

## A Longitudinal and Dynamic Approach to Entrepreneurial Learning

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### Abstract

The paper analyses in depth qualitative case material, in the light of previous research and in the context of a dynamic, longitudinal approach. The analysis takes a longitudinal approach to a small number of case studies that have been tracked over an extended period of time to yield insights into the nature of entrepreneurial learning over such a temporal period. It is arguable that previous research, even where qualitative case studies have been used, has been limited in terms of longitudinal and dynamic insights (Harrison & Leitch, 2005). The research has followed the development of the key entrepreneurs involved in the case studies from formation, through discontinuous growth periods, innovative product development, critical incidents, from local to global player.

The paper contributes to our understanding of the particular role of critical incidents in the process of entrepreneurial learning. It takes a dynamic framework approach to entrepreneurial learning (Cope, 2005) to examine the nature of entrepreneurial learning in two case study firms that have undergone considerable transformation from the development of technology-related products. The two case study firms have been the subject of a series of in-depth interviews over a period of five years, allowing unique insights into the nature of entrepreneurial learning over an extended period of time. The paper contributes to our knowledge by developing increased understanding of the process of entrepreneurial learning specifically through the tracking of small innovative and technology-based firms from start-up to global player over an extended period of time. The importance of entrepreneurial learning and knowledge acquisition in such growth has been highlighted recently by Fletcher (2010) and pointed to a research gap in longitudinal work in this area. This paper provides a contribution to that research gap.

### Key words:

Entrepreneurial learning, internationalisation, technology-based small firms, longitudinal study

### Introduction

This paper systematically reviews the academic literature and research evidence on entrepreneurial learning in order to place in-depth case study research in context and provide a basis for further research and investigation into the nature of entrepreneurial learning. Recently, several articles have attempted to provide conceptual frameworks to build upon earlier but limited research into entrepreneurial learning (Cope, 2005; Politis, 2005; Thorpe, Gold, Holt & Clark, 2006; Zhang, MacPherson & Jones, 2006). Each of these articles started from a premise that existing learning theories are not adequate for providing an explanatory conceptual framework for entrepreneurial learning. For example, Thorpe et al, (2006: 233) consider that “current learning theories often fail to adequately account for the social, historical and cultural contexts in which people learn”. The paper will review these recent conceptual developments, the nature of previous research and reflect upon the case study analysis in the light of this literature. As the title of the paper implies, we consider it

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necessary to take a dynamic approach to understand the process of entrepreneurial learning. We concur with Politis, who considers that to do so (ie: understand learning) there is a “need to move away from static approaches to more dynamic ones” (2005: 400) In a recent paper, Kempster and Cope (2010) argue for dynamic entrepreneurial learning approach for explaining leadership in the entrepreneurial context.

In this paper, we examine case study evidence taken over a period of time where we have been able to track a small number of entrepreneurial case studies. These cases were originally developed to underpin new curriculum development, but have since been explored through repeated interviews as an interest as developed in the process of dynamic entrepreneurial learning. The case study entrepreneurs have been tracked from formation to global players. In terms of internationalisation, dynamic entrepreneurial learning helps us to understand knowledge acquisition of SMEs and the development of strategy (Jones, Dimitratos, Fletcher and Young, 2009; Fletcher, 2010). Research interviews have been analysed with the assistance of the QSR Nvivo software to shed further light on how entrepreneurial learning informs the actions of entrepreneurs in the selected case study firms.

In summary the paper aims to:

- Systematically review the literature on entrepreneurial learning to inform on-going case study research.
- Analyse selected case study material.
- Discuss the analysis in the light of the existing literature.
- Review the paper’s contribution and identify further research issues.

