



The influence of anticipated regret on business start-up behaviour

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Abstract

This research note aims to develop the emotional underpinning of early-stage entrepreneurship by examining the influence of anticipated regret, a negative emotion, on the transformation of latent entrepreneurs into nascent entrepreneurs. Drawing on regret regulation theory and two waves of survey data, the analysis demonstrates that anticipated regret manifests as a, feeling for doing, by pushing latent entrepreneurs towards engaging in business start-up behaviour. We conclude that negative emotions exert an important influence on behavioural regulation in early-stage entrepreneurship, fostering the transition from latent to nascent entrepreneurship.

Keywords

anticipated regret, emotions, latent entrepreneurship, nascent entrepreneurship, start-up behaviour

Introduction

Although we know a considerable amount about the determinants of latent entrepreneurship (Schlaegel and Koenig, 2014) – the activity of individuals planning to start a business – we know little about the factors that influence the transition from latent to nascent entrepreneurship, in other words, the shift from plan to action (Brixy et al., 2012; Kautonen et al., 2015). Recent research argues that entrepreneurship is an emotional journey (Baron, 2008; Cardon et al., 2012; Doern and Goss, 2013; Shepherd et al., 2014), suggesting that emotions might be one factor contributing to a plan being turned into action or not as the case may be. Specifically, emotions exert strong effects on behaviour in environments that are uncertain and characterized by high task complexity (Baron, 2008; Delgado-García et al., 2015); which is a condition typical of new venture creation (Dalborg

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and Wincent, 2015). However, the majority of research on entrepreneurial emotions thus far, deals with either early-stage identification of opportunities (Foo, 2011; Hayton and Cholakova, 2012) or late-stage venture cessation (Shepherd, 2003; Shepherd et al., 2009), whereas we know relatively little about the role played by emotions in the transition from latent to nascent entrepreneurship (Delgado-García et al., 2015). To the best of our knowledge, the only study that directly addresses this niche is that of Van Gelderen et al. (2015), which investigates the role of action-level emotions (fear, doubt and aversion) in the process of transforming start-up intentions into actions. While they find doubt at the action level to be a negative moderator of the intention–action relationship, action aversion appears to facilitate the translation of intentions into actions. This finding supports those by Doern and Goss (2014) that certain negative emotions in the context of entrepreneurial action encourage adaptive processes, with behavioural consequences.

This research note adds to our knowledge of the role of emotions in the transition from latent to nascent entrepreneurship by examining the behavioural consequences of a negative emotion – anticipated regret – one which is well established in the psychological literature (Abraham and Sheeran, 2003; Janis and Mann, 1977; Sandberg and Conner, 2008). Our argument builds on the insight from prior research that individuals engage in entrepreneurship as a means of regulating their emotional state, so avoiding negative, while fostering positive emotions (Cardon et al., 2012; Kato and Wiklund, 2011). While positive emotions such as passion and joy have been shown to drive an entrepreneurial career (Cardon et al., 2009; Welpe et al., 2012), negative emotions such as fear or grief can hinder opportunity exploitation (Shepherd, 2003; Welpe et al., 2012). However, neither positive nor negative emotions play a consistently beneficial or detrimental role in the early stages of the entrepreneurial process (Baron, 2008). Emotions can in fact lead to counterfactual behavioural effects when the moment of taking action draws closer and gives rise to feelings of anticipation (Van Gelderen, 2009). We propose that regret over not following plans for an entrepreneurial venture with concrete action is a counterfactual and anticipatory negative emotion that drives latent entrepreneurs to regulate their behaviour in such a way that they are more likely to proceed to the business gestation phase of the entrepreneurial process.

We draw from regret regulation theory (Pieters and Zeelenberg, 2007; Zeelenberg, 1999) in developing the study's hypothesis and utilize two waves of survey data from the Finnish adult population to test the assumptions. Consequently, our research note is able to offer two principal contributions. First, by adding a regret regulation perspective to the emerging body of literature on negative entrepreneurial emotions (Delgado-García et al., 2015; Doern and Goss, 2014), this study enriches our understanding of whether and how negative emotions such as anticipated regret lead to subsequent behavioural regulation in the transition from plans to actions. Hence, we also respond to the call for process views raised in entrepreneurship research on the role of negative emotions (Cardon et al., 2012; Delgado-García et al., 2015). Second, by introducing anticipated regret as a predictor of start-up behaviour, the study extends previous cognition-focused explanations of the origins of becoming an entrepreneur.

