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Hoyte, C. and Greenman, A.

Published PDF deposited in [Curve](#) March 2016

Original citation:

Hoyte, C. and Greenman, A. (2015) 'Fragility and Projectivity: How Higher Education Institutions (HEIs) Affect Future-Oriented Sensemaking of New Venture Ideas' In: The 8th International Conference for Entrepreneurship, Innovation and Regional Development , 'International Conference for Entrepreneurship, Innovation and Regional Development'. Held 18-19 June 2015 at Sheffield, UK. , 38-52.

URL: <http://isbe.org.uk/>

Publisher: South East European Research Centre

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Fragility and Projectivity: How Higher Education Institutions (HEIs) Affect Future-Oriented Sensemaking of New Venture Ideas

Cherisse Hoyte¹, Andrew Greenman²

¹Business School, University of Nottingham, UK lixch@nottingham.ac.uk

²Business School, University of Nottingham, UK andrew.greenman@nottingham.ac.uk

'We cannot step out of time or keep the future from becoming the past. We are radically temporal' [1].

Research examining the relationship between Higher Education Institutions (HEIs) and entrepreneurial regional development has provided rich insights [2]. By privileging spatial proximity, studies have examined the territorial impact of HEI's upon entrepreneurship (e.g., knowledge spillover; collocation; incubators, social networks etc.). As research into the spatial territoriality of entrepreneurship continues to grow, the influence of temporality is less well researched. This article seeks to contribute to growing interest in incorporating temporality into entrepreneurship theory development [3] by addressing the question of *how the temporal affects HEIs impact upon the development of students' fragile and projective 'new venture ideas'*[4].

The study draws upon the concept of future-oriented sensemaking to examine the micro-processes through which four cases of student venture ideas were developed. Using material gathered through a longitudinal study, a typology is developed to explain how future sensemaking exchanges unfold as participants' projected imagined future trajectories of possible entrepreneurial action and then engaged in transactions to convert their new venture ideas into plausible ventures. The article aims to contribute to debate about the entrepreneurial regional development by drawing attention to how HEIs have a vital role to play in developing students' temporal awareness [5]. Student enterprise is examined here as an opportunity to gain experience of 'inter-temporal coordination' [6]. The article concludes by considering the potential relevance of developing an entrepreneurial temporal imagination for policy designers seeking to enhance the impact of HEIs upon regional development.

Keywords

Future-oriented sensemaking, HEIs, New venture ideas, Temporality, Temporal imagination

1. Introduction

Research examining the relationship between Higher Education Institutions (HEIs) and entrepreneurial regional development has provided rich insights [2]. By privileging spatial proximity, studies have examined the territorial impact of HEI's upon entrepreneurship (e.g., knowledge spillover; collocation; incubators, social networks). As research into the spatial territoriality of entrepreneurship continues to grow, the influence of temporality is less well researched. This article seeks to contribute to growing interest in incorporating temporality into entrepreneurship theory development [3] by addressing the question of *how the temporal affects HEIs impact upon the development of students' fragile and projective 'new venture ideas'* [4].

Temporality, although veiled, is central to entrepreneurship theory development. In its original form of arbitrage [7] entrepreneurship is made possible by temporal duration which creates residual profit. Schumpeter's theory of economic development is saturated with temporality due to the Darwinian metaphor of evolution. Schumpeterian heroic entrepreneurs can only create disequilibrium and cause 'swarms of imitators' [8] because of the exploitation of novelty and innovation. Kirznerian entrepreneurs too require the existence of a time lag between 'mutual ignorance' and 'mutual recognition' [9] for the discovery of opportunities and restoration of equilibrium to markets.

Knight's theory of risk and uncertainty requires temporal difference to make the distinction between 'genuine uncertainty' and 'calculable uncertainty'. Entrepreneurs being individuals willing to absorb higher levels of uncertainty in the pursuit of above average profit [10]. Hayek's theory of knowledge dispersion under market conditions also requires temporality to explain how entrepreneurs exploit asymmetries or 'fleeting moments' to their advantage [11]. Penrose's theory of firm growth uses temporality to explain how competitive advantage arises from 'pre-calculative images' and the application of entrepreneurial services in the pursuit of superior value from a resource base [12]. Shackle provides the most explicit reference to time in his thesis that entrepreneurship occurs when people project and act into 'time-to-come' [13]. This 'void' is a temporal context across which the 'business of the imagination' [13] and by definition, of entrepreneurship, unfolds.

1.1 Unveiling Temporality

Temporality has been unveiled in recent theory development. Haynie et al refine the RBV by explaining how future oriented projections are required to move from extant to future resource bases [14]. McMullen and Dimov explained the importance of incorporating temporal processes into entrepreneurship [3], whilst Korsgaard et al revised Kirzner's theory suggesting that 'inter-temporal coordination' is the distinct feature of entrepreneurship [6]. Temporality is also central to other recent theoretical developments such as, effectuation theory [15], narrative disclosure [16] and 'transient advantage' [17], which have also contributed to a growing recognition that temporality is central for entrepreneurship research.

For temporality to be more closely integrated it is necessary to explain what time adds to explanations of the entrepreneurial process [6]. One response to this is to address the atemporality of 'popular' models of venture emergence and growth, such as, [18, 19]. Whilst these have high intuitive appeal [20], they do not explain how temporality interacts with the formation of entrepreneurial ideas, actions and events as they unfold. Temporality therefore, makes demands on the question of how entrepreneurial processes and context are interrelated [21]. The following section explains how this study incorporated temporality by examining future-sensemaking exchanges during the creation of new venture ideas within the context of higher education.