## **Review of the Academic Literature**

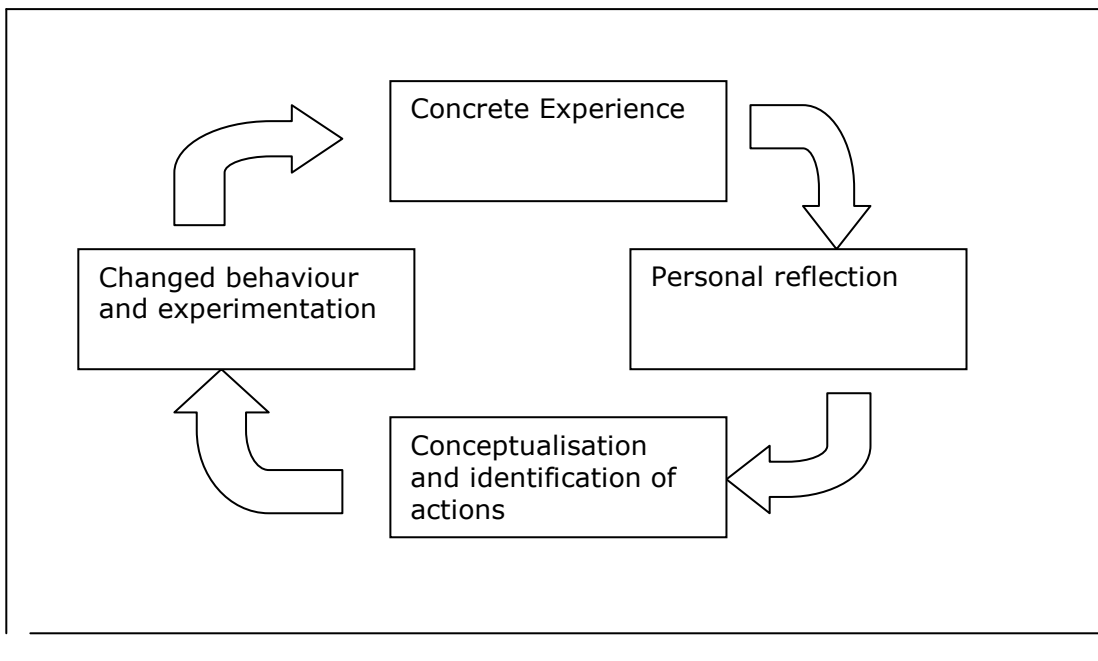
The existing academic literature, as mentioned, has recently expanded as interest has grown rather belatedly in this area, which has an important contribution to make to explaining entrepreneurial behaviour. However, the literature can usefully be divided into the following three main areas:

1. From the application of theories of adult learning;
2. From the application of environmental and social explanations;
3. From applications of organisational behaviour and (hence) organisational learning theories.

These headings are used in this section to organise our review of the academic literature. Further illustration of this framework is provided later in Table 1 which provides a summary of the academic literature using this framework.

### **1. Application of Theories of Adult Learning**

Despite the comment by Thorpe et al (2006) on the value of such theories for explaining entrepreneurial learning, much of the conceptual literature in this area draws upon and modifies theories of adult learning. Partly, this is because entrepreneurial learning is assumed to be experiential in nature. Politis (2005) considers that there is a need to consider how experience (gained) is transformed into knowledge. Cope (2006) considers that entrepreneurs adapt and develop new behaviours over a period of time so that there is a need to consider adult learning theories that allow for the cumulative nature of learning. Within this vein of experiential learning, Kolb’s learning cycle (Kolb, 1984) has been adapted by a number of writers to explain the self-reflective nature of entrepreneurial learning over time, as illustrated in Figure 1 (Corbett, 2006; Cope, 2005).

**Figure 1: Kolb's Experiential Learning Cycle**

The insights provided by some writers is to examine the nature of the entrepreneurial learning experience and note how this differs through critical learning 'episodes' or 'events' (Rae & Carswell, 2001; Deakins & Freel, 1998). It is recognised that the experience provides an essential 'situated learning' context within which these developments have been formulated (Zhang et al, 2006). The importance of this situated learning experience in a temporal context has been emphasised recently by Politis (2006: 399), "[This] implies that the complex process by which entrepreneurs learn from past experience is of great importance to consider if we are to increase our understanding of entrepreneurial learning."