Theoretical background

Nascent entrepreneurship

Nascent entrepreneurship, or the process of new venture creation, involves a variety of early-stage entrepreneurial behaviours (business gestation activities), such as venture ideation, developing a business plan, applying for financial support and establishing contact with potential customers and suppliers (Delmar and Davidsson, 2000; McCann and Vroom, 2015).

High levels of outcome uncertainty and highly complex tasks characterize the pursuit of entrepreneurial opportunities (Frese and Gielnik, 2014; McMullen and Shepherd, 2006). Hence, engaging in business gestation activities is a demanding endeavour (Dalborg and Wincent, 2015; Hjorth et al., 2015) in which a variety of cognitive and emotional factors play a role (Delmar and Davidsson, 2000; Frese and Gielnik, 2014). Engaging in nascent entrepreneurship can also be considered a socially important behaviour. Although the plan to start a business can be influenced by the socio-cultural environment (Casson and Della Giusta, 2007; Kibler and Kautonen, 2016; Thornton et al., 2011), it can reside only in the latent entrepreneur's mind; latent entrepreneurship does not require any action per se. However, applying for financial support or obtaining information about a new potential client renders the individual's entrepreneurial aspirations clearly visible; thus, nascent entrepreneurship becomes a socially important context.

These challenges associated with new ventures mean the level of enthusiasm for engaging in business start-up behaviour can vary over weeks and months, or even during a single day (Van Gelderen, 2009). In fact, there are multiple reasons why latent entrepreneurs might not bring their plans to start a business to fruition, including fear of taking the step into self-employment, a perceived lack of skills and social pressure. Consequently, not all plans to establish a business start-up develop into specific start-up behaviours (Kautonen et al., 2015; Kessler and Frank, 2009). Building on the notion that emotions play a significant role not only in making important plans but also in converting them into actions, especially under conditions of uncertainty, social pressure and high task complexity (Baron, 2008; Delgado-García et al., 2015; Doern and Goss, 2014), we next turn to investigating emotions as a predictor of early-stage entrepreneurship.

Emotions and nascent entrepreneurial activity

Entrepreneurial emotions comprise 'affect, emotions, moods, and/or feelings of individuals or a collective that are antecedent to, concurrent with, and/or a consequence of the entrepreneurial process, meaning the recognition/creation, evaluation, reformulation, and/or the exploitation of a possible opportunity' (Cardon et al., 2012: 3). Prior studies show that entrepreneurial emotions influence both the creation (Hayton and Cholakova, 2012) and exploitation of ideas (Welpel et al., 2012), as well as risk perceptions in entrepreneurial decision making (Podoyntsyna et al., 2012) and the extent and intensity of proactive behaviour (Hahn et al., 2012).

Emotions exert strong effects on behaviour especially in environments that are uncertain, socially important and characterized by high task complexity, which is a scenario typical of entrepreneurial venturing (Baron, 2008; Delgado-García et al., 2015). However, an entrepreneurs' behavioural responses to emotions are heterogeneous (Shepherd et al., 2014). Particularly in the context of nascent entrepreneurship, as the moment of action draws close, anticipatory negative emotions can arise among latent entrepreneurs (Van Gelderen, 2009). Such negative emotions generally encourage adaptive processes (Doern and Goss, 2013; Forgas, 1995; Taylor, 1991) and can, therefore, also foster counterfactual behavioural effects in specific contexts, such as in nascent entrepreneurship, where outcomes are uncertain but socially important. Building on the notion that anticipated regret plays a significant role in converting important plans into subsequent actions (Abraham and Sheeran, 2003), the next section expounds a rationale for how this counterfactual and anticipatory negative emotion contributes to a latent entrepreneur's engaging in nascent entrepreneurial activity.