1.2 Temporal Context and Entrepreneurial Imagination

If entrepreneurship research is to incorporate temporality it is vital to recognize not all time is the same [5]. Instead, entrepreneurship researchers must account for the specificities of different temporal contexts [22] to show how time alters the entrepreneurial process [6]. This section explains why HEIs provide a relevant site for studying the temporal dynamics of entrepreneurship. It also puts forward a multi-level conceptualization of temporal dynamics, another key requirement if temporality is to be integrated in entrepreneurship theory development [6].

In the knowledge-based economy, HEI's are increasingly entangled in multiple temporalities. Some activities connect to distant future possibilities (e.g., basic science and blue sky research) with little immediate practical application. Other activities have more immediate relevance to a context of application (e.g., economic competitiveness via employment creation; initiatives relating to regional/city growth plans). There is however, a tension between short-term outcomes (e.g., employability, skills and knowledge transfer) and longer-term possibilities (e.g., learning, cultivating imagination). Whitehead stated that the role of the University should be to develop generalization and imagination as part of a broader human 'process of becoming' [23]. Rather than repeating the 'precision' stage of secondary education, universities should cultivate transformative, innovative, creative and future-oriented imagination. Whitehead's ideas have been related to entrepreneurship elsewhere so as to emphasize the challenge of developing imagination [24, 25]. HEI's are interesting temporal contexts because they work upon the 'temporal imagination' [5]. They provide a temporal context within which people may experiment with 'time to come' and the 'business of the imagination' [13]. In the realm of entrepreneurial universities, this is channeled through entrepreneurial activities including enterprise societies, business plan competitions, formal curricular, start-up incubators and commercialization activities. Collectively, these activities legitimize entrepreneurial actions and contribute to the presence of multiple temporalities within HEIs (e.g., the entrepreneurial imagination, scientific imagination, knowledge transfer partnerships, yearly recruitment cycles etc.).

Here we use Bluedorn and Standifer's concept of temporal imagination to explain how HEI's exert a potential influence over peoples' 'future temporal depth' [5]. This refers to the ability to project one's goals and actions along a continuum from near/present to a distant/future. The authors argue that developing temporal awareness is one of the key challenges for universities. Temporal awareness is still a relatively undefined concept, so the authors also drew from recent work in the area of neuro-biology and cognitive psychology where the concept of Episodic Future Thinking has been more fully developed. Episodic Future Thinking was developed from episodic memory and prospective memory (i.e., the ability to project how we might remember to engage in an action at a specific moment in the future). It is classified along with other future-oriented behaviours (e.g., planning, anticipation and simulation) and is defined as '*an ability to project the self forward in time to pre-experience an event*' [26] and as '*imagining or simulating a specific episode that might occur in one's personal future*' [27]. Episodic Future Thinking is a specific form of mental time travel or pre-experiencing that involves projection of one's self into a specific future moment. Atance and O'Neill stated that in episodic future thinking 'the imagination is not given free reign, but rather the projection is constrained.' [26]. For example, one can imagine a future holiday and project certain anticipated activities and events (e.g., skiing, swimming in the sea); the environmental conditions (sunny beach, snowy mountains etc.) and so forth. Where episodic future thinking differs is that the projection may also involve consideration of 'constraints' such as, spending money; limited time; the workload that needs completing before going on vacation or will be waiting upon return.

Relating this back to entrepreneurship, we surmise that creating and developing new venture ideas within HEIs provides an opportunity to develop temporal awareness through

imagination and episodic future thinking. Entrepreneurial activities provide scope for students to experiment with imagination and extend the horizon of their decisional possibilities [28]. The multi-temporal context of HEIs therefore provides the possibility to experience 'inter-temporal co-ordination' [6] through student enterprise.

1.3 Temporality and Future Sensemaking Exchanges

Whilst debate persists regarding the nature of opportunity, there is some consensus that opportunities emerge from an initial idea which becomes enacted as an opportunity [29, 30, 31, 32]. This constructivist view highlights the temporal orientation of opportunities as potential entrepreneurs pursuing venture ideas are often driven by future opportunities that have yet to come into existence [6], which they attempt to make plausible to others in the present [33]. Sensemaking about venture ideas has thus, been described as prospective [34], "the conscious and intentional consideration of the probable future impact of certain actions, and especially non-actions" [35], on the meaning construction processes of people.

Both the temporal orientation of opportunities as well as the temporal imagination of potential entrepreneurs has been under-represented in extant literature. Kirzner's work on describing the nature of entrepreneurship within a multi-time-period framework [36] provides a conceptual grounding for exploring the temporal dynamics of the entrepreneurial process [3]. In fact, Kirzner explicitly argues that, "the futurity that entrepreneurship must confront introduces the possibility that the entrepreneur may, by his own creative actions, in fact construct the future as he wishes it to be" [6]. Venture ideas [4] are therefore, fragile and unproven during the early moments of entrepreneurial conception and venture formation. Potential entrepreneurs make sense of fragility by projecting the imagined opportunities [37] to others in their socio-material context and deciding to act or not act upon the feedback received.