Thus, it is arguable that dynamic, rather than static and longitudinal, rather than cross-sectional or survey approaches are necessary to increase our understanding of entrepreneurial learning. In Rae's (2003) study, he focused upon the life stories of the interviewed entrepreneurs to understand how individual respondents learned to develop entrepreneurial behaviour. In a related paper, Rae and Carswell (2001) suggested that such 'learned entrepreneurial behaviour' could be identified through the dynamic nature of 'learning episodes', involving discrete extended periods of time in which entrepreneurs drew upon learning and reflection from experiences that have formulated their approaches and behaviour. Other writers have identified dynamic 'critical events' as the catalyst for learning and changes in entrepreneurial behaviour (Deakins & Freel, 1998). Cope and Watts (2000) and Cope (2003) have applied critical incident methodology to a longitudinal case study approach and claim that, although very diverse in nature, critical provide the basis for the development of 'higher-level' learning, where the concept of deep learning is the outcome of the experience of the identified critical events leading to changed entrepreneurial behaviour. However, Cope and Watts also conclude that, because of the complex and diverse nature of entrepreneurial learning; "in terms of theory building we are a long way from the development of sufficiently broad-based frameworks to illustrate this diversity" (2000:118). Kempster and Cope have undertaken recent work on entrepreneurial learning, but conclude that further work on the importance of dynamics of entrepreneurial learning is required and conceptual developments (of entrepreneurial learning) are still "embryonic" (2010: 9).

## 2. Environmental and Social Explanations

Environmental and social explanations of the nature of entrepreneurial learning identify behavioural factors affecting both the firm and the entrepreneur. Within these approaches, there are social constructionist theorists that recognise entrepreneurial learning as a product of the social environment within which the entrepreneur operates. These are not necessarily separate from the conceptual writers mentioned in the first category and elements of such approaches have been used by Rae (2000) and Cope (2003). However, another sub-category is those who place the emphasis and influence on external factors in the entrepreneurs' environment and include notably Gibb's (1997) stakeholder model of entrepreneurial learning in which the entrepreneur does not progress unless they 'learn' from stakeholders in the external environment. However, the emphasis of such approaches may also be on the nature of the individual entrepreneur to adapt and learn from their environment. For example, Thorpe et al. (2006) take a constructionist approach but that the ability of entrepreneurs depend on their 'maturity', a complex concept that indicates the extent of among other things the ability of the entrepreneur to self-reflect from their interaction with the environment.

More clearly within this approach are those writers who explain entrepreneurial learning from external networks and social capital approaches. For example, Taylor and Pandza (2003) have applied network theory and a number of writers have started to explore the influence of social capital on entrepreneurial behaviour (Rose, Cope & Jack, 2007). Lee and Jones (2008) have also identified the importance of the role of social networks for entrepreneurial learning at the start-up and early stage of business formation. The contribution of evolutionary theories (or organisations) have also been identified within this category, although such theories may perceive the entrepreneur as tied in, or path dependent, within their technological development (Nelson & Winter, 1982). However, such approaches do support the necessity of dynamic approach to entrepreneurial learning (Deakins & Freel, 1998).

## 3. Organisational Learning Theory Applications

Finally, in this section, we have separated those writers who have adopted organisational learning (OL) theories to explain small firm behaviour as these are less clearly situated within social constructionist and environmental approaches. Of course, OL theories stem from explanations of collective learning within large organisations (Easterby-Smith, Crossan & Nicolini, 2000), however, more recently Zhang et al have used an OL approach to explain learning processes on innovation within manufacturing SMEs and claim that: "[Our] findings confirm early studies on the importance of organisation-wide (intra-organisation) learning in innovative firms" (2006: 312). They also claim that the application of OL theories in SMEs helps to explain those that were 'innovative' compared to those that were 'stable'. A number of writers, including the present authors, have questioned the relevance of OL theories for explaining entrepreneurial behaviour, but an earlier study by Wyer, Mason and Theodorakopoulos (2000) have also argued that OL theories can provide insights into 'collective learning' within small firms.

Although we have used a framework of three categories to systematically discuss and categorise the published academic literature; it should be noted that there is considerable overlap and that a number of papers cover more than one of these categories, as illustrated and summarised in Table 1.

