Abstract
This exploratory paper examines entrepreneurial opportunity creation as being a process of structuration. The paper first discusses the opportunity paradigm in entrepreneurship literature and the relevant creation-discovery debate. It takes pursuit of entrepreneurial opportunity under Knightian uncertainty (Knight, 1921), particularly technology entrepreneurial initiatives, to be opportunity creation processes. It then discusses Giddens’ Theory of Structuration (Giddens, 1979, 1984). Presenting empirical data from verbal protocol of entrepreneurs relating to three technology entrepreneurial initiatives, it discusses how the opportunity process in these initiatives shows up as structuration. Subject to further empirical research, it proposes that a structuration view of the opportunity process may lead to a synthesis of opposing perspectives in the discovery-creation debate.

Keywords: Entrepreneurial opportunity, structuration.

INTRODUCTION

In the last two decades, understanding of the opportunity process has taken pride of place in entrepreneurship research. Recent research interest in the entrepreneurial opportunity process has led to discourses on attributes of opportunity and exploration of processes by which opportunity occurs (Gartner, Carter, & Hills, 2003: 103). This has also given rise to a long debate on whether opportunities are discovered / recognised or whether they are created (Boudreaux, 1994; Kirzner, 1999; Sarasvathy, Venkataraman, Dew, & Velamuri, 2003; Shane & Venkataraman, 2000).

The present paper examines opportunity creation in technology entrepreneurial initiatives and compares the steps involved to the process of structuration as expounded in the Theory of Structuration (Giddens, 1979, 1984). This paper first discusses the opportunity paradigm in entrepreneurship literature and briefly describes the social theory of structuration. It then traces the steps of our case entrepreneurs in specific opportunity pursuits through qualitative data and examines them against a structuration process.
There has been a strong debate in entrepreneurship literature about the nature of entrepreneurial opportunity pursuit as being either a recognition process or a creation process, the first in the classic mould of Kirzner’s entrepreneur as the protagonist of opportunity discovery/ recognition and, the second, as Schumpeter’s entrepreneur, as the creator of opportunity. The Kirznerian entrepreneur shows “alertness to opportunity” (Kirzner, 1969) while the Schumpeterian entrepreneur is the innovator and brings new ideas and products through “creative destruction” of existing paradigms or technologies (Schumpeter, 1942). Entrepreneurs in Kirzner’s opportunity discovery mould really are arbitrageurs whose actions have equilibrating effects (in perfectly competitive markets) while in the Schumpeterian mould they create or orchestrate opportunity through activities that have disequilibrating effects (McNulty, 1987) (in dynamically competitive markets). While some researchers have pointed to the differences between the Kirznerian and the Schumpeterian entrepreneur, others like Choi (1995) and Boudreaux (1994) have emphasised the differences as being really complementary. Choi even calls the two “complementary” perspectives identical, and similar to the debate of whether a glass is half-full or half-empty (Choi, 1995). It must be mentioned that, even though Kirzner says: “The notion of discovery, midway between that of deliberately produced information in standard search theory, and that of sheer windfall gain generated by pure chance, is central to the Austrian approach” (Kirzner, 1997: 72), he has later argued that while the entrepreneur is involved in pure arbitraging in the single period market, s/he is associated with creativity in the multi period markets since such markets have associated ‘radical’ uncertainty (Kirzner, 1999).

Scholars like Sarasvathy, Venkataraman, Dew and Velamuri (2003) have asserted that the opportunity process under Knightian uncertainty (Knight, 1921) is a process of opportunity creation rather than one of opportunity discovery. Venkataraman and Sarasvathy (2001) consider entrepreneurial opportunity as recognition, discovery or creation according to whether the demand and supply both can be estimated, whether one of them can be estimated, or, neither is estimable, the last being in conditions of Knightian or ‘pure’ uncertainty (Knight, 1921). For technology firms, which is this paper’s focus, entrepreneurial opportunity may be considered to be created in the mould of Schumpeterian innovation because of the Knightian uncertainty conditions these entrepreneurs face. With new products and/or in new markets the opportunities are to be orchestrated with the entrepreneurs’ “prior knowledge” (Shane, 2000) of technology or of markets, supporting “active search” (Chandler, Dahlqvist, & Davidsson, 2002: 2). This may be considered particularly so in the small, resource disadvantaged, but knowledge invested, technology based entrepreneurial firm. Also, since technology markets in the globalised network/ knowledge economy require higher levels of knowledge inputs (Axinn & MatthysSENS, 2002), the scope for serendipity or “fortuitous” discovery of opportunity could be dependent on the preparedness of the entrepreneur/ firm in terms of prior knowledge (Shane, 2000) and active search routines already being pursued, these preconditions providing the plasma or ‘culture’ for opportunities to germinate. It may be said that there exists a continuum from pure discovery of a single market arbitrage opportunity, to a completely search oriented creation of a new business opportunity changing existing paradigms. The technology entrepreneurial initiatives considered here are taken to operate under Knightian uncertainty of new products and new markets, and therefore closest to being creation processes. These entrepreneurial opportunity creation initiatives by technology entrepreneurs are examined here in the light of the structuration concept.

