losing the innovation edge in their area of competence can often be disastrous for them. Small Innovators play an important role for innovation in both research and market-focused environments, and so they are of high interest when developing new approaches to effective innovation management. SIs are specifically looking to create new products or optimise technology and strive to be important principal innovators in their field. Understanding how these organisations respond to the challenge of recognising and capturing important new insights that could drive their, often project-based, innovation development becomes more important. Yet, SIs differ from traditional Small and Medium Enterprises (SMEs) and Start-Ups. SMEs are a very broad category of companies, as they also comprise small organisations operating in their respective sphere with an interest in the use and provision of goods and services without a strong focus on innovation activities. In contrast to Start-Ups, SIs have successfully been operating for a number of years in their respective industry focussing on their innovative products or ideas with a small number of long-term staff without seeking large capital funding as Start-Ups often aim to.

Yet, little is known about how project professionals in SI organisations identify innovation ideas that emerge during a project (Godin 2008). Existing literature looking at innovation management often looks to Research Departments in larger organisation. SIs though can usually not refer an idea to dedicated internal resources for further investigation. Knowledge management frameworks (Arkell 2007) address the issues of firstly capturing ideas that originate during ongoing project work, helping SIs to develop strategies how to pick up on those ideas later, in order to secure the future of their small organisations. Yet when designing a future that is still unknown, it is important to go beyond the point of just managing knowledge, it is important that project managers be prepared to recognise *insights*.

In this research insight is not equivalent to "an idea" or "a discovery". Rather insight refers to an understanding of the relevance of a piece of knowledge, an idea or an object, such that other disparate ideas may be connected.

As a project professional, the lead researcher frequently observed SI organizations investing time and effort into new ventures. While many of the projects were successful, in some cases innovative ideas were not recognised, were ignored or were discarded. Thus the questions which orient this research become:

- How can practitioners be more sensitized for recognising insight for what they are?

- What can be done to ensure these insights are captured as part of the project-related knowledge management process?

To offer a new perspective on insights to the academic and professional discussion the paper proceeds as follows: First an understanding of insight is synthesized from three bodies of literature from knowledge management, innovation management and project management. Second, interviews illustrate how SI professionals have prepared for gaining insights in real world projects. Next, innovation, knowledge and project management frameworks are critically examined in the unique organizational environment of Small Innovators. Finally, four heuristics identified through the research in this paper are discussed.

2   Methodology

The purpose of this research is to synthesise and extend existing knowledge into this area through an inductive approach and to develop new heuristics in this process. A qualitative case-study methodology was followed in this research project drawing on a collection of resources. A selective literature review was conducted to understand how research in the fields of knowledge, innovation and project management relates to the recognition of insights in SIs. This background was then used to

develop and interview protocol to take to the field to observe and investigate insight identification in practicing project managers.

2.1 Interviews

Using multiple interviews in a comparative design enabled the author to compare results across cases and identify common approaches and themes. Cross validation of results makes the derived results more robust and supports the explanation building process found at the end of this research project (Yin 2009). The research scope determines the object of analysis and therefore the level of assessment: The objective of this research is to broadly explore and compare experiences and practices of SI practitioners across industries designed to make the recognition of important project insights more achievable.

Twelve interviews with experienced SI practitioners were conducted to develop exemplary interviews for good innovation project practice. These informants were selected based on a number of factors in their individual profiles. Informants from SIs in industries with a specific involvement in technology development were recruited. To be able to make interview results more comparable across groups and less-industry specific, at least two interviewees per sector were chosen. The interviews were semi-structured and guided by the author, allowing the informants to surface aspects for consideration and to share their experience in a less formalized way. Following a collaborative approach drawing on existing practices and knowledge was deemed essential to ensure the research project outcome can be applied by practitioners in various industry settings. Education was not a selection criterion, but it was noted that all participants held at least an undergraduate degree. Every participant had at least 15 years' work experience in their industry to ensure a certain level of specialist knowledge, significant project experience and the ability to reflect on past and current behaviours. The informants also stood out for reasons such as specialist knowledge, qualitative R&D output and project track records and were often commended by peers as 'leading' in their field.