Anticipated regret influences the engagement in nascent entrepreneurial activity

Regret is a negative backward looking emotion that people experience when they realize or imagine that the present situation could be better had they acted differently (Zeelenberg, 1999). However, it is also possible to anticipate regret pre-behaviourally (Simonson, 1992). Specifically, anticipated

regret – defined as beliefs about whether or not feelings of regret or upset will follow from inaction (Abraham and Sheeran, 2003) – is a negative emotional reaction that individuals experience as a result of comparing the anticipated outcome of their decision not to act with the outcome they would have experienced had they acted (Loewenstein and Lerner, 2003).

Regret regulation theory (Pieters and Zeelenberg, 2007) postulates that individuals are regret-averse and try to regulate their regrets to maximize outcomes in the long run. Accordingly, regret is subject to temporal reversal: in the short term, individuals regret their actions, but in the long term, they are likely to feel more intense regret over inaction (Pieters and Zeelenberg, 2007) if action is the norm (Kahneman and Miller, 1986). Thus, anticipated regret manifests as a feeling for doing – by motivating individuals to take action to avoid experiencing regret arising from a failure to act (Roese et al., 2007; Zeelenberg and Pieters, 2007). Particularly in contexts where outcomes are uncertain but socially important (Janis and Mann, 1977), such as in nascent entrepreneurship, anticipated regret can act as a behavioural push (Roese, 2005) towards engaging in business gestation activities.

More specifically, although anticipated regret constitutes a non-rational belief in a future prospect (Zeelenberg, 1999), it simultaneously triggers regretful thinking: the automatically activated cognitive representation of alternative scenarios (Hird, 2007). Considering anticipated regret minimizes the likelihood of regret (Loomis and Sudgen, 1982) as individuals will engage in strategic actions to regulate their regret (Zeelenberg and Pieters, 2007). The strategy of feeling-focused regulation (perceiving and reducing future regret over not starting a business) in particular appears to have strong potential to explain the behavioural transition from latent to nascent entrepreneurship. In contrast to alternative-focused (re-appraising the quality of the current employment) or decision-focused strategies (relinquishing the idea of starting a business), minimizing future regret over not starting a business requires the latent entrepreneur, who perceives entrepreneurial inaction as something to be regretted, to take tangible steps towards converting ideas and visions into a start-up business. By engaging in actual start-up behaviour, the nascent entrepreneur regulates the regret that would arise from a failure to act, thus establishing grounds for maximizing the uncertain but socially important start-up outcomes in the long run. In other words, individuals who think about entrepreneurial action positively (latent entrepreneurs), while at the same time perceiving entrepreneurial inaction as regrettable (Hird, 2007), will engage in business gestation activities to minimize future regrets, whereas those who do not associate entrepreneurial inactivity with anticipated regret are less likely to make the transition from being latent to becoming nascent entrepreneurs.

Hypothesis 1. Anticipated regret positively influences whether latent entrepreneurs engage in nascent entrepreneurial activity.

Methods

Data collection

This analysis uses original data from a postal survey of entrepreneurial attitudes and activities of the Finnish population aged between 20 and 64 years dating from April 2011 (wave 1) and May 2012 (wave 2). The research team used central registers and took advice from statistical authorities to generate a sample of postal addresses that was representative of the population and also accounted for geographic diversity. The initial sample size was 2263 individuals (response rate: 23%). The sample is very close to the national averages in the age group 20–64 years in terms of age and regional distribution. There are also no notable differences between early and late respondents in terms of the key demographics.

This study is interested in individuals “who in wave 1” were considering the idea of starting a business (latent entrepreneurs) but who were not yet involved in nascent entrepreneurial activity.

There were 483 such individuals in the sample. A total of 234 (48%) of those latent entrepreneurs participated in wave 2. Based on comparisons of frequency distributions (categorical variables; Pearson chi-squared test) and mean values (continuous variables; *t*-test) of the independent and control variables included in the analysis between those who participated in wave 2 ($n=234$) and those who did not ($n=249$), the only statistically significant difference relates to age: the average age of those who participated in wave 2 (40.3 years) was slightly higher than of those who opted out (37.9 years; $t=2.27$). However, and more importantly, the difference between the mean scores of the anticipated regret index is not statistically significant.