**STRUCTURATION THEORY**

**Duality of Structure**

By “duality of structure”, the central concept in Anthony Giddens’ *Structuration Theory* (Giddens, 1976, 1979, 1984; Giddens & Pierson, 1998), Giddens means that structure is both enabling and constraining, that social structures are constituted through action and that action is constituted structurally. Human agency and structure are inextricably linked and embedded in each other in that
people make social structure with what they do and, at the same time, are constrained by that very structure. In Giddens’ words:

Social structures are both constituted by human agency, and yet at the same time are the very medium of this constitution.” (Giddens, 1976)

The structure of the environment, ie, the marketplace is what the entrepreneur agent interacts with. The entrepreneur with his/ her ‘prior knowledge’ (Shane, 2000) and expectation, works on this social environmental structure to mould it in the direction that might generate specific and idiosyncratic opportunities for the entrepreneur. In the empirical work done by Shane on an MIT invention, each of the eight sets of entrepreneurs saw it as enabling in a certain way and the others did not. Ach entrepreneur saw it enabling in a unique way. Clearly, each entrepreneur set saw it as enabling in ways that were supported by their prior knowledge and, as constraining to them in ways that their prior knowledge did not support. Conversely, from the entrepreneur’s viewpoint, the structure that the entrepreneur identifies as enabling in a certain way would be constraining to others without the required knowledge. It is this avenue of niche or idiosyncratic enablement that a ‘structure’ offers which the entrepreneur works upon and, as an intentional agent, influences and further changes the structure to make it more enabling for himself/ herself and more constraining for others in that niche of opportunity. Arguably, “prior knowledge” (Shane, 2000) is what, in a much wider context of human action, Giddens calls “knowledgeability”. Every human agent is knowledgeable, and Giddens observes:

“You have to know an enormous amount to be an agent, and this is central to being an agent. Without such knowledgeability there wouldn’t be structures … that knowledge is key to social reproduction (Giddens & Pierson, 1998: 84).

Knowledgeability is everything actors know of the circumstance of action, as drawn upon in production and reproduction of action, including tacit as well as discursively available knowledge (Giddens, 1984). It includes prior knowledge that Shane (2000) speaks of, it also includes explicit as well as experiential or tacit knowledge that Polanyi (Polanyi, 1967) speaks of; it enables agents, as “intentional beings”, to discursively shape action “as a continuous flow of conduct” and incorporates choice in that the agent “could have acted otherwise” (Giddens, 1979: 49-59). Our entrepreneur acts with his knowledgeability and moulds the structure continually making the structure more enabling for himself and constraining for others, where his resources are more suited to the task of building the solution - and, creating a specific ‘personal’ opportunity. His actions enable himself and, at the same time, cordons off competitors, albeit gradually, from the environment that is shaping his opportunity.

According to Giddens, knowledgeability is the basis of “reflexive action” as well as of “unintended consequences”. But most importantly it is the agent’s knowledge discursively as well as experientially learnt from action, through the agent interacting with and producing and reproducing action and structure in the environment. This understanding of the duality of structure in Structuration theory overcomes the usual problem of the dualism between agency and structure, between the individual and society, between determinism and voluntarism (Giddens & Pierson, 1998: 75-76, 89-90), and, as reiterated here, between creation and discovery views of the entrepreneurial opportunity process. Structuration as the interplay of structure and agency where each affects the other, it is argued here, is reflected exactly in the social construction of opportunity by technology entrepreneurs.

