

NEW TOPICS IN ENTREPRENEURSHIP AND INNOVATIONS MANAGEMENT

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From the Editors

This issue of the Journal of Entrepreneurship, Management and Innovation contains six articles, which offer specialist contributions to the body of knowledge in the fields of entrepreneurship and innovation management. It offers theoretical propositions coupled with empirical studies in topics as diverse as: organizational commitment and citizenship behaviour, positive stress, spin-offs of corporations and universities, open innovations, female entrepreneurship, microcredit and start-ups collaboration with VC companies. This selection of articles paves new ways for global research on entrepreneurship and innovations, with papers written by authors from Belgium, Canada, Finland, Norway, Pakistan and Poland, based on diverse research methods and underlying theoretical frameworks.

Aleksandra Spik offers a discussion of the relations between organizational commitment, organizational citizenship behaviour, life satisfaction and organizational position, using a psychometric method with results interpreted by means of factor, cluster and variance analyses. The author identified distinctive groups of employees differentiated by the levels of commitment to their own organisations, a willingness to engage in activities that are not formally rewarded in organisations but are necessary for their effective functioning, and the employees' satisfaction with everyday life and personal achievements. The study casts new light on the hidden inhibitors of organisational innovativeness and helps understand the limited involvement of some corporate managers, which translates into low levels of corporate intrapreneurship.

In a thematically linked paper, Kati Tikkamäki, Päivi Heikkilä and Mari Ainasoja write about positive stress and reflective practice of entrepreneurs. They overview the role of stress in entrepreneurial activities, and outline the possible positive and holistic approaches to dealing with stressful events. Based on qualitative research techniques and open, in-depth interviews, the authors analyse how reflection helps entrepreneurs regain their psychological balance and propose specific "tools for reflection": techniques contributing to stress reduction and its translation into a positive factor in entrepreneurial endeavours.

Katja Maria Hydle, Kjersti Vikse Meland take a closer look at corporate spin-off development processes, using semi-structured interviews with 25 companies. The study outlines the importance of competencies, knowledge and skills of parent companies, from which the spin-offs are derived, and suggests that the parent should be engaged not only in the formation but also the initial growth of the spin-off.

Yuliya Shutyak studied spin-offs of higher education institutions, analysing their activities through the lenses of open innovations. The research indicated that, although managers of the innovative spin-offs were not thoroughly familiar with the (currently fashionable) open innovation terminology, their actual practices involved some elements of openness, albeit in a different manner to that in the largest corporations. The paper complements the existing literature on open innovations, which tended to focus on the experiences of the large technological enterprises and their partners, supplying specialist knowledge and ideas. It focuses on the practices of SMEs that do not deliberately implement open innovation strategies, but merely use some elements of this approach in their operations.

Muhammad Amman Khan, Nazish Kanwal, Peer Ghulam Nabi and Ashfaq Ahmad Shah discuss the role of microcredit in empowering female entrepreneurs, using the example of a public support programme in Pakistan. The article offers insights into women's entrepreneurship in the context of developing countries by evaluating the economic and social consequences of using microcredit in rural areas. This important contribution presents findings related to the use of microcredit by governments to address societal challenges and play a part in the promotion of entrepreneurial attitudes, including among disadvantaged groups.

The last paper in this issue is provided by Prescott C. Ensign and Anthony A. Woods, who offer an insightful case study of the interactions between an innovative start-up and the Venture Capital industry. The scientific merits of the paper include a detailed description of the company and the VC investment negotiations, highlighting the complex nature of entrepreneurial processes, the importance of timing in product development and start-up financing decisions, and the challenges related to financial and non-financial commitments, made by a newly established company. The material is also well-suited for use in a classroom setting, and the authors offered guiding questions for a discussion, as well as practical proposals on how to use the paper as a teaching case study.

The editors would like to thank the Authors for their insightful contributions and the distinguished Reviewers for their support in assessing the submitted papers, suggesting possible improvements and offering knowledgeable and friendly assistance. The present issue of JEMI has

emerged from these successful collaborative efforts, and will hopefully expand the accumulated knowledge in the fields of entrepreneurship and innovation management, offering our international readers interesting new insights into the researched phenomena.

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Enthusiasts or Trapped? Relations Between Organizational Commitment Profiles, Organizational Citizenship Behavior and Life Satisfaction

Aleksandra Spik¹

Abstract

The aim of this article is to investigate the relationship between organizational commitment profiles and organizational citizenship behavior (OCB) and life satisfaction. To complete these goals three studies were conducted. The research involved the cultural adaptation of the internationally accepted standard Organizational Commitment Questionnaire and the development of the Organizational Citizenship Behavior Questionnaire. The first study (N=40) focused on the validation of translation and cultural adaptation of the Organizational Commitment Questionnaire (Meyer & Allen, 1991, 1997). The second study (N=222) was aimed at confirming the factor structure and psychometric properties of the Organizational Commitment Questionnaire – Polish version. In the third study (N=42) the Organizational Citizenship Behavior Questionnaire was obtained. In the next study (N=503) the main research hypotheses were examined. Five clusters were identified using k-means cluster analysis. These were labeled: Non-committed, Neutrals, Enthusiasts, Trapped and Devoted. Analysis of variance results indicated that Enthusiasts and Devoted demonstrated the highest levels of OCB and high levels of life satisfaction. The Non-committed profile showed the lowest level of OCB combined with low levels of life satisfaction.

Keywords: *organizational citizenship behavior, affective commitment, normative commitment, continuance commitment.*

INTRODUCTION

Scholars and practitioners of management often investigate on the source of competitive advantage characteristic for successful firms. The value of innovations as a competitive advantage is increasing (Rodriguez, Ricort & Sanchez, 2002). In light of this approach, employees are considered a valuable

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asset since they are often the ones to invent or implement innovations. Deciding how to enhance innovative attitudes of employees is an issue organizations operating in a highly competitive market have to address. Organizational commitment and organizational citizenship behavior could be an answer to this problem

Lee and Kim (2010) argue that, contrarily to a traditional model of HRM, commitment-based HRM enhances the initiative and creativity of employees. Commitment-based human resource management is a set of practices leading to increased commitment of employees. Therefore, an organization in a highly competitive environment can achieve higher performance through the genuine commitment of employees. Commitment oriented HR practices were found to have a positive effect on innovation activities (Shipton, West, Dawson, Birdi & Patterson, 2006; Chen & Huang, 2009; Lee & Kim, 2010). Research results emphasize that commitment-based HRM boosts company performance through its effect on innovation activities (Ceylan, 2013; Jiménez Jiménez & Sanz-Valle, 2008). A committed workforce, which is willing to go the extra mile for the organization, can be a competitive advantage not easily copied by competitors (Pfeffer, 1994).

Understanding what the types of commitment are and how they influence the attitudes and behaviors in the workplace has been an interest of many scholars for over fifty years (e.g. Becker, 1960; Begley & Czajka, 1993; Brown, 1996; Gellatly, Meyer & Luchak, 2006; Devece, Palacios-Marques & Alguacil, 2015). Research results show that organizational commitment is related to employee turnover, job satisfaction, absenteeism and organizational citizenship behavior (Jamal, 2011). However, Meyer, Stanley, Herscovitch and Topolnytsky (2002) indicated that there was a need for more systematic research in different contexts and geographical locations to explain the existing discrepancies in research results. A new approach to organizational commitment has been advanced to achieve this goal (e.g., Wasti, 2006, Somers, 2009). In this approach, organizational commitment is assessed as a profile of three independent attitudes not, as previously, as separate variables. The research presented in the article is in line with this approach.

Many researchers agree that OCB are indispensable for every organization to survive (Smith, Near & Organ, 1983; Organ, Podsakoff & Mac Kenzie, 2006). Katz and Kahn (1979) asserted that *innovative* and spontaneous behavior was crucial to organizational survival. The term describing a wide range of cooperative, innovative and spontaneous behaviors is organizational citizenship behavior (OCB) (Organ et al., 2006). OCB is explained as a discretionary contribution that goes beyond the strict description of the job and does not claim any recompense from the reward system (Organ et al., 2006, p. 34). There is a link between OCB and innovativeness of organizations. OCB

supports an innovative organizational climate (Turnipseed & Turnipseed, 2013). Research suggests there is a positive relationship between OCB and employees offering new ideas (Turnipseed & Wilson, 2009).

The aim of this article is to examine what are the commitment profiles (in terms of the three types of this attitude) among employees who improve their education on extramural business studies. The conceptual model of research is presented in Figure 1. The research focuses on examining the relationship between commitment profiles, OCB, and life satisfaction. The research was aimed at a comprehensive examination of OCB and commitment profiles, since no previous research had assessed the relations between organizational commitment and all 7 types of OCB. To complete this goal, the Organizational Commitment Questionnaire (Meyer & Allen, 1991, 1997) was culturally adapted and the scale of Organizational Citizenship Behavior was developed. Both concepts have received to date very little interest in Polish scientific circles.

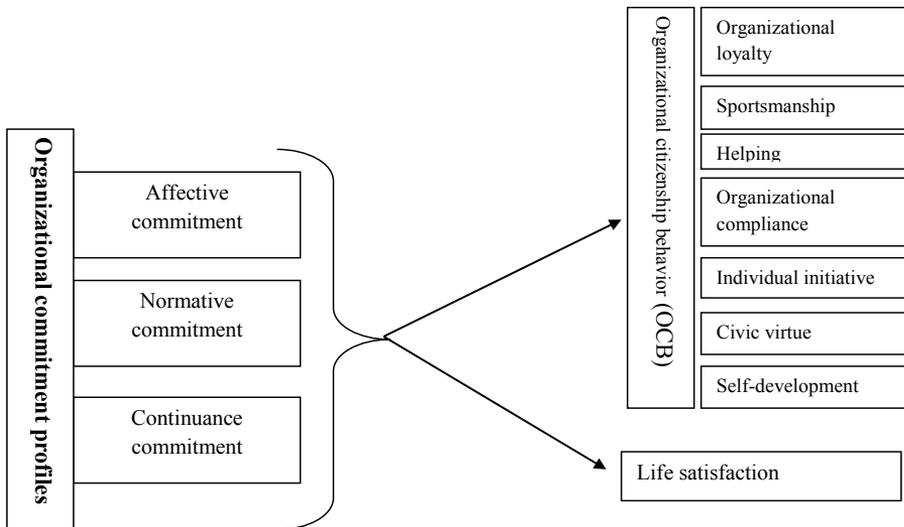


Figure 1. Conceptual model of presented research

THEORETICAL FRAMEWORK – LITERATURE REVIEW

Organizational Commitment

The organizational scholars' interest in organizational commitment dates back to the 1960s. Howard Becker, the pioneer of commitment conceptualizations, posited that *"commitments came into being when a person by making a side bet, links extraneous interest with consistent line of activity"* (1960, p. 37).

The influence of Becker's conceptualization is noticeable in many recent commitment theories. It can be detected especially in models that perceive commitment as a multidimensional construct (Allen & Meyer, 1991; O'Reilly & Chatman, 1986; Angle & Perry, 1981; Jaros, Jermier, Koehler & Sincich, 1993; Cohen, 2007). The influence of side bet theory is evident in Meyer and Allen's continuance type of commitment.

A different approach to organizational commitment was advanced by Lyman Porter (1974). The focus of commitment shifted from side-bets to the psychological attachment one has to an organization (Cohen, 2007, p. 338). Mowday and colleagues designed a tool to measure commitment called the Organizational Commitment Questionnaire. The instrument was treated as one-dimensional. Porter's theory contributed to later conceptualizations. Porter's commitment constitutes the affective type of commitment in Meyer and Allen's Three-Component Model (1991, 1997).

Other researchers claimed that this approach was oversimplifying the complex nature of commitment (Meyer & Allen, 1984; O'Reilly & Chatman, 1986). Those critiques led to several multidimensional approaches (Angle & Perry, 1981; O'Reilly & Chatman, 1986; Penley & Gould, 1988; Meyer & Allen, 1991; Mayer & Shoorman, 1992; Jaros et al., 1993; Meyer & Herscovitch, 2002). In Table 1 a set of definitions of multidimensional approaches to organizational commitment is provided.

Research presented in the article is based on the Three-Component Model of commitment (TCM), (Allen & Meyer, 1991, 1997). This model prevails in research on commitment in a workplace (e.g., Chinen & Enomoto, 2004; Cohen, 2007, Gellatly et al., 2006; Somers, 2009). Natalie Allen and John Meyer (1991) contended that all multidimensional perspectives could be integrated in three major categories of commitment (Meyer & Allen, 1997, p. 11):

- *Affective commitment (AC)* – emotional attachment and identification with the employee organization. It reflects the extent to which an employee wants to be a member of the organization.
- *Continuance commitment (CC)* - refers to the awareness of the costs associated with leaving the organization. Employees who are linked to an organization on the basis of continuance commitment remain because they need to do so.
- *Normative commitment (NC)* – reflects a feeling of obligation to continue employment. Employees with a high level of normative commitment feel that they ought to remain in the organization.

Table 1. Review of definitions of organizational commitment

Authors	Types of commitment	Definitions
Angle & Perry (1981, p. 4)	Commitment in values Commitment to stay in organization	“Involvement in supporting organizational goals”. “Involvement in maintaining the membership in organization.”
O’Reilly & Chatman (1986, p. 493)	Compliance Identification Internalization	“Attitudes and behaviors are adopted to gain specific rewards.” “Individual accepts influence to maintain the membership in organization.” “The values of individual and organization are the same.”
Penley & Gould (1988)	Moral Calculative Alienative	“Acceptance and identification with organizational goals.” (p. 44) “An employee exchanges his or her contributions for the inducements provided by organization.” (p. 44) “Negative affective attachment to organization. Consequence of lack of control and absence of alternatives.” (p. 47)
Meyer & Allen (1991, p. 7)	Affective Normative Continuance	“Emotional attachment and identification with organization.” “Feeling of obligation to continue employment.” “Awareness of the costs associated with leaving the organization.”
Mayer & Shoorman (1992, pp. 673-674)	Connected with values Continuance	“Acceptance of organizational goals and willingness to exert considerable effort on behalf of organization.” “Desire to maintain the membership of organization.”
Jaros et al. (1993, pp. 953-955)	Affective Continuance Moral	Form of psychological attachment to organization through feelings such as loyalty, warmth, belongingness, affection. Form of psychological attachment to organization that reflects the degree to which an individual experiences the sense of being locked in place because of high cost of leaving. The degree to which an individual is psychologically attached to organization through internalization of its goals, values and missions.”
Meyer & Herscovitch (2001, p. 308)	Affective Continuance Normative	“The core essence of every commitment is a force that binds individual to a course of action of relevance to one or more targets (...) the mind-set accompanying commitment can take various forms.”

Organizational Citizenship Behavior (OCB)

Theoretical construct of organizational citizenship behavior was advanced by two researchers: Dennis Organ (Bateman & Organ, 1983) and Ann Smith (Smith, Organ & Near, 1983). They described OCB as discretionary activities in the workplace that were necessary for organizational functioning but they were neither strictly required by the job descriptions nor rewarded by formal incentives. This kind of behavior is also called “*good soldier syndrome*” (Organ et al., 2006). The organizational profits from OCB are indisputable. “*OCB lubricate the social machinery of the organization. They provide the flexibility to work through many unforeseen contingencies*” (Smith et al., 1983, p. 654).

In meta-analyses of literature on OCB, Podsakoff and his colleagues identified about thirty different types of such behavior (Podsakoff, Mac Kenzie, Paine & Bachrach, 2000). A variety of taxonomies were proposed to classify these activities (see e.g.: Van Dyne & Le Pine, 1998; Borman & Motowidlo, 1997; Podsakoff et al., 2000). Podsakoff and colleagues advanced a taxonomy that integrated propositions of other scholars (Organ et al., 2006). It consists of seven types of OCB (Organ et al., 2006, pp. 297-311):

- 1) *Helping*. A type of OCB similar to *altruism* proposed by Ann Smith (1983). Such behavior involves voluntarily helping coworkers in work-related problems. In this category are also acts that improve morale, encourage cooperation, build and preserve good relationships in the workplace.
- 2) *Sportsmanship*. This category involves bearing inconveniences and impositions of work without complaining, being willing to sacrifice personal interest for the good of the work group.
- 3) *Organizational loyalty*. This category encompasses promoting the company image, remaining committed even under adverse conditions, defending an organization against external threats.
- 4) *Organizational compliance*. This type comprises all behaviors that refer to following organizational rules and procedures, complying with organizational values, respect for authority, conscientiousness, meeting deadlines.
- 5) *Individual initiative*. It is actively trying to find ways to improve individual, group or organizational functioning, including: voluntarily suggesting organizational improvements, acts of creativity and innovation designed to improve one’s tasks.
- 6) *Civic virtue*. It is responsible, constructive involvement in the political process of the organization. It includes: attending non-obligatory meetings, sharing informed opinions with others, being willing to deliver bad news if it is necessary for the good of the organization, keeping abreast of different issues concerning the organization.
- 7) *Self-development*. It stands for self-training, seeking out and taking advantage of advanced training courses. Self-development encompasses also keeping abreast of the latest development in one’s field, learning

new kinds of skills so as to expand the range of one's contribution to an organization.

The interest in OCB has grown substantially in recent years. More than 2100 articles on OCB can be found in literature (Podsakoff, Podsakoff, Mac Kenzie, Maynes & Spoelma, 2013, p. 87). The majority of them were published in the last decade (Podsakoff et al., 2013). OCB is also seen as an important factor in boosting organizational innovativeness. For example, research shows that employees with a high OCB have a more positive attitude to new technologies and are willing to implement new technologies in their work (Ozsahin & Sudak, 2015). OCB is consistent with the suggestion and implementation phases of innovation described by Axtell, Holman, Unsworth, Wall & Waterson. (2000). Innovation in this approach is understood as a process of adopting and generating new ideas (Axtell et al., 2000; Turnispeed & Turnispeed, 2013, p. 210).

Relationship between organizational commitment profiles and Organizational Citizenship Behavior

According to Meyer and Allen (1997; Meyer et al, 2002), the main reasons for distinguishing among the three forms of commitment is the difference in their behavioral outcomes. Meyer and Allen (1997) argued that affective commitment and normative commitment would relate positively to OCB. Continuance commitment, on the contrary, would be unrelated or negatively related. Therefore, employees who remain in an organization mainly to avoid costs associated with leaving should not be prone to engage in going above and beyond the call of duty (i.e. OCB).

John Meyer and Lynne Herscovitch (2001) offered a model of commitment profiles and their behavioral consequences. Three types of commitment (affective, normative and continuance) are associated with focal and discretionary target-related behavior. Employees endorse varying levels of each commitment concurrently which creates a distinct "profile" of commitment for each employee. Different profiles have different behavioral outcomes. Assuming that every employee can be characterized by being either high or low of the three forms of commitment, Meyer and Herscovitch (2001) proposed 8 commitment profiles. These propositions are presented in Table 2.

Focal behavior is explicitly specified in an agreement between an employee and the organization (Meyer, Herscovitch, 2001, p. 318). Discretionary target-related behavior is positive work behavior that is voluntary. It can be identified with organizational citizenship behavior (Wasti, 2005, p. 293; Gellatly et al., 2006). Meyer and Herscovitch (2001)

assumed that frequency of discretion behaviors displayed by employees depended on the intensity of their commitment profile. Their theoretical model combines eight commitment profiles with intensity in terms of discretionary behavior (OCB). Pertaining to previous research (Meyer et al., 2002; Morisson, 1994), Meyer and Herscovitch (2001) presumed that organizational citizenship behavior had the highest correlation with affective commitment, thus, the likelihood of OCB should be greatest in the case of “pure” affective commitment (i.e. where the other forms are weak), followed by the cases in which affective commitment was accompanied by high levels of normative or continuance commitment. Regarding profiles with low levels of affective commitment, Meyer and Herscovitch (2001) expected that a “pure” normative commitment profile would be stronger associated with OCB than a profile characterized by high levels of normative and continuance commitment or “pure” continuance commitment. Continuance commitment seemed to attenuate the impact of affective and normative commitment on positive work-related behavior (OCB), (Meyer & Herscovitch, 2001; Wasti, 2005). The pattern of expected relations between commitment profiles and discretionary behavior is presented in a Figure 2.



Figure 2. Probability of organizational citizenship behavior expected for different commitment profiles.

Source: Meyer & Herscovitch (2001, p. 314).

Table 2. Commitment profiles

Type of commitment	Profile1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6	Profile 7	Profile 8
Affective	High	High	High	High	Low	Low	Low	Low
Normative	High	High	Low	Low	High	High	Low	Low
Continuance	High	Low	High	Low	High	Low	High	Low

Source: Meyer & Herscovitch (2001, p. 314).

RESEARCH PROBLEM AND HYPOTHESES

The model advanced by Meyer and Herscovitch (2001) has been partially tested in several studies (Wasti, 2005; Sinclair, Tucker, Cullen & Wright, 2005; Gellatly et al., 2006; Somers, 2009; Meyer, Stanley & Parafyonova, 2012). Different results were obtained regarding the number of existing profiles. Arzu Wasti (2005) empirically supported five profiles (profiles: 1, 2, 4, 7, 8 presented in Table 2) offered by Meyer and Herscovitch (2001). He also distinguished a new profile labeled Neutrals, where all three types of commitment achieved average levels. Sinclair with colleagues (2005) modified the theoretical model of Meyer and Herscovitch (2001). The new model pertained only to affective and continuance commitment, identifying, however, three possible levels of each commitment (high, moderate, low). Five profile groups were identified (Sinclair et al., 2005).

Gellatly with colleagues (2006) empirically supported all eight profiles proposed by Meyer and Herscovitch (2001). However, other researchers claimed that Gellatly et al.'s findings were not reliable due to inappropriate research method (median split) (Meyer et al., 2012).

To summarize, arguably the propositions of Meyer and Herscovitch have not received sufficient empirical support. First of all, there is a lack of consistency among obtained results. Moreover, the body of research is limited only to the U.S and Canada. Therefore, I tested the following hypothesis.

Hypothesis 1

Multiple (five to eight) commitment profiles with distinct patterns of AC, NC and CC exist within the employee sample.

Meyer and Allen assumed that different types of commitment had different behavioral outcomes (1991, 1997).

Research premises also supported that view. Findings showed that, affective commitment (AC) was highly positively correlated with OCB, while normative commitment (NC) showed a weaker association with OCB. Continuance commitment proved to be uncorrelated or negatively correlated

with OCB (Meyer & Herscovitch, 2001). However, when the combined effects of commitment components are considered, the pattern of associations gets more complex. Meyer and Herscovitch (2001) suggested that employees with a pure affective profile (strong AC combined with weak NC and CC) would display the most intensive OCB due to the strongest positive impact of AC on desirable behaviors. Research showed mixed results. According to Gellatly et al. (2006), the level of citizenship behavior for those of pure affective profile did not differ significantly from those of pure normative profile. In Wasti's research (2005) OCB was the highest in the group of high affective and normative commitment.

These findings did not support the assumption that strong NC might mitigate the positive impact of affective commitment on citizenship behavior. In line with this argument, the following hypothesis was tested:

Hypothesis 2

Profile groups with strong affective commitment in combination with strong normative commitment and low continuance commitment have the highest level of OCB among all the profile groups.

Meyer and Herscovitch (2001) assumed that the components of commitment would interact to influence behavioral outcomes. Continuance commitment should correlate negatively with citizenship behavior. This relation would be attenuated when AC or NC (or both) are high (Meyer, Herscovitch, 2001). Research evidence has not supported to date the implied three-way interaction (Gellatly et al., 2006). However, several studies have reported two-way interactions that were consistent with Meyer and Herscovitch's (2001) suggestion (Chen & Francesco, 2003). These findings served as a basis for development of the study hypothesis.

Hypothesis 3

Profile group with strong continuance commitment alone scores the lowest on OCB scale.

As noted previously, affective commitment is related with many positive organizational behaviors such as low absenteeism, high OCB, high quality of job performance. These outcomes of commitment are desirable for organizations. One of the objectives of the present study was to investigate the positive outcomes of commitment from the perspective of employee. Therefore, it was examined whether affective commitment was associated with employee well-being (life satisfaction). Affective commitment is defined as a state of being emotionally attached to an organization and feeling like a member of family there. It can be assumed that positive feelings toward an

organization increase the overall life satisfaction of an employee. The relation between affective commitment and life satisfaction has gained to date very little interest in scientific circles (Meyer et al., 2012). Most researchers of commitment focus on work-related attitudes and behaviors. There are, however, findings showing a negative correlation between affective commitment and different measures of stress (e.g. Begley & Czajka, 1993, Ostroff, 1992). According to Meyer et al.'s findings (2012), employees that scored the highest on the positive affect scale belonged to the group of high normative and affective commitment and to the fully committed group (high AC, NC and CC). Based on this evidence, the following hypothesis regarding life satisfaction was developed:

Hypothesis 4

The highest level of life satisfaction is associated with strong affective commitment in combination with strong normative commitment.

RESEARCH METHODS

Measures

Organizational commitment

Organizational commitment was assessed with the Organizational Commitment Questionnaire - Polish version (OCQ-P, Spik, 2014). Scores ranged from 1 to 5 on the Likert scale. Higher scores indicate higher commitment. Reliability was obtained by Cronbach alpha of 0.715 (continuance scale), 0.848 (affective scale), 0.818 (normative scale). Prior to the main study, additional studies were conducted to adapt and validate OCQ-P. It consisted of subsequent phases.

Cultural adaptation of Organizational Commitment Questionnaire (Meyer, Allen, 1991, 1997)

Study 1 (N=40). First, all the statements taken from two Meyer and Allen's questionnaires (18 items and 24 items) were translated into Polish. Subsequently, two independent assessors (experts in related fields, researchers with a doctoral degree from University of Warsaw) were invited to verify the items correctness and readability. In the third stage, six statements per each scale were excerpted from the items approved by assessors. It was modeled on the original pattern of Organizational Commitment Questionnaire (Meyer, Allen, 1991). In the fourth phase, the validity of cultural adaptation was

examined. To this end, the results of measuring organizational commitment with both versions (original and Polish) were compared. The original version of the OCQ was assumed to be psychometrically correct (Meyer, Allen & Smith, 1993; Jaros, 1997; Hacket, Bycio & Hausdorf, 1994). To accomplish this “*psychometrical strategy*” of test cultural adaptation (Hornowska, 2001, p. 30) the questionnaires were completed by 40 participants. The participants were 40 employees of a large international telecommunications company operating in Warsaw, comprising 17 women and 23 men, ranging in age from 23 to 52, and with an average tenure of 3.5 years. Participants were randomly assigned to one of two equally large groups. The first group (group 1) completed the original measure of Meyer and Allen (1991) while the other (group 2) completed the Polish version. The paper-and-pencil questionnaires were distributed in the workplace. In addition, the participation was voluntary and anonymous. The participants were informed that their responses would be confidential. They were asked to fill in the questionnaire, insert it into the enclosed envelope and leave it on their desk. The envelopes were collected at the end of the day. Levene’s test was conducted to assess the equality of variance in both groups. Comparing the means with usage of T-student analysis confirmed that both measures provide similar results. Table 3 presents means and standard deviations obtained in the study.