We draw on Emirbayer and Mische's conceptualization of projectivity, which encompasses "the imaginative generation by actors of possible future trajectories of action, in which received structures of thought and action may be creatively reconfigured in relation to actors' hopes, fears, and desires for the future" [38], and apply it to the entrepreneurship context. We define entrepreneurial projectivity as *the imaginative generation of possible future trajectories of action for entrepreneurial ventures*. We then add to this prospective sensemaking which we define as *transversal activities intended to create more plausible and less equivocal entrepreneurial venture ideas*. Together, the projective and plausible constitute future-oriented sensemaking. What this study examined is how potential entrepreneurs iteratively moved between the projective and prospective aspects of future-oriented sensemaking through 'inter-temporal coordination' [6]. This being an under-examined process through which imagined opportunities are realized through the duration of time [39].

The imagined opportunity however, is not the only thing that is projected during these early moments of entrepreneurial conception and venture formation. These early moments are also particularly critical for identity formation [40, 41, 33]. Potential entrepreneurs begin to construct an entrepreneurial identity individually, collectively (e.g., as a team) and as an organization by asking questions about "who they are, why they are qualified, what they want to do, and why they think they will succeed" [33]. We draw from social identity theory [42] and Lachmann's use of Weber [43]. Lachmann explained that institutions provide 'situation images' which are framed, at least in part, by institutionalized expectations and regularities. People draw upon institutionalized frames to bound and reduce uncertainty, but in doing so individual goals and plans become enmeshed in the plans and situation images of others. Higher Education is an institution capable of shaping the boundaries of what students imagine as new possibilities and as plausible goals. In Lachmann's terms,

institutions provide a protective 'crust' within which actors orientate their projects and coordinate collective action. Far from stifling imagination, institutions provide a necessary regulative temporal influence (e.g., historical continuity) through which people articulate their visions for alternative futures and balance these against achieving a 'sufficient accuracy' necessary to pursue their individual plans in line with collective action [44]. Lachmann's concept of 'situation images' is used to explain how individuals develop 'new venture ideas' and connect them to others through the temporal context of HEIs.

As well as providing frames, HEI's legitimize social identities. For example, a student seeking to develop a new venture idea within an incubator can be conceptualized as engaging in 'identity work' [42] within which they draw upon the social identity of 'student entrepreneur'. In undertaking identity work an individual may decide to incorporate elements of the social identity into their self-identity (who I am) and social performance (how I should act) [45]. By legitimizing entrepreneurship, HEI's provide time and space for students to allocate a portion of their identity work to experimenting with the social identities associated with the entrepreneur. Such activities are legitimized because of the reputation and symbolic value of universities as places of learning and knowledge creation. Universities are institutions capable of supplying frames or 'situation images' that enable mental time travel and draw students towards a specific type of social identification (e.g., becoming entrepreneurial).

In summary, this section has developed a framework for incorporating the temporal context of HEIs into the study of entrepreneurial activities. This is a response to the limited attention paid to temporality when compared to the territorial and spatial dynamics of HEIs on regional development. HEI's provide a suitable site to study how temporal context is interrelated with entrepreneurship. HEI's have the potential to stimulate entrepreneurial imagination and enable experiments with episodic future thinking and inter-temporal co-ordination. HEIs enable, bound and protect individuals' fragile new venture ideas. By engaging in entrepreneurial actions within an HEI, students develop a 'situation image' for their venture ideas and engage in social identification as they articulate and co-ordinate their ideas. The article now explains how future-sensemaking exchanges were studied as they unfolded through the micro-processes students used to project future trajectories of new venture ideas and engage in transversal activities to form these into plausible venture ideas.

2. Methodology - Gaining and Using Adjacency

In framing this paper, we have argued that entrepreneurship is a process that unfolds in real time where potential entrepreneurs make sense of future opportunities that have yet to come into existence by stretching their temporal imagination between probable (prospective) and possible (projective) futures. Using a constructivist approach requires an epistemology that explores how future reality is understood and collectively built [46]. Accordingly, where the research question focuses on 'how' questions about a contemporary set of events, a qualitative approach is appropriate [47]. Our central research proposition focuses upon how potential entrepreneurs develop a temporal imagination and move between future sensemaking states (i.e. prospective and projective) within the context of HEIs. Thus, to explore potential entrepreneurs' future-oriented sensemaking about venture ideas, we draw upon a case study methodology. While findings from case study research cannot be generalized to populations, they inform theory and this constitutes analytical generalization [48], which is the aim of this study. This inductive exploratory research draws upon notions of sensemaking and sensegiving, theorizing that these concepts provide a much richer account of the entrepreneurial process by highlighting the iterative exchanges that occur.

We used a cohort of student entrepreneurs in a university incubator to explore the temporal practices and processes of future-oriented sensemaking. The case studies were constructed

from real time and retrospective data [49], typically by interviewing the lead potential entrepreneur. Beginning in October 2012 until January 2013, we conducted face-to-face semi-structured interviews, at the incubator, with four potential entrepreneurs to establish a personal rapport with them. The second round of interviews was conducted between April and September 2013. We recorded and transcribed all interviews and made extensive handwritten notes. During the second round of interviews, we asked the interviewees to review and sign off on a narrative of their accounts from the first interview to provide us with a comprehensive account of their actions. The duration of the interviews varied between forty-five and ninety minutes. All respondents consented to the use of the venture name in the study and as such, there was no need to anonymise cases. To reduce bias from recall and rationalization, we collected data from other sources such as, participant and non-participant observations and cognitive maps. These sources enabled us to triangulate our findings to build stronger interpretations [50].