Agency and Power

We have noted above the aspect of “choice” in agency in that the agent ‘could have acted otherwise’ which reflects the agent’s “power”. Structuration Theory deals with the aspect of power as being different from conflict association. Seeing power as the third element of structuration, Giddens elaborates:

“The choice (in understanding action) is not between what people say about why they act as they do, and, some kind of causal force that makes them act as they do. In between these there is the knowledgeable use of convention in practical consciousness – and there is
power. I … see power as an elemental part of the logic of the social sciences… So it is agency, structure and power. Agency is an elemental basis of power. It is the capability to do otherwise and that is the basis of power, no matter how large-scale any given structure of power may be". (Giddens & Pierson, 1998: 84 - parentheses added)

Giddens argues that the concept of action is logically tied to that of power where he defines power, in social theory, as “transformative capacity” (Giddens, 1979: 88). While Giddens takes the conception of power as domination, he does not agree that it is necessarily bound with conflict. This has relevance in the resource-poor small technology entrepreneur negotiating the technology market and often with larger players. Power in structuration theory is seen both as transformative capacity and as domination, as a relational concept (Giddens, 1979: 92). The interplay of the two, ie, ‘domination’ as structure and ‘transformative capacity’ as agency implies that power is understood as “interaction where transformative capacity is harnessed to actors’ attempts to get others to comply with their wants. Power, in this relational sense, concerns the capability of actors to secure outcomes where the realisation of these outcomes depends on the agency of others” (Giddens, 1979: 93, emphasis in original). Power relations, according to Giddens, are always two-way, ie, relations of autonomy and of dependence (Giddens, 1979: 93). In entrepreneurship, particularly with the perennially resource constrained entrepreneur, “power” as transformative capacity is bound to be strongly associated with the aspect of outcome of entrepreneurial initiative. We will revisit this in the context of outcome of entrepreneurial initiative in the empirical data below.

ENTREPRENEURIAL OPPORTUNITY CREATION: EMPIRICAL DATA

The accounts of three initiatives of technology entrepreneurs in New Zealand are excerpted below from verbal protocol. Two are from Entrepreneur X that offer insight into processes that ended in successful outcomes. The third is from Entrepreneur Y and gives a glimpse of an entrepreneurial pursuit that failed to create the initial targeted opportunity. The data was collected through semi-structured interviews with entrepreneurs describing in detail the steps involved in a recent business initiative. The data was then processed through the lens of structuration. Even though “theoretical saturation” (Glaser & Strauss, 1967) cannot be claimed to be reached by examining three initiatives in this exploratory study, a series of action-response patterns begins to become visible and is reported below.

Entrepreneurial Initiative 1

On how the idea of data warehousing (DWH) software business developed, the entrepreneur said:

“We knew how to build data warehouses from our work at S – but we always thought there had to be a better smarter way….”

Describing what they did during product development stage and how a barebones data warehousing (DWH) product/idea was bounced off various users and consultants, the entrepreneur said:

“…. commercialisation phase is incredibly, extremely expensive and time consuming … so we needed to do a check whether or not it would be worthwhile …. So we started showing - I guess the proto type of what would become our product - to a range of people…. showed it to some of our clients locally, our consultancy clients …. And we also started to show it to people offshore as well … to a range of clients or companies - large and small – and a range of people at different skill levels inside our industry, you know, international people who had good reputation vs people who had never seen a product like that before... to get feedback on, er ... what they thought about our product, if they thought there was a market for it, what was the space they thought it was in – (since) it didn’t naturally fit into any particular space or niche you see … who they thought would buy it, what sort of money they thought we could get for it… that sort of thing.”
The entrepreneur then described product development specifically elaborating the feedback and early engagement with one such large data warehousing user, WW: how that user contact was made, and how it developed to their first major customer:

“We’d shown it to an experienced US data warehouse consultant who knew this guy in WW in the US … so we did a Microsoft Net meeting from New Zealand across to San Francisco and we showed them that the early prototype of the product…that we could effectively build a data warehouse, but...at that stage the product...it wasn't there, it didn't work, it was a half product half idea… the documentation wasn’t done ...the product wasn’t even finished it was just an early prototype...we showed them what it could do and asked them basically focus group questions… if you were doing a project again would you use this product? What do you think is really good about the product, what features are missing …”

And so there was a back and forth process of questions and feedback and, finally, on the price-point the entrepreneur said:

“...ah… one of the questions we had was … how much would you pay for it…and WW answered all our questions up until the one about how much they’d pay for it.. and they came back and said “actually we are not going to tell you how much we would pay for it because we want to buy it”... so ... from our initial focus group we effectively got our first customer ... We weren't ready. Took us about a year to get ready for them because...... you know....but then, in that intervening year we started using it on sites (in NZ) and developed it. That took us another .. year when we were happy to sell it to WW .. then we went out there and implemented it .. sold it, then we did little bit of training .. and they have been using it ever since.”