Table 3. Comparison of Organizational Commitment Questionnaire (OCQ, Meyer, Allen, 1997) and OCQ – Polish version (OCQ-P, Spik 2014)

Type of commitment	Measure	Mean	Standard deviation
Affective	O*	17.76	3.621
	P**	16.36	4.050
Normative	O	16.56	3.949
	P	15.00	3.117
Continuance	O	18.00	3.731
	P	16.40	3.757

Note: O*- OCQ- original version, P**- Polish version of OCQ.

Examining the factor structure of OCQ-P, study 2 (N=222).

The participants in study 2 were employees of ten different organizations of different fields (e.g., banking, education, insurance, pharmacy, military). 62% were female. 38% ranged in age from 20 to 30 years, 20% ranged in age from 48 to 62 years. Data was analyzed using SPSS Version 17.0. Exploratory factor analysis was conducted. The Kaiser-Meyer-Olkin measure in this study was 0.852. Bartlett’s test of sphericity was significant (p < 0.001). Both

analyses showed that the sample was sufficient to proceed to factor analysis. A Principal Axis Factoring (PAF) with Varimax rotation was conducted to determine the dimensionality of the OCQ-P. A three factor solution was obtained (eigenvalues greater than 1) with variance explained of 50.27%. The item was included in the suitable scale if the meaning of the item was theoretically consistent with the definition of the type of commitment represented by the factor, and if the PAF loading of the item was greater than 0.500. To reflect the original structure of the Organizational Commitment Questionnaire the number of items in each scale was limited to 6. Thus, in scales where more than 6 items achieved factor loadings over 0.500 only 6 items with the greatest loadings were selected to form a scale. The summary of results of PAF is presented in Table 4.

Table 4. Factor loadings of items and changes to OCQ-P (summary) – study 2

ITEMS	Factor loadings	Changes implemented due to results of the PAF
Affective commitment scale - Factor 1		
1. I do not feel a strong sense of belonging to my organization.	0.533	Item was dropped from the scale due to low factor loading.
2. I owe a great deal to my organization.	0.706	
3. Problems within my organization are very important to me.	0.694	
4. This organization has a great deal of personal meaning to me.		
5. I do not feel emotionally attached to my organization.	0.684	
6. I feel like a part of my family at my organization.	0.581	
Normative commitment scale – Factor 2		
1. Even if I were offered a better job it would not be right leaving my organization.	0.504 (Factor 1)	Dropped from the scale due to low factor loading.
2. I would feel guilty if I left the organization right now even if it were to my profit.	0.669	
3. I would feel guilty if I left my organization now.	0.613	

4. I do not feel any obligation to remain with my current employer.		This item does not create a consistent factor with other items. Replaced with an item: "One of the main reasons that I still work for my organization is a loyalty that gives me a feeling of moral obligation to remain in the organization."
5. I would not leave the organization right now because I have a sense of moral obligation to the people in it.	0.766	
6. This organization deserves my loyalty.	0.667 (Factor 1)	Item in OCQ (Allen, Meyer, 1991) belonged to normative scale. In OCQ-P item was included to affective scale.

Continuance commitment scale Factor 3

1. One of the few negative consequences of leaving the organization would be the scarcity of available alternatives.	0.784	
2. Right now, staying with this organization is a matter of necessity as much as desire.		Item does not create a theoretically consistent factor with other items. Replaced with item: "Staying in my organization is a matter of necessity."
3. Leaving my organization would be very difficult for me even if I wanted to do so.	0.521	
4. If I had not already put so much of myself into this organization, I might consider working elsewhere.	0.693 (Factor 2)	Item dropped from the scale. Replaced with: "Security and stability of employment are the main reasons why I remain in the organization."
5. Too much of my life would be disrupted if I decided to leave my organization now.	0.587	
6. I feel that I have too few options to consider leaving this organization.	0.852	

Reliabilities for the scales by Alpha Cronbach estimates were: 0.72 for normative commitment, 0.70 for continuance commitment and 0.82 for affective commitment.

Organizational Citizenship Behavior

Organizational Citizenship behavior was assessed with Organizational Citizenship Behavior Questionnaire (OCBQ, Spik, 2014). OCBQ consisted of 31 items. Cronbach alpha reliability coefficient was 0.91. Scores ranged from 1 to 5 on the Likert scale. The development of the OCBQ included 4 stages.

In the first phase, 67 items from different OCB measures were translated into Polish (Williams & Anderson, 1991, Moorman & Blakely, 1995, Organ et al., 2006). Items were scored using a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items pertained to seven types of OCB (Organ et al., 2006, pp. 297-311). Regarding the face validity, two independent experts in related fields were asked to provide feedback. In this stage, 4 items were dropped from the initial questionnaire. In the subsequent phase, the procedure suggested by Ann Smith was followed (Smith et al., 1983). The procedure involved asking managers to assess which items from the initial version of the questionnaire fulfilled the following criterion:

“Supervisors would like their subordinates to perform this behavior more often because it serves the good of the organization. However, these activities are neither strictly required by the job descriptions nor rewarded by formal incentives.”

The paper-and-pencil survey was administered during MBA-executive classes at University of Warsaw (study 3, N= 42). All the students were experienced executives with extensive work experience. Participation was voluntary, 42 employees participated. Any problems faced by the participants when answering the question were addressed to the researcher directly. Participants were asked to report any doubts or comments they found relevant to the issue.

9 items that participants found unclear in meaning or inadequate to Polish workplace specifics were dropped from the list of OCB, 54 items were left in the Organizational Citizenship Behavior Questionnaire (OCBQ). Subsequently, the reliability estimation of the 7 scales of OCBQ was conducted (study 4, N= 503). Findings suggested that to yield adequate reliability estimates (Cronbach alpha) several items had to be excluded from the scales. 31 items were selected from the initial 54 items. The reliability estimates of the obtained scales are listed in Table 5. Additionally, Principal Axis Factor analysis was conducted to determine the dimensionality of OCBQ. Analysis has shown that the items do not create any common factors that can be statistically and conceptually accepted. Thus, in the presented research the OCBQ scores were interpreted as a one dimension.

Life Satisfaction

Life satisfaction was measured with Life satisfaction Scale (Juczyński, 2001). Scores ranged from 1 to 5 on the Likert scale. Cronbach's alpha was 0.86.

Table 5. Cronbach alpha reliability coefficients of OCB scales

Scale of OCB	Initial number of items	Final number of items	Cronbach alpha reliability coefficient of the scale
Helping	8	7	0.75
Civic virtue	9	-	0.436 – scale excluded from further analysis
Organizational Loyalty	7	4	0.87
Self-development	5	3	0.67
Compliance	10	8	0.80
Initiative	8	5	0.74
Sportsmanship	8	4	0.71
OCB – all items	54	31	0.91

Social Desirability

Social Desirability was assessed with 5 items from the Eysenck's Desirability Scale selected from Eysenck's Personality Questionnaire–revised (EPQ-R). Polish adaptation and normalization made by Jaworska (2008). Social desirability bias is a problem concerning research using self–report methods. Participants who are particularly sensitive on social desirability have a tendency to over-report behaviors viewed as appropriate. To minimize this bias in the presented research 5 items assessing dispositional tendency to self-serving bias were added to OCBQ. Results of the participants who scored high on social desirability were excluded from further analysis (5 participants). Moreover, the recommendations suggested by Donaldson and Grant-Vallone (2002) were followed. Donaldson and Grant-Vallone (2002) indicate that self-report bias is particularly likely in organizational behavior research because employees are afraid that their employer could gain access to their responses. However, it can be reduced when research is not conducted in the workplace (Donaldson & Grant-Vallone, 2002, p. 249). The presented research took place in buildings at University of Warsaw.

Participants

The participants in this study were employees (with at least one year tenure in their present organization) who boost their education in business studies at the Faculty of Management, University of Warsaw. The participants were postgraduate and master level students at extramural studies. Participation

was voluntary and anonymous. Participants were informed that individual responses would remain confidential. Paper-and-pencil questionnaires were distributed during classes. 536 surveys were completed. 32 surveys were excluded from further research due to missing values or insufficient work tenure of the participants. A large majority of respondents were female (75%), the age of participants ranged from 21 to 57 years, the tenure with their organization ranged from 1 year to 32 years, 21% of participants reported that they had a managerial position in the organization. The goal of this study was to examine the relationships between OC profiles, OCB and life satisfaction among employees boosting their education in business studies. The overrepresentation of women among employees with higher education is typical for the Polish population (Feliksiak, 2008). Women consist of more than 60% of those with higher education. Moreover, the percentage of women in the population of higher educated employees in Poland seems to grow systematically (Górniak, 2015).

RESEARCH RESULTS

Data was analyzed using SPSS 17.0. Results of descriptive analysis of three commitment types are in line with the findings of Bańka, Bazińska and Wołowska (2002). Results are listed in Table 6. PAF analysis was conducted to confirm the findings of study 2. 55% of variance was explained.

Table 6. Minimum and maximum scores, mean and standard deviation of commitment

Scale of organizational commitment	Minimum score	Maximum score	Mean	Standard deviation
Affective commitment	6	30	16.77	5.50
Normative commitment	3	30	19.53	5.21
Continuance commitment	4	30	18.40	4.76

Findings concerning hypothesis 1

Prior to analysis three commitment variables were converted to standard (z) scores. In course of k-means cluster analysis 3 profile solutions were tested (8, 6 and 5 profiles). This non-hierarchical data analysis technique gathered individual cases into a pre-specified number of clusters based on the commitment scores, in a manner that maximized between cluster differences and minimized within-cluster variance. K-means cluster analysis was suggested as the best method to test Meyer and Herscovitch propositions (2001) by Somers (2009) and Wasti (2005). The tested number of clusters was selected due to two criteria:

Theoretical interpretability. Tested were these profile solutions (8, 6 and 5) which were supported in an existing literature (Meyer & Herscovitch, 2001; Somers, 2009; Gellatly et al., 2006; Wasti, 2005; Sinclair et al., 2005; Meyer et al., 2012).

Cell-sizes. The number of observations in every cluster was large enough for generalizability.

Finally, the 5-cluster solution was selected for further analysis. This solution was also the most appropriate in terms of diversification of commitment levels. The obtained profiles were consistent with theoretical and empirical premises. The 5-cluster solution appears in Fig. 2, which displays the means of each commitment type in every profile.

The first profile (*Non-committed*, n= 80) consisted of individuals at least one standard deviation below the sample average on AC and NC and 0.8 of standard deviation below the average on CC. The second group, labeled *Neutrals* (n=115), was characterized by slightly below average levels of all forms of commitment. Another group (*Enthusiasts*) consisted of individuals with high levels of affective and normative commitment (more than 0.5 of standard deviation above average) and below average levels of continuance commitment. The fourth profile was labeled *Trapped* because it consisted of individuals with high levels of CC, low levels of AC and average levels of NC. These individuals could experience a sense of being locked in a place they do not like and do not identify with but remain to avoid the perceived costs of leaving. The last profile group, named *Devoted*, consisted of individuals who displayed very high levels of all types of commitment (more than one standard deviation above the sample average).

According to the hypothesis 1, the findings supported the existence of 5 profile groups of organizational commitment. The obtained profile groups are in line with Wasti's findings (2005).

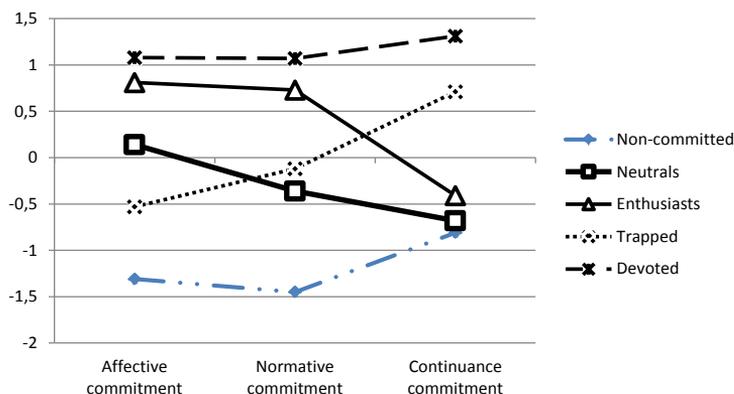


Figure 3. Profiles of organizational commitment (study 3)

Table 7. Post-hoc comparisons of profile groups

Profile groups	Non-committed (1)	Neutrals (2)	Enthusiasts (3)	Trapped (4)	Devoted (5)	Post-hoc comparisons
(n)	80	115	110	113	83	
Life satisfaction	13.1	14.7	15.6	13.2	14.4	2, 3 < 4, 1(b)
OCB	90.6	101.2	112.9	91.4	110.9	2 > 4, 1 (a) 3, 5 > 2 (a)
Gender (% male)	28.8%	15.7%	23.6%	26.5%	32.5%	5 > 2 (c)

Note: The numbers in parentheses in column heads refer to numbers used for illustrating significant differences in the last column titled „post-hoc comparisons“; $p < 0.001$, $p < 0.05$, $p = 0.052$.

Outcomes of commitment profiles – hypotheses: 2, 3, 4

To determine whether the obtained commitment profiles differ in respect to outcome variables, univariate analysis of variance ANOVA was conducted. The results indicated that general OCB ($F = 33.94$, $p < 0.001$) and life satisfaction ($F = 7.8$, $p < 0.001$) differed significantly among profile groups. The assessment of homogeneity of variance (Levene’s test) demonstrated that the variance in profile was not homogeneous according to gender (Levene’s test = 10.14, $p < 0.001$) and organizational position (Levene’s test = 19.20, $p < 0.001$). Thus, the Welch test was used to assess the statistical significance of differences among profiles. The results suggested that there were significant differences among profiles in terms of organizational position (Welch’s test = 4.54, $p = 0.002$). Following post-hoc comparisons of means using Dunnett t3 test revealed subsequent significant differences (listed in Table 7).

According to **hypothesis 2**, individuals in the profile group with strong affective and strong normative commitment demonstrated the highest level of OCB. Consistent with expectations, both profiles with high normative and affective commitment differed significantly from other profile groups in terms of OCB. However, the findings with regard to OCB have not supported **hypothesis 3**. The profile group with strong continuance commitment in combination with weak affective and normative commitment (*Trapped*) was not associated with the lowest level of OCB. Although the level of OCB was significantly lower for *Trapped* than for *Enthusiasts*, *Devoted* and *Neutrals*, there was no significant difference between *Trapped* and *Non-committed*. Thus, the assumption that strong continuance commitment is responsible for low level of OCB (Wasti, 2005) was not supported.

Results pertaining to *life satisfaction* (**hypothesis 4**) revealed that individuals belonging to *Non-committed* and *Trapped* displayed the lowest

level of life satisfaction, whereas *Enthusiasts* were characterized by the highest level of life satisfaction. Interestingly, *Neutrals* also demonstrated high level of life satisfaction and differed significantly from *Trapped* and *Non-committed*. Thus, hypothesis 4 is partially supported. *Enthusiasts*, as expected, achieved the highest level of life satisfaction but there were no statistically significant difference between *Enthusiasts* and *Neutrals*. Moreover, the profile with high scores on all commitments (*Devoted*) has not demonstrated an equally high level of life satisfaction. Aforementioned findings support Meyer and Herscovitch's (2001, Wasti, 2005) assertion that high continuance commitment attenuates the positive influence of affective and normative commitment. It is noteworthy, that findings regarding life satisfaction mirror those for OCB. It is consistent with results obtained by Meyer et al. (2012).

Limitations

Although this study makes some important contributions to the understanding of organizational commitment profiles and OCB, some limitations of the presented study should be acknowledged. It is possible that the findings here could be biased in some way. First, the generalizability of the research might be called into question. The sample (N=503) and the population differ with respect to gender and age. Thus, the findings are claimed to be reliable only with regard to the population of employees boosting their education in business studies (Feliński, 2008). Future studies that rely on larger, more diverse samples of employees would provide greater statistical power.

Moreover, self-report measures were used to assess all variables concerned in the research. This method can provide a common method bias (Donaldson & Grant-Vallone, 2002). Organizational commitment can be assessed only with self-report measures but there are other methods available for OCB. It would be desirable in future research to obtain OCB ratings from peers and supervisors. However, several scholars have called the use of supervisor ratings of OCB into question (Allen, Barnard, Rush & Russell, 2000). Furthermore, the lack of sufficient distinction between OCB types is to be indicated. The presented research has failed to support the multidimensional structure of OCBQ, however, it is consistent with some of the previous research (Organ et al., 2006). Thus, future research should address this issue in a more detailed manner.

GENERAL DISCUSSION

The first aim of this study was to adapt and develop two measures of attitudes and behavior of high relevance to organizations: *Organizational Commitment Questionnaire – Polish version* and *Organizational Citizenship Behavior*

Questionnaire. This aim was successfully completed. Both measuring tools are reliable, empirically valid, and can be used for scientific or organizational assessment purposes. However, the research has not supported the factor structure of OCBQ and the measure is suitable only for assessing the general level of OCB. The findings are in line with previous research (LePine, Erez & Johnson, 2002; Podsakoff et al., 2013) that shows a very high correlation among OCB types.

The second purpose of the presented research was to examine the propositions advanced by Meyer and Herscovitch (2001) concerning commitment profiles and their associations with other variables. These propositions regarded the existence of multiple profile groups among tested employees and differences of work-related behaviors associated with distinct profiles. This is the first research that combined commitment profiles with 7 types of OCB. In all the previous research (see e.g.: Somers, 2005; Wasti, 2006; Meyer et al., 2012) the assessment of OCB was limited to one or two types of these behaviors.

Five profiles groups have been identified in a sample of Polish employees boosting their education in business studies. In addition, differences among clusters referring to life satisfaction were assessed. The differences among profiles in terms of other variables have revealed an interesting pattern of relations. Individuals belonging to *Non-committed* and *Trapped* do not feel positive emotions towards their organizations. What is more, *Trapped* feel that despite their lack of positive feelings concerning the organization they cannot leave it due to the perceived costs of leaving. These two groups are characterized by low levels of life satisfaction. Moreover, they are not willing to engage in OCB. On the contrary, *Enthusiasts* are happier and more willing to exert discretionary effort on behalf of the organization. The combination of commitments in this group shows that these employees want to remain in the organization; they believe it is a right thing to do, but they are not forced to remain by the perceived costs of leaving.

The results are also to be interpreted in terms of organizational potential of innovativeness. Innovativeness reflects the tendency of a firm to engage in and support new ideas and creative processes which may result in new products, services and technological processes (Ozsahin & Sudak, 2015). OCB describes behavior that contributes to innovativeness (Turnipseed & Wilson, 2009). Several conclusions might be drawn from the research, considering that OCB are beneficial for organizations desiring innovations and they are positively related with organizational innovative climate (Turnipseed & Turnipseed, 2013). First of all, organizations should examine the commitment profiles of their employee. Knowledge of prevailing profiles should guide the implementation of adequate HRM practices, for similar results (in terms

of OCB) can be achieved with different commitment profiles. The present findings support the benefits to organizations from having employees with a strong affective and normative commitment (Wasti, 2005; Somers, 2009; Meyer et al., 2012). However, even individuals with moderate affective and normative commitment displayed high OCB but only when combined with weak continuance commitment. Results also confirm that strong continuance commitment is not necessarily disadvantageous for organization providing that it is accompanied by high levels of affective and normative commitment (Wasti, 2005).

From a practical standpoint, the presented results might be useful for organizations wanting to foster optimal commitment profiles. According to present findings, it appears that assessing the prevalence of various profile groups can be arguably more beneficial to an organization than considering the levels of commitment types in isolation. In conclusion, the findings of this research provide some important implications. First, they enlarge the body of evidence for the importance of considering the combining influence of commitment types when examining the implications of particular components of commitment (Gellatly et al., 2006; Meyer et al., 2012). More specifically, the results suggest that profile-focused interventions could be more beneficial to an organization than general efforts to increase commitment.

Direction for further research

The research provides an insight into the pattern of commitments, OCB and well-being of Polish employees (of course with respect to the limitations of the sample). Two measures provided by the presented research could encourage researchers to conduct additional confirmatory research of employees concerning the nature of profiles and the associations with other outcomes. Conducting research in different contexts and geographical locations would allow the constructs reliability and validity to be confirmed (Meyer et al., 2002). The next stage of research should focus on comparisons between different cultures. Further research should combine the possible impact of different organizational and national cultures with OC profiles and OCB. The intensity of willingness to go beyond the call of duty at work seems to be indisputably related to cultural context. It can be assumed that employees in nations characterized by high collectivism should display more OCB than employees in more individualistic cultures. Viewing OCB and OC profiles through a cultural context framework would be especially beneficial for international companies because it would enable them to tailor HRM practices aimed at boosting OCB to the specifics of the location.

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Abstract (in Polish)

Celem artykułu jest zbadanie profili trzech typów zaangażowania organizacyjnego (Meyer, Allen, 1997) występujących wśród pracowników, którzy jednocześnie podnoszą swoje kwalifikacje na studiach biznesowych oraz określenie związku tych profili z zachowaniami obywatelskimi w organizacji (Organ et al., 2006) i satysfakcją z życia. Przeprowadzono cztery badania. Pierwsze badanie (N=40) dotyczyło weryfikacji poprawności tłumaczenia i adaptacji kulturowej kwestionariusza *Organizational Commitment Questionnaire* (Meyer, Allen, 1991, 1997). Celem badania drugiego (N=222) było określenie struktury czynnikowej i poprawności psychometrycznej Testu Zaangażowania Organizacyjnego (Spik, 2014). W badaniu trzecim (N=42) opracowano Kwestionariusz Organizacyjnych Zachowań Obywatelskich. W badaniu czwartym (N=503) testowano główne hipotezy badawcze. Analiza skupień k-średnich wykazała istnienie pięciu grup profilowych (określonych jako: Niezaangażowani, Neutralni, Entuzjaści, Uwięzieni oraz Oddani). Analiza wariacji wyników wykazała, że Entuzjaści i Oddani charakteryzują się najwyższym poziomem zachowań obywatelskich w organizacji i najwyższą satysfakcją z życia. Niezaangażowani wyróżniali się najniższym poziomem zachowań obywatelskich i niskimi poziomami satysfakcji z życia.

W artykule przedstawiono dyskusję praktycznych konsekwencji wykrytych zależności w kontekście ich wpływu na innowacyjność organizacji.

Słowa kluczowe: zachowania obywatelskie w organizacji, zaangażowanie afektywne, zaangażowanie normatywne, zaangażowanie trwania.

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Positive Stress and Reflective Practice Among Entrepreneurs

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Abstract

While heavy stress loads seem an unavoidable aspect of entrepreneurship, the positive side of stress (often referred to as 'eustress') remains a neglected area of research. This paper contributes to entrepreneurship research by linking the research streams of eustress and reflective practice. As a tool for analysing and developing thoughts and actions, reflective practice plays an important role in the interpretative work essential to positive stress experiences. Following an overview of approaches to stress at work, eustress and reflective practice, the paper explores how entrepreneurs experience the role of positive stress and reflective practice in their work and describes the reflective tools utilized by entrepreneurs in promoting eustress. The research process was designed to support reflective dialogue among the 21 Finnish entrepreneurs from different fields who participated in the study, with results based mainly on qualitative interviews. Nine of the interviewed entrepreneurs also kept a positive stress diary, including a three-day physiological measurement analysing their heartbeat variability. The findings suggest that positive stress and reflective practice are intertwined in the experiences of entrepreneurs and illustrate the role of reflective practice as a crucial toolset for promoting positive stress, comprising six reflective tools: studying oneself, changing one's point of view, putting things into perspective, harnessing a feeling of trust, regulating resources and engaging in dialogue. Individual reflective capabilities vary, and a theory-driven division of reflective practice into individual, social and contextual dimensions is considered useful in understanding those differences. The research offers a starting point for exploring how eustress and reflective practice affect the well-being of entrepreneurs.

Keywords: *eustress, positive stress, reflective practice, entrepreneurs.*

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INTRODUCTION

Stress can be regarded as one of the darker aspects of entrepreneurial leadership (Kuratko, 2007). Entrepreneurs are commonly assumed to be subject to stress because of their heavy workloads, risk in their business activities (Palmer, 1971), a higher-than-average need for achievement (Langan-Fox & Roth, 1995), long working hours and a self-established role in the organisation (Harris, Saltstone & Fraboni, 1999). The fact that business survival rests on the entrepreneur's shoulders is likely to be a source of pressure, and high stress tolerance is seen as one of the strengths of the entrepreneurial personality (Frese, 2009). Rahim (1996) found that entrepreneurs reported a higher internal locus of control than managers and were therefore in a position to manage stress more effectively. Entrepreneurs may also have a special attitude to stress. According to a recent study, self-employed people experience greater stress than employees, but despite negative health effects, they also experience a positive effect of stress in terms of their income (Cardon & Patel, 2015).

Entrepreneurs in particular must find a balance between work and life outside work, and between productivity and recovery. In this regard, work and non-work can be seen as distinct domains or as mutual domains that influence, compensate, facilitate or conflict. Here, 'balance' is understood as active doing—bringing into equilibrium—in which human beings are seen to be able to manage balance in their lives (Guest, 2002). On that basis, it would seem useful for each individual to find their own interpretation of that balance through reflective practice. Many entrepreneurs differ from employees in their perspective on work-life balance—for instance, in relation to autonomy and passion for work, which are common characteristics of entrepreneurs (Frese, 2009).

The present study focuses on the positive side of stress (eustress) and on reflective practice among entrepreneurs; the aim is to illuminate the reflective skills and resources used by entrepreneurs to promote positive stress in their lives. This positive side of stress has to date attracted less research interest than negative stress. Although the beneficial aspects of stress were recognized several decades ago (e.g. Lazarus, 1966; Selye, 1974), they have been neglected in recent research; in particular, a number of authors have identified a need for further research on eustress in work-life settings (Hargrove, Nelson & Cooper, 2013; Le Fevre, Matheny & Kolt, 2003; Simmons & Nelson, 2007). Research suggests that both positive and negative affect may influence many aspects of work in terms of change-oriented behaviour (Amabile, Barsade, Mueller & Staw, 2005; Anderson, De Dreu, & Nijstad, 2004; George & Zhou, 2002); for example, distress has been found to hinder creativity and innovativeness (Amabile, Barsade, Mueller & Staw,

2005). Given the widely accepted role of stress in entrepreneurship, a better understanding seems especially important in that context.