**Table 1: Categorisation of the Academic Literature**

Paper	Adult learning theories	Environmental and social	Organisational learning theories	Research evidence
Kempster & Cope 2010	✓			✓
Lee & Jones 2008		✓		✓
McPherson & Holt 2007 (review paper)				
Devins et al 2006		✓		✓
Thorpe et al 2006	✓	✓		✓
Zhang et al 2006			✓	✓
Cope 2005	✓	✓		
Corbett 2005	✓	✓		
Politis 2005	✓	✓		
Cope 2003	✓	✓		✓
Taylor & Pandza 2003		✓		✓
Rae & Carswell 2001	✓	✓		✓
Cope and Watts 2000	✓	✓		✓
Rae 2000	✓	✓		✓
Wyer et al 2000			✓	✓
Deakins and Freel 1998	✓	✓		✓
Gibb 1997		✓		

### The Nature of Previous Research Evidence

Despite the recent increase in the number of papers in the academic literature, the previous research evidence directly on entrepreneurial learning is limited and recent papers have been conceptual, aiming to provide a framework for further research or to set a research agenda (Cope, 2005; Corbett, 2005; Politis, 2005). Given some of the features of the nature of entrepreneurial learning, which have been discussed in the academic literature, it is not surprising that the investigations that have involved direct research evidence have been based upon largely qualitative approaches and with the main focus on entrepreneurial case studies. For example, Cope (2003) reported findings from six case studies and Rae (2000) reported narrative life stories from 12 interviews. However, more recent research has employed programmes of interviews or surveys; for example, Thorpe et al. (2006) report the findings of 44 e-mail ‘postcard’ responses and Zhang et al. (2006) discuss the analysis of 26 interviews.

A strong common feature of previous research has been the use of critical incident methodology to identify key learning events or episodes in that have been significant in entrepreneurial learning. This technique has been used by Deakins and Freel (1998), Cope and Watts (2000) and Zhang et al (2006). In addition, the research has been conducted within a social constructionist paradigm to investigate the reality of entrepreneurial experience, development and learning (see Thorpe et al. 2006, for discussion).

In summary, previous research has been characterised by similar approaches, by necessity, often have small number case design with interpretative methodologies and analysis.

## Research Method

Our research methodology is no exception to previous investigations by adopting a social constructionist paradigm and a qualitative case study approach. Although with case study investigation, it is difficult to avoid the retrospective nature of the of the research interviews with the entrepreneur; by maintaining tracking studies of those cases that we have been able to track over a period of time, it is arguable that we have been able to develop and verify a realistic record of entrepreneurial learning. As commented upon by Rae “Given that learning is a continuing process, there is a need to follow people over a period of time rather than relying solely on perspective” (2000: 150). We have been able to achieve such tracking although the initial design of the research was to achieve the development of course and curriculum-based material. The initial interviews have been supplemented by further interviews to supplement the material on entrepreneurial learning. In addition, we have continued to use a ‘critical incident’ analysis which has previously been beneficial in gaining initial insights into the nature of the process of entrepreneurial learning, which is in line with previous research work in this area (Rae and Carswell, 2001; Cope, 2003).

The qualitative software QSR Nvivo has been employed to assist analysis but at this stage, it should be noted that this paper provides some first stage findings. A framework was utilised to provide guidance for analysis (see the following section), although this was not meant to be prescriptive and further work will allow a more ‘grounded approach’. The intention is to continue to utilise the contacts established with identified case study firms for additional research interviews, which will be continued to achieve the tracking and provide a more complete dynamic and longitudinal analysis. The aim has been to achieve a comparative case study analysis as suggested by Yin (2003). Links with the key entrepreneurs in the case study firms have been carefully nurtured over a period of time, which has helped to overcome issues of access (Bryman, 2006). Repeated interviews with key entrepreneurs have enabled the verification and validation of research data (Easterby-Smith, Thorpe & Lowe, 2002).

For this paper, we focus on the discussion of two case studies. Uniquely, we have been able to track their development over an extended period of time, from inception through to global operations. Although technology-related issues are not the focus of this paper, both case study firms are technology-based and have had to deal with issues related to new product development, innovation and IP-related areas.

## Discussion of Findings

We adopt a framework suggested by the lead author’s previous research and work and by the academic literature to discuss the initial findings. This framework consists of the nature of entrepreneurial learning from three sources: from experience and critical events; from social and business networks and from the entrepreneurs’ previous experience.

### *1. The nature of entrepreneurial learning from experience of critical events*

Previous research work by the authors and from the academic literature has suggested that insights can be gained into the nature of entrepreneurial learning from the experience of significant critical events. In essence, the argument is that the entrepreneur is forced to reflect upon existing practice or strategy to consider alternative strategies and ultimately to change behaviour. Such significant critical events have concerned problems with employees, with customers, with accounting for liabilities such as taxation and the experience from dealing with new product markets. For example, with one of the

cases, one of the founding entrepreneurs commented on a critical incident with an employee in dealing with regulations as they sought to expand their operations in a new entry country, Italy:

“One major incident [occurred] with an Italian employee where there was a total misunderstanding on who was responsible for what, which got us into significant issues with the Italian tax authorities, because he was supposed to pay tax – and he didn’t, things like that make you much more wary”.