On how the entrepreneur engaged the prospective client for a year before product was ready for delivery:

“We just kept contact with them. We knew people in that company… but it did slack off a bit and now and then we would just keep contact. Particularly after six months – I thought we must do something and deliver ... We’d got a large known brand interested in our product and we hadn’t actually consummated the deal. We hoped we wouldn’t lose them...... We were doing other domestic implementations – before going back to WW and more ready with the product. I had them at the top of my things to do list … but our product wasn’t ready. We kept in contact while developing … and after a few months we had some further discussions. After several discussions we sent a person to do a proof of concept, a prototype on site at our cost, no charge. Soon then … we had the product ready to implement along with all manuals etc… about 3 months later .... we are of course now doing a much more upgraded version, but that was the first full Version 1.0 product.”

That was how the product for this firm was born – gradually, going back and forth between potential user and entrepreneur / firm, until it took satisfactory shape. Not that a datawarehousing product did not exist in the market. It was that the user did not have, at that time, access to a better way of solving its datawarehousing problems than was being demonstrated as possible by this entrepreneur/ firm. We shall see below how the components of this exchange liken a structuration process.

**Entrepreneurial Initiative 2**

Here the entrepreneur is approached by a local software consulting firm through whom he creates an international opportunity going on to get a 3-way international OEM (Original equipment manufacturer) supply deal:

“They had seen us in the market. We were winning business on the back of our product. So they approached us in New Zealand. We did a couple of deals together…. They knew us because we were the big dogs in the local market. There were little dogs. They wanted to work with us...”
Entrepreneur X, knew the people in the local firm through the market but also earlier, individually. When this new consultant reseller firm had a launch of a Danish product (also on a reselling arrangement) that was at the front-end of data management, Entrepreneur X was there at the launch and got time out with the Danish company representative:

“They got this American woman living in Denmark, who was down here to launch their product. We went down to the product launch to support them and had lunch with this American Danish woman afterwards. I explained to her what our software and how it could work in conjunction with their software.. how it wasn't competitive.. that we did the bottom end and they did the top end… we showed them the software…. that was all cool… What happened that night was they had a conference call from the US internally from their salespeople.. this woman was talking to the US guys and the Danish sales guys on conference .. this US guy was explaining how he had an opportunity at RR (a large US process manufacturing software company), RR liked the front-end Danish product, but the problem they had was actually building the warehouse, so evidently, she said, “I have just seen the product today that builds warehouses that can help you with this”. So the American guy next day took it to their prospect.. which turned out to be RR in Atlanta and said.. you are not ready to buy my tool yet because you have got this other problem to solve. We just find out about this product in New Zealand ..we don't know anything about it... but you should have a look at it.”

On how a short but timely probing of a contact evolved into a source of opportunity, the entrepreneur said:

“It wasn’t even a presentation just a five-minute showing of what the product could do.. they didn't even know what we did. RR were working with another company already to solve this problem…U.S–based company. They wanted to see how we were compared to the path they were going down… there were two companies that were being aligned and merged with RR one was a Swedish company II and the other was RR based out of Atlanta (bought earlier)… We built the proof of concept, and took it across to Sweden and demo-ed it to them, showed them what was possible. They liked what we had done and decided to sign with us from there. So effectively, from a whole series of events, anyone of which could never have happened, we ended up with a very large OEM deal for us.

On how the existing supplier was dislodged:

They (WW) were happily doing a proof of concept with another company consulting laboratories in India, and we had to basically prove to them that our product was superior to theirs. They had spent about 500 hours with the other company in the proof of concept. We did in two days.. so when we did it in two days and it was better, and it ran faster, the other company had spent 500 hours sat up and took notice and went wow......We built our first prototype in Atlanta, took it back to New Zealand did some iterations with the product had, with us working in New Zealand and them working in Atlanta to tell us if there were any problems.. and then we released that in the last year beginning of this year …got our first (RS) sales on it this year.. we've had a about 10 sales of that (EPM) product on which we get money on. So we built it in both places.

On how he managed the physical distance to Sweden, he said:

We had to have someone who was able to go to Sweden in 2 days’ time.. work on something for 2 days and meet them in Sweden because.. its Swedish data.. they all happened to be in Sweden at the right time and we were able to get there… had we been in NZ it would have been very hard for us to get there and we would have appeared harder to do business with but because we had someone up there for the year ..we go… ”oh no problem, we will deal with this from our UK office” .. and suddenly we appear much bigger much easier to do business with.”