We followed Eisenhardt's recommendations for multiple-case sampling which involved detailed, descriptive within-case narratives and interim cross-case summaries to identify underlying patterns and similarities across cases [51]. The four cases yielded rich empirical material [52, 51] and were diverse in terms of gender, the sector, educational background of the lead entrepreneur(s) and prior entrepreneurial experience [53].

We used the case replication method, in which cases serve as independent experiments that either confirm or contradict emerging insights [51]. In effect, the cases varied in terms of directionality. That is, whether the starting point was probable or possible future sensemaking states. We analyzed our data in three steps. In our first exploratory analysis, we adopted an "in vivo" approach and created category labels that closely followed the data using mainly descriptive and process coding methods [52, 54]. The second step involved the use of sub-coding the general category labels in accordance with the nine a priori codes to create themes, causal explanations, relationships among actors and theoretical constructs. These a priori codes were based on the research question and existing literature [51]. The third and final step was to establish a case background for each of the four potential entrepreneurs and then focus upon the experiences that influenced and shaped the development of their temporal imagination. This process was not linear but rather formed a "recursive, process-oriented, analytic procedure" [55], which resulted in an understanding of the key theoretical relationships.

3. Findings

Our data suggests that future-oriented sensemaking occurs when potential entrepreneurs stretch their temporal imagination either through transversal activities from what is probable (prospective future-oriented sensemaking i.e. likely to happen), towards what is possible (projective future-oriented sensemaking i.e. all the infinite possibilities that could occur), or by transversal activities from what is possible to the probable. The cases demonstrate that the starting point, either probable or possible future states is not as important as the duration and temporal depth. This is further emphasized in the one case out of the four which remained in a state of inertia. We illustrate the findings below.

3.1 Transversal from (near) probable to the (near) possible to the (distant) possible

Our data indicates that some student entrepreneurs begin with modest venture ideas about future opportunities that have yet to come into existence. An example of this is the case of the Pocket Square. The narrative of the founding of Pocket Square illustrates that future-oriented sensemaking sometimes begins with prospective sensemaking. In this case, the

founder was dissatisfied with existing pocket squares in the market and decided that with the help of his family he could make a much better pocket square.

"I was going to the Henley regatta, so I was like I need a square. I couldn't find one so mum was like 'oh well we'll make one' because honestly the squares that we saw available were poor they didn't match any fabrics we needed, they were too high a price for what they were so my mum said okay we can go make one that will look better than that" (TPSC, INT1: P12).

Choosing to make a pocket square can be seen as a likely probable event that is within the scope of the potential entrepreneur's temporal imagination given his prior knowledge, experience and support network. Upon making a pocket square for this particular event, the founder realized that with the continued help of his family he could start making more pocket squares not just for personal use but for friends, colleagues and the public (consumers). This led to the formation of the Pocket Square Company – a retail shop selling luxury pocket squares. However, after a few sales, the founder began to stretch his temporal imagination towards other possibilities for his venture idea. This projective future-oriented sensemaking led to the decision to create another venture that catered to other fashion needs.

"The business the pocket square company which you've obviously heard of... that's the very first one the second business is launching in March its being done now. They both relate to one another but obviously pocket square is so concise it needed to expand outwards so I've started a new business it's called Augustus & Burke and it's a fashion brand providing ties, cuff links, socks" (TPSC, INT1:P3).

The prospective future-oriented sensemaking about the venture idea relied on cues noticed and extracted from the environment about imprecisely-defined market needs and, un-or-under-utilized resources or capabilities [9]. As a result, the opportunity arising from this venture idea can be typically described as a 'discovery opportunity' [56] realized with the lapse of time. As the potential entrepreneur engaged in transversal activities, he moved along a continuum of future-oriented sensemaking towards the possible or projective sensemaking. In his account of this experience he describes finding additional future opportunities; in this case, the creation of a second business venture represented further corrections of prior errors in the market [11, 57].

The realization of these future opportunities also exposed gaps in the founder's knowledge regarding specific manufacturing processes. He also describes in his account how he *"never realized how many different ways you can manufacture a tie and the amount of fabric required just to make four ties"*. This new learning brought about by further projective future-oriented sensemaking enabled the entrepreneur to travel even further along the continuum of future-oriented sensemaking into the realm of distant possible future states of projective sensemaking when compared to the initial, prospective idea.

3.2 Transversal from the (distant) possible to the (near) probable

The data suggests that other potential entrepreneurs begin with venture ideas that stretched way-out towards a distant future that had yet to come into existence. An example is the case of Neehoy. The narrative around the venture idea illustrates that future-oriented sensemaking can also begin with projective sensemaking. In this case, the founders were brainstorming ideas about how to improve existing recycling services as they were dissatisfied with current solutions in the market.