The importance of reflection on the experience from critical events was also important for this founding entrepreneur who commented that issues would be mulled over during times when she and her founding partner could get together with some free time; one opportunity for this process was when they were travelling:

“The best time for reflection is on a plane on a long haul flight, you have a chance away from the phones and everything else, to think what we have achieved so far, how we can achieve it differently, where we would like to go – and went on to consider...”

With the economy crashing in 2000, it made us think very hard about if we wanted to sell the business, but we decided we were too young – there was a lot of learning to do, lots of new processes to explore.”

Both the case study firms became international players rapidly in their development so-called ‘born globals’, Fletcher, (2010) has pointed to the importance of the role of entrepreneurial learning in internationalisation. In both cases, technology and new product development was at the forefront of their development. In one firm, this meant several years of development of dedicated software development which was funded by the re-invested profits from the operation of an internet provider, whilst their development (R&D) arm was loss-making. During this stage, they took every opportunity to “learn from contacts, from seminars and from events”. However, the founding entrepreneurs quickly learned that they needed additional assistance to break into “larger customers” and then global markets. Yet, despite attempts to talk to advisers, such as consultants and business angels, during a period a founding entrepreneur described as a “whirlwind of meetings”, they considered that their development internationally was always a strategic aim to “create a global company”, but learning came from ‘experience’, from dealing with overseas customers and contacts. When faced with a critical period of development, there was insufficient local experience that could provide advice; as one of the founding entrepreneurs commented: “They just do not have what it takes to grow a global company, that is my biggest gripe against the [local agencies], they do not have the right level of contacts to grow a global company”.

The technological environment was significant for both of the case study firms in critical events that affected the process and nature of entrepreneurial learning. Both firms were in developments that required IP protection. The nature of having to obtain patents, across global markets and across time became critical events. For example, a founding entrepreneur commented on the experience of the expiry of protection from patents.

“In the first 10 to 12 years of our existence, we had a patented product that was protected and therefore, we didn’t have to deal with competition and one our biggest learning moments was when the patent expired – having to deal with competitors in the market place”.

Overall, in comparison to alternative stimulants to entrepreneurial learning, the nature of critical events provides the basis for reflective ‘deep learning’ suggested by Cope (2003) and Rae and Carswell (2001), which in turn is the basis for a period of significant strategic change and entrepreneurial development.

## *2. The nature of entrepreneurial learning from social and business networks*

It is arguable that a relatively under-researched area in entrepreneurial learning and development is the role of social networks and more specifically social capital (Lee and Jones, 2008). In both our case study firms, the role of social networks were important for their initial development but surprisingly, perhaps, these social networks continued to play an important role in the later strategic development of both the case study firms. The nature of the learning process that this involved was commented on by one of the founding entrepreneurs as providing support during the learning process:

“At the start, all the people employed were all family and friends or people who knew – [the two founding partners]. Both had a wide social network, and it was them who came to start with and some of them are still with us today. They came in to do any job that was needed, there was no demarcation on what was done and we grew from there. So that was the learning bit. You had made your mistakes with friends”.

In the second case study firm, which had more founding entrepreneurs (four), social networks were wider, but also more close knit. They received support from their close families at start-up, having given up promising careers in alternative occupations. Although the founding entrepreneurs were keen to learn from business networks, the role of social networks remained important during later phases of development of the firm, bringing in close contacts in their social community to provide development stage finance as they were seeking global expansion, yet without a direct advisory role “They are shareholders and do not have seat on the Board, we wanted hands off investors and they trust us to go forward-it is absolutely hands off. We said to them, here is the proposition, if you want to take part in it, that is the deal on the table”. Such networks would seem to have diminished importance for entrepreneurial learning in this case, although the mentoring role may have been understated by the founding entrepreneurs. The role of social capital indeed can be contradictory, other research has suggested that acts as hindrance (or restriction) as well as a benefit at different stages and in different circumstances in entrepreneurial development (Deakins, Ishaq, Smallbone, Whittam & Wyper, 2007).