“Now we want a similar opportunity to happen in the US so we are putting our resources in the US and trying to make things happen there.- we ended up employing Rick who was the T representative still in the US now working for us.
**Entrepreneurial Initiative 3**

While engaged in another partnership in telecommunication business, Entrepreneur Y was interested in investment and options trading in foreign currency and also thought there could be business there. Checking out trading tools from around the world for several months, he had contacted an experienced (and the second largest) foreign currency trader and trainer in the US and did a training course with him. He then negotiated a franchise for the training course seminars in NZ. Meanwhile Entrepreneur Y also approached and recruited a software developer as partner and started developing a trading software. In the franchise training courses he introduced the skeleton of the product, yet untested.

“I actually contacted him to do training with him. He had a very poor site. And then mentioned interest on (product name) in seminars. He also showed it in his seminars. Now his focus has shifted from training to software -- we don't do training any more......his customers also becomes our customers ... we are free to use our brand ...”

On the engagement with the trading/training firm and the influence his product had, Entrepreneur Y says:

“... there was definitely an opportunity -- it was a complete no-brainer for them to promote this product over any of their other products -- related to the time spent on training or advertising.. it made sense for them to spend more time and money in promoting our automatic trading product than any of their other products.. we built the system together, that run on the (product name). Their original trading systems didn't actually work very well, so we worked with them, and as it turned out we equally brought to the table trading systems knowledge.”

Consequently, on the IP:

“They hold some of the intellectual property for the indicators and systems -- and we are just trying to work that out with them now as to who owns what. To our way of thinking we equally own the systems, they own their indicators because they've developed the proprietary indicators, which they know, but we are on the (product name), which is the automatic trading platform.”

The IP issue came up strongly when Entrepreneur Y’s partnership offer did not eventuate. Entrepreneur Y offered an alliance with the US training firm that had seen value in the product but it did not work (“we want to merge the two companies but he had some control issues so we did not do that”). He continuously approached people to gauge the interest level in such a product and the satisfaction level with existing alternative tools.

“...we used contacts, friends in industry. We went to this FX trade show in....., took a stand, we got interest from customers and from traders, who wanted to join up with us. I'm talking to a guy from Korea, Japan, and from the UK. This is easily transferable. It's a growing/new market, its liquid like options.”

With the US alliance initiative not working out, Entrepreneur Y has moved to the US, to increase customer contact (“staying here it makes me realise that things can happen much more quickly..”)and to qualify to be eligible to trade as statutorily required in his major (US) market where the product is now visible. Other alliances are in the offing and investors in the trading corpus are rising. Even the failed strategic alliance can be seen to have developed through a process of structuration. The outcome of failure of a specific strategic partnership through the structuration process can be understood from the aforementioned concepts of power and is discussed later.
STRUCTURATION AND THE OPPORTUNITY PROCESS IN OUR TECHNOLOGY ENTREPRENEURIAL INITIATIVES

It is argued here that the agency of the entrepreneur in the above initiatives affects the environment structure, altering it to being more ‘enabling’ for the entrepreneur who moulds the structure even further, gradually extracting an opportunity. The structure here is the market environment that the entrepreneur is probing and, to begin with, entirely exogenous. In the first case, we see that the entrepreneur’s prior knowledge tells him where to look with all small and large potential users of the generic product. He also approaches key influencers like consultants in the field that liaise with such software users. The users in the environment respond with their feedback. The entrepreneur narrows his attention to a few users in New Zealand and one large one in the US. While his product is barely an idea (“at that stage the product.. it wasn't there, it didn't work, it was a half product half idea…”), he keeps engaged with WW. This was not just to keep them interested, it was a close engagement, albeit with some gaps because the product wasn’t ready (“we weren’t ready, took us about a year”). It was a generative interaction to actually build the required product over a year’s time. In the second case the entrepreneur lacks the specific knowledge of the foreign market but networks his way to a successful international alliance and supply deal. The third case shows fairly insufficient prior knowledge initially, but a speedy acquisition of the market and product knowledge leads the entrepreneur to opportunities albeit through a failed alliance attempt. The data is condensed in Tables 1 to 3 above for the 3 initiatives under discussion and show how the entrepreneur and the environment play out as structure and agent.