Measures

Dependent variable: nascent entrepreneurial activity. The dependent variable is the self-reported number of start-up activities that the respondents engaged in between April 2011 (wave 1) and May 2012 (wave 2). The nine business gestation activities the survey incorporates are similar to the gestation activities from the influential Panel Study of Entrepreneurial Dynamics II (2015). These activities include developing a business plan, engaging in marketing efforts, developing a product or service, contacting potential customers, compiling information on competitors, commencing funding acquisition, producing financial projections, and acquiring equipment, facilities or other tangible items for the business. Because these activities are discrete, the variable capturing nascent entrepreneurial activity is a count of the activities undertaken.

Independent variable: anticipated regret. The measure of anticipated regret (wave 1) is the average of the respondent's rating of the following two statements adapted from Abraham and Sheeran (2003): 'I would feel regret if I did not engage in business start-up activity in the next 12 months' and 'I would feel upset if I did not engage in business start-up activity in the next 12 months' (1 = *fully disagree*, 6 = *fully agree*). The Cronbach's alpha coefficient for the index is 0.90.

Control variables. The control variables (all included in the wave 1 questionnaire) include gender, age (quadratic specification), previous entrepreneurial experience (prior to wave 1) and educational attainment (1 = *higher education*, 0 = *other*), which previous studies highlight as key demographic/biographic variables influencing early-stage entrepreneurship (see Parker, 2009, for an overview).

Moreover, the vector of control variables includes the individual's labour market status in wave 1: employed, unemployed or outside the labour force. The reason for including this variable is that it proxies the motivation for considering the idea of starting a business: push factors are more likely to drive people who are unemployed or outside the labour force (Block and Koellinger, 2009). This in turn may influence the likelihood of these individuals proceeding from idea to activity and might also influence the role of anticipated regret.

An additional variable capturing the individual's motivation in wave 1 is a dummy assigned the value of 1 if the latent entrepreneur is seriously considering the idea of starting a business and 0 if they think about it only occasionally. A person thinking seriously about starting a business is ex ante more likely to engage in gestation activity and to experience anticipated regret.

The third variable for the individual's entrepreneurial motivation is the type of business they anticipate starting: a part-time business, employing only themselves, a small business with perhaps a few employees but no growth aspirations, and a business they want to grow and in which they wish to invest. Axiomatically, less ambitious entrepreneurial activity is easier to postpone or abandon and causes less anticipated regret. Table 1 presents the mean values, standard deviations and Pearson correlations for all variables.

Table 1. Mean values, standard deviations and correlations.

	Mean	SD	Pearson correlation coefficients																	
			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.								
1. Nascent entrepreneurial activities (range: 1–9)	2.85	3.05																		
2. Anticipated regret (range: 1–6)	2.51	1.35	0.33*																	
3. Seriously considering in wave 1	0.19	0.36*	0.32*																	
4. Female	0.49		-0.09	-0.08	0.06															
5. Age (range: 20–64 years)	40.32	11.63	0.10	0.27*	0.03	-0.15*														
6. Higher education	0.42		-0.15*	-0.12	-0.06	0.06	-0.11*													
7. Prior entrepreneurial experience	0.20		0.17*	0.17*	-0.02	-0.06	0.34*	-0.13												
8. Employed in wave 1	0.73		0.09	0.06	-0.08	-0.14*	0.14*	0.05	0.04											
9. Unemployed in wave 1	0.09		-0.02	0.04	0.05	0.01	0.16*	-0.14*	0.11											
10. Outside the labour force in wave 1	0.18		-0.08	-0.09	0.05	0.15*	-0.27*	0.04	-0.13	-0.13										
11. Business aim: part-time	0.32		-0.08	-0.04	-0.19*	0.05	0.14*	-0.01	0.14*	-0.01	-0.07									
12. Business aim: self-employment	0.25		0.04	0.12*	0.10	-0.07	0.18*	-0.22*	-0.04	0.11	-0.01	-0.12								
13. Business aim: small business	0.34		-0.08	-0.09	-0.00	0.10	-0.18*	0.03	-0.04	-0.04	0.07	-0.01	-0.01							
14. Business aim: growth-oriented	0.9		0.08	0.03	0.17*	-0.14*	-0.00	0.05	0.15*	0.01	0.02	-0.02	-0.03	-0.03						

SD: standard deviation.

n = 234.