"we were bouncing ideas about and I don't know our viewpoints aligned on few certain things and given the solutions that are out there at the moment they're quite technically limited in what they afford consumers so we thought can we do something better and our original idea was to start a social enterprise" (Neehoy, INT1: P3)

Choosing to start a social enterprise can be seen as a possible rather than a probable event that is within the scope of the potential entrepreneur's temporal imagination given their lack of experience in this domain. The founders soon realized that it was more difficult to attract

funding for their ideas when presented as a social good. This resulted in a revision of the initial idea towards building a recycling app for mobile phones. This involved attending entrepreneurship competitions and presenting the idea as a profitable business venture backed by the founders' existing knowledge and experience in computer science and lean management. Thus, the founders of Neehoj moved from projective to prospective sensemaking in order to make their venture ideas more plausible to others.

"We first applied to a couple of social enterprise funds....charities or non-profit thinking there is clearly some mileage in approaching social funds rather than pure commerce so we applied for a couple but we didn't get very much feedback I think possibly because our ideas were still embryonic but I say primarily because of the amount of competition hundreds applying for the same funds so put it on the back burner after not getting that funding saw the advert for entrepreneurship maybe work better as a business could offer equity to people help design it as a business for social good....revenue generation is dependent on the social good anyway so it didn't seem like we compromised the values of the idea we tried it ...fortunately we won."

3.3 Transversal from the (distant) possible to the (distant) possible

Up to this point, our case findings have illustrated transversal activities *between* future sensemaking states. However, one of the cases in our study illustrated transversal activities *within* a future sensemaking state. In the case of Escape Pods, noticing a problem with the lack of accommodation in airports specifically on the 'airside' of the airport became the impetus for future-oriented sensemaking about venture ideas that could resolve this problem. The idea that emerged involved constructing sleeping 'pods' at transit hubs in airports.

"... so the problem was lack of I'd say accommodation within airports and this is the important part it's within airports so then I'm going to put specifically airside and that's the big difference alright because there exists other sides. The idea itself is like four years old now based on Japanese capsule hotels... I saw them and I got excited about the potential for micro accommodation (Escape Pods, INT1:P1, 4).

Choosing to construct sleeping 'pods' or capsules can be seen as a distant possible event (projective sensemaking) that was initially conceived as being achievable within the potential entrepreneur's temporal imagination. However, upon embarking on this event, the potential entrepreneur realized that the cost and complexity of such a venture was beyond his financial and social capital. In this case, the potential entrepreneur engaged in some prospective sensemaking regarding what was actually attainable given his resources. However, this prospective sensemaking was not sufficient to enable him to decide on a plausible course of action to continue with the venture idea and this eventually led to stagnation of the venture idea.

"I was thinking I would develop the pods and sell to industry so that was it at this stage so then realized that as a business idea this would not work because these guys train stations, airports and everything don't want to manage something like this. It's not within their remit, not within the scope of their business so that is when it swapped over to me actually making a hotel. Airports became the most lucrative option based on traffic potential – potential customers. People fly to Heathrow to get to everywhere...so going to be based at Heathrow and we are looking at roughly 300,000 within the next two years otherwise it will become unfeasible as other people will do it. I know that it's a good idea I'm just scared somebody's going to do it before I get there. I'm just not sure about when it can be done" (Escape Pods, INT1:P2, 3).

3.4 Inertia

Our case findings also illustrate the lack of transversal activities. An example of this is the case of the e-Book. Future-oriented sensemaking involved noticing problems people had with losing weight permanently and healthily and the proposed solution of writing a weight-loss e-book. Choosing to write an e-book can be seen as a probable event (prospective

sensemaking) that is within a near/present scope of the entrepreneur's temporal imagination. However, the potential entrepreneur did not want to share the idea with others in her social network.

"It's proving quite a challenge actually ... I think I'm worried it might not do too well. I'm also worried I mean I kind of want to see it first and then tell people rather than have the pressure of expectation from other persons... people are wondering why I'm staying up late and so on but I haven't told any of my friends." (W Loss e-book, INT1:P6).

The student entrepreneur did not engage in transversal activities and the idea proved too fragile to survive. An inability to stretch the temporal imagination through exchanges with others meant the development of the venture idea was hindered and the e-book did not progress beyond this initial idea to write a weight loss e-book.

4. Discussion

This section discusses how the above cases were analyzed further to develop an explanation of how the temporal context of an HEI was interacting with the future sensemaking activities of student entrepreneurs. The conceptual framework developed earlier in the paper suggested that HEI's provide an interesting context comprised of multiple-temporalities. Students can access these different timescapes to engage their temporal imaginations. Entrepreneurial activities provide one such opportunity as the cases above demonstrate. The cases illustrate the variation that unfolds through future-oriented sensemaking. The following discussion links together two findings: first, that student entrepreneurs account for different depths of temporal imagination [5] and second, that they undertake different transversal activities to undertake 'inter-temporal co-ordination' [6].

4.1 Temporal Depth

In terms of temporal depth the cases illustrate how students set varying depths to their imagined opportunities. The HEI context is significant here because it does not impose a hard duration upon the new venture ideas (e.g., a return on investment by X years). This provides scope for students to select reasonably near/present or distant/future depths for their new venture ideas. In the above cases, Escape Pods and Neehoy both started with new ventures ideas aimed at a distant/future compared to E-books and Pocket Square that were ranged in a more near/present temporal depth. This variation suggests that future sensemaking can be directed projectively, towards the possible as well as prospectively, towards the probable. Student entrepreneurs' accounts demonstrate differences in the 'starting' positions and direction of their future sensemaking. As the cases demonstrate, the depth of temporal imagination is influenced by various factors including: family involvement; cost; complexity and relationship to current skills/knowledge base.