Table-1 shows how the interaction between the entrepreneur, with some prior knowledge of technology and market, perceives the scope for improving the DWH methods/ products user firms engage. He approaches firms that are users / potential users to study what they might need and, to bounce his idea of a better DWH product with them. He also approaches consulting firms and software consultants he had access to within the country and internationally. The environment/ market structure evolves through the actions of our entrepreneur agent. Firms engage with him and, mostly, a customised DWH product development requirement emerges, giving rise to a consulting business opportunity. As shown in the table, the customised solutions to DWH were built on customer sites through constant interaction with them. It is through these interactions the entrepreneur aligned his (firm) skills and customer requirement. As he mentions: “We got better at it… Earlier we’d go – ‘we’ve got this great software and we’d like you to use for your problems’. Now we say – we know how to solve this problem; if you have this problem we’ll solve it for you, if you don’t then go away”. The structure was both enabling as well as constraining, as Giddens posits in Structuration theory, and it guided the construction of the entrepreneur’s own DWH market structure as seen here.

One foreign firm, on a Net demo of the DWH solution idea (designed by the entrepreneur “to get their feedback”), expressed their interest to buy a product on that basis. The entrepreneur only had a prototype (“half idea – half product”) and withdrew from selling prematurely. He kept engaged with the potential client, developing the product with their feedback on features, market fit and pricing, and was also developing detailed manuals for the product. That is how Version 1.0 of the product was built.
TABLE – 1: **Opportunity creation as Structuration**

Entrepreneurial Initiative 1: Two lines of business emerge for a start-up as the environment structure responds to entrepreneurial agency.

### A G E N T – E N T R E P R E N E U R

<table>
<thead>
<tr>
<th>Prior knowledge of DWH technology and markets</th>
<th>Market search</th>
<th>Engagement with prospects</th>
<th>Close client interaction and exchange</th>
<th>Implementation in consulting jobs; close and long exchange for product dev</th>
</tr>
</thead>
</table>

### E N T R E P R E N E U R I A L A G E N C Y

- Probes user/ potential user market
- Builds superior solution idea
- Sets up firm
- Contacts potential users, consultants and implementers in home market and abroad
- Shows product details and logic demo to potential users
- Does proof of concept at site
- Does demo for an overseas DWH user company
- 1) Develops consulting business
- 2) Asks foreign firm for time, seeks feedback on features, standards, pricing, etc. Develops product package over 1 year


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<td>Firms</td>
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</tr>
<tr>
<td>1. Large</td>
<td>Internal DWH solutions</td>
<td>Some large and medium firms show interest in custom building</td>
<td>Firms check application outcome and customisation performance</td>
<td>A large foreign firm (using internal solution so far) wants to buy product</td>
<td>Niche Entrepreneurial Opportunity emerges in consulting and product business lines in DWH space</td>
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<tr>
<td>2. Large &amp; Medium</td>
<td>Bought out solutions</td>
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<td>3. Small</td>
<td>Low DWH concerns</td>
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### E N V I R O N M E N T S T R U C T U R E
### TABLE – 2: Opportunity creation as Structuration

Entrepreneurial Initiative 2: A local partnership evolves into a 3-way global alliance with entrepreneurial agency-environment structure interplay

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<thead>
<tr>
<th><strong>AGENT – ENTREPRENEUR</strong></th>
<th><strong>ENTREPRENEURIAL AGENCY</strong></th>
<th><strong>ENVIRONMENT STRUCTURE – ENTREPRENEURIAL AGENCY INTERACTION</strong></th>
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<tbody>
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<td>Local reseller invitation for launch of Danish product in process software</td>
<td>Contact with Danish firm in process software</td>
<td>Vendor – Local Reseller Structure for Product</td>
</tr>
<tr>
<td>Contact extends to the US</td>
<td>On global stage</td>
<td>Vendor – Vendor International Alliance Structure</td>
</tr>
<tr>
<td>Contact</td>
<td>3-way tying up</td>
<td>Demonstrates speed and effectiveness of DWH solution in clients product suite</td>
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<td>Danish company rep internally finds US sale to prospect stuck without DWH solution</td>
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<td></td>
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<td>Vendor – Vendor International Alliance OEM Alliance Structure</td>
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<tr>
<td></td>
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<td>US company checks to integrate 2 parts – US and Sweden</td>
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<td>US company licences DWH solution as module in own product</td>
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<td>Danish company’s US team puts Entrepreneur in touch with their prospective</td>
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<td>Vendor-International OEM Alliance Structure</td>
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### AGENT – ENTREPRENEUR