The key factor in eustress is that responses to stressors depend on one's perception of the situation and can therefore be interpreted either positively or negatively (Hargrove et al., 2013; Lazarus, 1966; Simmons & Nelson, 2007). To the extent that reflection contributes to this interpretation, reflective practice is potentially a tool for entrepreneurs seeking to harness the benefits of eustress. However, there is a lack of empirical research on the positive stress experiences of entrepreneurs in general and only a few studies on the relationship between stress and reflection. This paper takes a first step towards bridging this gap by exploring entrepreneurs' descriptions of positive stress and reflective practice in their everyday experiences. Our research questions were as follows.

How do entrepreneurs experience the role of positive stress and reflective practice in their work?

Do entrepreneurs describe reflective practices in connection with their positive stress experiences? If so, what kinds of tools for reflective practice do they utilize to exploit positive stress?

LITERATURE REVIEW

Approaches to stress at work: towards a more positive and holistic approach

Research on work stress has been guided by a number of theories, variously emphasising, for example, the relationship between job demands and job control (demand-control model) (Karasek & Theorell, 1990); the imbalance between perceived efforts and rewards at work (effort-reward imbalance model) (Siegrist, 1996) or the processes of appraisal and coping (cognitive stress theory) (Lazarus & Folkman, 1984).

The view of stress adopted here is based mainly on transactional theories. Lazarus & Folkman's (1984) cognitive theory distinguishes between primary and secondary appraisal processes; first, a situation is evaluated in terms of perceived potential risk, and secondary appraisal then assesses potential actions and ways of coping. Cox (1978) emphasised the ongoing and individual nature of the appraisal process; his model also included outcome and feedback stages of coping. This transactional view is useful in exploring stress experiences and reflective practice, as the interpretation of stressors is seen as a key factor in explaining the emotions and reactions associated with the stress experience. The focus of the present research is not the appraisal process itself but a holistic exploration of individual reflections on experience.

While transactional theories acknowledge the role cognitive and emotional processes in experiences of stress, they have tended to focus mainly on stress as a negative phenomenon. When coping skills are inadequate, stress induces negative feelings and reduces work performance. According to one definition of distress, it "occurs when an individual perceives that the demands of an external situation are beyond his or her perceived ability to cope with them" (Lazarus, 1966). However, more recent approaches to stress also recognise the positive impacts that job characteristics and conditions may have on wellbeing. The job demands-resources (JDR) model (Bakker & Demerouti, 2014; Schaufeli & Bakker, 2004) is based on the work of Karasek and Siegrist but approaches stress from a wider perspective, in which job demands and resources are seen as key conditions that may have a negative impact on health but may also increase work motivation. Job demands might include workload, task complexity and role ambiguity, all of which require considerably energy. Job resources (aspects of the job that may have motivational potential and help to tackle demands) include autonomy, opportunities for growth and performance feedback. According to the JDR model, when sufficient job resources are available, job demands may boost work engagement and performance. Job crafting, redesigning and reimagining in personally meaningful ways offer possibilities for optimizing job demands and resources (Bakker, 2015).

Although many theories also acknowledge the positive side of stress, only a few have emphasised this aspect or studied it empirically. One exception is Simmons and Nelson's (2007) holistic model of stress, which can be seen as an example of positive psychology ('a science of positive subjective experience'), questioning the focus on disease and emphasizing human strengths and health as the presence of positive states (Seligman & Csikszentmihalyi, 2000). The holistic model of stress includes both distress (negative) and eustress (positive), characterising these as separate and distinct responses. Simmons and Nelson (2007) propose that appraisal of any encounter can produce positive or negative meanings; they focus on the positive aspects, exploring how people may also cope by 'savouring the positive' and so developing resources for managing demanding encounters.

The idea that stress experiences can be divided into the harmful (distress) and the beneficial (eustress) is not new (Selye, 1974), but the limited existing research means that the phenomenon has not been clearly conceptualized. Current understanding emphasises the interpretation of stressors; responses to stressors depend on one's perception of the situation and can therefore be interpreted either positively, negatively or as a combination of the two (Hargrove et al., 2013). In addition, positive affect can have a buffering effect on (di)stress. In a recent empirical study of stress among self-employed

people, positive affect was found to mitigate the negative effects of stress on physical health and to accentuate the positive effect on personal income. This may also cause negative stress to seem ‘worth it’ for this occupational group (Cardon & Patel, 2015).

Eustress relates to more familiar positive work-related concepts such as flow experience and work engagement. The experience of eustress can culminate in flow, which has been called ‘the epitome of eustress’ (Hargrove et al., 2013). In flow, the individual is fully focused on and extremely motivated by the work task, to the extent that nothing else seems to matter (Csikszentmihalyi, 1990). Work engagement is defined as a positive, relatively stable, affective-motivational state of fulfilment at work (Schaufeli, Salanova, González-Romá & Bakker, 2002). As work engagement is a more stable state than eustress, this may contribute to a greater likelihood of experiencing eustress.

Based on the above evidence, rather than minimising the negative impacts of stress, we seek to acknowledge its potential positive effects on entrepreneurs’ wellbeing. Perception and interpretation both play a crucial role in stress reactions, serving to define when these are experienced as either debilitating or empowering and setting the context for reflective practice.

Reflective practice: interpreting and promoting eustress

“Reflection is an active and purposeful process of exploration and discovery, often leading to unexpected outcomes. It is the bridge between experience and learning, involving both cognition and feelings” (Boud, Keogh & Walker, 1985).

There is broad consensus among learning theorists that reflection is at the core of adult learning and professional growth, transformation and empowerment (Boud et al., 1985; Dewey, 1938; Kolb, 1984). Depending on the grounding ontological and epistemological premises, reflection has been variously defined. Often visualized as a bridge between experience and learning (Boud et al., 1985), reflection is a meta-competence—a competency that enables individuals to monitor and/or develop other competencies (Cheatham & Chivers, 1998), referring to the ability to ‘learn to learn’ and to think ‘outside the box’. In the workplace, reflection is a powerful tool for problem solving, making tacit knowledge explicit and examining practice and routines (Argyris & Schön, 1996; Boud, Cressey & Dogherty, 2006; Schön, 1983). Such conscious processes allow us to make decisions that are active and aware about our learning experiences by evaluating them and making choices about what we will or will not to do (Boud, Keogh & Walker, 2002).

Reflection is often related to an *individual's* cognitive processes, as in becoming aware of and evaluating, questioning and criticising experiences, assumptions, beliefs, practices and emotions. It relates to skills of self-regulation, self-monitoring (Zimmerman, 1995) and self-directedness. At the individual level, reflection seems to resonate well with cognitive stress theory's concept of primary appraisal, in which one considers the significance of an encounter and evaluates it in terms of its personal meaning (Lazarus, 2001). Reflection has also been discussed as a process of seeking understanding (Mezirow, 1981; Schön, 1983; Raelin, 2001) through self-dialogue (Hilden & Tikkamäki, 2013; Tsang, 2007), in which self-talk plays a crucial role. Inner speech provides self-generated feedback that can affect individual performance (Neck, Neck, Manz & Godwin, 1999).

Beyond individual reflection, other studies have explored how individuals engage in *collective* reflection (Boud et al. 1985; Raelin, 2001). This type of dialogue with others (e.g. with colleagues) (Hilden & Tikkamäki, 2013; Tsang, 2007) is embedded in processes of interaction, opinion sharing, asking for feedback, challenging groupthink and collective experimentation and innovation. In addition to these individual and collective dimensions, there are *contextual factors* in reflection related to organisational structures, practices and culture (Elkjaer, 2001; Jordan, 2010), physical work environment and time pressures. Reflection must be supported by suitable organizational structures and practices; of crucial concern is how reflection is organized and embedded in everyday work. These three essential levels of analysis (individual, collective and organizational) are broadly accepted by learning theorists and in the management literature (Crossan, Lane & White, 1999; Hoyrup, 2004).

At its best, reflection is a state of mind or an orientation leading to reflective practice, the capacity to reflect on action (Schön, 1983) to improve one's work. This is an active, dynamic, action-based and ethical set of skills, located in real time and dealing with real, complex and difficult situations (Bright, 1996). Reflective practice is a complex emotional and intellectual process that calls for self-awareness, self-regulation and interaction with others. Reflecting on different approaches to work and reshaping understanding of past and current experiences can lead to improved work practices (Leitch & Day, 2000), as well as to modification of skills to suit specific contexts and situations, and ultimately to the invention of new strategies (Larrivee, 2000). Definitions of reflective practice share some characteristics of cognitive stress theory's (Lazarus, 2001) secondary appraisal process in evaluating the availability of coping resources. 'Coping' refers to the constantly changing cognitive and behavioural efforts one makes to manage demands appraised as taxing or as exceeding one's resources.

Although organizational learning theorists have noted the importance of reflection and reflective practice (Schön, 1983; Weick & Sutcliffe, 2001), discussion has for some reason been confined largely to learning and has not been fully integrated with stress research. However, a few exceptions reveal the links between reflective practice and experiences of stress. One such study showed a significant positive correlation between rumination and stress, and self-reflection was negatively associated with distress (Smaie & Farahani, 2011). In another study, among other interventions, Bono, Glomb, Shen, Kim and Koch (2013) asked health care professionals to reflect on their work by writing down three good things that had happened during their day. The aim was to help employees to shift the focus of attention to positive events, to benefit from positive events by recognizing and making sense of them and to savour events both individually and with others. The results showed that this kind of reflective intervention helped employees to reduce distress, with a statistically significant reduction in reported health complaints.

Beyond these studies, there is (to our knowledge) no earlier research linking reflective practice explicitly to positive stress experiences, and more research is needed, especially in an entrepreneurial context. Many aspects of that earlier research, such as the important role of interpretation in transactional stress theories and the conceptual similarities between reflectivity and coping, invite further exploration of links between the capacity and willingness to reflect and experiences of eustress and balance.

As we understand it, reflective practice can also be viewed as a meta-level component of psychological capital, which may further illuminate connections between positive stress experiences and reflection. According to Jensen (2012), psychological capital involves self-efficacy, hope, optimism and resilience—characteristics that may hold the key to understanding entrepreneurial stress. Recognising and building psychological capital may help to clarify how individuals respond to stressors in an entrepreneurial environment and how they develop coping strategies to deal with stress. Again, psychological capital is constructed and reinforced through processes of conscious (self-)evaluation and examination.

RESEARCH METHODS AND DATA

The present study adopted a qualitative and multi-methodological approach, combining interviews, interpretations of physiological measurement data, diary-keeping and reflective dialogue between participants. The principles of reflective practice guided the research process, which was also designed to serve as a reflective process for participants, with an opportunity to

participate in two peer-mentoring groups during the research process to reflect with other participants on their experiences.

As entrepreneurs have more freedom of choice than employees in their use of time and ways of working, they may also have more opportunities to engender experiences of eustress. For this reason, a study of positive stress effects among entrepreneurs can potentially provide insights into both the wellbeing of that population and the links between positive stress and reflective practice more generally. The 21 participating entrepreneurs were Finns aged 30–52 years, most of whom ran small companies with fewer than 10 employees in fields that included consulting and education, the building industry and software design. A majority were relatively new entrepreneurs (12 for less than five years).

The process of data collection and analysis proceeded in two phases. In the first phase, the 21 participants were interviewed face-to-face. These two-hour interviews were semi-structured but open, concentrating on personal experiences of entrepreneurship and positive stress. Interviews were conducted by two researchers, at the participant's workplace or at some quiet location. To begin, interviewees were asked to trace their personal history as an entrepreneur and to describe their everyday working life. Second, they were asked to recall at least one experience of positive stress (if any) and to elaborate on their related emotions, behaviours and attitudes. Third, they were asked to identify any factors they considered relevant in achieving a state of positive stress. Given the exploratory nature of our research, the interview questions were broad and open. The aim was to encourage participants to mention anything that was meaningful to them. Questions relating specifically to reflective practice were deferred to the end of the interview and included the following:

- Do you think over and analyse your working habits and behaviour from the point of view of stress or wellbeing? If so, how do you do it?
- What have you learned about yourself and stress management during your time as an entrepreneur?

Transcribed interview data were thematically analysed; coding followed the steps defined by Braun and Clarke (2006). The analysis proceeded as follows:

- 1) **Familiarization with data.** The transcribed data were first read through in their entirety by four of the project researchers. The main content of each interview was discussed within the multidisciplinary research team to build a mutual understanding of the data that would form a basis for analysis.
- 2) **Generating initial codes.** All data were then systematically coded. The aim was to code all available methods of stimulating positive stress. Initial coding was data-driven and analysed without reference to any preconceived framework.

- 3) **Searching for themes among codes.** Based on their similarities, codes related to stimulating positive stress were then grouped into wider themes. This bottom-up analysis generated six main themes (later defining the toolsets in the positive stress toolbox). One of these six themes related to reflection and reflective practice (later named the *reflective practice toolset*).
- 4) **Reviewing themes.** The six themes were further analysed to identify tools that entrepreneurs considered meaningful in managing positive stress. This further analysis produced 24 subthemes (later named as the tools of the toolbox). Within these themes, quotations were thematically grouped according to their affinity. More specifically, the theme describing reflection and reflective practice was reviewed from a number of angles: descriptions of capability and willingness to reflect, the three theory-based dimensions of reflective practice (individual, social and contextual) and the data-driven categorization of this toolset into six subthemes (later named as reflective tools of the toolset).
- 5) **Defining and naming themes and production of the final report.** Finally, all themes and subthemes were listed, with accompanying descriptions, and quotations were chosen to illustrate entrepreneurs' experiences of reflective practice and stimulating positive stress.

In the second phase, nine of the interviewed entrepreneurs recorded a positive stress diary, including a three-day physiological measurement analysing heartbeat variability. The second phase was designed to deepen the research data, using those participants who volunteered to further explore and reflect on their positive stress experiences. While interview data in the first phase drew on past experiences, the second phase complemented this by addressing ongoing eustress experiences. Nine volunteers wore equipment to measure heartbeat variability (Firstbeat) for three days during everyday work, sleep and leisure time. A personal report from each volunteer included a 24/7 profile of factors that affected well-being and performance. Researchers were trained to interpret the report by the service provider, but the physiological data was not analysed as such; instead, it was used as a research and reflection method to help participants to increase their understanding of the experience of positive stress. The researchers walked participants through the results during a second face-to-face interview to explore how entrepreneurs themselves interpreted and described the eustress experiences recorded in the diary notes and physiological data. Interview data were again transcribed and analysed, using the same procedure as in the first phase. However, in this second phase, codes and themes were constantly mirrored to the results of the first phase to identify any similarities or conflicts between the two data sets. The same six main themes were again identified in this second data set, yielding further insights into some subthemes. This phase provided real-time

information about positive stress experiences and also helped participants to understand their behaviour at a physiological level. This two-phase approach provided an opportunity to explore the learning and development process of volunteering participants.

TOOLSET FOR REFLECTIVE PRACTICE PROMOTING EUSTRESS

All those interviewed recognised the phenomenon of positive stress; indeed, the enthusiasm and positive experiences linked to eustress were even seen as reasons for becoming an entrepreneur, as they led one to feel that the work was rewarding. The entrepreneurs described their eustress experiences as a state of enjoyment and productivity, making the work feel effortless. According to one entrepreneur,

It is like dancing on the water. Like getting wings ... Things are solved, although there is some pressure. Or I'd claim that they are solved because of the pressure (Female, 38 years old, consulting).

In addition to individual achievements, positive stress was often linked to social situations, where insecurity, meaningfulness of the situation and shared enthusiasm facilitated experiences of eustress. As one entrepreneur stated,

I feel it is more important that the crew is in such a state [of eustress] rather than the individual (Male, 45 years old, digital consulting).

Entrepreneurs' experiences of eustress were analysed by identifying the tools they use to recognise and stimulate positive stress and to balance positive and negative stress. Based on categorization of the collected data, six eustress toolsets were identified: reflective practice, organizing work, stimulating positive pressure, harnessing feelings of joy, preparing mentally and recovering (Figure 1). Together, these six toolsets constituted a positive stress toolbox related to job crafting (Berg, Dutton & Wrzesniewski, 2013; Wrzesniewski & Dutton, 2001), promoting entrepreneurs' capability to reshape the boundaries of their work practices through task, relational and cognitive crafting.

Among the six toolsets, the reflective practice toolset was identified as crucial for promotion of eustress, and this toolset was therefore selected as the focus of this paper. In the next sections, we concentrate on the content and meaning of this reflective practice toolset; the remaining five toolsets fall outside the scope of this paper.

Capability and willingness to reflect

The entrepreneurs varied in their capability and willingness to reflect. Those who were not reflection-oriented reported that they acted mainly

on their intuition. However, many others regularly used reflective ways of thinking and working and believed this practice to be beneficial. In particular, entrepreneurs from the training and consulting sectors seemed to have internalised reflective practice as a way of analysing past experiences and oneself. One entrepreneur shared the following observation:

You sit on the plane and start to think what happened during the past three days. You start to list down that this went well, this went well, this is a bit unfinished, and this is where we flopped and the reasons for it ... I analyse my environment, and myself, and I know my strengths and weaknesses, and actually, there are plenty of weaknesses... (Male, 52 years old, pet shop entrepreneur).

Most of the participants were interested in developing their work practices, and participation in the study encouraged them to reflect on their ways of working and thinking. Interacting with the researchers, writing down their experiences and interpreting their physiological data all supported a reflective orientation. For example, one entrepreneur first thought that eustress referred to enthusiastic, puppy-like rushing around. However, having completed all the research steps, he realised that eustress was actually most likely to occur when he remained calm and truly concentrated on his actions. For another entrepreneur, the research process was a trigger for thinking about her life situation at a broader level:

The thing that got me to think about my feelings in this study was asking, 'Does it make any sense just to rush around and neglect your well-being all the time?' ... I've been thinking on a wider scale what carries me on. And I've been listening to others about what they tell about themselves and their recovery (Female, 49 years old, consulting).

Individual, social and contextual dimensions of reflective practice

Although both individual and social dimensions of reflective practice were discerned from the data, the emphasis was on individual reflection. Many of the entrepreneurs reported that they analyse and consciously think over their ways of thinking and doing, as illustrated by the following two excerpts:

I'm not sure whether it is self-analysis, but you need to be, all the time, a bit conscious of where you are going. Because it [stress] gets you so easily, negative stress especially (Female, 43 years old, cleaning services).

What I have learned about entrepreneurship is that it is continuously proceeding. But also stopping to think what you have achieved, what you have learned and how you utilize it (Female, 38 years old, training/consulting).

The data also contained many examples of the social dimension of reflective practice; in practice, this meant discussing and analysing with colleagues, professionals and close associates. As the following two excerpts suggest, reflective dialogue also played a role in joint innovation.

I think it is part of our way of working, all the time, embedded in it ... The idea of continuous reflection is in our backbones ... I think we do it every day; we think whether we could do this better or whether a way of doing things is a practical or appropriate one (Female, 46 years old, training/consulting).

Many moments of positive enthusiasm come when we sit down together and process things ... It was sort of a state of enthusiasm, you know, such that the thing got clearer, we understood it together, a sort of positive excitement. Then you automatically get up and start to make it on the flip chart together, you can see that people get excited when they do it together... (Male, 41 years old, consulting).

Contextual factors were also identified as having an impact on reflective practice. The examples from entrepreneurs' experiences related to an inspiring work environment and the importance of occasionally changing that environment to see things from different angles. While some entrepreneurs reported that they struggled to find time for reflection, others had explicitly allocated such time—for example, reserving one day a week for self-development.

The reflective practice toolset

The reflective practice toolset consists of the following six reflective tools:

- 1) Studying oneself
- 2) Changing one's point of view
- 3) Putting things into perspective
- 4) Harnessing a feeling of trust
- 5) Regulating resources
- 6) Engaging in dialogue

In practice, studying oneself (tool 1) means that entrepreneurs recognized, analysed and evaluated their ways of thinking and doing. Changing one's point of view (2) refers to examining situations and experiences openly and from different perspectives (e.g. from the client's perspective) and, in particular, from a positive point of view. For example, seeing failure as a potential guide for learning is one way to detect the positive. Putting things into perspective (3) relates to thinking about life on a broader scale—for example, remembering that business is only one dimension of life. Harnessing a feeling of trust (4) refers both to trusting oneself as a professional and trusting the future. Building confidence in one's own abilities also includes forgiving oneself, allowing oneself to occasionally say 'no' and avoiding making decisions just to please others. Regulating resources (5) means assessing

where to get involved and justifying and prioritizing one's own actions—on the one hand, you must harness enthusiasm, and on the other, you must be mindful of working too much without taking time to recover. Engaging in dialogue (6) with professionals, colleagues, friends or family refers to talking aloud and sharing ideas, experiences and feelings (Figure 1).

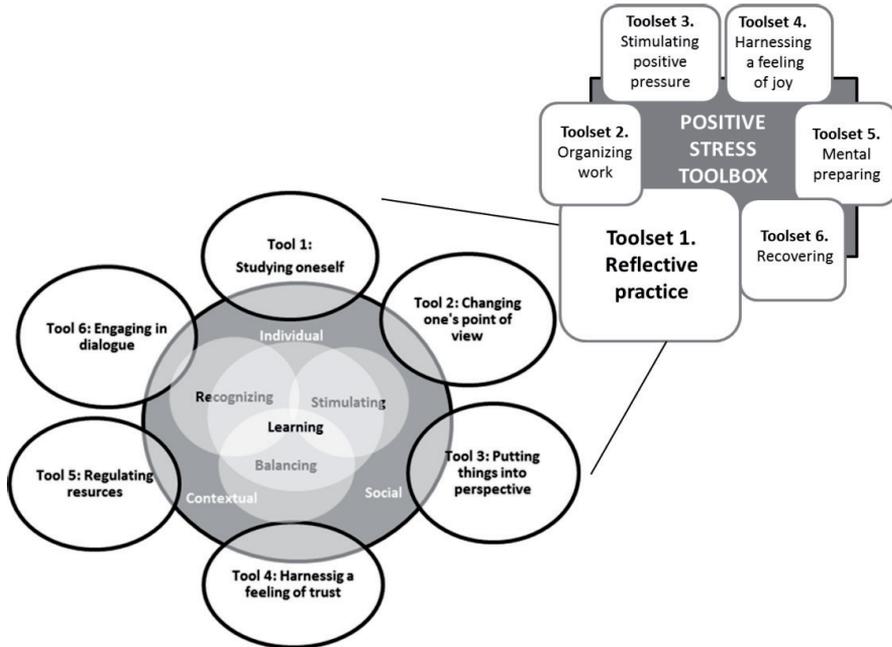


Figure 1: Toolset and tools for reflective practice

The entrepreneurs exploited these six tools in different ways to externalize their thinking, experiences and feelings. For example, some made lists or visualized their ideas and/or goals, thought aloud and/or asked questions. During the research process, reflective practice produced new insights into beneficial or harmful ways of thinking and working. Many of the entrepreneurs realized the importance of sufficient time for sleep and recalled ways of recovering from stress.

In summary, the data confirmed that capacity and willingness to reflect were considered crucial for experiences of eustress. Reflective practice in relation to positive stress highlighted entrepreneurs' ways of recognizing, stimulating and/or balancing eustress. Reflective tools were used to interpret stress/pressure experiences, to evaluate personal ways of coping and to construct an understanding of demands and resources. This enabled entrepreneurs to learn about themselves and from their own stress experiences, both individually and in the company of others.

DISCUSSION: EUSTRESS AND REFLECTIVE PRACTICE SUPPORTING BALANCE

Among those interviewed, eustress was seen as a state of enjoyment and productivity that was worth pursuing. Our results therefore confirm the need for research that takes account of the positive aspects of stress. Entrepreneurs reported their own personal ways of striving for eustress experiences, and one subset of these tools can be grouped under the theme of reflective practice. This aligns well with traditional transactional theories of stress (Cox, 1978; Lazarus & Folkman, 1984) that emphasise interpretation of stressors (e.g. primary and secondary appraisal) as a key factor in experiences of stress.

While positive stress among entrepreneurs has not previously been explicitly studied, our results offer preliminary support for application of the holistic stress model and the savouring of positive stress (Simmons & Nelson, 2007) in an entrepreneurial context. According to the JDR model (Bakker & Demerouti, 2014; Schaufeli & Bakker, 2004), given sufficient job resources, job demands may boost work engagement and performance. Reflective practice can also be seen as this kind of job resource, transforming demands into booster effects.

Earlier theory relating to reflective practice also proved applicable in the context of entrepreneurs and positive stress. The division of reflective practice into individual, social and contextual dimensions (see e.g.: Crossan et al., 1999; Jordan, 2010) is helpful in understanding differences between entrepreneurs. The present results also complement earlier studies highlighting the effects of reflective practice in reducing distress (Bono, Glomb, Shen, Kim & Koch, 2013; Smaie & Farahani, 2011), and our data suggest that it may be fruitful to look for the same effect with regard to savouring positive stress. However, straightforward causal relationships cannot be drawn purely on the basis of these qualitative and interpretative data.

Enhancing eustress, entrepreneurship and reflective practice demands self-leadership, which is described as a process of influencing oneself (e.g. Neck & Manz, 1992). Self-leadership skills facilitate behavioural management, using strategies of intrinsic motivation and reward as well as constructive thought patterns. Self-leadership also relates to optimism, happiness, conscientiousness, as well as an open personality, high internal locus of control, self-monitoring and need for autonomy (D'Intino, Goldsby, Houghton & Neck, 2007). In one form of self-leadership—thought self-leadership—the emphasis is on self-talk, beliefs/assumptions and mental imaginary in performance (Neck & Manz, 1992; Neck et al., 1999), echoing the idea of a reflective practice toolset presented here. D'Intino et al. (2007) characterised self-leadership among entrepreneurs in the following way: 'The goal of increased self-leadership for entrepreneurs is for these individuals to more effectively lead themselves by learning and applying specific behavioural and

cognitive strategies to improve their lives and their entrepreneurial business ventures’.

Positive stress and reflective practice are linked to many existing concepts, and these links should be further elaborated in future research. While some of the eustress experiences described by entrepreneurs had flow-like elements, our data illustrate the same relationship between flow and eustress as that reported by Hargrove et al. (2013): that flow is not necessarily or evidently but possibly an epitome of eustress. One other concept that might usefully inform future research is the idea of psychological capital; following Jensen (2012), this may provide the key to understanding entrepreneurial stress. Other closely related concepts include job crafting (see e.g.: Wrzesniewski & Dutton, 2001), work engagement (see e.g.: Schaufeli et al., 2002) and self-leadership (e.g. Manz, 1983).

The main aim of this paper was to characterise the results of the first research phase of our project by highlighting the reflective practice toolset from the positive stress toolbox. A central question for future research is how these reflective tools and the other tools from the positive stress toolbox can be taught and learned as part of everyday work. The challenge is to find the most efficient ways of assimilating these reflective practices into everyday work and then to maintain these habits. Preliminary answers may be found in the project’s next phase, where a new group of volunteer entrepreneurs are testing a digital version of the positive stress toolbox as part of their daily life.