It is arguable that business networks are a more important influence on the nature of entrepreneurial learning. Within this category we include Gibb’s stakeholder learning model which includes customers, suppliers and funders. For both sets of founding entrepreneurs from our two case study firms, events that brought them into contact with customers, competitors and suppliers, such as exhibitions and trade shows had important roles in the learning process. One founding entrepreneur commented:

“In fact one of our bigger learning places is the trade shows. Trade shows and customers’ plants. The [technical product] has so many applications in so many industries that we are very fortunate that that we get into different types of plant – we have a great bank of technical experience which enables us to find solutions or think of new products. That’s been the main learning...”

Contact with funders through raising finance or with advisors on raising finance was a further area referred to by both sets of founding entrepreneurs at particular stages in their development, although in both cases, each had a distinct strategy towards raising external finance. In the first case, one firm, which had relied on their social networks for funds for their early stage development but delayed raising bank finance for five years until a contact with a business adviser, changed their approach and also increased their confidence to approach external funders.

“It was an issue of confidence more than anything else – we believed in the product, believed in our skills and there was a buzz about high tech at the time. We employed X as an adviser,



you could say it was because of the employment of X as a financial adviser. He advised us to raise money, at the time it was the shortest route to raising finance.”

The second case study firm also commented that: “There is one major learning curve that [the firm] has been through; raising outside finance.” It appears that the mere experience of raising finance, especially venture finance, provides a learning curve, not just in preparation for dealing with the funder, but from new relationships and perhaps the imposition of new financial disciplines.

The entrepreneurial learning process was also influenced, in both firms, by the need to protect and patent the IPR involved in their NPD worldwide. For one of the case study firms, the learning experience had caused them to reflect and change strategy in line with the process suggested adult learning theory. For example one of the founding entrepreneurs commented from their experience that:

“It has made us think very carefully about the stage we apply for protection. We decided that we applied too early, when we reviewed the whole IP issue – but we believe that it is worthwhile to do it, but we now do it later – big learning curve, but it has made us stronger”.

In summary, both case studies demonstrated that networks and the interaction with ‘stakeholders’ had significant dynamic roles in the process of entrepreneurial learning over time. Their role varies temporarily and can affect the way that learning through time is transformed into knowledge and therefore, they do have a key role in the transformational aspect of entrepreneurial learning identified, for example, by Cope’s (2005) conceptual paper. What would seem also to be significant is that entrepreneurs need to have a strategy that allows flexibility and reflection from this experience to absorb the knowledge gained from such contacts and experience.

### ***3. The nature of entrepreneurial learning from the entrepreneurs’ previous experience.***

In the two case studies, the nature of previous experience of the founding entrepreneurs was very different, although in both cases, the way that the entrepreneurs adapted behaviour as a result of acquired experience was similar. In both cases, it was case of observing how others operated and learning from that. One founding entrepreneur commented on how their present strategy had been partly derived from previous experience.

“He had worked for other companies and saw how they ran their businesses, but the way [the case firm] runs is probably different from other commercial businesses. It is because he wants to do it his way. He has a philosophy he believes very strongly in. Although what we make is very technical, this is a sales and marketing company, who sells technical products and develops technical products. He knows the sales business, he knows what customers want and how to negotiate with them and I think it is one of the biggest things - a lot of start up companies, start up entrepreneurs don't necessarily have sales skills. JK is a really, really good sales person and negotiator and because of that, and because of his technical knowledge as well, he is able to combine these two skills, but he has had to learn what sells any particular product, but he has a sales formula he uses and that is why we were able to get the product into the market relatively quickly.”