As the intention here was not to analyze the relative significance of these influences, little can be said other than future-oriented sensemaking is affected by a number of external factors that exert 'temporal pressures'. What can be stated is that entrepreneurial activities enable students to cultivate their temporal imagination. Selecting different future-oriented sensemaking modes (e.g., prospective/projective) turns Shackle's 'time to come' from a flat, open and endless timescape into a striated, lived timescape. The business of the imagination through which new venture ideas emerge, develop or disintegrate is striated through sensemaking exchanges. Variation in temporal depth can therefore be brought into theory development to explain how temporal pressures exert influence and prompt variable future-oriented sense making. By enacting future-oriented sensemaking exchanges, whether prospective or projective, students were able to move their new venture idea, which leads to the second finding: variation in the direction and velocity of transversal activities.

4.2 Transversal Activities

The cases each demonstrate a different type of movement between the probable-possible continuum. These directions of travel are summarized as inertial; low and high velocity. Pocket square is an example of a high velocity transversal movement as the student entrepreneur, having pursued an initial venture idea, discovered future possibilities for diversifying and creating a new business. Here, future-oriented sensemaking was initially prospective, as it was quite probable that the student could encourage his mother to create the prototype design. However, he then increased the velocity of his new venture idea by using projective sensemaking. This resulted in him realizing the limits of the opportunity and therefore, projecting once more towards a possible future (e.g., a new brand offer a wider range of men's clothing accessories). Neehoj also provide a high velocity transversal movement albeit in a different direction. Their future-oriented sensemaking began as a projection towards a possible future venture in an area they lacked experience (e.g., creating a blended revenue social venture). Through prospective sensemaking, they transverse to a position closer to being probable due to their technical skills and understanding of how pure profit companies create and capture value. In both cases, the velocity is crucial as the founders undertook extensive future-oriented sensemaking to move their ideas forward.

EscapePods was created as a highly projective, imagined opportunity and the founder soon encountered challenges relating to the cost, complexity and limited experience of the sector (e.g., hotels in transport hubs). He did engage in prospective sensemaking, albeit over a three year period and crucially, this did not help move his idea forward. Instead, by his own admission, the idea moved somewhat but not fast or far enough. By his own admission, he continued to believe there was an opportunity but it was one that he could not move towards a more probable outcome (e.g., an exploitable venture). In this instance, the transversal movement is labeled as *low velocity*.

E-Book is categorized as the third possibility – *inertia*. Having initially conceived of the idea, there was little additional sensemaking enactment so no further transversal activities occurred. Instead, the new venture idea remained in its original form and was not developed further. These interpretations suggest that the selection and use of future-oriented sensemaking affected the direction and duration of transversal activities. Selecting prospective or projective sensemaking enabled the student entrepreneurs to move their new venture ideas but this was further influenced by the velocity or duration of time taken to enact their ideas. The direction of transversal activities is less important here than illustrating how the use of different future-oriented sensemaking (prospective/projective) influences how entrepreneurs enacted 'inter-temporal co-ordination'. The variation in accounts of sensemaking reinforces the findings relating to temporal imagination because it shows how time is not a passive context within which entrepreneurial activities unfold. Rather, there are qualities about the interrelationship between temporal imagination (depth) and transversal activities (range) that can be surfaced by examining future-oriented sensemaking. Temporality is never inert but capable of exerting pressures upon the depth of imagination and the range of transversal activities undertaken when developing a new venture idea.

Figure 1 below illustrates the cases by plotting them along two continua. The first continuum, temporal imagination, links a near/present to a distant/future. The second connects transversal activities to future-oriented sensemaking according to projective sensemaking oriented towards the possible and prospective sensemaking oriented towards the probable. Accounts of future-oriented sensemaking were then plotted according to velocity (high/low); direction of movement and Plausible Positions (PP).

4.3 Plausible Positions (PP)

Plausibility refers to the subjective evaluation of the constraints that may affect a new venture idea. It provides an initial starting point (PP1), which may or may not (EBooks) be subject to movement (e.g., PP2, PP3) depending upon the transversal activities and temporal imagination. The continua link ideal-types which are not expected to exist in reality. The aim is to illustrate how plausible positions emerge as student entrepreneurs engage their temporal imaginations and enact projective and prospective sensemaking. The aim is not to claim it is possible to accurately plot new venture ideas but more to illustrate how temporality can be traced by following the emergence and development of venture ideas as they are subject to temporal pressures and worked upon through future-oriented sensemaking. In this diagram, venture ideas may be moved up or down the projective (possible) and prospective (probable) continuum whilst also travelling along the temporal depth (near/far) continuum.

Plausible positions are temporary and open to revision through sensemaking transversal activities. Some venture ideas may therefore, be accelerated through high velocity; others move some distance but at a lower velocity whereas some ideas are trapped by inertia. Where there is significant scope for further research is understanding how temporality and plausible positions are linked. Here, the concept of episodic future thinking is potentially useful because it introduces the importance of constraints upon imagination. What the cases in this study illustrate is how temporal context affects how and when new venture ideas are articulated. Various factors (e.g., complexity, cost, family) exert pressures that trigger future-oriented sensemaking exchanges. Through these exchanges plausible positions are established as well as are subject to revision and indeed entropy. A key question arising from the study is therefore, which factors exert temporal pressures and how does this affect the development of new venture ideas?