- Local reseller invitation for launch of Danish product in process software
- Contact with Danish firm in process software
- Contact extends to the US
- On global stage
- 3-way tying up

### ENTREPRENEURIAL AGENCY

- Seeks time post launch with representative of Danish company
- Explains product and non-compete nature with Danish product
- Shows product details and logic demo to US company
- Does proof of concept at sites in different countries
- Does integration

### ENVIRONMENT STRUCTURE – ENTREPRENEURIAL AGENCY INTERACTION

- Vendor – Local Reseller Structure for Product
- Vendor – Vendor International Alliance Structure
- Vendor – Vendor International OEM Alliance Structure
- Vendor – Vendor-OEM International Alliance Structure

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**BEST PAPER AWARDS**
TABLE – 3: Opportunity creation as Structuration

Entrepreneurial Initiative-3: Entrepreneurial agency probes changing market structures to work through an unsuccessful alliance and set up a niche international business for a start-up

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<tr>
<th><strong>AGENT – ENTREPRENEUR</strong></th>
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<th><strong>ENVIRONMENT STRUCTURE – ENTREPRENEURIAL AGENCY INTERACTION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Currency (FCY) trading market search</td>
<td>Dissatisfaction with existing products</td>
<td>Test market structure: Training seminars become test market for product</td>
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<tr>
<td></td>
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<td>Larger US market structure</td>
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<td>Increases product reach</td>
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<td>Introduces product to US trainer and, through him, his clients</td>
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<td></td>
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<td>Offers US trainer company partnership in product</td>
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<td></td>
<td></td>
<td>Entrepreneur moves to US to pursue other opportunities &amp; qualify as trader as market shows promise</td>
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<td></td>
<td></td>
<td>Recruits software developer and jointly develops trading software</td>
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<td></td>
<td></td>
<td>Takes NZ franchise for US training</td>
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<tr>
<td></td>
<td></td>
<td>Does intensive back testing of product</td>
</tr>
<tr>
<td>Examines trading tools internationally</td>
<td></td>
<td>International currency Trading market &amp; software trading</td>
</tr>
<tr>
<td>Finds them inadequate</td>
<td></td>
<td>tools market structure: with varying accountability and customer satisfaction</td>
</tr>
<tr>
<td>Joins 2nd biggest FCY trading trainer in USA and trains</td>
<td></td>
<td>Good feedback and interest</td>
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<td></td>
<td></td>
<td>Local, US and global market in automatic FCY trading</td>
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<td></td>
<td></td>
<td>1-to-1 partnership US party declines JV.</td>
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<tr>
<td></td>
<td></td>
<td>Larger US market structure</td>
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<td></td>
<td></td>
<td>Increases product reach</td>
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</tbody>
</table>

**TABLE – 3: Opportunity creation as Structuration**

Entrepreneurial Initiative-3: Entrepreneurial agency probes changing market structures to work through an unsuccessful alliance and set up a niche international business for a start-up.
In table-2 we see that the entrepreneur has a local network of contacts that exposes him to a foreign business possibility. The entrepreneur seizes the off-chance and has a short discussion with the representative of the Danish company whose product was being launched in New Zealand ("wasn't even a presentation just a five-minute showing of what the product could do... they didn't even know what we did ..."). This led the entrepreneur to the Danish suppliers’ US prospect who were unable to proceed due to DWH problems. How the entrepreneur engages with the US company, straddling the continents to present “proof of concept” and then to integrate their divisional systems, is shown in Table-2. He ends with a 3-way alliance of supply alongside the Danish company to the American OEM. With the agency of the entrepreneur the initiative again alters the structure of possibility in the environment enabling the entrepreneur more and more to create an opportunity.

Table-3 gives the outline of an entrepreneur starting from scratch in an activity he was interested in (currency trading) but in which he did not have hands-on experience. Starting with scouring the markets internationally for a good technical trading software and being dissatisfied, he undertook to build one and recruited a developer. That is when his liking for the activity became a business idea. Entrepreneurial agency shaped the US possibility for business. The entrepreneur trained in currency trading with a US trader and currency trading trainer whose online presence he helped improve (“I suggested improvement on is online presence. He had a very poor site”). He introduced his product in the training seminars of the trader and also took a franchise for the courses in NZ. A loose business arrangement developed whereby the entrepreneur supplied the software and received access to a larger market. The arrangement did not end in a strategic alliance because of “control issues” the US partner had, but it started the entrepreneur off on the path to creating a niche international business opportunity he is now pursuing.