Participant	Current Role	Yrs./Exp.	Education	Industry
A	Senior Development Lead	15	Undergrad.	Software
B	Exec. Director	45	Undergrad./Hons.	Defence
C	Senior Project Development	37	Postgraduate	Energy
D	Project Manager	22	Undergraduate	Consumer Electronics
E	Business Analyst Lead	25	Postgraduate	Telecommunications
F	Senior Project Manager	18	Undergrad./Hons.	Software
G	Project Lead	30	Undergrad./Hons.	Consumer Electronics
H	Senior Development Officer	27	Phd.	Software
I	Managing Director	31	Undergraduate	Digital Media
J	Project Manager	20	Postgraduate	Software
K	Senior Project Manager	33	Postgraduate	Digital Media
L	Lead Project Engineer	35	Phd.	Defence

Table 1. Interview Participants

2.2 Theoretical considerations

Nicolini's (2014) research on practice theory helped to develop an suitable and open approach to reflecting on work practices in SI organisations, based on the understanding that a 'practice theory-method (can be seen as) a dispositive to be used to investigate the world, not as a fully-informed theory of how the world is'. His idea of two basic movements in the understanding of existing practices – zooming in on the actual details of a practice and zooming out to contextualise these practices within their broader organisational frame – was used to identify combined practices that could be made available to the practitioners for a more interconnected understanding and assessment of insights. This two-part process was used as a basis to investigate and assess practices 'in action' and to trail and connect the collected interview data across the different cases and organisational environments.

Miles and Huberman's (1994) extensive work on qualitative data analysis was used for exploring the interconnections between theoretical frameworks and actual practices and displaying emerging patterns and themes in the case studies. The focus was on bringing theoretical resources and the practitioners' information together and understanding how these could inform a collection of heuristics.

As with all research projects, there are certain limitations applying to the practices identified and developed in this work. This work and its findings should be understood as an explorative project, as full empirical evidence for gaining and recognising insights is still limited. This also offers room for further research in the future, especially considering future in-depth analysis of the interviews.

3   Theoretical Foundations

Different bodies of literature were used as a starting point for evaluating existing views on why insights in project settings are relevant for successful innovation management and how these insights can be recognised in organisational project setting. Most references are drawn from the fields of innovation management, knowledge management and project management and the aim was to understand individual aspects of and links between these and their relationship to understanding insights.

The first objective of this chapter is to develop an understanding of what innovation is and where its importance lies in the organisational context, especially for Small Innovators. In a next step, the aim is to describe what type of role "insights" play in the innovation management process.

3.1   Approaches to Defining Innovation

Over the last few years, the term innovation has been used widely and has now a quite varied meaning, often depending on the different disciplines and contexts it draws upon (Crossan and Apaydin, 2010). This should be kept in mind when developing a definition of innovation, as the term described and used in this research project might not necessarily be the same elsewhere. Considering this work focusses on a practical-oriented research question with the aim to develop heuristics for future application in a business context, the following definition provided by Kock (2010) seems appropriate:

> Innovation is the result of a creative process involving different actors from one or more organizations, which lead to a qualitatively different means-end-combination that is perceived as new and that is introduced to the market or the operations of a firm for the first time.

It is also important to point out the difference between an invention and innovation (Garcia, 2010). The first meaning more the conceptual realisation of future innovation without incurring an immediate financial benefit and the latter referring to this concept developing from the research phase through a development stage towards a market-oriented phase, in which not just the initial inventor but also other parties of any form become actively involved and market diffusion takes place (Hansen and Birkinshaw 2007).