Both the strengths and the limitations of this study lie in the qualitative and reflective research approach. While this provided solid benefits for present purposes, statistical generalization to all entrepreneurs cannot be drawn on the basis of these data. Although some valuable insights were gained, quantitative methods would provide another perspective and add value to these results. Additionally, all the entrepreneurs who participated in this study were Finnish, and most of them represented quite small firms; international, cross-cultural research could be expected to enrich this picture in the future.

CONCLUSIONS

The aim of this paper was to contribute to entrepreneurship research by exploring entrepreneurs’ descriptions of positive stress and reflective practice in their everyday experience. Following an overview of approaches to stress at work and the link to reflective practice, our approach drew on a positive psychology perspective, exploring individually and socially constructed interpretations and tools for finding and sustaining resources and balance.

After setting out our research process and methods, we went on to describe entrepreneurs' experiences of eustress and reflective practice at work.

The present results suggest that positive stress and reflective practice are intertwined in the experiences of entrepreneurs. With regard to eustress, the results confirm that reflective practice is a useful tool, both to stimulate good practices and to survive and learn from drawbacks and experiences of failure or success. Reflective practice offers more grounded self-knowledge and a means of identifying a personally acceptable level of eustress, as well as how best to recover, how to regulate workload and other job pressures and one's own activity in terms of resources at hand—in short, how to find a balance in life.

Based on the experiences of the entrepreneurs, we also described their tools for reflection. This reflective practice toolset comprised the following six reflective tools: studying oneself, changing one's point of view, putting things into perspective, harnessing a feeling of trust, regulating resources and engaging in dialogue. These tools were found to be useful for enhancing recognition and stimulation of eustress; for striking a balance between distress, eustress and recovery; and for developing ways of thinking and doing through learning.

The literature review confirmed a lack of research on positive stress experiences among entrepreneurs and in particular on the relationship between positive stress and reflection. Through qualitative analysis, the present study represents an exploratory step towards closing this gap by confirming that reflective practice plays an important role in entrepreneurs' experiences of eustress. Specifically, entrepreneurs reported how they used tools of reflective practice to interpret stress experiences, evaluate own ways of coping and construct an understanding of demands and resources.

The wellbeing of entrepreneurs is to a great extent in their own hands. The challenge is to be effective and innovative while also taking care to make time for recovery by balancing different demands and possibilities. The present research illustrates how tools for reflective practice and for savouring eustress can help entrepreneurs to balance wellbeing and effectiveness at work, offering a point of departure for further and more systematic research.

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Abstract (in Polish)

Choć duże obciążenie stresem jest nieuniknionym aspektem przedsiębiorczości, pozytywna strona stresu (często określane jako eustres) pozostaje zaniedbaną dziedziną badań. Niniejsza praca jest wkładem w badania w zakresie przedsiębiorczości poprzez łączenie strumieni badań nad eustresem z praktyką refleksyjną. Jako narzędzie do analizy i rozwoju myśli i działań, praktyka refleksyjna odgrywa ważną rolę w pracy interpretacyjnej niezbędnej dla pozytywnych doświadczeń ze stresem. Po przeglądzie podejść do stresu w pracy, eustresu i refleksyjnej praktyki, praca ta bada jak przedsiębiorcy postrzegają rolę pozytywnego stresu i praktyki refleksyjnej w pracy oraz opisuje narzędzia refleksyjne wykorzystywane przez przedsiębiorców, sprzyjające eustresowi. Proces badawczy został zaprojektowany w sposób wspierający dialog refleksyjny między 21 fińskimi przedsiębiorcami różnych branż, którzy wzięli udział w badaniu, opartym głównie na wywiadach jakościowych. Dziewięciu z badanych przedsiębiorców prowadziło również dziennik pozytywnego stresu, w tym trzydniowy pomiaru fizjologiczny, analizując zmienność pulsu. Wyniki sugerują, że pozytywny stres i praktyka refleksyjna przeplatają się z doświadczeniami przedsiębiorców oraz ilustrują rolę praktyki refleksyjnej jako kluczowego zestawu instrumentów do promowania pozytywnego stresu, składającego się z sześciu narzędzi refleksyjnych: samopoznawania, zmieniania punktu widzenia, spojrzenia perspektywicznego, wykorzystania poczucia zaufania, kontroli zasobów osobistych oraz podjęcia dialogu. Indywidualne zdolności refleksyjne są różne i podział praktyki refleksyjnej, w oparciu o teorię, na wymiar indywidualny, społeczny i kontekstowy uważa się za przydatny w zrozumieniu tych różnic. Niniejsza praca stanowić może punkt wyjścia dla dalszych badań nad eustresem i praktyką refleksyjną oraz ich wpływem na samopoczucie przedsiębiorców.

Słowa kluczowe: eustres, pozytywny stres, praktyki refleksyjna, przedsiębiorcy.

Biographical notes

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Spinning Them Off: Entrepreneurial Practices in Corporate Spin-Offs

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Abstract

This paper focuses on the practices between parent and child firms in corporate spin-offs. We uncover the enacted aspects of knowledge, called knowing, through theories from seven cases of incumbent-backed spin-offs and find that the management of the parent firms are highly involved in the spin-offs. The practices associated with spinning off are solving problems, involving multidisciplinary expertise and entrepreneurial management at the parent firm. We contribute to the spin-off literature by discussing the knowledge required for successfully spinning off child firms and to practice theory by empirically uncovering the practical understanding involved in the origin and perpetuation of an organization.

Keywords: *corporate spin-offs, knowing, practices, practical understanding.*

INTRODUCTION

In this paper, we uncover the knowledge used in successful spin-off processes. We focus on corporate spin-offs (Bergh, Johnson, & Dewitt, 2008; Bergh & Lim, 2008; Bruneel, Van de Velde, & Clarysse, 2013; Clarysse, Wright, & Van de Velde, 2011), which are new organizations formed by a split from another organization (Chesbrough, 2002; Clarysse et al., 2011; Wallin, 2012). In particular, we elaborate on the knowledge involved when moving from a parent firm to a new venture.

The knowledge involved in spin-offs has been a subject in research on corporate spin-offs. Clarysse et al. (2011) investigated the technological knowledge characteristics of spin-off performance. They found that narrow-focused technology (having a specific product technology and not a broad technology platform), sufficiently distinct from the technical knowledge base of the parent company and one that is tacit, is beneficial for successful spin-off performance. The forms of knowledge that generate sources of competitive

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advantage with a focus on technological based knowledge were found to be important. Technological knowledge is understood here as knowledge related to products, technologies, and processes (Burgers, Van Den Bosch, & Volberda, 2008). Gained experience and technological knowledge enable the efficient use of knowledge, and evaluation of commercial potential and technological advances (Cohen & Levinthal, 1990). Another study demonstrated how production, technological, and marketing knowledge were related to the post-spin-off growth of firms spun off from parent firms (Sapienza, Parhankangas, & Autio, 2004). Research on university spin-offs (Rasmussen, Mosey, & Wright, 2011) propose to use a competency approach to address competencies provided by several actors while capturing the entrepreneurial processes. They identify three competencies that are needed for a university spin-off including opportunity refinement (having ideas with high knowledge content and technologies that are radical in nature), leveraging (acquiring and combining resources to sustain the new venture creation process), and championing (having a personal commitment or the leadership role needed to sustain the venture start-up process) (Rasmussen et al., 2011, pp. 1328–1336). Although these insights are based on university spin-offs, they are highly relevant for corporate spin-offs.

These insights are highly interesting, and their understanding of knowledge and competencies reflect the resource-based theory of the firm (Barney, 1991; Penrose, 1959; Teece, Pisano, & Shuen, 1997; Wernerfelt, 1984). According to Wallin (2012), a large part of the spin-off literature concerning entrepreneurship and innovation is heavily influenced by the resource-based view. However, newer theoretical insights underline how this view posits a commodification of knowledge as an asset that can be controlled or transferred (Gherardi, 2000). Leaving the understanding of knowledge and knowledge transfer as something a firm has as an asset, our focus underlines the enacted aspects of knowing (Gherardi, 2000; Gherardi & Strati, 2012), focusing on what people are doing, erasing the dichotomy between codified/explicit and personalized/tacit knowledge, as they are found to be inseparably related (Tsoukas, 1996). From understanding competencies and knowledge to a focus on knowing, Orlikowski emphasizes knowing and sets forth that “knowing-how” and practice are mutually constitutive (2002). She follows the understanding of knowing in practice being knowledgeable enacted through on-going action. To uncover knowing in practice, we turn to practice theory as our main theoretical construct because knowledge and knowing are understood to be part of the practical understanding when performing activities that are part of practices (Schatzki, 2012). Using practice theory to grasp the enacted entrepreneurial activities is a powerful frame with which

to view actionable knowledge (Johannisson, 2011, 2012, 2014; Keating, Geiger, & McLoughlin, 2014; Steyaert & Landström, 2011).

Building on the corporate spin-off research exposing that the technical knowledge base that is tacit is beneficial for spin-off performance together with the understanding of knowing, the research questions of this study are as follows: *What forms of knowing are important in corporate spin-off creation processes, and what makes spin-offs spin?*

This paper, with a focus on the internal relations between parent and child firms, has a twin paper focusing on the external ties to suppliers and customers, which together complement each other in exposing the different practices for successful spin-offs. This paper provides insights into the entrepreneuring practices of spin-off firms and in particular, the types of knowing involved. We find different types of knowing, such as solution-based knowing, multi-disciplinary knowing, and business set-up knowing, contributing to entrepreneurial literature regarding types of knowing that are important for successful spinning. The contribution to practice theory is empirically to uncover the practical understanding and knowing in relation to the happenings of an organization. We thus contribute to the spin-off literature and practice theory regarding the practices and inherent knowing when establishing an independent organization.

LITERATURE REVIEW

Existing research on corporate spin-offs has emphasized how firm policies give incentives for employee innovation and entrepreneurship (Hellmann, 2007). When the parent firm assists or takes part in spinning off a company, it is called an incumbent-backed spin-off (Bruneel et al., 2013). These types of spin-offs are triggered by an opportunity, but the parent firm is behind the spin-off, not the employees. These opportunity spin-offs are in opposition to necessity spin-offs or strategic restructuring spin-offs, which are due to adverse developments (Bruneel et al., 2013). Incumbent-backed spin-offs are established by the parent firm to explore new products and services in the market. Because these products or services are not part of the parent firm's core strategy, it is more prudent to develop and commercialize these in an independent legal entity (Parhankangas & Arenius, 2003). According to Agarwal & Bayus (2002), the development time of their product or service may take over 10 to 15 years before launch. Parent firms are involved in hiring or establishing the managerial positions at the spin-off firm, and these managers seem to operate under the umbrella of the incumbent (Bruneel et al., 2013). The formal ties between the parent firm and the spin-off are through equity or license agreements (Parhankangas & Arenius, 2003),

with ongoing parent participation in the spin-off. According to Grant (1996), understanding the relations between the parent and the spin-off firms may enhance our insights of what knowledge is needed internally in the spin-off and to evaluate external knowledge needed for the spin-off. These insights are highly valuable for exploring the knowledge involved in spin-offs, and we lean on practice theory.

Practice theory understands practices as a set of organized activities (Schatzki, 2012). These activities are formed by basic doings and sayings. Activities performed for a certain reason form a practice, involving interdependent persons who modify their responses as they interact (Schatzki, Knorr Cetina, & von Savigny, 2001). A practice embraces i) the practical understanding of the actions composing the practices, ii) rules, iii) teleological structures and, iv) the general understanding of the nature of work (Schatzki, 2005). The practical understanding is also referred to as the complex of know-hows (Schatzki, 2006), which is important to understand in relation to organized activities. “By ‘practical understanding,’ I mean knowing which bodily actions to perform (in particular circumstances) in order to accomplish specific actions” (Schatzki, 2013, p. 34). In this paper, we focus on the practical understanding comprising the practices.

Practical understanding and knowing cannot be made totally explicit. Building on Heidegger (2008) and Wittgenstein (1953/2009), Schatzki explains that “knowing how to go on is a mastery of ways of speaking and acting that defies adequate representation in words, symbols, diagrams or pictures. This fact undermines the claim that practical understanding is being able to apply a formula” (1997, p. 299). Actions and activities are understood to be organized by practical understanding and tacit knowledge, the knowing. Because we want to look at practices between parent and child firms, to identify the knowing involved, we will uncover their particular practices. However, we do not focus on the workings of the organization, but more on the origin and the perpetuation of the organization (Schatzki, 2005). According to Schatzki (2005), to comprehend an organization, we have to identify the actions that comprise it. An organization is made of actions that are performed in existing practices and with a mix of old and new practices and material arrangements, and an organization maintains the existence of practices while accommodating changes.

The emergence, persistence, and dissolution of practices are explained as slices of social phenomena (Schatzki, 2013). The emergence of practices in relation to practical understanding is explained to be “the development of common practical understanding” (Schatzki, 2013, p. 37). However, there is a lack of explanations of how practical understanding and complexes of know-hows are involved in relation to the happening of an organization. Apart from

the abstract and general terms of descriptions regarding the happenings of an academic department with practices of grading, teaching, and research (Schatzki, 2006), there is a lack of theorizing into the practical understanding and knowing in relation to the happening of organizations. We delve into the happening of spin-offs and the carrying out of their constituent practices. Focusing on incumbent-backed spin-offs, we examine the practices between the parent firm and the child firm when spinning off the independent organization.

RESEARCH METHODS

To uncover the knowing and the particular practices involved with spin-offs, we treat practices, and their inherent activities, as the central lens to understand the spin-off organization. By examining the recurrent practices of the actors involved, we aim to uncover the knowing.

Empirical material

The study is based on empirical materials derived from 25 interviews in seven cases of spin-offs. We conducted semi-structured interviews regarding the spin-off process from the beginning to the present situation, posing detailed questions as to what they did and which activities they undertook. When inquiring about the spin-offs, we have investigated the spin-offs from idea to establishment regarding internal and external actors involved, use of existing innovation processes, access to financial support, use of established or emergent networks, experience needed, and knowledge and capabilities involved. For every case, the aim was to interview the actors involved during the spinning-off process. However, we found that there were often not that many people actually involved, which made us change the interview scope to include the CEO or the strategic manager behind the spin-off both from the parent firm and the child firm. During our interviews, we also found that there were often particular third persons involved in the spin-off process. This finding made us enlarge the interview scope for those spin-off cases that were relevant to include interviews with a third party who had closely followed the spin-off process, such as investors, board members, customers, or suppliers. The unit of analysis is the practice of spin-offs from the idea to the actual commercialization. We followed semi-structured interview guides and had slightly different versions of the guide dependent on whether the informant represented the parent firm, the child firm, or a third party. However, the content and topics of the interviews remained the same: the entire history from the early idea to spinning-off the company; the phases from the idea for establishing the spin-off, the incubation phase, and the commercialization

phase; who was involved and their different roles; what activities were undertaken and what decisions were made; the market situation for the mother firm and the spin-off in relation to the process, service, or product that was part of the spin-off; internal strategies and activities at the parent firm in relation to the spin-off; external actors involved and their activities; financial needs and inherent activities undertaken; and finally, the current situation and relation to the spin-off, parent firm, or other third parties. Each interview lasted between one to two hours. The interviews were recorded and transcribed.

The seven cases of incumbent backed spin-offs were found based on our informal inquiries within different industries, in which slowly, over several months, we were told about several cases from word of mouth. The spin-off cases represented the oil and gas, maritime, and information and communication technology (ICT) industries. Our cases are opportunity spin-offs, where spin-offs result from the exploitation of an opportunity by employees, and parent-backed spin-off, initiated by parent firms (Bruneel et al., 2013). To preserve anonymity, we denote the cases from 1 to 7 and by whether the interviews stem from parent firms, child firms, or third parties (Table 1).

Table 1. Overview of interviews in parent and child firms and third party interviews

Spin-offs	Parent firm interviews	Child firm interviews	3rd party interviews
1	2	1	2
2	1	1	1
3	2	2	
4	1	1	1
5	2	1	1
6	1	1	1
7	2	1	
7 Spin-offs	11 interviews	8 interviews	6 interviews

Table 2 exposes the different cases, where we understand spin-off success as still being in business with positive revenues. During our inquiries, case 2 was still in the process of spinning-off. Meanwhile Case 5 was dissolved, as the spin-off child firm closed down, and the employees returned to the mother company.

Table 2. Overview of the different cases of parent and spin-off companies

Case	Parent company established	Spin-off established	No of employees in 2014	Revenues	Spin-off success
1	1966	2012	20	Positive results	Yes
2	2010	2014	2	Not yet	On-going
3	1987	2004	30	Positive results	Yes
4	1979	2004	10	Positive results	Yes
5	1973	2012	None	Positive results	No (Dissolved 2013)
6	1999	2013	20	Positive results	Yes
7	1948 1936	2006	33	Positive results	Yes

ANALYSIS

The analysis was conducted in several steps. First, the data were examined in relation to the research questions, with specific consideration of what activities were involved in the spin-offs to identify the knowing. During the interviews and the data analysis, we found that the management from the parent companies seemed as dedicated to the spin-off as the spin-off CEOs. We were surprised when identifying how close the parent companies' managements were to the spin-offs. Iterating between in-depth analysis of the empirical findings from each spin-off case and comparisons across the spin-off cases, and connections to the literature (Alvesson & Kärreman, 2007), we thus returned to extant theorizing and found the characteristics of incumbent-backed spin-offs were in line with our findings; however, our findings highlighted activities that were undertaken, which the existing literature does not expose. Across the cases, the spin-off practices and knowing involved were also surprisingly similar, and we did not find differences related to industries, which is why we do not focus on the related industries. However, the interviews reflected whom we had talked to and whether they represented the parent firm, the spin-off firm, or third parties. The difference was in relation to viewpoint, although the stories told about the spin-offs were coherent. We thus coded our collected material according to the literature on incumbent-backed spin-offs (Bruneel et al., 2013), inspired by the work from Orlikowski regarding practices of knowing (2002). By using practices, activities comprising the practice and the knowing constituted in the practice to explore the data, we found variations within each theme, which are reported in the findings section and further analyzed in the discussion and conclusion section.

Analysis/study

We found three central practices of spin-offs (Table 3). First, spin-off ideas, whether related to products, technologies, or services, were based on practical solutions and problem solving. Second, the spin-off required multidisciplinary expertise for the business idea to be carried out. Third, the parent firm showed entrepreneurial management through supporting innovation, being pro-active, and taking risks. The three practices of solving problems involving multidisciplinary expertise and entrepreneurial management are discussed in relation to the activities comprising the practices and the knowing constituted in the practice and illustrated with the quotes in the following section.

Table 3. Repertoire of practices, activities, and knowing for spin-offs

Practice	Activities comprising the practice	Knowing constituted in the practice
Solving problems	Engaging in handling challenges Identifying unconventional solutions	Knowing based on questioning common assumptions
Involving multidisciplinary expertise	Collaborating with professionals with different backgrounds and skills Developing solutions together	Knowing different facets of the same industry
Entrepreneurial management	Accepting internal projects Having short decision-making lines Adhering to a management philosophy of nurturing employee-driven innovation Establishing a company Hiring the CEO for the spin-off Establishing security for employees leaving the parent firm Being part of the board Sharing experiences Securing funding	Knowing how to set up and run businesses

Solving problems

The original idea behind the spin-off stemmed from different sources within the parent company. In case 2, we find the original idea came from the CEO of the parent firm. *“I do not know what the CEO (at parent firm) has said, but the idea of the spin-off is probably his. It had to do with an idea based on a system that was developed in an earlier company established by the CEO. He came up with the idea and wanted me to develop it in collaboration with him. But clearly the technology and the way the architecture and everything is, how it should be built up and stuff, I helped him with that. But, we should probably say that the idea for the product stemmed from the CEO”* (Case 2, CEO Parent firm).

The spin-off managers emphasized that the idea behind the spin-off appeared during solving practical questions or during projects within the parent firm. One of the informants in case 4 explained: *“This had its origin from engineering. These are people with engineering backgrounds. It’s a combination of ideas either from me, or Ole, or others... The first obstacle is... because everyone thinks like that in conventional terms. With the existing technology, if you take topside technology and put it at the seabed, then you will get no advantages, only disadvantages. So you have to change the entire mind-set, and see what kind of advantages we get at seabed instead of topside, and then exploit the advantages and not the disadvantages. Then, you can do things all differently, and suddenly there are things that are easier and more efficient at seabed due to other reasons”* (Case 4, CEO Child firm).

The ideas behind the spin-off are based on solving problems or seeing new solutions to existing challenges. The knowing involved was based on questioning common assumptions. The origin of the ideas stemmed both from managers in the parent firms and from managers in the newly established spin-off firms.

Involving multidisciplinary expertise

We also found that competencies from different fields, with experience from different segments of the industry, were important to deliver the services and products of the spin-offs. *“The core thing that makes us successful is that we have good knowledge, broad knowledge. Old experience and people that have worked a long time with different things in the offshore segment, tried many things and have very good knowledge of materials, for example. We try to get them to work closely together, and talk together well”* (Case 3, CEO Parent firm).

The findings suggest that multidisciplinary expertise is highly important. *“We don’t chase solutions based on volumes on behalf of safety. It is competence and experience. That is what we can do...The idea is that we are going to do it, and we will do it our own way...We deliver a spectrum of services. To deliver multidisciplinary is what allows us to manage the extraordinary ... ”* (Case 1, CEO Parent firm).

In some cases, the multidisciplinary expertise is explained through the competence and experience that the employees in the spin-off have acquired: *“I think that we have people with a larger perspective, which we see even in relation to oil companies. Here we can be three men, and then we have the competence. I have worked in operations, another has worked with reservoir simulations, another with all kinds of subsea fields, and suddenly we have this competence that even if we meet with twenty men, they do not*

match us since they are either facility people or something else ... ” (Case 4, CEO Child firm).

Involving multidisciplinary expertise entails collaborating with colleagues with different backgrounds and skills to develop solutions together. The CEOs talk about *“managing the extraordinary,” “they do not match us,” “work closely together,”* and *“talk well together.”* Their multidisciplinary knowing involved different facets within the same industry.

Entrepreneurial management

In the seven cases of spin-offs, the parent firms reported that they had an explicit focus on innovation and entrepreneurship. They welcomed internal innovation projects or found new solutions to existing challenges as a reason to spin off. Short decision-making lines were emphasized as important for the internal innovation projects and for new solutions to see light: *“There is a very short distance and low threshold to speak to the CEO, so everyone can talk to him. When good ideas are brought up, it is very easy to get a ‘go for it’ from the CEO”* (Case 1, Brand Manager Parent firm).

“And then you have the decision-making lines. For us to be able to do anything together, we have to have decisions. And short decision-making lines are an asset. I really believe that this is important, since when there is an established spin-off, we get a mandate, a board and a budget and then you can drive. You cannot do that if you are a unit in a large corporation” (Case 7, CEO Child firm).

The management in the parent companies adhered to a management philosophy of nurturing employee-driven innovation, as shown in the explanation from the CEO in case 4: *“But I believe that it is important that there are ideas realized since we are within the technical fields. Then, we who are managers, we have the damn duty to assure that these ideas are developed, even at a personal level. I mean that”* (Case 4, CEO Parent firm).

The parent management was involved in establishing the spin-off company: *“We have done this, spinning off companies, many times before. Both before and after”* (Case 7, CEO parent company). The parent management was also involved in hiring the CEO for the spin-off company: *“So they established a project ... And they began to create something physical, and measured and tested. We drove the entire first phase without moving the company out. But when we began to see that now we had to move this out, initially we employed the CEO and another person in the new company. And they moved physically out”* (Case 4, CEO Parent firm).

“We started out with...we [Parent firm 2] had collaboration with parent firm 1 so we knew each other. And together we saw the need to have a stable

collaboration partner regarding these multidisciplinary services. We had collaborated with another firm over many years, but they were owned by a large corporation and on several occasions we were not prioritized. This was the reason why we [Parent firm 1 and 2] sat down and carved out a strategy so that we could get more control of those services we were dependent on. And that was how we [CEO parent firm 1 and CEO parent firm 2] decided to start the spin-off, which we did a few years ago. We started it rather heavy, with engineers, managers, CEO and everything, without any projects or jobs to do... ” (Case 7, CEO Parent firm 2).

The parent firm management emphasized the importance of establishing security for employees leaving the parent firm to the spin-off company. Several of the CEOs from the parent firms were part of the board of the spin-off companies and hence secured the on-going operations of the spin-off through sharing experiences and ensuring smooth operations.

“We have the advantage that we own 49%, and half of the profit comes back to us. Then, we are on the board, so we know what is going on. We can make requirements based on accounting principles and all that, so we know we are not taking any risk regarding taxes, etc. ...so that we ensure we are not engaged in anything that is unreliable” (Case 7, CEO Parent firm).

Thus, the spin-off companies benefit from different administrative procedures, routines, or experiences than the parent company. Through the board representation, the parent company further secured funding for the spin-off operations. *“We gambled and said, ‘Now let’s try it, to test it out in the market, whether there is someone who is willing to pay for this. Does it have a value?’ Then we went out and did a placement and invited new shareholders. At that time, the company was valued at about 100 million. And the amount we received was 35 million or something, and then the ball started rolling” (Case 4, CEO Parent firm).*

Several spin-off cases talked about the challenge of financing the development of new products and services. Of course, the dimension of this challenge varies enormously depending on the type of product/service. The most extreme case of development among our sample was said to last 10 – 12 years and cost approximately USD 10 – 13 million. The majority of companies interviewed claimed that it is difficult to justify spending millions on development. *“The board simply won’t allow it” (Case 4, CEO Child firm).*

“When we had the idea, we were working at the parent company, a large Norwegian-owned company dealing with topside engineering [design and modification of fixed offshore installations]. The profit margins in such companies do not allow large scale development work with no secure income stream ‘just around the corner’” (Case 4, CEO Child firm).

This challenge was solved in a variety of ways. Some companies got by through a combination of venture capital and public R&D support. A commonly used tax program that refunds 20% of the development costs assisted several of the spin-offs. Others used their own funds.

A lack of support from parent firm management, which seemed to be strategically based, was a make or break for the spin-offs. Two of the cases had problems with gaining thorough support from the parent firms: *“A lot of the development work for the product has been done in our spare time as our board does not like us working on work with no income stream. Naturally, this delays the development work”* (Case 2, CEO Child firm). All our cases had solid support from the parent firm management except in Case 5, which was dissolved in spite of sound management and positive results. *“A bit of resistance internally at the parent firm, to go for large multi-projects, was also a reason why it did not work”* (Case 5, CEO Child firm). The parent firm explained: *“We did an overview of the investments that had to be done, and who should take them. And when it came to the board table, the Board said that there is too much uncertainty, too much risk, and too many large investments, so we said no. So that was why and as a sort of consequence, we froze this company”* (Case 5, COO Parent firm).