Blank spaces pertain to correlations between dummy variables that together form a categorical variable.

*p < 0.05.

Results

The properties of the dependent variable inform the choice of analysis strategy. Given that the dependent variable is a count from 0 to 9, with a mean of 2.85, a variance of 9.32 and an excessive proportion of zeros (40%), the chosen estimation technique is the zero-inflated negative binomial (ZINB) regression model. ZINB combines a binary logit model with a count model. In the present context, it models the probability of taking no action compared to any action (binary logit) separately from the magnitude of action taken (number of activities undertaken; negative binomial model). Therefore, compared to conventional count regression techniques, a ZINB specification places extra weight on the probability of observing a zero through a mixing specification. Regression diagnostics suggest that influential observations and serious multicollinearity are not concerns in this analysis. Table 2 presents the estimation results.

The logit column in Table 2 shows that anticipated regret exerts a negative and significant influence on the probability of no action being taken. In other words, anticipated regret has a positive association with the likelihood that the latent entrepreneur will undertake at least some nascent entrepreneurial activity. This finding supports Hypothesis 1. However, as the negative binomial column for the same model shows, anticipated regret does not influence the magnitude of entrepreneurial action, the actual number of gestation activities or whether the latent entrepreneur undertakes one, three, six or nine activities.

Table 2. Zero-inflated negative binomial regression estimates.

Dependent variable: count of nascent entrepreneurial activities	Logit: probability of no activity		Negative binomial: number of activities	
	Coef.	SE	Coef.	SE
Anticipated regret	-0.49***	0.17	0.04	0.05
Seriously considering in wave I	-1.61***	0.53	0.34***	0.11
Female	0.50	0.31	0.00	0.10
Age	0.38**	0.20	0.06	0.06
Age ²	0.39**	0.21	0.01	0.06
Higher education	0.24	0.32	-0.18*	0.10
Prior entrepreneurial experience	-0.33	0.41	0.25**	0.11
Occupational status in wave I (base: employed)				
Unemployed	0.48	0.57	-0.25	0.18
Outside labour force	0.25	0.44	-0.08	0.12
Business aim (base: part-time)				
Self-employment	0.45	0.42	-0.01	0.13
Small business	0.02	0.39	0.00	0.11
Growth-oriented	-0.85	0.70	-0.13	0.19
Intercept	-0.65*	0.44	1.46***	0.14
Wald χ^2 (12 df)	34.42***			
Log pseudolikelihood	-445.54			

SE: robust standard error; df: degrees of freedom.

A total of 234 observations (94 zero, 140 non-zero). Continuous variables are z-standardized (0 mean, 1 SD).

*, ** and *** denote 10%, 5% and 1% significance levels, respectively.

Discussion and future research directions

This research note shows that anticipated regret has a positive and significant influence on the transition from latent to nascent entrepreneurship. This result indicates that the study of start-up behaviour is incomplete without considering the role of negative emotions such as anticipated regret in conjunction with the latent entrepreneur's mind-set.

In general, the psychological literature argues that negative emotions are related to different cognitive processes and behaviours than are positive emotions (e.g., Forgas, 1995). Positive emotions can reduce the individual's motivation to think in a sophisticated manner, with the resulting limited cognitive capacity causing them to fall back on heuristic processing strategies (Delgado-García et al., 2015). While such strategies can greatly expand an individual's range of attention, thus fostering opportunity identification, they are also likely to prevent latent entrepreneurs from focusing on crucial details (Baron, 2008) such as developing a thorough business plan. In turn, negative emotions favour more detail-oriented and adaptive strategic processes (Schwarz and Clore, 1988). These substantive processes are particularly relevant for nascent entrepreneurship given the uncertainty, complexity, and social importance inherent in the context. As our results show, the negative emotion of anticipated regret stimulates latent entrepreneurs to compile information on competitors, commence the process of acquiring funding or draft financial projections, with those nascent entrepreneurial activities requiring detail-oriented cognitive processing. Consequently, for a better understanding of how entrepreneurial opportunities are exploited, by whom and with what consequences, researchers are encouraged to consider the relationships between negative emotions and cognitive processes. This approach could be especially informative if the aim of their research is to enhance the understanding of the behavioural transition from latent to nascent entrepreneurship. As our results indicate, it is the simultaneous occurrence of positive cognition and negative emotion that motivates individuals to engage in start-up behaviour. Thinking positively about start-up behaviour is a cognitive precondition of nascent entrepreneurship; yet this positive cognition needs to be matched with a negative emotion such as anticipated regret to stimulate actual start-up behaviour.