More company-specific, variety to this definition and details of the term might occur and be observed. The business-focussed innovation process in particular might involve more overlapping activities and stages compared to a strictly sequential model sometimes envisioned in theory (Garvin 2004). To complicate matters further, innovation does not necessarily only refer to innovation as a process, but in some instances also to an object such as a tangible product (Garcia and R. Calantone 2002). In this paper, the focus is more on the creative production process and how significant insights might be influencing the final innovation outcome and recognised by the practitioners involved.

Numerous models aiming to break down and display the overall innovation process have been developed; giving a full report is beyond the scope of this work, but, for example, Billing (2003) aims to provide a comprehensive overview on existing literature on this topic. For this work, a simplified process model described by Limberg (2008) is used. It distinguishes between three different stages: A discovery phase, an incubation phase and an acceleration phase, beginning with idea creation and generation and ending with an innovation-to-market stage.

3.2   Small Innovators and the Innovation Process

Despite the general agreement on the importance of fostering the innovation as a whole, the successful 'how to' is not quite as easy to. The management of innovation and technological development in modern organisations within the outlined cannot be credited to one singular element; there is no one-size-fits-all strategy with a clear roadmap to success, instead requiring 'a management system whose

elements combine to encourage learning, experimentation, and multiple paths to the market […]' (Robeson and O'Connor 2008).

Making the question of managing and encouraging innovation even more difficult on a global scale, internal capabilities are not the only relevant element in the innovation process: Factors in a company's business environment on a local and national level such as location, the establishment of industry clusters and others also influence the innovative output (Porter and Stern, 2001).

In this scenario, SIs have an important place in driving innovation forward through their product-related research and development activities, in that 'there has to be use of the invention […] in order for benefits to accrue' (Godin 2008, p. 9); this process, nowadays, focusses on both small and large firms as a hub for innovation to take place.

And so, when considering the impact of SI organisations, the notion of large product-focused corporations as the main source of innovation has to be challenged. Instead, attention should be drawn to the innovation created by users of technology (including open innovation), small suppliers, manufacturers and developers and information management teams (von Hippel 2003). Putting this information in the context of the bigger picture emphasizes the role of Small Innovators and the need for a discussion on how their role in the innovation process can be supported and managed. Despite the increasing awareness for understanding the innovation management process as a whole and the importance of Small Innovators, many systematic studies and frameworks for fostering and managing innovation remain broad and focussed – if at all – mostly on relatively large organizations.

3.3   The Role of Insights in the Innovation Management Process

Referring to the innovation process model described previously, there is often a clearly dedicated discovery phase comprising the active idea identification, creation and evaluation. Numerous (practical) activities and experts seem to be informing and shaping this creative stage of the innovation management process (Limberg 2008). Design thinking methods aim to facilitate idea-creating, innovation-focused processes reflecting on perspectives from human psychology and technology development (Chasanidou et. al. 2014).

Drawing on the concept of positive psychology, Klein (2013) explains that it is important to be able to identify insights and make insightful decisions. In many cases, there is a certain aha-moment, the recognition and discovery of a particular insight that could lead to positive changes and improvements in future-oriented undertakings. And while the various propositions help generate and manage innovation, neither of these models actually addresses how practitioners are being enabled to actually recognise the insights both within and outside the discovery and creation stage.

Fayard et. al. (2016) highlight that the idea evaluation in or related to a project might benefit from a more insight-driven approach when organisations and practitioners try to make an informed judgement. Writings in the field have focussed on elements that might influence a decision-making process, with detailed studies helping practitioners challenge the hidden boundaries of their own mind when making rational decisions (Shah and Oppenheimer 2008). While applicable to the innovation management process, these concepts still differ from the preparation of one's mind that is required when recognising insights.

In light of global and local economic challenges as well as emerging technologies, it appears that businesses are in need of developing practices that enable navigation the challenges of experimental innovation. This includes ensuring that insights are recognised during a project and not in hindsight as part of a lessons learnt process – if at all (Shiels et. al. 2016). More literature describes this as an important part of assessing potential opportunities and eventually driving innovation forward. But practices for understanding and increasing awareness for recognising these insights are not well-defined (Swanson and Ramiller 2004). It seems, despite the importance of gaining insights, there are different accounts of how these practices might be defined and how they can be made sense of to further the innovation process, especially since SIs are far from homogeneous.