4.4 Social Identification

As expected, HEIs provide a valuable context to study temporal influences on entrepreneurship. HEI's, especially with student entrepreneurship, provided a 'crust' that Lachmann ascribed to institutions [43]. This serves to protect the fragility of ideas at least for a period of time until the student entrepreneur begins to interact with others in the search for resources to further their venture ambitions. It is clear from the cases that HEI's also provide an opportunity for students to engage in social identification. For Pocket Square and Neehoy, there was a far more involved identification with roles and activities one may associate with entrepreneurial actions (e.g., pitching for investment, securing resources, selling, and diversification). Both cases 'crossed the line' as the student's allotted a portion of their social identity and in turn their self-identity with the role of entrepreneur. This commitment to these venture ideas displayed to self and others (e.g., family and fellow students) was absent in the E-books and EscapePods. This suggests that the degree of social identification with entrepreneurship is a further factor influencing the velocity or new venture idea development and the future-oriented sensemaking transversal activities. It also suggests that by legitimating social identification with the entrepreneur, HEIs provide scope for students to increase their temporal awareness [5]. From an initial plausible position (PP1), the extent to which an individual or team is willing to invest more in social identification with the role of entrepreneur further influences the direction and speed with which new venture ideas develop.

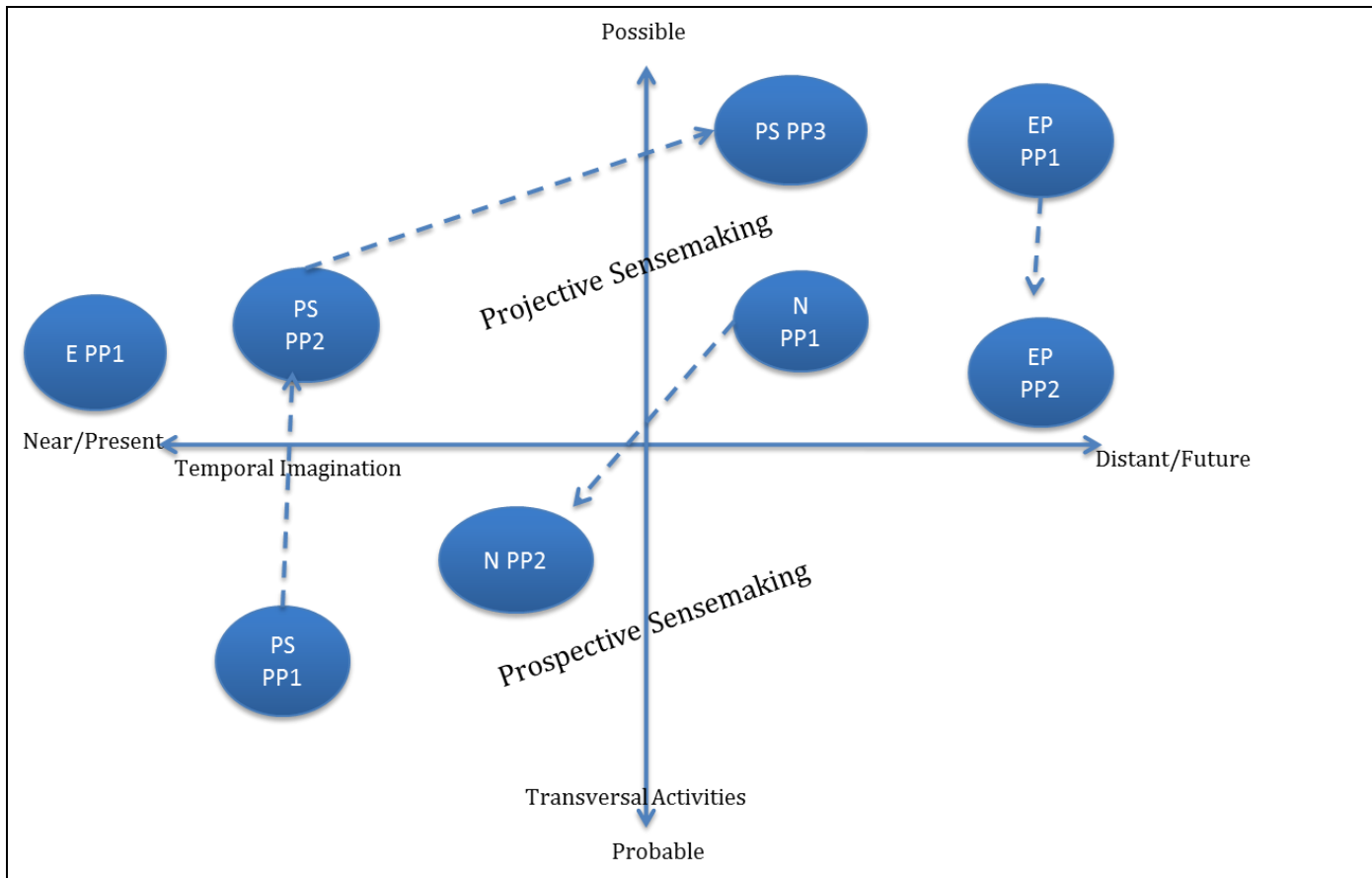


Figure 1 Future-oriented Sensemaking States

Key

PP = Plausible Positions.