Apart from Case 5, all the spin-offs are still in business, and the management of the parent firms exposed entrepreneurial attitudes, using their experience to enable the spin-off companies, exposing knowing how to set up and run a business.

DISCUSSION

This study set out to answer the following questions: *What forms of knowing are important in successful spin-off creation processes, and what makes spin-offs spin?* With a focus on practices, the activities comprising the practices and the knowing constituted within the practices, we found that entrepreneurial management and their activities and knowing from the idea to the very realization of the spin-off and the further operationalization of the spin-off were critical. Our findings expose that for incumbent-backed spin-offs, solving problems involving multidisciplinary expertise and entrepreneurial management were the practices involved in spinning-off parent and child firms. These three practices resemble, but are not identical to, the competencies found for university spin-offs, which were described as opportunity refinement, leveraging, and championing (Rasmussen et al., 2011). The main differences in our findings are due to the nature of university spin-offs, involving academics becoming accustomed to business, and corporate spin-offs, involving businesses establishing new businesses.

Our findings both confirm and extend the existing research. The parent firms' management accepting internal projects shows how firm policies give employees incentives for employee-driven innovation in line with Hellmann (2007). However, our findings expose how these incentives are operationalized through internal acceptance of innovative projects, with short decision-making lines, and with a management adhering to a management philosophy of nurturing employee-driven innovation, which extends and further nuances the existing research. Extant research emphasizes that incumbent-backed spin-offs are triggered by an opportunity and that the management of the parent companies are involved in the set-up of the spin-off (Bruneel et al., 2013). Our findings confirm this by exposing how close the parent firm management is to the spin-off process. Sapienza et al. (2004) found that production and technological knowledge relatedness between parent and child firms were related to growth, while our findings expose that support from the parent firm is imperative for the organizational happening of the child firm. Grant (1996) emphasized that understanding the relations between the parent and the spin-off firms would enhance our ability to understand what knowledge is needed internally and evaluate external knowledge. Our findings show that the relations between parent and child firms both established security for employees in the spin-off firm, and by being part of the board, they shared experiences of how to run a business, secure funding, and develop the spin-off company using the knowing from the parent firms. Our findings and answer to the first research question, nuance the existing research by emphasizing that the knowing involved for successful spin-offs are: *knowing how to question established assumptions, knowing the facets of the industry, and knowing how to run a business*. This complex of know-hows, or knowing, exposes how practice theory and the practical understanding involved in the happening of an organization is a helpful theoretical lens for spin-off theorizing and entrepreneurial processes.

Turning to practice theory, we found the practices for establishing an independent organization. The answer to our second research question regarding the happening of spin-offs and the constituent practices was solving problems, involving multidisciplinary expertise and entrepreneuring management. By focusing on the internal practices needed during the occurrence of spin-offs, we expose what practice theory refers to as the *practical understanding* (Schatzki, 2006). Our contribution is hence the identification of what is necessary for an organization to happen. Our findings are shown in Figure 1. The activities and practices are not necessarily sequential or linear because they can be performed in parallel, but they are exposed here for illustrative purposes:

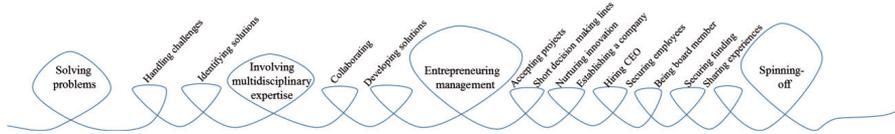


Figure 1: Practices for spinning off

CONCLUSION

This paper focuses on spin-offs and the necessary knowledge and experience involved. By highlighting the enacted aspects of knowing, we show the activities comprising the practices and the different practices involved between the parent and spin-off firms during the process of spinning off. A limitation of this study is that we have not been able to follow the spinning-off process over time, but we have inquired about the process in retrospect. To address this shortcoming, we also interviewed third party actors who could explain more of the practices from another angle. Highlighting the spin-offs from three different angles is clearly a strength with the empirical material, which enabled us to identify the practices and the knowing involved. We find that there is a close relation between the parent firms and spin-off firms in relation to knowing and the actors involved in the spin-offs. Entrepreneurial management from the parent firms and committed employees in child firms are highly important for successful spin-offs. By finding different types of knowing, such as solution-based knowing, multi-disciplinary knowing, and business set-up knowing, we contribute to the entrepreneurial literature regarding types of knowing that are important for successful spinning-off. Although we have solely focused on spin-offs, the practices identified are relevant to other types of organizations where there are actors from different organizations involved in the establishment of a new organization. Future studies could delve into the practices of parent and child firms during and after spinning-off to uncover the practices that are used.

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Abstract (in Polish)

Niniejszy artykuł skupia się na praktykach między spółkami dominującymi (matka) a zależnymi (córka) w korporacyjnych firmach typu spin-off. Ujawniamy w nim stanowiące aspekty wiedzy, zwane knowing, poprzez teorie oparte na siedmiu przypadków firm typu spin-off wspieranych przez duże podmioty działające wcześniej w branży, oraz wykazujemy silne zaangażowanie kadry zarządzającej spółką matką w działalność firmy spin-off. Praktyki związane z procesem wyodrębniania spółek typu spin-off to rozwiązywanie problemów, wykorzystanie wiedzy eksperckiej z wielu dyscyplin, a także przedsiębiorcze zarządzanie w firmie macierzystej. Literaturę na temat firm spin-off dopełniamy omawiając wiedzę niezbędną do skutecznego tworzenia spółek zależnych, natomiast teorię uzupełniamy poprzez empiryczne ukazanie praktycznych aspektów powstania organizacji, jak również jej utrwalania.

Słowa kluczowe: korporacyjne firmy spin-off, wiedza, praktyki.

Biographical notes

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Open Innovation Practice: A Case Study of University Spin-Offs

*Yuliya Shutyak*¹

Abstract

The paper investigates the practice of Open Innovation (OI) of university spin-offs. Three interviews were conducted to discuss the knowledge of spin-offs about OI, their attitude to this innovation management strategy based on perceived advantages and disadvantages, and their motivation towards OI practice in the future. Problems with planning, control and trust appear to be some of the most important for OI success. Focusing on these and other urgent aspects of OI, the article discusses a research agenda that can help in formulating research questions and hypothesis, thus directing their efforts to search for solutions to identified problems.

Keywords: *innovation, open innovation, spin-off, small and medium business.*

INTRODUCTION

The phenomena of Open Innovation (OI) have been known for decades. However, the popularity of OI has been growing among both practitioners and business researchers since comparatively recent times (Chesbrough, 2003; West, Vanhaverbeke, & Chesbrough, 2006). In 2010, Gassmann, Enkel, and Chesbrough (2010) announced the beginning of the era of OI (p. 214) by stating “a small community of management researchers has recently developed into an established research field” (Gassmann et al., 2010, p. 212). Immediately, it turned into “one of the hottest topics in innovation management” (Huizingh, 2011).

OI “assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology” (Chesbrough, Vanhaverbeke & West, 2006, p. xxiv). Indeed, the external sources of knowledge and resources are admitted to be important for the innovative activity of an organization. Internal R&D activity, especially for firms with limited resources, becomes less effective (Brunswick & Ehrenmann, 2013). More and more often, innovations appear

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as a result of the functioning of inter-organizational networks, when a firm's openness allows the knowledge, specialism, and innovations of other firms to be accessed.

Examples of OI can be found in businesses of different sizes. However, small and medium enterprises (SMEs) are considered to be more inclined to openness in their innovative activity due to them having less resources available for in-house innovations in comparison with large enterprises (Brunswick & Ehrenmann, 2013; Spithoven, Vanhaverbeke, & Roijackers, 2013). This is also true for university spin-offs that are small or medium by their size in many cases, at least in the first stages of their development. Even more, they are born through innovative activity (Druilhe & Garnsey, 2004) being products of OI (Chesbrough et al., 2006). Therefore, they are supposed to be more open in R&D.

Despite such specifics of spin-offs, little research is done on their practice of OI. Thus, Walter et al. (2011) focus more on innovation success of university spin-offs rather than precisely on OI. Some other research papers are devoted mainly to the performance issues of innovative activity of firms, ignoring other important aspects. Perkmann and Walsh (2007), studying university-industry relations and OI, point to the need to explore further other aspects of OI such as incentives and motivation, OI strategies, types of innovative activity, etc. Alternatively, literature on OI at SMEs offers additional insights but still remains limited in number and geographical scope. With regard to that, this research is to contribute to a scarce literature on the practice of OI of university spin-offs and suggest additional research directions based on the obtained results. The following part of the paper proposes a brief overview of academic literature which allows this research to be more focused. It gives a methodological basis for preparing and conducting interviews with spin-offs. The final parts include a discussion on the interview results and suggestions for future research.

LITERATURE REIEW

The OI paradigm expands the so-called traditional Closed Innovation model by adding the necessity of combining internally and externally developed technologies to create business value (Chesbrough, 2003). In that sense, companies do not need to rely solely on their internal capacity, but they may include external human, financial and natural capital to manage their innovation processes and its commercialization. This approach quickly captured the attention of the academic world, and today the topic of OI practice is widely covered in literature, where many authors agree that OI has a much broader application than first proposed by Henry Chesbrough.

Authors debate the OI concept, especially its definition and nature (Elmquist, Fredberg, & Ollila, 2009). Despite some differences of opinion, researchers agree on the main distinguishing feature of OI. Namely, while Closed Innovation relies on internal knowledge, OI admits the importance of both external and internal sources of innovation. In OI discourse, Chesbrough (2006) speaks about “the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation” (p.vii). West and Gallagher (2006) discuss the use of “a wide range of internal and external sources for innovation opportunities” (p. 320). While Sisodiya, Johnson, and Grégoire (2013) perceive OI with its inbound element which involves “... the systematic practice of integrating external inputs into a firm's extant new product technologies” (p. 2).

Further, the OI model seeks the commercialization of R&D results (Chesbrough et al., 2006). For this purpose, firms use various ways to market that manifest themselves in different forms of OI practice. Petroni, Venturini, and Verbano (2012), based on literature review, list several practices of OI among companies such as R&D outsourcing and alliances with private and public research centres; external stakeholders involvement (joint ventures, strategic collaboration on specific issues), licensing of other firms' IP; recourse to small but highly specialized research firms, participation in technology transfer programs and programs of public procurement. Those authors own empirical research supplements above strategies for increasing openness in innovation processes, with such practices as acquisition of research firm with specialized knowledge, doubling contract with different research institutions, wide-ranging participation in precompetitive research, cooperation in research and experimentation with suppliers and customers, financing academic research programmes, use of networks of technology brokering, contracting consultants, organization of innovation conferences and seminars.

Each of the forms of OI constitutes a separate thread of research in the academic literature, along with such topics as OI strategy and organization design (Biondi, Calabrese, Capece, Costa, & Di Pillo, 2013), role and model of leadership (Lindegaard, 2010), culture (Herzog, 2011), technology (Wild & Griggs, 2008), opportunities and barriers (Chesbrough, 2010). At the same time, a lot of questions remain underexplored, among which is the practice of OI of university spin-offs.

The most common and “natural” innovation centres are universities. They are admitted as important players in research creation and knowledge dissemination within the academic community. Apart from that, they educate and qualify personnel for industry thus contributing to technology transfer (Gunasekara, 2006). However, in the last decade, there has been a growing

need for universities to disseminate their research and knowledge beyond the academic community. Successful university spin-offs such as Google and Genentech have applied even more pressure. As a result, many universities actively try to convert new scientific discoveries into spin-off ventures (Arvanitis, Kubli, & Woerter, 2008; Perkmann & Walsh, 2007; Steffensen, Rogers & Speakman, 2000).

A university spin-off is an endeavour set up by academic entrepreneurs based on intellectual property generated through their research (Shane, 2004). "University spin-off companies are outputs of university research related activity and an outcome of the university's purposive technology transfer efforts" (Link & Scott, 2005). They are seen as tools for transferring knowledge between research facilities and companies (Wennberg, Wiklund & Wright, 2011) especially in area of new products, new processes or new services. Pirnay, Surlemont, & Nlemvo (2003) define a university spin-off as a particular type of young high-tech firm, created for the purpose of knowledge, technology or research results commercialization developed within a university.

Simultaneously, spin-offs are considered as products of OI practice (Chesbrough et al., 2006). Such an origin may lead to a suggestion that spin-offs are inclined to OI more than other businesses. There are two main reasons for this. First, spin-offs do not emerge as any usual enterprise. They are born by an existing organization and may keep connections and implement various projects in cooperation with a parent organization during all of the following years, and even more, build additional contacts with other research centres and universities. Second, the size of spin-offs may play a crucial role in choosing a model of innovativeness. Speaking about university spin-offs, many of them are created as small or medium organizations and, consequently, possess the advantages and disadvantages of SMEs.

These two factors may lead to different OI practice in spin-offs compared to other firms. However, a handful of studies analyse OI practices in university spin-offs. Perkmann and Walsh (2007) enumerate several university-industry links like collaborative R&D, contract research and consulting, development and commercialization of technologies pursued by academic inventors through a company they (partly) own, training of industry employees, informal and formal social relationships and networks at conferences, scientific publications used within industry.

All these studies are important to understand the practice of OI among university spin-offs. At the same time, most of them use the definition of OI proposed by Henry Chesbrough in 2003 or its derivatives, which is criticized for being too wide to be appropriate for different types of enterprises. A similar situation is observed in the case of SMEs. Small businesses admitted

to being an important source of innovations (Brunswick & Ehrenmann, 2013; Spithoven et al., 2013) but the definition of OI in SMEs remains under discussion. Definitions used in most research on both large and small businesses do not always distinguish particular qualities of SMEs.

Gianiodis, Ellis, & Secchi (2010) summarise the important elements of conceptualization of OI that include inflows and outflows of knowledge, firm boundaries and their permeability, a firm's deliberate adoption practices, and factors that influence success or failure of OI (p. 4). With regard to small business, particularly the last three elements seem to distinguish SMEs from large enterprises. First, SMEs are considered more open in innovation activity, particularly, if these SMEs are university spin-offs.

Another distinguishing feature is adoption practice which varies from one enterprise to another. Thus, when spin-offs are assumed to be already open to OI due to their origin, other SMEs may still need to implement OI. With regard to such enterprises, Brunswick & Ehrenmann, (2013) characterise open innovation search by SMEs as purposive and non-pecuniary. Among factors that influence the adoption of OI, researchers point to less formalised internal R&D practice, different characteristics of formal and informal networks (Spithoven et al., 2013), a focused business portfolio and specialized knowledge base (Bianchi, Campodall'Orto, Frattini & Vercesi, 2010). Lee, Park, Yoon, & Park (2010) make a case for emphasizing the commercialization stage in the OI efforts of SMEs, due to a lack of manufacturing capacity and access to the innovation market.

Finally, smallness creates a specific for SMEs barriers and motivators to OI: small businesses being more flexible and less bureaucratic are ideal cradles for innovations but they also lack resources that can constrain innovative activity or serve as a driver to search for external sources of innovations (Spithoven et al., 2013). Some studies particularly focus on these and other barriers and motivators to OI among SMEs (van de Vrande, de Jong, Vanhaverbeke & de Rochemont, 2009), including spin-offs (van Geenhuizen & Soetanto, 2009). Among the benefits, scientific literature discusses the reduction of cost and time or access to additional resources and facilities, faster knowledge dissemination, access to different kinds of knowledge, shortening of time-to-market, learning new skills and some others (Arvanitis et al., 2008; Van Geenhuizen & Soetanto, 2012). Among the obstacles of implementing OI models in university spin-offs, researchers point to a lack of transparency; high level of informality; deficiencies of the companies; different interests and attitudes to research; lack of confidence in the business world and the risk of damaging scientific reputation; endangering scientific independence and neglect of basic research; lack of human resources for knowledge and technology transfer (Arvanitis et al., 2008; Van Geenhuizen & Soetanto, 2012).

The findings of previous research create an impression of the overall culture of OI among SMEs and in many cases present OI as a key to the success of enterprises. Notwithstanding the importance of the previous research, this prevalent vision of OI in spin-offs and other types of SMEs needs to be questioned. Some researchers take it for granted, in spite of the fact that OI is a relatively new topic in research literature and, with regard to SMEs, still does not have a generally accepted clear narrow definition. This concern relates particularly to the vision of the prevailing openness of small and medium business entities, including university spin-offs, and the deliberate practice of OI in such enterprises.

Moreover, the study of OI practices among university spin-offs and SMEs remain limited in number and geographical scope. Some additional exploration would make a contribution in several ways. First, new cases would increase the number of explored cases thus strengthening or questioning the reliability of previous research (Gassmann et al., 2010; Spithoven et al., 2013). Second, new insights may emerge revealing additional directions for future research. This is particularly important when the previous research was based on too narrow a conceptual framework, limiting the scope of attention. Therefore, in this study, we would like to question several dominating views. We will question an overall culture of OI among spin-offs by exploring during several interviews what spin-offs know about OI and how they correlate OI with innovation practice at their organizations? Second, we will explore what managers think about OI in terms of success and failure and factors that led to such a result in their organizations?

RESEARCH METHODS

Multiple case study: Selection of cases

To explore the practice of OI of university spin-offs, we use case study as our main research strategy.

First, letters were sent to spin-offs of the University of Liege (Belgium) that included an explanation of the research purpose and research design and an invitation to participate in an interview for this research. The spin-offs were selected based on our knowledge of them rather than by any other criterion. We received three replies with agreement to participate in the research.

All three cases represent small and medium companies that have successful commercialization of their products and services. The spin-off X was established in 2004. It specializes in the field of structural dynamics. Its main clients are companies from the aerospace sector (approx. 60% of clients)

and mechanical industries. The company proposes solutions, simulations and experimental testing to improve the design and mechanical strength of equipment and structures under vibration; and services for monitoring the vibration of production equipment. During the interview this company was presented by Mr. S., the founder and owner of this enterprise, who also performs the function of Managing Director.

The second case is Y. Originating from a research project, the company was established in 1986 as a spin-off of the University of Liege. It specializes in the field of advanced digital data validation and data reconciliation. Nowadays, it has approximately 30 employees. The company also launched an activity in the USA where it has registered a branch. The interview was given by Mr. Ch. who has worked for the company for the last five years as a spokesman to customers, responsible for several aspects of development in the company including the development of products and research activity.

Z, the third interviewed spin-off, was established in 1986 and has 80 employees nowadays. The activity of the company, which is now part of Siemens, relates to aerospace (80% of activity). The company develops engineering software. The historical product is S****F, Finite Element Metallic and Composite Structures Analysis software, which can be used to support the sizing of aircraft, aero engines, space launchers, satellites, space propulsion, cars, combustion and electrical engines, wind turbines, gas turbines, trains, machine tools, robots, flexible pipes, and many other machines. The interview was organized with D. G., responsible for R & D projects at Z including development of cooperation and participation in regional, European Space Agency and EU projects.

Data collection and data analysis

A semi-structured interview serves as the main method of data collection. Representatives of three spin-offs of the University of Liege kindly agreed to participate in this research and meet for interviews. Two interviews were face-to-face interviews organized at sites of Y and X. The interview with Z was organized by phone. Each interview was approximately 30-40 minutes' duration. Answers were recorded with a Dictaphone. Interview questions included general questions regarding the activity of an organization and a respondent, and more specific questions regarding innovative activity of a spin-off, success stories and failures with regard to OI, motivators and demotivators for OI practice.

To raise the validity and reliability of research results, analysis of the data obtained from these interviews was conducted through the three-stage

process recommended by Miles and Huberman (1994). These stages include: data reduction, data display and conclusion drawing.

Data reduction assumes “selecting, focusing, simplifying, abstracting and transforming” (Miles & Huberman, 1994). First, the recorded conversations were played several times to recall the details of the interviews and to get a deeper understanding of the experience that spin-offs had with OI. Further, each line of a transcription was numbered according to the question number or given a key word. This stage was important so as not to miss information, when an answer on one question may contain answers on some other questions, or additional issues that arose during the interview. Then, the data was grouped by themes to get a general image of answers for each question asked, as well as information about new issues that emerged.

The final results of data reduction and data analysis were sent to all respondents to read, so as to have additional confirmation from them that the interpretation of their words was done correctly.

FINDINGS

Openness of spin-offs

Despite the growing popularity of the OI paradigm, only one of three respondents heard about it from a master student who conducted research on OI. Naturally, none of the spin-offs could introduce any formal roadmap for OI on the date of the interview. Simultaneously, when they all speak about the innovativeness of their firms, it becomes obvious that openness is not new for them. Despite the absence of written strategies, openness seems to have a form of “everyone knows it by default” through oral communication and previous experience. As Mr. Ch. (X) confirms, “Openness is a part of our regular operation”. Competition in the industry and the size of the firms does not allow them to innovate only internally. Even if they like to be closed, reality pushes them to search for innovative solutions outside of their companies. The OI model allows for filling the gap in a company’s expertise and using resources more effectively (Mr. S. (Y), Mr. Ch. (X), Mr. G. (Z)).

As expected, the practice of OI in university spin-offs varies and includes both inbound and outbound innovations. Probably, the most common is collaborative R&D. The way spin-offs find their partners, to a great extent, corresponds to the statement of Perkmann and Walsh (2007) who argue that “search processes are socially selective in the sense that they are likely to be influenced by existing inter-personal networks and/or previous inter-organizational collaboration” (p. 273). Thus, spin-offs tend to continue collaborating with universities and research centres. Being born by such

centres, spin-offs trust them and already know how such centres function, and how to work with them.

Then, various regional and European programs provide opportunities for small businesses to develop and implement innovative projects in collaboration with other companies and/or research centres. Similarly, regional clusters allow participants to accelerate R&D through partnerships with companies of different size, research centres and universities. For example, Z strengthens its innovative network by participation in two poles of competitiveness – *Skywin* for aerospace and *Mecatech* for mechanical engineering.

Simultaneously, a large portion of innovative activity of the interviewed spin-offs remains in-house. It is ever possible to speak about the absolute openness of spin-offs. “It is not a choice between Open and Closed Innovation, it is a mixture, it is not exclusive” (Mr. G., Z). Moreover, OI practices and knowledge transfer technology, has a different nature in different industries. This is particularly relevant for those who operate in very competitive industries. Our cases confirm the findings of Meyer-Krahmer and Schmoch (1998), Schartinger, Rammer, and Fröhlich (2006), and Oakey(2013) according to which more intense research collaboration is preferred in more traditional sectors, while the opposite is true for software development.

“If you want something done right, you’ve got to do it yourself”?

As discussed above, spin-offs can be considered as more open than other businesses. Indeed, interviewed university spin-offs confirmed that openness is vital for them to continue remaining innovative and develop further. However, using the OI model does not necessarily mean that all spin-offs tend towards openness. “If you want something that you cannot do, indeed it is better to use external resources to do it, for example, from academia”, ascertains Mr. G. (Z). At the same time, the spin-offs prefer to develop and implement innovative projects in-house every time, whenever this is possible. The reason for such a position is not only competition but also a desire to control innovation activity.

The problem of control over desirable results from cooperation with external organizations remains one of the most urgent for many spin-offs. It is possible to distinguish at least two objects that spin-offs seek to control: functionality and quality of a product, process, or method obtained via external sources; and organizational aspects of OI model. First, the end product, process, method or any other innovative result need to meet certain expectations. Thus, Mr. S. (Y) admits, “We leave little openness. We clearly demand from partners what we want and set desired goals”. The

spin-offs want to control innovation activity, especially, in cases when they have concrete criteria and standards, or when they search to develop new capabilities, new small pieces that need to be integrated in the existing product or process.

Second, control is considered vital in the case of establishing a partnership. “If you do not have control in your hands it may take a long time as you wait for replies from other people” (Mr. Ch., X). In this case, the spin-offs try to control the organizational processes of OI; in order to maintain the dynamics of activities; meet deadlines; and decrease the time-to-market.

To resume, although at the earlier stages of concept development OI was considered as the opposite to Closed Innovation (Chesbrough, 2003), several years later the same researchers point out that organizations are not willing to totally abandon the wish to invoke control over others in OI processes (Chesbrough & Appleyard, 2007). The “controlled” openness perspective could solve this challenge (Wikhamn, 2013) and the interviewed spin-offs are good examples of it.

Success and failure, motivation and demotivation

Motivation to openness may vary from one enterprise to another depending on previous experience, industry, and other factors. We observe the same in the case of the interviewed university spin-offs. “We need to open...”, admits Mr. S. (Y). “We need to open because we are in sector where we need constant evolution...”, explains Mr. G. (Z). “However, openness is also not easy”, argues Mr. Ch. (X) more sceptically.

The interviewed spin-offs confirmed that they all had both successful and unsuccessful experiences with innovations. Mr. Ch. (X) provided an example of successful collaboration between X and two other companies on the development of one innovative product. He sees several reasons for success of that cooperation. First, the product was a particular request from an end customer. It meant that requirements were defined, every collaborating company had its own piece of work to do, and everyone knew that the product would find its market. Simultaneously, each company kept its image and could approach the market independently of other partners.

The same company also had unsuccessful attempts at innovating with partners. X was considering implementing one innovative idea in cooperation with another company. Both companies found the product potentially interesting. However, as explained by Mr. Ch., this product was not requested by an end customer and market reaction to this product was uncertain. Moreover, each company did not want to share its identity or become dependent on another company. Simultaneously, neither party could

propose a strategy that would satisfy everyone and allow them to approach the market. As Mr. Ch. resumes, “not only technical, but also commercial aspects behind the business model, could impact everything”.

Similar to Mr. Ch. (X), Mr. G. (Z) and Mr. S. (Y), speaking about successful cases of OI, agree that clear goals and a well-defined plan constitute one of the key factors of success. While, poor planning of resources and a lack of clear objectives, led their companies to the failure of some projects.

In addition to that, trust and (un)ethical conduct play a crucial role in the success or failure of common initiatives. Y experienced a situation where the results of several years of cooperation were taken by partners for further commercial use without any compensation to Y. The company never met such unethical behaviour in their collaboration with universities and research centres, as Mr. S. explains. IPR management could be a solution. However, it may require additional resources, time, knowledge, and create additional barriers to more open innovative activity.

Some other barriers to OI were mentioned during the interviews: difficulty to integrate external innovations into a firm’s existing product, process or method; lack of expertise and organizational barriers. Mr. S. (Y) shares, that probably the most serious impediment for OI is “the problem of protocols, connections, and compilation of results”. Those bricks that the spin-off finds outside the company need to be integrated in such a way that the company achieves the desired results. It may require internal and/or external expertise, additional development and testing. If something is missing, the firm needs to begin searching again for the “missing bricks”. All these processes may lead to considerable time and resource investments.