3.4   Project Knowledge Management and Insights

The importance of project knowledge management in organisations has increased over the last decade (Arkell 2007). Project knowledge management has the potential to be a significant success factor in handling the iron triangle of project management, with a lacking strategy to project knowledge management being one major factor for project failure (Desouza and Evaristo 2004). Gasik (2011) lists a number of approaches to defining knowledge management, including:

- Knowledge management is a process of systematically and actively identifying, activating, replicating, storing, and transferring knowledge

- The processes of knowledge management include knowledge identification, creation, acquisition, transfer, sharing, and exploitation

A re-occurring aspect here is the knowledge identification within a project, in most cases referring to an entity being able to identify, for example, what knowledge is needed to solve a particular problem (Ward and Aurum 2004). This requires the awareness that a new piece of knowledge has been developed, or that existing knowledge has been changed and modified in a significant way. It amplifies that practitioners should be enabled to develop practices for understanding insights. For this reason, Lampel et al. (2008) suggest a process of knowledge summarization, aiming to build a collection of new and modified knowledge developed during every stage of a project and recommend frequent project review and documentation sessions.

When assessing how practitioners perceive new knowledge and build connections between seemingly unrelated information – gaining and recognising insights – Baron (2006) explains that three factors play an important role: Actively looking for patterns, proactive alertness to the occurrence of insights and prior experience. In his opinion, being exposed to a variety of different projects and opportunities helps a practitioner to enhance his abilities in these fields.

3.5 Small Innovator Challenges in Innovation Management

At the same time, taking potential risks to the organisation's continuity into consideration in the innovation process, as a revenue perspective cannot be ignored. And so, while innovation is the key-driver for project and organisational success in SIs and insights are arguably important for innovation, it has to be taken into account that effective risk management is also relevant for businesses to survive (Seidel and Fixson, 2013). It should be noted, that having to innovate under the pressure of delivering high quality products within a tight timeframe, limited financial means and information capital as well as with limited team resources creates a tension between the risks and benefits if pursuing innovation. As a result, reducing errors and the risk of getting things wrong in a project are more crucial for Small Innovators (SI), where a misguided project could affect the organisation as a whole on a larger scale. This makes it slightly more difficult to develop a coherent collection of specific practices reflecting an insight-driven innovation management approach that takes these factors into account.

3.6 Literature Synthesis

The literature appraisal focussing on innovation, knowledge and project management illustrates the perceived opportunities for further research:

Research in the field of innovation process management in Small Innovators is still somewhat limited. This is in part because product-driven larger firms and designated innovation hubs are often perceived to be some of the major sources of innovation., SIs are not a homogenous group of organisations, making the data collection and comparison difficult. An understanding of how insights are recognised throughout the innovation process in SIs has therefore not been developed.

Knowledge management is a well-studied field and its importance for organisations is not debuted. Here, a focus has been on the transfer of information across organisations, mostly to avoid past project-mistakes. This highlights the importance of effective strategies for identifying insights during a project, especially in SIs that face different challenges compared to bigger organisations with more resources and formalised Research & Development (R&D) structures.

While there are recommended behaviours for proactively seeking opportunities as well as avoiding framed judgements in decision-making situation, there is still room for exploring detailed heuristics that support a 'prepared mind' concept. This can help sensitize practitioners for potential insights related to the innovation process.

4 Insights in Practice

The following presents an overview of the individual interview insights and their common findings. Descriptions of the individual informants and excerpts of the interviews are brought together to identify shared themes. All twelve identities have been concealed using labels in line with the non-disclosure agreements. It should be noted that the main challenge in this form of research is to find an appropriate level of balance between detailed descriptions and enough abstraction to compare the recorded results.