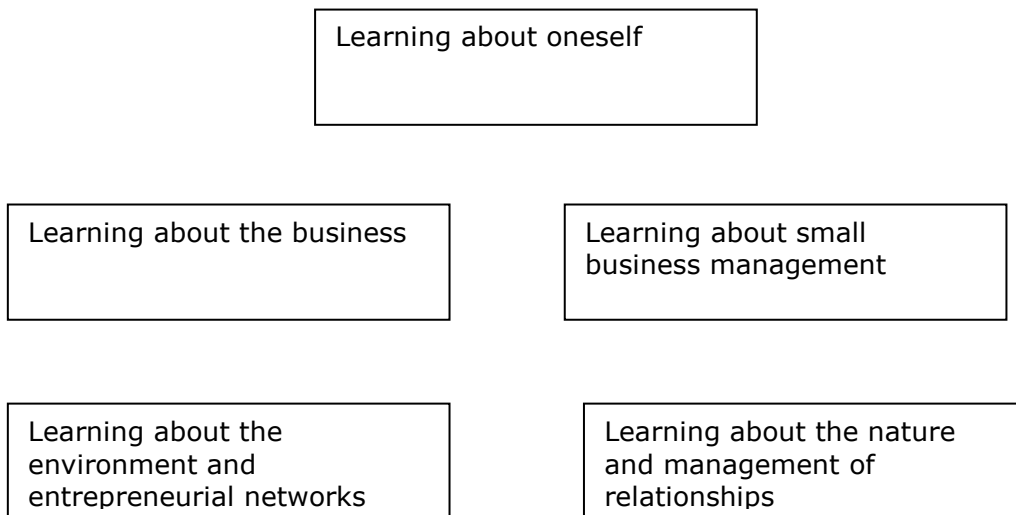
The second case study’s founding entrepreneurs had little previous experience, being relatively young and moving from careers in different sectors. However, in terms of entrepreneurial development, there were distinct transformational stages that have been followed. The initial start-up was a small publishing company where the admitted objective was to gain and learn from business experience. A second stage was the formation of an ISP company, the objective being to gain revenues that could be

invested in R&D. This company was eventually sold once the founding entrepreneurs had gained sufficient knowledge and experience to break into global markets. It was the lack of preparation that forced the founding entrepreneurs to gain additional advice and experience eventually leading to the appointment of leading consultants. They considered at a critical stage when they were attempting to break into global markets and develop and protect IPR that: “Our biggest barrier to achievement is [getting the right] technology people – and getting [the right] global advisers.” The nature of the rapid growth of this firm meant that there was little time to learn from experience, their networks, contacts and advisers became crucial to gaining additional knowledge and developing new global strategies.

## Further Discussion and Conclusions

Given that this is a developmental paper, there is obviously the need for further research with additional insights to verify some of the conceptual papers discussed in our review of the academic literature, that have been a welcome addition to this literature. However, the discussion of the dynamic nature of the case study evidence, drawn from interviews conducted over a period of time, demonstrates in one case, the importance of learning from the experience gained in critical events and in another, the importance of having sufficient quality of networks and advice where previous experience as more limited. Networks may be part of the key to understanding the transformational aspect of entrepreneurial learning identified in the conceptual papers (Cope, 2005; Politis, 2005). The findings provide support for Cope’s suggested five areas of significance for entrepreneurial learning illustrated in Figure 2.