Further, a lack of external expertise forces some spin-offs to implement some projects internally. Despite the widely acknowledged fact that not all smart people are working inside the firm, reaching those external experts and their knowledge is not always possible. Expertise can be missing in other companies and also those research centres and universities that prohibit R&D in a certain direction.

Finally, organization of the OI model, especially, when the firm searches to have “controlled” openness, can be a problem. As the spin-offs admit, some regional and European programs provide an opportunity to expand the external network of experts and potential partners, suppliers and customers. Simultaneously, organizational aspects such as preparation of documents, organization of meetings, follow-up of initiatives, etc., require not only responsible persons but more enthusiastic persons, who will believe and who are passionate about what they do. As the interviewees argue, a lack of internal resources cannot be substituted by external without any investment

of time and/or finances. In this case, OI leads to resource exchange rather than bringing cost reduction.

DISCUSSIONS AND CONCLUSIONS

The purpose of this qualitative study was to contribute to literature on the OI activities of university spin-offs by the interpretation of induction results rather than testing a specific hypothesis. While many research papers make claims about the openness of SMEs, and despite the growing popularity of the OI concept, our research demonstrates that not all SMEs know about OI, at least in Belgium. This is even more surprising for university spin-offs, which are assumed to be closer to advanced knowledge and practices. Consequently, such enterprises do not have a deliberately developed open or mixed innovation strategy. This fact can give additional food for thought and actions of business consultants and OI researchers.

At the same time, OI practice seems to be habitual for university spin-offs. To a certain extent, this fact supports the critics considering OI as an old wine in new bottles. All interviewed spin-offs confirmed a current need in openness. However, not all of them tend to be more open. Indeed, despite the common view that spin-offs as enterprises are born to be naturally open or SMEs due to their small size are naturally open, some of them may chose a strategy towards a Close Innovation model in the later stages of development. In this case, the origin of the enterprise or its size do not serve any more as a key determinant of strategic choice. People working in the enterprises, with their own experience and knowledge, define the future Open or Closed Innovation practice of their firms. In this case, the decision to be more open or closed may depend on many other factors that include, but are not limited to, personal characteristics of managers (some personal experience, perceptions, ambitions and work style), industry, product under development, previous experience with OI strategy, pressure of competition on the market and a lack of resources, and the stage of development of the firm.

Further, this research confirms previous studies which demonstrate that the experience of spin-offs is not limited by one model of innovation. Although the research focuses mostly on sourcing as a form of inbound innovation, the interviewed spin-offs use a mixed model of innovation where different types of Closed and OI are used depending on specific objectives, available resources, and the type of expected results. At the same time, practice of OI remains somewhat unstructured. If the motives for adopting OI strategies are overcoming obstacles, the necessary step is to set up a coherent and formal strategy. Although traditional planning instruments, which take into account

exploitation of internal technology and general information about markets, are in common among companies, there is a need to proliferate more specific planning instruments, concentrating on exploitation of external technology and innovations. This specific strategy is a focused, multiyear, business planning method that portrays the structural relationships, and needs to be fully integrated into a firm's strategic planning and business operations.

Also, current research on university spin-offs OI practices, their motivations, benefits and disadvantages is conducted on relatively small number of observations. It does not allow generalization but rather points to important issues of OI practice in university spin-offs such as a possible lack of knowledge about OI, a lack of structured formal practice and planning instruments, a variation of degree of openness and direction towards open or close model. More research, involving larger samples, would test current results more rigorously and extend the existing models. New benefits and costs could be also identified. More integrated theories and appeal for making fundamental changes to a company's business model are needed. Cross-industry comparisons are also limited in number and would considerably strengthen the current knowledge. All additional research would allow a better definition of OI practice in SMEs in general and university spin-offs in particular.

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Abstract (in Polish)

Niniejszy artykuł analizuje praktykę otwartych modeli innowacji/Open Innovation (OI) w działalności uczelnianych spółek spin-off. Przeprowadzono trzy wywiady w celu omówienia wiedzy spółek spin-off o OI, ich stosunku do tej strategii zarządzania innowacjami w oparciu o dostrzegane zalety i wady, oraz ich motywacji do podejmowania praktyk OI w przyszłości. Problemy planowania, kontroli i zaufania wydają się być najważniejsze dla sukcesu OI. Skupiając się na tych problemach i innych ważnych aspektach OI artykuł omawia programy badań, które mogą pomóc w formułowaniu pytań badawczych i hipotez, tym samym ukierunkowując wysiłki na poszukiwanie rozwiązań zidentyfikowanych problemów.

Słowa kluczowe: *innowacja, otwarta innowacja, spin-off, małe i średnie firmy.*

Biographical note

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Empowering Women Entrepreneurs Through Microcredit: Assessing the Role of Sarhad Rural Support Program in Pakistan

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Abstract

Microcredit has been recognized as an effective tool to foster entrepreneurship among the rural women. Traditionally, women entrepreneurs in Pakistan are handicapped in the matter of organizing and running their businesses due to absence of capital and fear of failure. With the efforts of state-owned and private microcredit instructions, many Pakistani women are now establishing new businesses with ideas to start micro and small enterprises. This paper intends to examine the role of Sarhad Rural Support Program (SRSP) in empowering women entrepreneurs through microcredit in Khyber Pakhtunkhwa province of Pakistan. The study was undertaken in six villages from three selected districts to examine the effect of microcredit on social and economic empowerment of the rural women entrepreneurs. The field data was collected by applying multistage sampling techniques from the sample size of 300 women entrepreneurs. However, social and economic empowerment index was developed for the assessment of socioeconomic empowerment of the women entrepreneurs. The study found significant improvement in the social and economic status of the women entrepreneurs and concludes that the overall effect of SRSP's microcredit was positive in empowering women entrepreneurs and promoting entrepreneurship in the study area. However, to effectively address the gender-related constraints and cultural sensitivity that limit equitable access of women entrepreneurs to the local markets, support services are required by the SRSP to create linkages between the women entrepreneurs and local markets.

Keywords: *microcredit, women entrepreneurs, social and economic empowerment, Khyber Pakhtunkhwa province, Pakistan.*

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INTRODUCTION

The past three decades have been witness to intense struggles and several developments which have brought the issue of women's empowerment, rights and entitlements to the forefront. Especially in the case of rural women, fostering entrepreneurship is widely perceived to be a successful rural development strategy for women empowerment leading to positive change. Microfinance institutions, in this regard, have been playing a significant role in promoting women entrepreneurship in developing countries. These institutions enable poor women to develop their micro and small enterprises which generate income and help them to enjoy an improved standard of living (Mosley, 2001). Many scholars including Claassens, (1993), Kabeer, (1999), Farr-Wharton and Brunetto (2009), Singh and Manisha (2013) have discussed women entrepreneurship in different contexts. Here we draw from Anwar and Amber (2012) who described women entrepreneurs as those who use their knowledge and resources to develop or create new business opportunities – whether this be informally in a home environment without formally registering their business or formally via business registration, hiring office premises, etc. – and who are actively involved in managing their businesses, are responsible in some way for the day-to-day running of the business, and have been in operation for longer than a year.

Empowerment through entrepreneurship leads to self-fulfillment and makes women aware of their status, existence, rights and their position in the society. A series of work, for example Dzisi (2008), Roomi, Harrison and Beaumont-Kerridge (2009), Jamali (2009), Mordi, Simpson, Singh and Okafor (2010), and Itani, Sidani and Baalbaki (2011), explore that socioeconomic factors such as family support, cultural norms of society, lack of skills, self-confidence, material possession, investment, income and savings etc. discourage women to get into entrepreneurial activities. However, Mishra and Kiran (2014) elucidate that in the modern era, women are becoming socially and economically empowered through business ownership. In social context; women have the power to take decisions, remain autonomous, be self-confident and manage their household independently, through which they can interact within the society (Lemire, Pearson & Campbell, 2001; Mayoux, 2005); while economic context is their economic stability – they are competent to participate in the economy and make better decisions for their economic position (Golla, Malhotra, Nanda & Mehra, 2011).

Microcredit encourages women's participation, hypothesizes their sustainability, decreases poverty and enhances socioeconomic development (Mayoux, 2005). Thus microcredit schemes are designed for those who belong to the weak social and economic community, and who are unable to meet their financial needs of business. For instance, the Grameen Model

(Yunus, 1989) which made microcredit a tool for poverty alleviation at a global level, specifically for rural women, and included for the first time a community approach to poverty reduction and challenged serious obstacles to borrowing, such as collateral, male guarantor or co-signer for female clients, and repayment modalities. A further development took place in this model through some experiences in Latin America, such as that of Americans for Community Co-operation in Other Nations (ACCION), which introduced a business approach to microcredit, through cost-recovery and management as well as individual lending within the group (Berenbach & Guzman, 1999). Therefore, microcredit evolved further into a development and poverty reduction mechanism based broadly on the Grameen model and other local experiences.

Since the establishment of the Grameen Bank as a microcredit delivery model, many programs have rushed to replicate its relative success and in doing so, a lot of attention has been given to women microcredit borrowers. Women are specifically targeted through microcredit programs because they make up the majority of the poorest of the poor in rural areas and are key actors in the social and economic welfare of the family. During the 1990s, microcredit was seen as successful amongst women clients because of their high repayment rates and savings capacities compared to men. Furthermore, at the same time many Non-Governmental Organization (NGOs) and Donor Agencies (DAs) were dictated by gender policies which specifically called for increased microcredit outreach to women, and these microcredit programs did not limit their desired impact on poverty reduction only, but extended it to achieve women's empowerment (Khandker, 1998; Kabeer, 1999).

Background

According to a recent assessment by the World Bank, Pakistan has one of the most progressive environments for micro-financing in the world but access to credit by women entrepreneurs is the lowest in the region which is reported at less than 25% (Mehnaz, 2013). While women represent around 48% of Pakistan's total population (World Population Prospects, 2015), women's employment participation is however only 19-20%. As per the Labor Force Survey of Pakistan in 2005-06, the contribution of women's labor in agriculture is around 13.4% and only 6% are engaged in the non-agriculture sector (PES, 2013-14). The role of Pakistani women is still restricted to household chores. These restrictions often seem to elevate a man's status and importance in society while degrading a woman's status, particularly in the rural areas. Women's lives are neglected or ignored by society's attitudes and treatment towards them. Generally, in rural areas, spouses work together

to run the household to fulfill their basic needs due to low earnings and high expenditures (IFAD, 2014), and women are considered to be a symbol of continuous struggle. These women are among the millions of laborers who work hard to acquire the basic necessities of life by contributing to the farming, livestock maintenance and post-harvest activities. They remain busy from dawn to dusk, supply food to men who work in the fields, fetch water, collect wood, household management and childcare responsibilities (Ranjha, Ali & Luqman, 2009). As agents of social and economic change, rural women are also actively involved in entrepreneurial activities inside or outside their homes and are dedicated to innovating new ways of doing business or initiating changes in the production function, exploring market opportunities for their product and, ultimately changing the culture of doing business (Singh & Manisha, 2013). It has been observed that women play crucial roles in eradicating rural poverty and improving the well-being of their families (Jamali, 2009), yet continue to face serious challenges as a result of gender-based stereotypes and discrimination that deny them equitable access to opportunities, resources, assets and services (UN - Women Watch, 2015).

Various studies show that lack of access to finance is the major barrier that women entrepreneurs face (Jamali, 2009; Roomi et al., 2009). According to the International Labor Organization (ILO, 2003), in Pakistan, rural women entrepreneurs typically have less access to formal credit and, due to unavailability of capital, they do not have funds to grow their businesses. Halkias (2011) and Itani et al. (2011) explored, that the majority of these women own a micro and small enterprise and rely on family funding or personal savings, but confront several issues that further exacerbate the barriers between them and their successful entrepreneurial ventures. These constraints may come from their own personality, immediate family or societal expectations of the people around them. They cannot get facilities because of the restrictions placed on them by society which does not allow them to receive formal training and to enter the market place. These women not only lack the financial resources but also lack awareness of the facilities available to develop their skills. However, economic necessity is forcing more and more women to engage in some sort of employment, without relieving them of their traditional roles. There is potential for Pakistani women in rural areas to develop the handicrafts sector and create income generation measures for these women, as they possess the talent and aptitude for entrepreneurial development (Pakistan Woman, 2014).

The focus of the present study is to examine the role of Sarhad Rural Support Program (SRSP) in empowering rural women entrepreneurs through microcredit in Khyber Pakhtunkhwa province of Pakistan. The province is located in the northwestern region of the country and shares an international

border with Afghanistan. It is the third largest province of Pakistan having a geographical size of about 74,521 sq.km and a population of over 22.2 million. It is home to diverse ethnic groups, languages and cultures, and is famous for its Islamic followings (GoKP, 2014-2018). The following section presents a brief introduction to the SRSP and its strategies towards successful interventions for women's entrepreneurship development in Khyber Pakhtunkhwa.

Sarhad Rural Support Program (SRSP)

SRSP is one of the well-known non-government organizations working to alleviate poverty and promote sustainable means of livelihoods in Khyber Pakhtunkhwa province of Pakistan. It's an intermediary organization which is based on the rural support program approach to community empowerment and socioeconomic development. It was established in 1989 by the members of civil society, members of the government in their individual capacities, and members of the academia, media and training institutions (SRSP, 2013). SRSP specializes in social mobilization, gender and development, community infrastructure, education, microfinance, micro-enterprise development, governance, conflict resolution, humanitarian assistance and human resource development. Currently, it operates in the rural regions of 16 districts of the province by reaching 6,000 community organizations in which one third of these are women organizations. In recent years, because of its vast outreach in the communities, SRSP has played a prominent role in natural disasters that have hit the province and, as a result humanitarian work along with development, has become a core competency of the organization (SRSP, 2014).

With a bulging population of 22.2 million, the province of Khyber Pakhtunkhwa has low socioeconomic indicators compared to national averages. According to the 2001/02 HIES estimates, around 41% population of the province is living below the poverty line. The poverty rate amongst women is also reportedly higher as compared to other provinces (GoKP, 2010-2017). About 80% of the population resides in rural areas and is blessed with hard working and enterprising people (GoKP, 2014-2018). SRSP is therefore providing financial assistance to the deprived rural communities in the form of microcredit. The financial services programs aims to contribute to the organizational mission of reducing poverty by reaching the most marginalized; and uses a combination of traditional microfinance, micro-investment funds and innovative products and diverse models of delivery which not only address the diverse requirements in the province but are also empowering for the community. Women have been the major beneficiaries of these programs.

Core Strategies of the SRSP

Strategy to Empower Rural Women

SRSP follows a variety of strategies to promote micro and small enterprises run by the women in rural Khyber Pakhtunkhwa. The women's disproportionate representation amongst the poorest, discrimination against them in formal sectors, and their vulnerability builds a strong case for SRSP's microfinance section to target the rural women in the province. The SRSP strategy of targeting women is based on a common belief that women, in comparison to men, have a tendency to invest their loan productively. Access to small loans, in the view of SRSP, has multiple objectives of satisfying practical gender needs; access to material assets and strategic gender needs; overcoming the prevailing patriarchal system and demanding a share of family resources. In addition, targeting women seemed to be influenced by the convergence of three distinct and inter-related paradigms of microfinance; poverty alleviation, financial self-sustainability and empowerment paradigms, assuming that access to income generating activities leads to social and economic empowerment of women.

Village Banks (VBs) Model

Based on "three-tier social mobilization strategy" opportunities to make financial services easily accessible to deprived women is created through the formation of predominately women organizations and encouraging their subsequent federation into VBs. The SRSP's VBs model has received wider recognition due to multiple reasons; empowering women to take a lead on managing these banks, offering interest-free loans, identifying deserving clients, low cost operations, generation of employment opportunities at local level and sustainable operations. Credits are granted in the light of a Poverty Score Card (PSC) to identify eligible women on the basis of their socioeconomic characteristics. However, the credit management lies with the communities and aims at building their capacity as a group. This capacity building process involves electing their own leaders, selecting their own members, creating their own bylaws, doing their own bookkeeping, funds management (disbursement and deposits), resolving loan delinquency problems, and levying their own fines on members who come late, miss meetings, or fall behind in their payments. As a capacity building organization, SRSP provides technical and back stopping support to the communities, as and when required.

Strategy to Develop Enterprise

This strategy is the most prominent as it is a "demand driven value chain approach". This approach identifies constraints and opportunities along

a value chain for different products and addresses them through capacity building, training, linkages and networking etc. The Vocational Training Programs (VTP) for potential and existing women entrepreneurs also plays an important part in different enterprise trainings and offers training according to their needs. Similarly, the microcredit programs make an important contribution to enterprise development by providing access to capital to the women entrepreneurs. SRSP also works with the agri-business fund to build enterprise groups and train them. The enterprise interventions of SRSP make an extra effort to be inclusive for marginalized groups like women.

METHODOLOGY AND DATA

Purpose of the study

In rural areas of Khyber Pakhtunkhwa province, most of the women own small, traditional and home-based businesses. Women still prefer to engage in activities that require little mobility and minimal interaction with men. The culture allows them to generate income through applying existing skills because in Khyber Pakhtunkhwa the culture is strongly influenced by religious belief, particularly when it comes to honor, as a woman is considered to be the center of honor for the people. Driven by local customs, women are vulnerable to social and economic poverty in the province. A recent survey conducted by Shinwari (2008) reveals that the majority of Pashtun people believe that women should be allowed to get an education and access to better healthcare, but they are against the idea of women working or increasing their power. This research therefore intends to empirically investigate the role of SRSP in empowering women entrepreneurs through microcredit in rural areas of Khyber Pakhtunkhwa (Figure 1). The findings of the study are expected to create awareness regarding the potential of women entrepreneurs, who are traditionally handicapped in the matter of organizing and running their businesses, and would be helpful for researchers, policy makers, governmental and non-governmental organization who wants to work for the empowerment of women entrepreneurs. The identification of factors that influence the level of women's socioeconomic empowerment would help them to use these factors when formulating policies, in order to promote women's socioeconomic participation in entrepreneurial activities. For this purpose, the present study aims:

- 1) To explore the entrepreneurial activities of the women in the study area.
- 2) To analyze the impact of SRSP's microcredit on social and economic empowerment of the women entrepreneurs in the study area.

Hypothesis

H₀: There is no significant improvement in the social and economic empowerment index of women entrepreneurs after joining the microcredit program.

H₁: There is a significant improvement in the social and economic empowerment index of women entrepreneurs after joining the microcredit program.

The present study examined the SRSP's Livelihood Strengthening Program funded by the Australian Agency for International Development (AusAid-LSP). The program was started in 2011 and completed in 2014 with the aim to reduce poverty through reviving livelihoods and empowering deprived rural communities in the three districts i.e., Peshawar, Nowshera and Charsadda of Khyber Pakhtunkhwa province. Under this program, SRSP established 40 Village Banks (VBs) in which 14 VBs were established in the Peshawar, 16 in the Nowshera and 10 in the Charsadda. These VBs covered over 34,500 potential and existing women entrepreneurs in 72 villages by providing them microcredit along with technical and vocational trainings. The amount of microcredit offered was from Rs.10,000 to Rs.25,000 while the repayment period was from six to twelve months according to the loan amount, and terms and conditions. In order to encourage the rural women, the credit was offered on an interest-free basis and without collateral requirements.

Map of Khyber Pakhtunkhwa Province

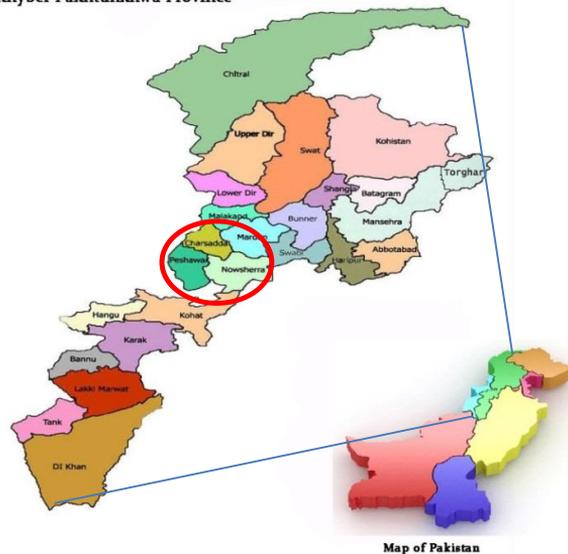


Figure 1. Map showing districts of Khyber Pakhtunkhwa Province of Pakistan

Multistage approaches were adopted for selecting villages and sample respondents. A thorough discussion on the assessment exercise, between core management and AusAID-LSP Support Unit, was conducted before the field experience. Based on discussions and interviews, lists of women beneficiaries of AusAID-LSP were obtained from the VBs located in the study area. From the lists, only six villages were selected purposively, two villages from each district because of the time and human constraints of the researchers. In these six villages, a total 1,374 women benefited from the microcredit of AusAID-LSP. From the population of 1,374 women, a sample size of 300 was selected by using the formula: $n = N/1+Ne^2$, where $e = 0.05$. The sample size then proportionally divided in all the six selected villages. By using a random sampling technique the sample size in each village was settled at 50. Finally, a survey was conducted in the selected villages and the targeted women were interviewed using structured questionnaires.

There are a number of scholars e.g. Manimekalai and Rajeswari (2000), Kumar, Narendra and Amar (2008) and Subashini (2013) who have drawn five dimensions of women's empowerment i.e. social, economic, cultural, legal, political and psychological. In this study, women's empowerment was measured by their social and economic levels during pre and post microcredit period. Because social and economic empowerment is considered to be the most important dimensions which are most effective in fostering women entrepreneurship. Social empowerment includes absence of discrimination against women, control over their own bodies, greater visibility in social spaces and shifts in cultural norms that place women subservient to men. Social empowerment is essential to not only giving women control over their own bodies, but also providing them with education opportunities to better their lives. On the other hand, economic empowerment includes having control over income and family resources, ownership of assets, opportunity for employment and access to markets and representation in economic decision-making roles. With economic empowerment, women can gain financial independence, enter the workforce, and have equal opportunity to gain positions of economic power. Therefore, the targeted women/respondents of this study were asked to rate the variables under social and economic empowerment levels on a five point scale during their pre and post microcredit period. The variables are presented below in Table 1:

Table1. Social and economic indicators and scoring

No.	Social Indicators	Economic Indicators	Score					Max. Score
			1	2	3	4	5	
1.	Recognition by family members	Material Possession	Not at all	Very little	Somewhat	Much more	To a great extent	5
2.	Recognition by the society	Investment	Not at all	Very little	Somewhat	Much more	To a great extent	5
3.	Skills Development	Income	Not at all	Very little	Somewhat	Much more	To a great extent	5
4.	Self-Confidence	Savings	Not at all	Very little	Somewhat	Much more	To a great extent	5
Total Score							20	

In order to assess the social and economic empowerment of rural women entrepreneurs the following indexes were developed:

Social Empowerment Index (SEI)

$$SEI = \frac{\sum S_i f_j}{\sum f_j} \tag{1}$$

$$SEI = \frac{S_1 f_1 + S_2 f_2 + \dots + S_i f_j}{f_1 + f_2 + \dots + f_j}$$

Where: $S_i = 1, 2, 3, 4, 5$ assigned score for each variable of social empowerment and; $f_j = 1, 2, 3, 4, 5$ corresponding frequency of assigned scores.

Economic Empowerment Index (EEI)

$$EEI = \frac{\sum S_i f_j}{\sum f_j} \tag{2}$$

$$EEI = \frac{S_1 f_1 + S_2 f_2 + \dots + S_i f_j}{f_1 + f_2 + \dots + f_j}$$

Where: $S_i = 1, 2, 3, 4, 5$ assigned score for each variable of economic empowerment and; $f_j = 1, 2, 3, 4, 5$ corresponding frequency of assigned scores.

Combined Socioeconomic Empowerment Index (SEEI)

$$SEEI = w1 + w2 \tag{3}$$

Where:

$$w1 = SEI / (SEI+EEl)$$

$$w2 = 1-w1$$

and

SEI = Social Empowerment Index

EEl = Economic Empowerment Index

The collected data was analyzed through Statistical Package for Social Sciences (SPSS) and Microsoft-Excel programs for compilation and calculation of descriptive statistics. In addition to the central measurements and dispersion, paired t-test was used for the comparison of social and economic empowerment of the women entrepreneurs during pre and post microcredit period by using the following formula:

$$t = \frac{\bar{d} - \mu d}{\frac{s_d}{\sqrt{n}}} \tag{4}$$

Where:

$$\bar{d} = \frac{\sum di}{n}$$

$$di = x_1 - x_2$$

$$\mu d = \bar{x}_1 - \bar{x}_2$$

While:

\bar{x}_1 = after credit, \bar{x}_2 = before credit

n_1 = after credit, n_2 = before credit

$$s_d = \sqrt{\frac{\sum (d - \bar{d})^2}{n - 1}} \text{ standard deviation}$$

RESULTS AND DISCUSSION

Demographic information of sample respondents

In this research, demographic information of the rural women entrepreneurs is important for the determination of their role in supporting their families. The following Table 2 shows demographic information of the study respondents:

Table 2. Demographic information of sample respondents

No.	Characteristic	Description	Respondents	
			Frequency	Percentage
1.	Age Group (years)	15-30	55	18
		31-45	141	47
		46-50	71	24
		51-above	33	11
2.	Literacy status	Literate	112	37
		Illiterate	188	63
3.	Marital Status	Married	268	89
		Unmarried	32	11
4.	Household Size Group	1-4	84	28
		5-9	166	55
		10-above	50	17

Source: Survey Data, 2014

Age is one of the main factors determining entrepreneurial processes to undertake a healthy business activity. Adult people are believed to be more mature and activity oriented. It can be seen in Table-2 that the majority (47%) of the respondents was from the age group of 31-45 years which indicates that women from this age group were actively involved in entrepreneurial activities in the study area. After age, education plays a very important role for strengthening a sustainable business activity because it is a process by which people intentionally transmits their accumulated knowledge, skills and values from one generation to another. So, the respondents were divided into two groups i.e. literate and illiterate. It is indicated in Table-2 that only 37% of the respondents were literate up to different levels of education i.e. primary, middle and high.

It is well understood that married people have more responsibilities than the unmarried in terms of supporting their families. Marital status reflects the dependency of other family members on an individual. In the context of Khyber Pakhtunkhwa province, the people in rural areas prefer married life and are used to living in a joint family system which adheres to their local culture and traditions. From Table 2, it is quite clear that the majority (89%) of respondents were married and had family group sizes of between 5-9 family members, which are considered to be large household sizes. This shows that the respondents were more responsible for their dependent household members. The respondents also indicated that working capital is very important for their businesses; credit to fulfill their needs; insurance to reduce vulnerability; and a safe place to deposit savings. Therefore, the

respondents availed microcredit from the SRSP VBs because they were in need of financial assistance on their door step, to promote their business as well as to support their families.