4.1 Data Collection and Case Analysis

The interviews were conducted using a semi-structured guideline of open questions. All interviews were recorded and later transcribed, supported by notes taken during the interviews. A direct content analysis approach was used to get in-depth impressions of the obtained data by reading through the documentation for each interview. Statements describing patterns, reflections on behaviours and individual comments on what the informants judged as 'had worked well' were highlighted and collected in a separate table. In the next step, codes were being developed by broadly translating the statements – at least one of each industry category – into maximum three preliminary descriptive code words paraphrasing the content. An important part of this step was to firstly compare coding themes among two participants from the same or at least very similar industry sector.

In a second round of shorter interviews with the same participants, the developed scheme of codes was used as prompts in direct questions to assess if the informants could identify their experience and behaviours with the coding themes. As part of this, coding schemes were compared across industry groups, e.g. codes derived from interviews of software-based informants were discussed with informants from the defence industry to ensure validation across industries.

The codes were revised based on the informants' feedback and opinions on key words. All transcripts including parts of the second interview rounds were then coded with most codes then combined in meaningful clusters to capture

Common themes ordered in clusters becoming apparent through this cross-case analysis of the interviews, included:

Cluster	Codes
Connection	Comparisons, Connections, Links, Experience, Preparation
Curiosity	Passion, Learning, Curiosity, Playfulness, Engagement
Contradiction	Challenges, Contradiction, Differences, Problematisation, Question
Context Change	Movement, Context Change, Perspective, Scaling, Sequence Change
Pattern	Repetitions, Context, Pattern, Sequences, Similarities

Table 2. Clusters and codes used in the analysis

Following the practitioners' experiences and practices and in line with the previous hermeneutic literature appraisal, a collection of four heuristics and practices that could be recommended for teams and individuals as part of the SIs 'regular' project management process and approach to driving innovation is suggested in the next chapter.

4.2 Interview Insights

In response to the 'how' when assessing and evaluating ideas for his innovation-related projects, Participant A stated that he always opted to ask himself if 'this makes a difference to both my own actions here and the long-term vision we have in the company, taking different angles and perspectives where time allows to really reflect on what this could potentially mean in the bigger picture.' It was the participant's opinion that in what was described as the innovation-equation, 'I am the moveable object, so can I position myself differently when I look at a project and think about an idea and actively doing this has helped me to pick up on things that others have not maybe.'

This aspect was described in a slightly different context by Participant H as to 'identify the bigger picture and break it into small chunks' had been sparked. Taking 'these smaller chunks of information makes it easier to ask yourself why you do this in that way and is there a different way of looking at it' so that to 'grasp insights is a bit easier because you look at the situation as a whole, then focus on smaller pieces, then return to the big picture' and this zooming activity helps taking new perspectives. Participant I described a similar, yet reversed approach, by 'developing your specific project knowledge first, then broaden horizon to be able to understand the broader setting of a project and usually then your awareness for new insights is heightened.'

Participant F also emphasized how important it was to him to 'not just engage in projects because I have to, but where my position allows this in things that are really passion projects to me – and this can be at work or in my spare time. People often distinguish between being at work and then, for example being at home, but I see this as a chance to develop some skills and gain some knowledge really in something a little bit or sometimes entirely different. And when I do that, I am sometimes in a

position where I can transfer something from one to the other. It also has made me more aware for the potential of opportunities, because I keep thinking outside the box and if my previous approach didn't quite get me there, maybe I try something I know from a different field of expertise or interest of mine. And looking back, the project where I did that, well, the outcomes were just so much better and I am so much more satisfied with it.' While a common theme amongst participants is the activity and participation in fields outside a project, it was added that 'breathing space' and 'complete distance from your work, to avoid cluttering your senses of perception' is also important.