The generative interplay between entrepreneur agent and environment structure is proposed in this paper to progress on the lines of Giddens’ concept of structuration (Giddens, 1979, 1984; Giddens & Pierson, 1998). As mentioned before, Giddens explains the knowledgability of actors as everything which actors know and believe about the circumstances of their action and that of others; structure, according to structuration theory, is at the same time enabling and constraining. We see, in all the above initiatives, the entrepreneurs’ market opportunity developed through agency-structure interplay, ie, entrepreneurial action-environment interplay.

**Power and outcome**

In the above entrepreneurial initiatives, opportunity as a *structuration* process also throws up the important aspect of the outcome of opportunity pursuit. It can be seen as an underlying theme flowing beneath the abovementioned entrepreneurs’ initiatives of how the entrepreneur-customer engagement evolves and shapes the outcome as a successful opportunity. It is suggested here that the brief but clear idea of *power* in structuration theory could throw light on this aspect. As mentioned above, Giddens sees power as the third element of structuration, and defines it as transformative capacity. Transformative capacity of entrepreneurs, as entrepreneurial agency, implies entrepreneurs’ capacity to get others to comply with their wants. Therefore the capability of entrepreneur-agents to secure outcomes “where the realisation of these outcomes depends on the agency of others” (Giddens, 1979: 93) clearly defines outcome in the structuration process of entrepreneurial opportunity creation. Relating it to the hypothesis in the paper, a successful opportunity as the outcome of the entrepreneur’s agency-structure interplay depends upon how the power relation of autonomy and dependence plays out between the technology entrepreneur-agent and the environment-structure leading to the potential opportunity. The two-way power relations, with their dual dimension of autonomy and of dependence, play out throughout these initiatives described. In the first case, the process is seen clearly in how the more difficult product market evolves for the entrepreneur. While the entrepreneur and the potential client both had autonomy, our entrepreneur – the weaker of the two – had maintained a measure of power as transformative capacity for the 2-way autonomy-dependence relationship to evolve. This showed up most clearly in the entrepreneur’s ability to withdraw after the Net demo in order to develop the product sufficiently over the next 8 to 12 months through client interaction before selling Version 1.0 to the client and, in the process, establish a path to a proprietary, marketable, shrink-wrapped software product. The level of transformative capacity is also evident from the entrepreneur ending up hiring the Danish company’s sales representative in the US. There is an entrepreneurial awareness of the transformative capacity as evident from the often heard statement of “making things happen” made by Entrepreneur X.
case the entrepreneur keeps his product as a crucial and desirable module for the OEM product. The entrepreneur changed the structure of the client environment which was “happily doing a proof of concept with another company in India” having spent 500 hours so far, demonstrating faster results in two days. Even so he kept a high level of entrepreneurial agency to ensure a speedy and effective implementation of the solution and the integration. Also with his ability to be in Sweden from a one-man office in the UK gave the client the comfort that it was easy to do business with the entrepreneur, all helping to maintain effective “power” for a favourable outcome. In the third case the transformative capacity seems insufficient for the entrepreneurial agency to create an enabling enough structure for a formal first partnership. However, it clearly pushes the entrepreneur to take more control and move to the US market to establish the product. What is also pertinent here is that, due to the statutory qualification requirement in the US our Entrepreneur Y’s agency did not prove to have sufficient transformative capacity and was more dependent than autonomous in his relationship with the prospective US partner (his remark “we were too trusting probably” referring to IP issues and his product being used by the first prospective US partner unauthorisedly bears out the relational imbalance). The entrepreneur has now bolstered that capacity by himself taking the necessary qualification in order to work the international market full swing from the US. This case too shows the agency-structure interplay in the opportunity process even though it led first to a failure.

CONCLUSION

Through tracing the steps that the entrepreneurial initiatives took in pursuit of new opportunities, it is therefore argued in this exploratory paper, that entrepreneurial opportunity pursuit can be looked upon as a process of structuration. While the discovery-creation debate about the nature of the entrepreneurial opportunity process may have theoretical merit, empirical evidence of the opportunity process as shown at least in technology entrepreneurship resembles a process of structuration as described by Giddens’ Structuration Theory. It is expected that more empirical research based on this exploratory paper would render sharper focus to the argument and also help reconcile opposing views in the discovery-creation debate.

Reference List