Perhaps a surprising finding is that anticipated regret has no influence on the scope of start-up behaviour. However, from the perspective of regret regulation theory, this result can be seen as another indicator that anticipated regret is a highly functional emotion (Epstude and Roesse, 2008). Regret regulation theory holds that anticipated regret manifests as a feeling for doing (Zeelenberg et al., 2008), and latent entrepreneurs take action in order to prevent regret of a lack of activity in the future. Thus, it does not matter whether they engage in one or more individual gestation activities because even one activity constitutes the action required to avoid regret in the start-up context.

As a research note, the purpose of this study is to offer an initial investigation into an issue offering preliminary observations which inform pathways to future research. The first one concerns generalizability. Regret regulation might differ between contexts. For example, individuals might choose mental regulation strategies such as alternative- or decision-focused regulation over the more action-oriented feeling-focused regulation in other stages of the entrepreneurial process. Moreover, the route from anticipated regret to the favoured cognitive processes and behaviours might be related to the dynamics of the industry in which the entrepreneur's business is or will be embedded. The conduct of business in particularly dynamic and uncertain high-technology industries (Aldrich and Martinez, 2001) is typically associated with substantive cognitive processes (Delgado-García et al., 2015). In this regard, the anticipation of regret could serve to explain the cognitive dynamics within industries. Consequently, further nuanced research that examines how and to what effect entrepreneurs regulate negative emotions, such as anticipated regret, in different industries and throughout the different phases of the entrepreneurial process would be welcome.

Ultimately, it is likely that the anticipation of regret could also serve to explain other aspects of the entrepreneurial process, beyond those associated with founding a business (e.g. business growth/expansion).

Research also shows that cultural contexts influence characteristics of regret (Breugelmans et al., 2014). Specifically, anticipation of regret can motivate individuals to behave in accord with their cultural norms (Komiya et al., 2011), meaning that regulation strategies could vary across cultures. Our study can only be read as illustrating the role of anticipated regret in the transition from latent to nascent entrepreneurship in Finland, and consequently, cross-cultural studies would be required to better understand the interplay of anticipated regret, cognition and behaviour in the broader entrepreneurship context.

In summary, our results show that anticipated regret predicts the transition from latent to nascent entrepreneurship, and consequently, we can offer the following practical recommendations. If latent entrepreneurs experience anticipated regret, they are encouraged to regulate this negative emotion via nascent entrepreneurial activity to ameliorate the adverse effects of enduring regret on their psychological and physical health (Bjälkebring et al., 2013). In this regard, anticipated regret can also be beneficial if it reduces procrastination while starting a business. Specifically, the findings of our study suggest that anticipated regret supports entrepreneurs in making sense of the here and now, and the future while establishing a coherent connection between them, thus stimulating start-up behaviour. Policy interventions and public support schemes aiming to foster the transition from latent to nascent entrepreneurship would therefore benefit from including emotion work in their programmes. Coaching and counselling programmes could assist latent entrepreneurs in recognizing their negative emotions on future start-up behaviour as anticipated regret. By exploring strategies for regulating this negative emotion arising from a failure to engage in start-up behaviour, coaches and counsellors could then support latent entrepreneurs to process anticipated regret more effectively so that they engage in more substantive cognitive processes that stimulate start-up behaviour.

Acknowledgement

The authors wish to thank Teemu Kautonen for his constructive and insightful feedback on previous versions of the manuscript.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

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