Information regarding microcredit

Women entrepreneurs are those who use their knowledge and resources to develop business opportunities and are actively involved in managing their businesses. At the micro level, women entrepreneurs usually seek access to credit to sustain their business. The following Table 3 describes the purpose, utilization and relevant information of credit by the respondents:

Table 3. Information regarding the credit

No.	Characteristics	Description	Respondents Frequency Percentage	
1.	Size of Credit (Pak Rs.)	10,000	9	3
		15,000	27	9
		20,000	95	32
		25,000	165	56
2.	Purpose of Credit	Embroidery	103	34
		Handicrafts	62	21
		Tailoring	135	45
3.	Utilization of Credit	In the same business	214	72
		In a new business	64	21
		Others	22	7
4.	People Involved in the business	Household members	225	75
		Relatives	16	5
		Neighbors	59	20

Source: Survey Data, 2014

Table 3 shows that the majority (56%) of the women entrepreneurs obtained the highest amount of credit which was Rs.25,000, which clearly indicates the need and demand of high financial assistance for their entrepreneurial activities. In order to raise the economic status of rural women, proper utilization of credit in entrepreneurial activities is also very necessary. Table-3 elaborates the distribution of the respondents on the basis of utilization of microcredit. In the study area, most of the micro-entrepreneur women were found to be involved in home-based tailoring, embroidery and handicraft making activities. Therefore, most of the credit (45%) was taken for the purpose of tailoring, 34% for embroidery and 21% for handicrafts respectively. The utilization of credit was mostly in their existing business while some respondents utilized it for new business activity. It was also found that few (7%) respondents utilized the credit for other purposes i.e. agriculture and health. The better utilization of credit explores the educated

behavior and mature approach of the sample respondents. In other words, the majority of the respondents used credit in a responsible way to make full use of it. The data in Table-3 further indicates that involving other people in a business activity was also common in the study area. As most popular home-based business activity in the research area was tailoring and embroidery, the majority (75%) of the respondents explored run their business activity by involving a household member e.g. sisters, daughter, mother etc. Working jointly not only reduces work load but also increases the efficiency of work. However, most of the work was done at home which also reduces the cost of business activity.

Assessment of social empowerment of women entrepreneurs

Social empowerment index for the targeted women entrepreneurs is calculated from the data of the situations before and after joining the SRSP’s microcredit program. The statistical results in Table 4 illustrate that the average social empowerment index increased from 8.32 to 10.12 after availing the microcredit.

Table 4. Social Empowerment Index (SEI)

Impact	N	Range	Min.	Max.	Mean	Std. Deviation	Std. Error
Before Microcredit	300	4	1	5	8.32	4.25	0.246
After Microcredit	300	4	1	5	10.12	4.92	0.285

However, the paired t-test results in each dimension of social empowerment of women entrepreneurs are presented in Table 5.

Table 5 reveals that the four dimensions of social empowerment of women entrepreneurs i.e. recognition by family members, recognition by the society, skills development, self-confidence have been improved significantly after getting the microcredit facility. Since the t-value is found significant at $\alpha = 0.01$, we can conclude that the SRSPs microcredit was effective in social empowerment of women entrepreneurs in the study area. Hence, this study accepts H_1 and rejects H_0 .

Table 5. Paired samples result of social empowerment

Pair	Variables of Social Empowerment	Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Recognition by the Family After Microcredit - Before Microcredit	.667	.651	.038	.593	.741	17.741	299	.000*
Pair 2	Recognition by the Society After Microcredit - Before Microcredit	.370	.484	.028	.315	.425	13.252	299	.000*
Pair 3	Skills Development After Microcredit - Before Microcredit	.183	.388	.022	.139	.227	8.193	299	.000*
Pair 4	Self-Confidence After Microcredit - Before Microcredit	.580	.494	.029	.524	.636	20.320	299	.000*
	Overall	1.8	2.0	0.1	1.6	2.0	59.5	1196	.000*

*Significant at 0.01 level

Assessment of economic empowerment of women entrepreneurs

Economic empowerment index for the targeted women entrepreneurs is calculated from the data of the situations before and after joining the SRSP’s microcredit program. The statistical results in Table 6 illustrates that the average economic empowerment index increased from 10.09 to 11.01 after availing the microcredit.

Table 6. Economic Empowerment Index (EEI)

Impact	N	Range	Min.	Max.	Mean	Std. Deviation	Std. Error
Before Microcredit	300	4	1	5	10.09	3.83	0.22
After Microcredit	300	4	1	5	11.01	3.86	0.22

However, the paired t-test results in each dimension of economic empowerment of women entrepreneurs are presented in Table 7.

Table 7 reveals that the four dimensions of economic empowerment of women entrepreneurs i.e. material possession, investment, income and savings have been improved significantly after getting the microcredit facility. Since the t-value is found significant at $\alpha = 0.01$, we can conclude that the SRSPs microcredit was effective in the economic empowerment of women entrepreneurs in the study area. Hence, this study accepts H_1 and rejects H_0 .

Table 7. Paired samples result of economic empowerment

Pair	Variables of Economic Empowerment	Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Material Possession After Microcredit - Before Microcredit	.167	.373	.022	.124	.209	7.733	299	.000*
Pair 2	Investment After Microcredit - Before Microcredit	.267	.443	.026	.216	.317	10.427	299	.000*
Pair 3	Income After Microcredit - Before Microcredit	.300	.459	.027	.248	.352	11.320	299	.000*
Pair 4	Savings After Microcredit - Before Microcredit	.150	.358	.021	.109	.191	7.264	299	.000*
	Overall	0.9	1.6	0.1	0.7	1.07	36.7	1196	.000*

*Significant at 0.01 level

Combined socioeconomic empowerment of women entrepreneurs

In order to estimate the combined socioeconomic empowerment of women entrepreneurs, the mean difference of social and economic empowerment indexes are calculated and presented in Table 8 below:

Table 8. Mean difference of Social and Economic Empowerment Indexes

Dimensions	N	Range	Min.	Max.	Mean	Std. Deviation	Std. Error
Social Empowerment	300	4	1	5	1.8	2.0	0.1
Economic Empowerment	300	4	1	5	0.9	1.6	0.1

However, the combined Socioeconomic Empowerment Index (SEEI) of the targeted women entrepreneurs is established by using the following formula:

$$SEEI = w_1 + w_2 \quad (5)$$

Where:

$$w_1 = SEI / (SEI + EEI)$$

By putting the values we get,

$$w_1 = 1.8 / (1.8 + 0.9) = 0.66$$

While:

$$w_2 = 1 - w_1$$

By putting the values we get,

$$w_2 = 1 - 0.66 = 0.34$$

Hence:

$$SEEI = 0.66 + 0.34 = 1$$

The result of combined socioeconomic empowerment of women entrepreneurs is positive and clearly indicates that the impact of microcredit on both dimensions (social and economic) of women's empowerment is positive. Though the value of the Economic Empowerment Index is slightly lower than the Social Empowerment Index it has a significant effect on entrepreneurial activities of the women. The women entrepreneurs in the study area had basic indigenous knowledge, skill and potential to run a home-based micro or small enterprise but due to lack of financial capital their activities were stagnant. The results indicate that, with the support of SRSP's microcredit, these women have gained positive recognition by the family and society, material possession, investment in the business, skills development, income, self-confidence and savings. In short, we can say that "a little credit can go a long way".

CONCLUSION AND RECOMMENDATIONS

In developing countries, policies for empowering rural women entrepreneurs have been based on three erroneous beliefs: 1. micro-entrepreneurs women are unable to recognize themselves, 2. they are too poor to save; and 3. they need cheap credit for income-generating activities and establishing micro-enterprises. Thus, socioeconomic empowerment of women through enterprise development is a major development concern of the present time. In this study we concluded that in all the three selected districts of Khyber Pakhtunkhwa province, SRSP has uplifted the status of rural women entrepreneurs. The microcredit was effective in empowering women entrepreneurs to participate fully in social and economic life across all sectors to build stronger economies, achieve goals for development and sustainability, and improve the quality of their life, their families and the community. The establishment of SRSP Village Banks in the rural villages of Khyber Pakhtunkhwa province was the best strategy in reaching the marginalized groups which generally do not benefit from traditional microfinance. Run by the women, the Village Banks were found very effective in trust-building and mobilizing rural women in the province where remoteness and cultural sensitivity

discourages women participation in any entrepreneurial activity. Moreover, the provision of microcredit without interest and collateral requirement had attracted large number of women in the study area. Skills development and entrepreneurial training had enhanced their confidence and improved their skills in establishing small scale businesses which they own and can manage all by themselves. In short, SRSP placed a strong emphasis on helping the poor rural women through subsidized credit and other social services as part of their poverty reduction strategy.

However, in spite of aforementioned interventions, the study did not find any strategy for market orientation of entrepreneurial products of the women entrepreneurs. Market creation for rural women entrepreneurs is very important and should be carried out by microcredit institutions beyond just providing credit services to the clients. To effectively address the gender-related constraints and cultural sensitivity that limit equitable access of the rural women entrepreneurs to the local markets, support services are required by the SRSP to create linkages between the women entrepreneurs and local markets. This will not only facilitate the existing women entrepreneurs in strengthening their business but also motivate other rural women to create better decisions on business establishment and taking credit from the institutions. The study also recommends that it is very crucial if SRSP conduct business education and training for the women entrepreneurs. This will help both the institution and the women entrepreneurs to gather valuable information that will provide valuable insights in the strategy and the necessary input to find effective responses to optimize the loan defaulting.

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Abstract (in Polish)

Mikrokredyt jest uważany za skuteczne narzędzie wspierania przedsiębiorczości wśród kobiet wiejskich. Tradycyjnie, pakistańskie kobiety byłyby niechętnie do uruchomienia nowej działalności gospodarczej z powodu braku kapitału i strachu przed porażką. Wspólnie z agencjami państwowymi i prywatnymi firmami wprowadzającymi programy kredytowe dla kobiet o niskich dochodach i przy niskich stopach procentowych, wiele pakistańskich kobiet zakłada obecnie nowe firmy. Niniejszy artykuł ma na celu zbadanie roli Programu Wsparcia Obszarów Wiejskich (SRSP) we wzmocnieniu pozycji kobiet-przedsiębiorców poprzez mikrokredyty w prowincji Khyber Pakhtunkhwa w Pakistanie. Badanie zostało przeprowadzone w sześciu wsiach z trzech wybranych regionów w celu zbadania wpływu mikrokredytów na wzmocnienie pozycji społecznej i ekonomicznej z obszarów wiejskich kobiet-przedsiębiorców. Dane zebrano poprzez zastosowanie techniki wielostopniowego doboru z próby liczącej 300 kobiet-przedsiębiorców. Zostały opracowane indeksy społecznego i ekonomicznego upodmiotowienia dla oceny społeczno-gospodarczego upodmiotowienia kobiet. Badania wykazały znaczną poprawę statusu społecznego i gospodarczego kobiet przedsiębiorców. Ogólny efekt mikrokredytów SRSP był dodatni we wzmocnieniu pozycji i przedsiębiorczości kobiet w badanym obszarze.

Słowa kluczowe: mikrokredyty, kobiety-przedsiębiorcy, uprawomocnienie społeczne i ekonomiczne, prowincja Khyber Pakhtunkhwa, Pakistan.

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Challenges in Bootstrapping a Start-Up Venture: Keenga Research Turning the Tables on Venture Capitalists

Prescott C. Ensign¹, Anthony A. Woods²

Abstract

This case study chronicles the timeline of a new venture – Keenga Research. Keenga Research has a novel proposition that it is seeking to introduce to the market. The business concept is to ask entrepreneurs to review the venture capital (VC) firm that funded them. Reviews of VC firms would then be developed and marketed to those interested (funds and perhaps enterprises seeking funding). What makes this case unique is that Keenga Research was a lean start-up. Bootstrapping is a situation in which the entrepreneur chooses to fund the venture with his/her own personal resources. It involves self-funding (family and friends), tight monitoring of expenses, and maintaining control of ownership and management (Winborg & Landstrom 2001; Perry, Chandler, Yao, & Wolff, 2011; Winborg, 2015). The lean start-up approach favors experimentation over elaborate planning, customer feedback over intuition and iterative design over traditional big upfront research and development.

This case study requires the reader to consider a number of the basic challenges facing all entrepreneurs and new ventures.

Is the concept marketable?

Can the concept be developed and brought to market in a timely manner?

Will the product generate revenue? How? When?

What are the commitments of the entrepreneurs?

Have they considered the major challenges to be faced?

Since this venture involved gathering and developing research information and then creating an online platform, Keenga Research faced significant concept-to-market challenges.

The research method used in this case study is first person participant observation and interviews. One of the authors was a team member so the contextual details come from direct observation and first-hand knowledge. This method of research is often used in anthropology, sociology, and social psychology where an investigator studies

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the group by sharing in its activities. The other author provided an objective and conceptual perspective for analyzing the venture. This combination of perspectives provides a more balanced picture.

Keywords: *entrepreneur, business concept, opportunity recognition, venture capital, bootstrapping, lean start-ups, concept-to-market timing, resource commitments and constraints.*

INTRODUCTION

Entrepreneurs involved in start-up companies face a bewildering number of challenges that require critical decisions. But the decisions that are appropriate for the challenges of one entrepreneurial venture may be completely inappropriate for another (Bhide, 1996). The traditional way of launching a new venture has been evolving. Blank (2013) has summarized it as this: “According to the decades-old formula, you write a business plan, pitch it to investors, assemble a team, introduce a product, and start selling as hard as you can...*(but)* somewhere in this sequence of events, you’ll probably suffer a fatal setback.”

Shikhar Ghosh of the Harvard Business School suggests that 75 percent of all US start-ups funded by venture capital fail. When *The Wall Street Journal* asked him about the start-ups that were not funded by venture capital, he indicated that they “fail more often than VC backed companies in the first four years of existence, typically because they don’t have the capital to keep going if the business model doesn’t work.” He noted that, “VC backed companies tend to fail after their fourth year—after investors stop injecting more capital” (Gage, 2012).

While many mature corporations and VC backed start-ups have difficulty accepting slimmer profit margins, most non-VC funded start-ups pursue opportunities without regard to resources they currently control and are less risk averse (Timmons, Spinelli & Ensign, 2010). These entrepreneurs must master the ability to identify new opportunities, become proactive innovators, and tolerate a high degree of personal risk (Lumpkin & Dess, 1996). Other characteristics associated with this kind of entrepreneur include seeking autonomy, innovativeness, a proactive approach, and competitive aggressiveness (Covin & Miles, 1999). Some authors have cited the presence of innovation as the defining trait of any entrepreneurial activity (Covin & Miles, 1999). Others have also viewed entrepreneurial efforts as including all non-routine activities by those who direct economic activities, irrespective of whether it is a private individual or mature corporation (Baumol, 1993). The departure from accepted routines and practices and a predilection for innovation is perhaps the defining characteristic of entrepreneurship and how entrepreneurs meet challenges and make decisions.

The primary entrepreneurial challenge a start-up must face is the issue of financing. **Bootstrapping** a new venture is viewed as an alternative method to traditional VC funding. It may in fact be entrepreneurship in its purest form. Most start-ups are financed through a “highly creative” process that involves the use of personal savings, credit-card debt, loans from friends and family, and some sources of private equity (Freear, Sohl, & Wetzel, 1995). The first academic reference to bootstrapping in start-up financing is attributed to Bhide (1992). His study of bootstrapping was an empirical investigation of its importance and the informal ways the entrepreneurs tapped into resources. He divided bootstrapping into two categories: financing for product development and financing for business development.

Bhide’s interviews with entrepreneurs attest to the value of bootstrapping—launching ventures with modest funds. We have numerous examples of the success that comes from such a process. Ross Perot started EDS with \$1,000 and turned it into a multi-billion-dollar enterprise. As a freshman at the University of Texas, Michael Dell started selling computer parts by mail order and turned it into a major computer hardware firm. As a Harvard dropout, Bill Gates launched Microsoft with his high school friend Paul Allen (Bhide, 1991). Mark Zuckerberg, also a Harvard dropout, bootstrapped Facebook a fair distance.

Bootstrapping a start-up is like having zero inventories in a just-in-time system: it reveals hidden problems and forces the entrepreneur to solve them. As Tom Davis of Modular Instruments, a medical and research equipment manufacturer, stated: “If we had had money we would have made more mistakes. This way I wrote all the checks. I knew where the money was going” (Bhide, 1992, p. 112). In the field of new venture creation, bootstrapping a start-up remains the rule rather than the exception (Timmons, Spinelli, & Ensign 2010).

Closely linked to bootstrapping a start-up is an approach called the **lean start-up**. It favors experimentation over elaborate planning, customer feedback over intuition and iterative design over traditional R&D up-front development (Blank, 2013). Entrepreneurial start-up ventures are not smaller versions of larger ventures. They do not unfold in accordance with master plans built on the premise that it is possible to figure out most of the unknowns in advance—before money is raised and the business concept is executed. No one, other than venture capitalists and the late Soviet Union officials, required five-year plans that forecast complete unknowns. The start-ups that ultimately succeed go from failure to failure. This happens at the same time that the entrepreneurs are adapting, iterating on, and improving their initial ideas based on continuous feedback from actual or potential customers (Blank, 2013).

Blank (2013) claims that early MBA programs taught students to apply large-company approaches to start-ups, for example, accounting methods for tracking revenue and cash flow, organizational theories about managing, etc. Whereas today's business schools take a more realistic approach to studying start-ups and recognize that new ventures face completely different issues and need their own management tools. Once business schools embraced the distinction between management execution and searching for a business model, they replaced the business plan as the template in entrepreneurial education in favor of discovery-driven planning (McGrath & MacMillan, 1995). Business plan competitions that were a celebrated part of the MBA experience for over a decade are being jettisoned in lieu of business model competitions. The Harvard Business School made this switch in 2012. Many other schools of business including Stanford, Berkeley, and Columbia are embracing the lean start-up curriculum (Blank, 2013).

RESEARCH METHODS

The investigative approach used to develop this teaching case is first person participant observation. One of the authors was a member of the Keenga Research team so data collection and contextual details in the case come from direct observation and first-hand knowledge. This method of field research is often used in anthropology, sociology, and social psychology where an investigator studies the group by sharing in its activities. As such, it is primarily a data collection method in a qualitative research paradigm (Kawulich, 2005). Using Gold's (1958) four theoretical criteria for classifying sociological field observations, this is a complete participant type of method—it is not an observer, observer participant, or participant observer method. The other author provides an objective and conceptual perspective for examining and analyzing the information.

Instructional material in entrepreneurship can be drawn from longitudinal individual case studies that provide rich but potentially idiosyncratic data or research-based time-specific survey statistics that generally reveal few specifics on how and why a firm succeeds or fails. In this case study the authors provide depth and breadth to the instructional material. The case participant author, a seasoned serial entrepreneur and angel investor, was imbedded for over four years in the start-up under scrutiny and provides the contextual reasons for decisions involved in the entrepreneurship process (Stevenson & Jarillo, 1990). The other author, an experienced researcher and teacher, provides a conceptual perspective based on entrepreneurship theory and practice. This gives a framework to the entrepreneurial challenges that the venture start-up faced as time progressed. Combined, the authors joint

efforts offer a unique experiential learning opportunity for MBA students and aspiring entrepreneurs who need to develop their own understanding and analytical abilities. Students can, therefore, put themselves into the situation and learn how they might cope in building a fledgling enterprise.

ANALYSIS

The case study of Keenga Research follows a chronological timeline that takes place over a period of four years. The narrative is lineal and divided into eight periods of time. Each of these focuses on specific entrepreneurial challenges that Keenga Research faced. At the end of each timeframe several questions are raised. These are helpful for students to analyze and evaluate the situation at each point in time. The sequenced periods of time and guiding questions help students understand the bootstrapping and lean start-up approaches. The learning objectives behind the case narrative and guiding questions are based on Bloom's revised taxonomy of the cognitive domain (Anderson & Krathwohl, 2001). Notes for the instructors are presented in the discussion section at the end of the case.

TEACHING CASE

Turning the Tables on Venture Capitalists: Keenga Research

Period #1 in the Case Timeline

A Unique Concept is Born. It began as many start-ups do. An idea tossed around by a graduate student with one of his professors over coffee. Jeron, an MBA student, married with a family, and a manager in a VC firm, had the idea of reversing the one-way relationship of venture capitalist with entrepreneurs. Jeron's concept was to let those entrepreneurs being funded rate the VC firms that provided them with funding. Why not ask the entrepreneurs to review investors? The opportunity to assess VC firms by the entrepreneurs they funded had never been done. This would generate an enormous amount of data and could provide a statistically based way to evaluate VC firms. Data reports could be marketed to pension and wealth management companies for making decisions regarding which VCs in whom they would invest. Their product would be especially useful for start-ups who did not have the resources to search through all the VC firms to find one to fund them.

What made the concept more compelling was that there were only two major players assisting pension and wealth management companies with their investment decisions. Both of these—Cambridge Associates and Thompson Financial Consultants—were primarily targeted at the high-end of the market. For example, a report might cost US\$50,000, require multiple rounds of due diligence, and need significant overhead. Although powerful in evaluating a single investment, these reports did not identify and evaluate all VC opportunities. This unique business concept could fill this significant gap in the market.

Guiding Questions. Reflect on the generation of a new business concept and Jeron's moment of realization that he had an innovative idea. How important is uniqueness in starting a business? Does the perception that there is a need for a unique concept create a barrier? Can other less-innovative ideas be just as successful? Why or why not? Is Jeron's idea marketable?

Period #2 in the Case Timeline

Starting a Business. Jeron's first step to get the idea off the ground was to draw in Jeff, a trusted former colleague. They named their start-up Keenga Research. The business model seemed simple enough. The first step was to identify entrepreneurs funded by VCs. For example, they could identify entrepreneurs that had been funded by Benchmark Capital and get the email

addresses of those individuals. They spent many months creating a manual process to get the email addresses of individual entrepreneurs who had received investment money that could be linked to a specific VC fund. It was time consuming, averaging five minutes to find each email address.

To solve the problem of getting these addresses they located a contact center based in the Philippines to do the manual work. After negotiating for over a month, they arrived at a price point of US\$0.40 per email address. Their first major expense was a check for US\$2,000 to the center in the Philippines. At this point Jeron and Jeff were bootstrapping, funding the venture out of their own pockets. Neither would give up their current employment.

Guiding Questions. What can be inferred about the commitment of the partners to this business concept? What can be learned from their decision to bootstrap Keenga Research? What other approaches could have been considered at this point in time?

Period #3 in the Case Timeline

Challenges of Developing the Product. The team's next step was building their database. They developed the methodology necessary to gather and statistically analyze the data. The questionnaire that would be sent to VC funded entrepreneurs was drafted and pilot tested using individuals who they personally knew. This test provided valuable feedback especially on ways to refine their survey instrument.

At this point the team was confident in the methodology they had developed and their contact list was growing. While their initial outlay of US\$2,000 had yielded 5,000 email addresses, the team received only 100 completed and usable surveys for a response rate of 2 percent. As Jeron pointed out, "That kind of response does not provide statistically significant data. Given the fact that there are over 2,000 VCs in the US marketplace, we would need to obtain feedback from an extremely large number of entrepreneurs. We just don't have the financing to handle it."

After spending nearly two years on Keenga Research—albeit on an *ad hoc* basis—Jeron and Jeff admitted that the entire process was moving slowly. They were in a catch-22 on their initial business model. Data needed to be based on statistically significant results to market and sell reports. To generate those results they would need 5,000 or more completed surveys. The cost could run as high as US\$100,000. Jeff sputtered, "We just can't get that kind of money without selling reports—and the next steps aren't clear."

Guiding Questions. Reflect on the challenges of developing, testing, and bringing a business concept to market. What personal qualities and traits are needed by an entrepreneur who chooses to use a bootstrapping and lean

start-up approach if the business concept requires significant R&D? What effort and resources are required?

Period #4 in the Case Timeline

Challenges of Limited Financial and Human Resources. For several months the team wrestled with creating a workable plan. Could they come up with a solution to the issues they faced? The decision was made to approach Anthony who owned the contact center based in the Philippines. They outlined their problem. His response was positive. He saw promise in what they were doing and extended them credit so they could continue. Anthony's help allowed them to get up to 30,000 email addresses immediately, giving them a chance to achieve statistically significant data. But at that point they still faced the issue of limited resources, both human and financial. Adhering to a lean start-up approach, a final decision was made to keep costs down by cutting back and focusing on a subset of VCs initially, ones that could be used in their reports.

In their discussions with Anthony, he indicated that the team's efforts were moving too slowly and they needed more manpower. In the end, he asked to get more involved in the business. This looked like the answer to their problems. It was an opportunity for Keenga Research to move ahead faster and have another person on board. At the time, Anthony had been CEO of the Philippine call center for five years. He had also been employed at multiple Internet start-ups. On the positive side, he had significant business experience. On the negative side, Anthony would be working on an *ad hoc* basis but still CEO of the contact center in the Philippines.

After a period of negotiations, Jeron and Jeff decided to accept Anthony's offer. Since he was running his own company Anthony could work on their venture during working hours, something that the others could not do because they were committed to regular nine-to-five jobs. As Jeff remarked, "Anthony could reach out to the market and respond to customers during a normal business day as he was needed."

The relationship flourished over the next six months. Both sides were gaining trust in each other. Anthony was beginning to take more of a leadership role. The addition of Anthony to the team came just at the right time. Jeron had recently assumed an increasing role at the VC firm where he was employed so he was no longer able to devote as much time to the business. Jeff also faced constraints. He had made a change in workplace which greatly reduced his ability to devote time and energy to Keenga Research. Although he had spent several years on the start-up, he stepped back from his management role. As an initial investor and part of the original team, he retained equity and a role as an active investor. The final decision

was an easy one at that point. Anthony was promoted to president of Keenga Research.

By the time these changes in leadership took place, the team had recognized that they needed to make the data relevant. In the original survey format, entrepreneurs were asked to judge the VCs on a 1 to 5 scale. As Anthony pointed out, “there was no way to tell what a rating of 3 meant in the overall market.” The solution was to use the first round of data to create a new benchmark. This benchmark placed the VCs into quartiles, providing a better way to assess the firm specific data provided by the entrepreneurs.

At this point Keenga Research had: completed 450 surveys with a focus on specific VCs; made several revisions of the survey which improved the data collected; worked on and completed a summary of results from these surveys; and launched a preliminary website to provide an overview of the company. As Jeron remarked, “Based on our initial goals, things have been going well. But the next steps will require a transition from a data gathering company to one that produces revenue. Something tangible needs to be created that can be marketed and sold.”