EP = EscapePods; E=Ebook; N=Neehoy; PS=PocketSquare

5. Conclusions

This article has examined the question of how the temporal qualities of context affect the development of new venture ideas. It studied these effects by focusing on a specific context – universities, which are comprised of multi-temporalities that exert influence through framing (institutionalized) situation images and social identification. To investigate how temporal context affected new venture ideas, we examined future-oriented sensemaking exchanges. The key finding from observations and interviewing is that as student entrepreneurs utilize future-oriented sensemaking, so their accounts suggest varied influences on their temporal imagination. Examining the influence of depth or temporal imagination suggests that new venture ideas are plotted along a continuum from near/present to far/distant. This is further mediated by transversal activities, or projective and prospective sensemaking that help to fix the plausible position of a new venture idea between probable and possible. The initial plausible position may then be shifted through future-oriented sensemaking, re-imagining the depth of the idea.

The study has confirmed that HEI's are key institutions for cultivating imagination and protecting fragile venture ideas. By providing a safe space to experiment with becoming entrepreneurial (i.e., undertaking social identification), students can gain experience of undertaking 'inter-temporal co-ordination' [6]. This underlies the value of HEIs as capable of encouraging students 'temporal awareness' [5]. This could have practical relevance for those involved in student enterprise and more broadly university-based entrepreneurship (e.g., HE spin-outs, incubators). If HEIs are to have more prominent roles in regional economic development, then interventions are required to generate and develop new venture ideas. This paper has suggested that temporal factors influence the direction and development of student venture ideas. Knowing this and being able to plot venture ideas could potentially help students and advisors (e.g., mentors, tutors, incubator managers etc.) locate where a plausible position for the idea is and what type of future-oriented sensemaking activity might be required. For example, an idea that is projected towards a distant/future may benefit from more prospective sensemaking. Conversely, a student with a promising new venture idea that is trading and highly probable may benefit from being stretched to engage in projective sensemaking.

Adding temporality helps to account for variation in how new venture ideas develop and which directions they follow. Understanding how temporality fixes plausibility raises further questions about the perception of constraints and uncertainty [41] as people engage in 'inter-temporal co-ordination' [6]. Future research could examine how Episodic Future Thinking is enacted through setting temporal imagination and using projective and prospective sensemaking. This could provide valuable insights into how temporality influences the choices and options involved in entrepreneurship and how people and organizations make strategic choices by connecting possible-probable; present-future and plausible positions.

5.1 Limitations and Future Research

The paper is 'limited' by focusing on four cases of student entrepreneurs from a single HEI. They were a relatively homogenous group but this was useful to show variation in the effects of temporality. There are many ways the research design could be expanded for instance, by examining how experienced entrepreneurs set the depth for new venture ideas and what sensemaking preferences and transversal activities they engage in. Examining the depth of temporal imagination could provide, for example, additional understanding in areas where considerable future change is required. New technological inventions and ventures aimed at social innovation are two sub-domains where examining the relationship between temporal

imagination and transversal activities could provide additional insights for theory development.

A further possibility is to study the micro-processes through which future-oriented sensemaking is enacted. Closer analysis of the language utilized to explain transversal activities during the development of new venture ideas could be one possibility. Incorporating the temporal effects of context could further our understanding of the connection between entrepreneurship and narrative, rhetoric and discourse. Discerning the direction of movements and cues from accounts of future-oriented sensemaking could potentially provide valuable insights for both theory and practice. For example, it may be possible to discern patterns. Consider an entrepreneur or organization that rejects ideas that are oriented towards a distant/possible future. Here, interventions may be designed to stretch the imagination so as to experiment with new venture ideas that challenge over-reliance upon the present/probable. Conversely, new venture ideas that tend to be consistently oriented towards a possible/future may benefit from interventions using prospective sensemaking to encourage a different mode of thinking and action. In both examples, research could examine how plausible positions for new venture ideas are initially fixed and what patterns subsequently further or hinder development.

As a final (highly projective) thought, there is the possibility of connecting how temporality and future oriented sensemaking of new venture ideas links to performance. One may imagine, free of constraints, studies examining whether specific future-oriented sensemaking activities are related positively to the development of venture ideas whether in their original plausible position or modified form.

Overall, the aim of this paper was to examine how HEI's exert temporal influences over entrepreneurship. This was primarily because spatial territoriality tends to be privileged over temporality. The study aims to contribute to the debate about how HEI's influence regional development by explaining how HEIs affect both the depth (e.g., temporal imagination) and range (e.g., transversal activities) of student entrepreneurs' future-oriented sensemaking. A key finding is that 'time-to-come' is subject to temporal pressures, and the 'business of the imagination' is subject to future-oriented sensemaking exchanges that seek to ameliorate the influence of temporal pressures. This study has shown that temporality is not monolithic but a vital influence upon the emergence and development of new venture ideas. Further studies may work with the concepts used here to develop explanations of how time, context and new venture ideas are interrelated as entrepreneurs plot their ideas along a continuum of present/future; engage in projective and prospective sensemaking and establish and re-work plausible positions. As the quote from Polkinghorne suggests, we cannot escape time and the human condition is 'radically temporal' [1]. Entrepreneurship theory development and the practical contribution of HEI's to regional economic development may therefore, both be better served by seeking to incorporate temporality and explain its influence upon the emergence and development of new venture ideas.

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