Participant B offered an opinion on insight recognition and described it as a removing oneself from a particular context, expressing that 'I know something is there, but I can't pinpoint it because I am so involved, I can't quite describe what it is. Sometimes it is something that gets me really excited and sometimes it rings alarm bells because things are just …odd, so it isn't always a positive feeling that triggers it'. Participants D and K both drew attention to another aspect here, stating 'the organisational culture should encourage people to see innovation as a gain' and 'it should be clear that innovation does not always have to be on a macro scale and that helps everyone to actively look for insights and new knowledge on the micro scale of their professional or project experience'.

Another aspect brought up by Participants K and L in this context was taking a 'wide-angled view' and to be prepared to look for repetitions that occur, as sometimes 'a particular thing happens again and again. Sometimes the time in-between is so long and instances are so far removed from each other, but you need to keep a good memory so you are able to recognise this when it happens', because then 'that particular insight, that might help you tweak whatever you are developing in that moment and a really average process or product is transformed'. With regards to identification of patterns, Participant K explained that 'building my own patterns for approaching situations is really comparable to me playing music and being involved in writing music', as 'I look for playing or inserting the unexpected within a straightforward sequence and that really is like gaining insights that make a difference to a project'.

Reflecting on a similar type of approach, Participant C stated that an active problematisation is what 'help(s) sometimes to gain insights into what a future solution could be looking like because you play with the potential problem and that is really a bit different to what we do in our sessions for straight forward idea development'.

4.3 Summary

All professionals interviewed for this research project acknowledged in their statements the importance of recognizing and understanding insights when successfully driving innovation from an organisational perspective. All stated that retrospection or 'lessons learnt' does play an important role for informing future projects and ensuring success. Yet, an additional approach, a form of a prospective insight identification strategy to not risk the loss of ideas too early on in the progress, is also beneficial. In order pursue innovative development outcomes, the participants highlighted the importance of chasing contingency, of looking for the vague spark of insight and the design of an unknown future and unfixed outcomes.

It became evident that existing tools for idea creation in the innovation management process do not necessarily help professionals to also capture the potential of these insights. A reflection on the informants' professional knowledge and the history of innovation at large underlined that experience alone was also not the sole contributor for developing the 'prepared mind' required for recognizing insights. Instead, approaches used by the practitioners involved removing themselves from a project context, proactive problematizing and seeking out problems, transferring skills and knowledge from project-unrelated fields of expertise and cognitive pattern development.

5   Heuristics for Gaining Project Insights

The themes presented in the interview data reveal patterns of thought or "a mindset" which prepared these professionals to have insights in their practices. These themes can be articulated as heuristics or a mindful form of preparation strategy for practitioners to be able to recognise important insights occurring in organisational project activity. The described heuristics are not mutually exclusive and build an additional concept to existing knowledge management strategies.

5.1   Connecting the Dot and Changing Contexts

As part of this heuristic, it is important for the professional to build new connections between existing ideas, even though these might be seemingly unrelated information. The fixation on a particular project or work activity outcome can sometimes be a hindrance for innovative insights. Hence it is

recommended that professionals are being confronted with existing ideas, processes and procedures that might be slightly or completely unfamiliar to them, to allow them to combine knowledge from different fields in a new way. As part of the innovation management process, this could involve a 'change of context' in various ways. In the practical application could see individuals shadowing another employee in a different part of the organisation or other activities that require a move away from the current project situation. It was noted by the participants that this also includes actions considered to be more leisure or free-time activities. Another scenario is asking professionals to engage with problems and topics that are not closely related to their daily work or project task at hand. It was noted that this also involves elements of space and play, where individuals are allowed to toy with existing concepts, change interactional orders and reflect on their understanding of a product outcome without being challenged by rigid instructions or frameworks. Being confronted with (seemingly) ambiguous information is part of this process, as it sensitizes practitioners for recognising insights in a variety of settings.