**Figure 2: Cope’s Five Areas of Entrepreneurial Learning**

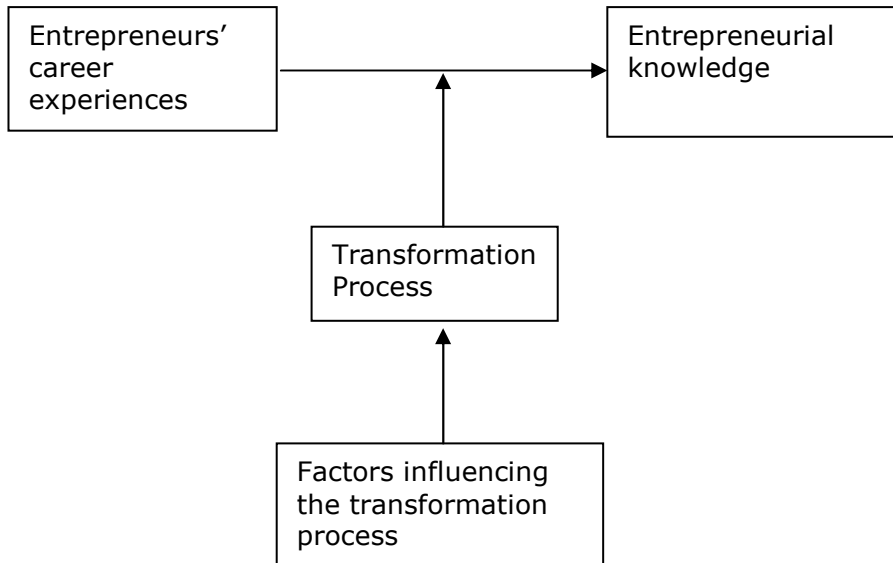


It is arguable, however, that from our discussion that although these five areas are reflected in aspects of the findings from the two case studies, they are insufficient to capture the full dynamic nature of entrepreneurial learning over time. For example, it is arguable that with technology-based companies there is a further dimension of entrepreneurial learning that is shaped by the nature of the technology and its uses in customers and by how to deal with the IPR process. It is arguable that this should be classified as an additional area. It is also arguable that some firms may grow very quickly as with one of our case studies and some areas are constrained and by-passed. Therefore, the nature of technology and the IPR process adds an additional dynamic learning dimension.

Our discussion of findings from the case study analysis also give some support to Politis’ (2005) concept of the importance of the transformational aspects of entrepreneurial learning as illustrated in

Figure 3, which places a focus on how entrepreneurs transform their experience into entrepreneurial knowledge.

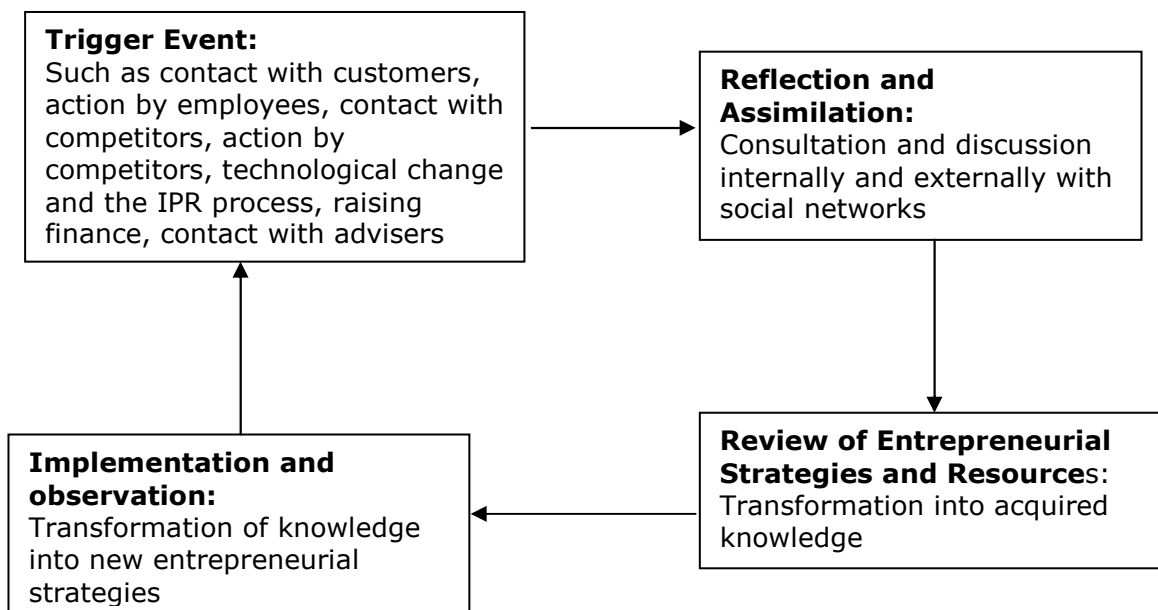
**Figure 3: Politis’ Transformational Concept of Entrepreneurial Learning**



However, we argue that this is an incomplete representation of the entrepreneurial learning process. Although it is important to understand the factors affecting the transformation process, the model, as presented in Figure 3, does not include the initial trigger which leads to reflection and the transformation required to acquire entrepreneurial knowledge.

We suggest a refinement of earlier work, which placed emphasis on critical events as triggers for transformational change, to include the additional concept of transformational change as suggested by Politis’ article. This is represented as Figure 4 and gives a more dynamic and cyclical model of entrepreneurial learning.

**Figure 4: A Dynamic Model of Entrepreneurial Learning**



The emphasis in this model is still on experiential learning through trigger events. Further research is required on how entrepreneurs are able to transform the information acquired and successfully reflect on this cyclical process. We will then be able to gain better insights to the dynamic nature over time of the process of entrepreneurial learning.

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