Guiding Questions. How would you evaluate their progress to date in developing their business concept and their commitment to seeing it brought to market? Applying what you know about VCs and the nature of Keenga’s business concept, would you advise them to seek VC funding? Why or why not?

Period #5 in the Case Timeline

Challenges of Becoming a Viable Business. Relying on their original business model, Anthony and Jeron began to work on developing the template for a report. Their initial report contained more than just the survey data (see a sample report generated for Canann Partners in the Appendix). It included data about the VC firm, outlining investment strategies as well as strengths and weaknesses. As Jeron asserted, “We have developed a unique rating system that highlights the potential volatility of a VC’s investment strategy combined with an understanding of their overall performance.”

Finally it was time. Anthony and Jeron had confidence- “that report is ready for its debut!” They began making calls to pension and wealth management funds to test the market for sales. Until that time, the pair had only made a few preliminary inquiries to assess perceptions of the product. Would it be valuable? These responses had provided them with positive feedback. But when asked to buy these reports, not a single potential customer stepped forward to place an order.

The team took this setback to critically review their business model— assess where they were and where they should go in the future. To get useful

information they returned to potential customers for their input. Anthony summarized:

- 1) Although they had a unique concept, Keenga Research did not have a reputation as a research company. It needed to gain credibility in the market. For example, if everyone was using the reports they would become the industry standard. But until others were reading them, most of the pension and wealth management companies would not perceive them to be a valuable resource.
- 2) The team had not developed an effective marketing/sales strategy. Jeron had the contacts within the industry but lacked the time to pursue them. Anthony had more time but lacked both important contacts and an understanding of the industry.
- 3) The process of generating their first report had been successful but once again it had been an extremely manual one. They had utilized the data generated in-house as part of the report. For the remaining reports they had to find sources that could provide the other data needed to complete the report. Each report required approximately 30 hours to prepare.
- 4) The only really unique part of the report was still the numerical data generated from entrepreneurs with first-hand experience with the VCs. Some of the other parts were helpful but most of the market interest was in the core data from entrepreneurs.
- 5) Using the web for data collection was going well but getting it into quartiles was still done manually. The final draft required an analyst to streamline and present the data.

Guiding Questions. What has transpired to this point in time? Step back and evaluate where things are. What has been their focus? Was there a viable market for their concept? As a bootstrapping start-up, the team does not have “deep pockets” to overcome R&D challenges. What should be done?

Period #6 in the Case Timeline

Challenges of Reinvention. The team had a face-to-face meeting and attacked their original business model. They felt that what they had created would not survive with their resources. Jeron and Anthony outlined their next steps.

- Work on establishing credibility.
- Find ways to enhance their product.
- Investigate ways to market and sell their reports.
- Improve the total report process so it requires less manual input.
- Find a way to automate their data collection process.
- Focus on their own unique research data.

These ideas raised some critical questions and issues. Would pension and wealth management companies ever be willing to pay for the data? Should they give the data away for free? Can the business model generate

needed revenue? How can they get to scale? How can they create a product reputation that can improve their credibility in the market? How can they eliminate the manual processes that have bogged them down?

As Anthony explained “We came to the conclusion that we needed to change the original business model and move the entire database online.” A web portal was needed so entrepreneurs could enter their responses easily online. Answers would go directly into a database. This would automate the processes involved in analyzing the data. A significant change was to move some of their core data online. It would be offered at no cost. They hoped that this would help them sell more complete reports. Another significant decision was to have two products: a short report that would be available online at no cost and a long report only available to premium members. Once they had established the volume of business they needed, they would shift both reports into premium status.

During one of Anthony’s meetings with Jeron, they spent a significant amount of time brainstorming ideas that they could pursue while they waited for critical mass. They sketched out what would be called the “Entrepreneur’s Toolkit.” The idea was to provide new entrepreneurs with a folder of useful documents. One of these could be a sample term sheet for fundraising. All of these documents would be provided at no cost to increase traffic on their website and improve acceptance of their business and product.

Another idea—perhaps a groundbreaking one—was to provide tools online to help entrepreneurs value their companies. For example, daily stock market data combined with financial analytics could provide individuals with a current benchmark of value. Because the approach would use current data, the benchmarks would be fresh and hopefully once again sticky. They hoped that a combination of these new ideas would create a community of entrepreneurs and companies using Keenga Research as an ongoing resource. If successful, these could lead to additional data collection for their core business and provide new sources of revenue. But the financial cost would be high. It would cost at least US\$15,000 to build and code a site that could handle these additions to their website.

Guiding Questions. In their assessment, changes must focus on the best ideas and pivot away from those that do not work (Blank, 2013). How would you organize and prioritize the questions raised by the Keenga team into a brief business model canvas? Has the energy and creativity level of the team changed?

Period #7 in the Case Timeline

Progress Too Slow and Too Late. After working on Keenga Research for years, Jeron felt they were finally closing in on a sustainable business model. Things

were looking up and moving forward. Then the other shoe dropped. Jeron received an email from a colleague with whom he had shared the concept of Keenga Research. His friend knew the business model and sent over the worst possible news. Despite their attempt at secrecy a competitor had launched—TheFunded.com.

Although impossible to prove, Anthony and Jeron felt that TheFunded had received one of their surveys, evaluated their business model, and come to the same strategic conclusion. The concept was an incredibly good idea whose time had come. TheFunded had reached out to every major news forum to project itself as the originator of the business idea. TheFunded was covered by the media as the company that was turning the tables on the VCs. Their website was completely automated and streamlined although it did not have the depth of questions as those at Keenga Research. After four years of work, Keenga Research was now a “me too” rather than a brilliant cutting-edge business.

The team had tried to keep their ideas under wraps from the very beginning. They justified this because they had two major concerns: the VC capital firms might react negatively to the business concept and their research work, even going so far as to block the entrepreneurs funded from participating in the research; and someone else might take their idea and run with it. In the end, Keenga Research paid the price. They had missed the opportunity to be the first mover in this new market.

Guiding Questions. One of the concepts in a lean start-up is “minimum viable product.” The emphasis is on nimbleness and speed to rapidly assemble minimum viable products and immediately elicit customer feedback. They can use input from customers to revise their assumptions. At this point, the cycle can start over again—testing redesigned products and making small adjustments (iterations) or more substantive ones (pivots) to ideas that are not working. Customer feedback matters more than secrecy in most industries. Constant feedback yields better results than cadenced unveilings (Blank, 2013). What are the pros and cons to how Keenga Research and TheFunded approached the process of bringing a business concept to market?

Period #8 in the Case Timeline

Greater Investment or Exit Strategies? Although they had been scooped, the Keenga Research team used this as an opportunity to learn from TheFunded. How did the site monetize its research? Would companies pay for the services? Were they able to overcome financial issues? The general review of TheFunded by the potential market appeared to be: it was interesting and entertaining but not educational. Serious players in the industry were discounting the value and quality of the data.

In the end the team believed that their business concept still had merit. They looked at the long-term outlook for the business. Based on their experience and the quality of their database, they were still executing better than TheFunded. Once reputations were established, could they generate revenue? But they also knew that getting there would require a significant investment of time and money.

Jeron and Anthony spent time reviewing and planning. They needed to make some critical decisions on the course of action. Was the business concept still valid? Could they make it as the second player in a market that was unproven for revenue and that would require substantial investment? Could they maintain Keenga Research as a hobby business? Would it be better to rally around their new products? Could these generate revenue? If so, what resources, including financial and human, would be needed to launch the products? Both of them agreed that Keenga Research really needed people power to build clout. To do more would require one or both of them to make a greater time commitment and go full time, but were they willing? Or, should they try to sell? Could they get anything for their small enterprise? Who would purchase it? TheFunded, Cambridge Associates, or Thompson Financial Consultants?

Guiding Questions. Reflect on the questions raised by the Keenga Research team. Are there other questions, issues, or challenges that should have been raised? What should be their next steps and how should they be prioritized?

DISCUSSION OF APPROACH FOR TEACHING THE CASE

Potential Audience and Use. This case is appropriate for an MBA elective on New Venture Creation or an MBA Strategic Management course dealing with emerging strategies or strategic change. It can also be used in a class or workshop to help students understand the difficulty of launching a complicated and unproven business concept using a bootstrapping approach. A good way for students to look at the issues raised in the case might be for them to work together as partners or teams—either before or in class—as though Keenga Research was their own business.

Class Plan. This case gives students an opportunity to think about starting their own business. Since the case chronicles the start-up over a four year time period, many of the major entrepreneurial challenges can be examined. The founders had to face financial and human resource shortages on a continuing basis but it seems that they were able to adapt and cope. The instructor could expand on these issues in a lecture and with handouts. Using

a teaching case, students will have a greater understanding of what a non-VC funded venture faces—perhaps even how to capitalize on their own start-up ideas.

Learning Objectives. The evaluation and assessment of the start-up in this case should help students to:

Identify the complexity of being an entrepreneur.

Analyze and synthesize the issues of business concept/opportunity recognition.

Assess the importance and effectiveness of timing in a start-up.

Identify the consequences of human and capital resource commitments.

Evaluate complexities in the product developed process.

Recommend an action plan for Keenga Research at this point.

Synthesize the implications raised in this case for their own professional development as an entrepreneur.

END-OF-CASE DISCUSSION QUESTIONS

(Can be used in class or as a written assignment).

Was the business concept still valid? Could they survive as a second player in a market that is unproven for revenue but requires substantial investment?

The validity of this business concept is still an open question. TheFunded began to charge for access to its data and Keenga Research moved in that direction. TheFunded was charging \$20/month per member in a relatively limited-size market. Total revenue would only be in the \$20k range even with a strong market penetration.

The answer to the question “Could they survive?” is maybe. It is not financially viable as a standalone business model but it could work well as a build-and-leverage-other-markets model (Balboni & Bortoluzzi, 2015). It could be a launching platform for other revenue generating ideas. The students need to think about what Keenga Research could do with a captive market of entrepreneurs. There may be two options to consider. Option 1 would be to open its own VC and leverage its market position to raise funds and find ideal investments when the firm reaches critical size. Option 2 would be to focus primarily on services for entrepreneurs or mutual funds and/or move into recruiting and services. See Ensign (2008) for help in dilemma resolution.

Can they maintain this enterprise as a hobby business/lean start-up? Would it be better for one of the partners to work at Keenga Research full time?

The venture team faced this quandary many times. The team primarily focused on whether Anthony should move to being employed full time. But since the firm was only raising about \$40k this would not meet Anthony's salary requirements. If they paid Anthony there were two problems: they would run out of funds in three or four months and they would not have the funds needed for web development. Anthony would bring new partnerships and ideas for development but there would still not be enough people to back him up. In the end the team decided to put their financial resources back into the website.

The question of whether any firm with a complex model can remain a hobby business is a critical one to answer. A recent study found there was no statistically significant difference in the outcome of certain critical activities between founders who start a business as a hobby and those who do not (Kim, Longest & Lippmann, 2015). The founders at Keenga Research believed that while their pace was slow they had managed to make progress but it had been a difficult struggle. It had taken an enormous amount of their own time and required sacrifices from their families.

Would it be better to focus on new products? Could they generate revenue? If they did focus on new products, what financial and human resources would they need to launch the products?

These questions are related to the first question. The issues of products and revenue are related and critical. This discussion should focus on the two models for generating revenue in starting a business. The first model is a true VC backed entity in which the founders raise significant funds from outside. This would provide more capital for the development of the product, building a team, and marketing the new products. The timeline for success would be significantly shorter. But the share of ownership could be reduced to 10-20 percent. The second model is the bootstrapping one that the founders pursued. The founders may retain up to 80 percent of the equity in the firm and the path to success is much slower. It can have many problems but it can give them the satisfaction and control they may want. Either model can be successful but both involve significant risk. Ultimately the direction a start-up takes will be based on what the team thinks will work for them. In this case study the choice of bootstrapping resulted in slow execution, coming in second, and a significant number of issues that had to be faced. On the topic of timing (optimal timing, strategic action, and real options) see Sollars and Tuluca (2012).

Over time, Keenga Research pursued a new business model that complimented the existing one. This model was to launch a tool that allows private companies to value themselves and track their value using daily benchmarks from public companies. They built a mergers and acquisitions database to provide this service. Their new products matched their original one by specifically targeting entrepreneurs. The hope was that offering new things useful to the entrepreneur would improve interest in their overall portfolio. At the end, the team was reviewing the option of going live on the Internet.

Should they try to sell? Could they get anything for their small enterprise? Who would purchase it? Would TheFunded, Cambridge Associates, or Thompson Financial Consultants buy it?

The answer could be to sell if the founders decided they were beat. At this point the value was not fully created. For the company to sell at this point it would be at a greatly undervalued price. They might get US\$50,000 for the entire idea, which would not justify the time, effort, and funds they had personally invested. If they decide to continue it could become profitable and wildly successful. Something that may not have come out previously in class discussions is the issue of two large firms in their market (Thompson Financial Consultants or Cambridge Associates). If one of these firms purchased TheFunded, Keenga Research would probably be forced to build out its model or make a strategic acquisition of its own.

What really happened?

Since teaching cases are open ended there were no correct answers. But most students will want to know what the founders of Keenga Research did beyond what is presented in the case. Although the founders did not want to be a “me too” company in their market space, there were enough differences in the two businesses for them to continue in the market. See Najda-Janoszka (2012) for a balanced assessment of the viability and success of an imitation strategy over absolute novelty. TheFunded had a survey online that asked entrepreneurs only a few questions in assessing the VC firm that had funded them. The written survey sent to entrepreneurs by Keenga Research asked for their input on 45 questions. In the end, Keenga Research dropped their manual process of completing surveys and put it and the data collected online. They had enough ideas to push hard and generate their own model. It moved company valuations to the web, which was the first time this had been done. The company was in discussions with major tech press publications to push this technology.

The venture team continued working part time—raising capital but investing it all back into the website. They also decided to re-brand themselves because Keenga Research did not resonate with the market they were targeting. They changed their corporate name to Venture Returns (VentureReturns.com). Anthony Woods, CEO and President of Venture Returns, made the following statement in a news release.

“When the company was founded more than three years ago the focus was entirely on in-depth venture capital and private equity reviews. As we’ve grown we’ve found that our user base actually had other needs, which stimulated our development of a broader set of services. Now, again based on user feedback, we are excited about the launch of a new service entitled valuation tool, which we will formally unveil on October 1st. We were the first to present VC reviews, and now we are the first to provide a fully automated valuation tool for entrepreneurs.”

CONCLUSION

One of the objectives in undertaking this study was to introduce JEMI’s audience to the value of using a case study when teaching entrepreneurship classes in the business curriculum. If we have stimulated an interest in pursuing how they can adapt this teaching method to their classroom we will have achieved that goal. But this study also had two other objectives. First, it was designed to provide students with an understanding of financially bootstrapping a start-up venture, one that uses a lean approach to bring a new idea or business concept to market. Second, it was designed to expose students to the experiential learning that can occur in studying a business case. The aim was to engage readers to think about what a real start-up looks like and gain a better understanding of the challenges and issues involved in bootstrapping a start-up.

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Appendix



Keenga would again like to thank you for your time and for providing us with insight into the areas that are valued by entrepreneurs. We researched the contact information of over 20,000 individuals who have been involved with companies that have raised capital. Of this group, we had over 400 responses providing us a solid benchmark of opinions. We have provided this report to those who completed the survey to highlight some of the most relevant information.

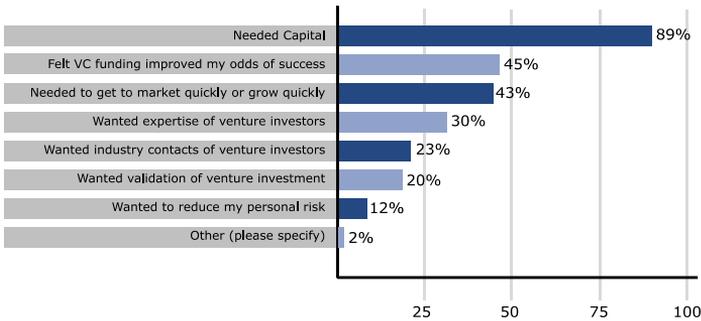
In our research, we found that the majority of entrepreneurs are between the ages of 41 and 50 years old and have started 1.4 companies (on average) and are generally male (92%).

Entrepreneurs value, above all, the ethic and trustfulness of the VC that they are working with. This is the most prominent area that is used in determining VCs. Our research also showed that the majority of entrepreneurs feel good about their VCs on this front. After this area, entrepreneurs are primarily concerned with finding a long term partner and of course the economic terms of investment. This last item, economic terms, is where entrepreneurs feel that VCs have performed the weakest.

Likely to reinvest with same partner: 74%
The fund managed expectations appropriately during the process: 82%
Entrepreneurs feel they had a positive experience: 83%

Overall, entrepreneurs found that VCs are least helpful in two key areas for any young business. They found that they were not getting assistance for finding top talent and providing sales leads.

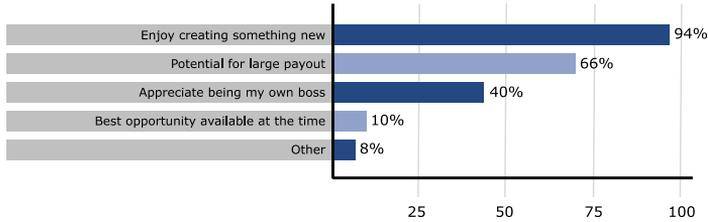
Why people raised money? Note multiple answers are possible.



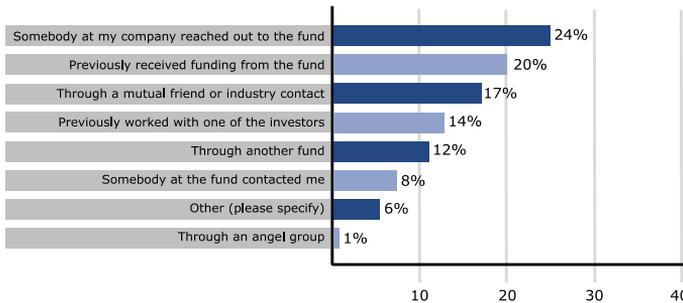
www.keenga.com
1-800-822-2466



Why do you work in a start up?



How did you find your VC?



Keenga Research is your guide to the private economy. Our first product, Keenga Venture Reports, is a library of analyst reports on the world's most prominent venture capital firms. We provide these reports to a range of interested parties including:

- LPs, institutional investors and their advisors
- Venture capital funds
- Entrepreneurs

Keenga's founders have worked in management consulting, software and high-technology, venture capital, and as entrepreneurs. The founders have significant experience performing customer research, benchmarking, and consulting large and small companies in a variety of industries. They also have a great deal of experience being and working with entrepreneurs. Keenga founders benefit from strong personal networks of advisors in the private equity, fund of funds, and LP communities.

www.keenga.com
1-800-822-2466



Canaan Partners

A-2

Firm Profile

Early through expansion-stage venture capital focusing on IT and life sciences in the US and Israel.

Rating

Return Rating	A—30 % + IRR
Volatility Rating	2—Normal
Entrepreneur Rating	High—2nd Quartile 4.44 / 5.00
Portfolio Benefits	Solid US mixed-stage venture with a solid risk-return profile

Summary

Fundraising

- Last fund heavily oversubscribed
- Not in market for 2-4 years
- Near complete shift to institutional investors in Fund VII

Performance

- Recent funds have generated very strong IRRs
- High percentage of investments have exited

Team

- Strong team with varied backgrounds
- At least two strong, young partners
- Some evidence older generation is less involved

Market

- US valuations creeping up
- US exits remain difficult
- Israel remains healthy with room for more investment

Investment Model

- Strong deal flow
- Rates high in ethics and relationships with entrepreneurs
- Rates low in industry expertise and treatment of entrepreneurs when startups fail

Red Flags

- Founder left firm in 2002
- Some partners seem less involved
- Not terribly good at building business for portfolio despite claims
- Canaan may lack deep industry expertise

Recommendation

Given Canaan's strong track record of returns, its solid base of institutional investors who all agree on its potential, its ability to source deals and generate exits, and its generally healthy rapport with entrepreneurs, we believe Canaan is a "buy." We believe that Canaan will continue to generate very strong IRRs so we rate Canaan an A for Returns. We do not have any evidence that indicates that Canaan's volatility will be lower than average or greater than average, so we gave it a Volatility Rating of 2—normal. Entrepreneurs think highly of Canaan and place it high in the 2nd quartile. In conclusion, we are convinced that Canaan has a good rapport with entrepreneurs, will typically generate solid returns, and has a viable and sustainable investment model with a strong next generation of younger partners.



Canaan Partners

A-2

Overview

Founded in 1987, Canaan Partners is an established, relatively large, US-based, early through expansion-stage venture capital firm with offices in Connecticut, the Bay Area, Israel and India (opened earlier this month). Canaan has established a great fundraising track record, most recently investing out of a \$450M Fund VII and transitioning almost entirely to an institutional LP base. According to our analysis, Canaan has made 247 investments since inception and has had a significant number of exits. Over 51% of its investments have exited compared to our benchmark of 37%. While Keenga does not have access to Canaan's full historical returns data, we believe that its funds have performed quite strongly. According to Keenga's proprietary survey sent to over 21,000 entrepreneurs, entrepreneurs think very highly of Canaan. Comments are consistently positive, for example: "Canaan is wonderful. Straight shooters. Support the entrepreneur." When asked about the fund's weaknesses, entrepreneurs can only point to "limited time available to pay attention to the inner workings of our company during times of transition (financing, commercialization, etc.)." One entrepreneur also noted that occasionally Canaan gave "inconsistent advice" and gave advice "when they [were] not experts." Our research and survey identify that Canaan ranks at the high end of the 2nd quartile in the strength of their next generation of fund managers and our research confirms that young partners Brent Ahrens and Maha Ibrahim are widely viewed as capable successors. Overall entrepreneurs rated the fund 4.44/5.00 which places it at the top end of the 2nd quartile. Our investment rating is for Canaan is A-2 because we believe that it will continue to consistently generate strong returns.

Offices

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www.canaanventures.com

Fundraising

Canaan has been very successful at fundraising over the past 18 years, raising over \$2.82B. It began to fundraise for its most recent \$450M fund in January 2005 and by May 2005 it was already \$100M oversubscribed. New LPs in Fund VII have said that Canaan terms are pretty much standard. LPs have also mentioned that the firm's investment consistency and practice of promoting from within helped pique their interest. The firm believes that Canaan Equity III will be fully invested by the third quarter of 2006 and they will then begin investing out of Canaan Partners VII.

Performance

Canaan is best known for successful investments in DoubleClick (DCLK), Commerce One (CMRC), Copper Mountain Networks (CMTN), Immunicon (IMMC), ONI Systems (ONIS), and Combinatorx (CRXX). However, the fund has also performed well recently, in part due to the success of a couple of new partners. One new partner, Brent Ahrens joined Canaan in May 1999 and was promoted to partner in May 2005. Since joining he has led investments in Revivant (sold to Zoll Medical), Peninsula Pharmaceuticals (sold to J&J for \$245M) and Dexcom which concluded a \$56M IPO in April of 2005. Although we do not have access to Canaan's complete performance record, we believe that Canaan's latest funds have generated strong IRRs.

Abstract (in Polish)

Niniejsze studium przypadku stanowi zapis historii tworzenia nowego przedsięwzięcia – Keenga Research. Keenga Research oferuje nową usługę, którą zamierza wprowadzić na rynek. Koncepcja biznesu polega na poproszeniu przedsiębiorców, aby poddali ocenie kapitał ryzyka (VC), firmę, która ich stworzyła. Ocena VC byłaby następnie opracowana i sprzedawana dla zainteresowanych (funduszy i być może przedsiębiorstw poszukujących finansowania). To, co sprawia, że ten przypadek jest wyjątkowy, to to, że Keenga Research jest tzw. lean (odchudzonym) start-upem. Bootstrapping jest sytuacją, w której przedsiębiorca zdecyduje się finansować przedsięwzięcie z jego / jej własnych zasobów osobowych. Polega ono na samofinansowaniu (rodziny i przyjaciół), ścisłej kontroli kosztów i utrzymaniu kontroli własności i zarządzania (Winborg & Landstrom 2001; Perry, Chandler, Yao, i Wolff, 2011; Winborg, 2015). Podejście lean start-up sprzyja bardziej eksperymentowaniu niż skomplikowanemu planowaniu, opinii klientów niż intuicji, iteracyjnemu projektowaniu niż tradycyjnej, z góry ustalonej działalności badawczo-rozwojowej. To studium przypadku wymaga od czytelnika rozważenia kilku podstawowych wyzwań, z którymi borykają się wszyscy przedsiębiorcy i nowe przedsięwzięcia:

Czy koncepcja odpowiada potrzebom rynku? Czy koncepcja może zostać opracowana i wprowadzona na rynek w odpowiednim czasie? Czy produkt będzie generował przychody? W jaki sposób? Kiedy? Jaki jest poziom zaangażowania przedsiębiorców? Czy rozważyli główne wyzwania przed nimi stojące?

Ponieważ przedsięwzięcie wymaga zaangażowania, zbierania i opracowywania informacji badawczych, a następnie tworzenia platformy internetowej, Keenga Research stanęła w obliczu znaczących wyzwań dopasowania oferty do rynku.

Metodą badania zastosowaną w tym studium przypadku jest obserwacja uczestnicząca oraz wywiady. Jeden z autorów był członkiem zespołu, więc dane kontekstowe pochodzą z obserwacji bezpośredniej i wiedzy z pierwszej ręki. Ta metoda badań jest często stosowana w antropologii, socjologii i psychologii społecznej, gdzie badacz analizuje grupę, biorąc udział w jej aktywnościach. Drugi autor przedstawił obiektywną i koncepcyjną perspektywę do analizy przedsięwzięcia. Ta kombinacja perspektyw zapewnia bardziej zrównoważony obraz.

Słowa kluczowe: *przedsiębiorca, pomysł na biznes, rozpoznawanie okazji rynkowych, venture capital, bootstrapping, lean start-up, przyspieszone wprowadzanie produktu na rynek, zaangażowanie zasobów i ograniczenia zasobowe.*

Biographical notes

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Anthony A. Woods is a serial entrepreneur and angel investor. He holds positions in several firms including President and CEO of Incoho Inc., a leading provider of commercial collections, B2B demand generation and research work. Incoho is a leading Chicago-based company focusing on accounts receivable management and outsourced collections services. The client roster includes international banks, telecommunications and energy companies, and other global organizations. In addition to Keenga Research, Mr. Woods was one of the key start-up team members of Keen, Inc., a successful Silicon Valley Internet firm. He previously worked at Mercer Management Consulting. He graduated from Queens University, Kingston, Ontario, Canada with a Bachelor of Commerce degree.