5.2 Patterns as a Trigger of Insight

In order to gain insights, it was articulated both in the review literature and in the interviews that pattern-searching practices can act as a trigger for the momentum of insight recognition. This involves looking for identifiable patterns in both qualitative and quantitative data, as the human mind is generally sensitive to build and develop associations (Klein 2013). In practice, this can help professionals to gain insights into what influencing factors could be altered or removed from a project to achieve better outcomes or make an idea really worthwhile pursuing. It is important to let both teams and individuals participate in activities and learnings that aim at pattern identification for a better understanding of how to look for and identify them when required. Removed from the workspace, all participating professionals noted particular activities that support this pattern-seeking behaviour, e.g. listening to, analysing and producing music. In the organizational context this could also mean getting individuals involved in tasks that are not immediately project-related but more of a smaller, time-limited project or scenario where they have access to a larger quantitative or qualitative dataset or pool of information. There would be no fixed outcome, but the possibility for the professional to develop something unique and draw comparisons to the current or future projects.

5.3 The Impact of Curiosity

A common misconception in many organisations is the image of intrinsically set curiosity in their practitioners. In fact, when being challenged with something different or a (perceived) 'new situation', almost all professionals could be motivated to follow what has been described as a 'spark of interest'. It is not recommended to focus hereby on existing interviews or activities that follow a strategy of identifying 'hidden errors' or analysing others' decision-making situations in hindsight. Instead, it seems more beneficial to confront the professional with completely new information, in form of readings, data or processes. A useful technique was described as artificially creating a problem as the start of a professional discussion and then engage with the problem not based on what has happened in the past, but what could happen.

5.4 Contradiction

To achieve a paradigm shift towards recognizing the unknown, beliefs can be deconstructed and odd occurrences described instead of suppressing contradictions and observations that do not fit a framework or popular belief. It can be used as a new way to search for information and not discard ideas too quickly. Contrary to an overly positive championing of certain ideas, it was part of some of the practitioners' practice to be initially suspicious of, and strongly question ideas that have been developed in the ideation process. Before the idea evaluation process begins in the innovation process, it is important to break established routines on how to settle for one idea or another (Shah and Oppenheimer 2008). Being encouraged to do so, helps professionals to regularly question their own stand and to prepare for recognising insights that would normally only be seen as an anomaly. An argument-counter argument exchange exercise with changing roles for every individual can be a useful practical activity in this context.

6 Conclusion

An appraisal of existing research explored concepts in the field of innovation management with a focus on Small Innovator organisations and opportunities to develop a deeper understanding of practices for SI professionals when preparing to recognise insights. Analysing interview interviews identified

behaviours and best practices to be considered when attempting to increase the awareness for project insights.

It was indicated that the importance of innovation and knowledge management for organisations is widely established. Yet most of these concepts are focussed on larger organisations and not so much on the operating structure of Small Innovators. A lot of research on furthering innovation was discussing the importance of the ideation process, but did not focus on the ability to grasp new insights as part of this. Work in the field knowledge management for organisations has often been focused on creating an explorative environment for transferring and making knowledge available at a pre- and post-project stage. In most cases, however, this does not take into account how the importance and role of this knowledge is perceived by an individual. By synthesizing from these bodies of literature, sensitizing questions were taken to the field to better understand the activities of innovation project practitioners Based on this, the interview interviews highlighted a number of existing individual practices used by practitioners to prepare themselves for recognising future insights when they encounter them and putting them into an organisational and project context.

The data revealed patterns from which this research begins to develop a set of practical heuristics that fosters innovation and supports knowledge management through gaining and capturing insights. These heuristics aim at enabling SIs to

- be more receptive for innovation-relevant information, facts and events while managing projects

- understand what practices can be useful to increase awareness for potential innovation-related insights while managing projects

- manage knowledge available– both internally and externally – and turn seemingly unrelated information into insights that are crucial to decision making in projects

Connecting theoretical approaches and the practical experience of Small Innovators will allow for a more comprehensive understanding of what heuristics can help SIs to be more sensitized for innovation-related insights as part of their ongoing project work and beyond.

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