A spiral of innovation framework for social entrepreneurship: Social innovation at the generational divide in an indigenous context

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Introduction

Defining social entrepreneurship has proven to be a challenging task (see Massetti; Seitanidi; and Trexler all in this volume as well as: Chell, 2007; Roberts & Woods 2005; Austin *et al.*, 2006; Dorado, 2006). However, two things are common across the plethora of definitions emerging over the past two decades: 1) an underlying drive to create social value; and, 2) activity characterized by change and the creation of something new rather than the replication of existing enterprises or processes (Austin *et al.*, 2006). Given that change and innovation are inextricably woven within complexity thinking, complexity science makes sense as a relevant perspective to take when engaging in entrepreneurial research (McKelvey, 2004: 314). It also provides an opportunity to connect social entrepreneurship to the theoretical foundations of economic entrepreneurship. In particular, we suggest that a neo-Schumpeterian understanding of innovation as self-organization creates a rich avenue from which to explore social entrepreneurship and innovation.

Hence, for the purposes of this paper we wish to focus on those aspects of complexity science that assist our understanding of how innovation can occur as self-organization within a social context. To do this we first provide some brief background on complexity science and Schumpeterian thinking as it relates to self-organization and complex adaptive systems. We then discuss complex adaptive systems with reference to interactions that occur within a social structure. The specific structure that we explore is the Maori tribal community and the interactions between the potiki (young opportunity seeker) and the rangatira (chiefly elder) that lead to social innovation. We then discuss the emergence of "Maori Maps" as an example of social innovation. Here opportunity, as sought by potiki within the context of tribal heritage, shapes the path to innovation. We suggest that innovation can usefully be thought of as a recurring *double spiral*, the "Spiral of Innovation," which in Maori is symbolically represented by the double spiral of creation (Takarangi), incorporating opportunity *and* heritage.

Background

A complex system comprises numerous agents interacting according to particular rules; the system is *adaptive* in that agents through their interactions coadapt, co-learn and coevolve (Holland, 1995; Maguire & McKelvey, 1999). Complex adaptive systems (CAS) are "neural like networks of interacting, interdependent agents who are bonded in a cooperative dynamic by common goals, outlook, rules etc" (Uhl-Bien *et al.*, 2007: 299). They have multiple, overlapping hierarchies and are linked together in a dynamic interactive network. Moreover, their interactions give rise to positive and negative feedback loops (McKelvey, 2004; Cilliers, 1998). Given that agents coevolve, the processes and structures that emerge from their interactions are dynamic; self-organization "is emergent as a result of the interdependent behavior of agents who act on local information" (Surie & Hazy, 2006: 14). Understanding the dynamic of order creation and destruction and the critical thresholds at which these dynamics take place are central to complexity theory (Maguire & McKelvey, 1999; Carroll & Brown, 2000).

Organizations are complex adaptive systems comprised of people "who experiment, explore, self organise, learn and adapt" to their changing environments. Key self-organizing behaviors include exploration and experimentation (Carlisle & McMillan, 2006: 3-4). Thus, from a CAS perspective, entrepreneurially-driven enterprises are embedded in larger systems while internally they are comprised of complex networks of many independent but interacting actors. These interactions, in turn, give rise to *emergent* properties different than the properties of individual actors. As self-organizing systems, there is no central controller to tell actors what to do, nor does any actor have complete knowledge of the circumstances surrounding their actions. One result of such self-organizing activities is coming into being of novel, unpredictable patterns.

In an often remarkably similar vein, from a Schumpeterian perspective, for dynamic change to occur and for the economy to evolve, new combinations must be introduced to disrupt the circular or reinforcing framework or, in other words, the equilibrium of the economic system. Moreover, the willingness to recognise and then exploit newly perceived opportunities is the hallmark of entrepreneurial behavior (Schumpeter, 2003: 250). In concrete terms, Schumpeter provides a list of the typical opportunities entrepreneurs recognise and then exploit, notably, new combinations which may "appear discontinuously" and thereby bring about economic change. Several types of new combinations are described: introducing a new good or method of production; opening a new market or sourcing new material; and carrying out the organizing actions needed to realize a new industrial form

(Schumpeter, 1934: 66).

Implementing these new combinations characterizes enterprise and the individuals whose function it is to carry them out are defined as entrepreneurs (Schumpeter, 1934: 74). As in the discontinuities found in the study of complex systems, Schumpeter emphasizes leaps and discontinuities and his notion of evolution places an emphasis on novelty and change. Furthermore, like the notion of path dependence in complexity theory, entrepreneurial activity is understood to take place within economies understood as processes occurring over historical time. Thus, entrepreneurial activity is a socially situated contingent occurrence within a specific historical context (Schumpeter, 1949a, 1949b).

The emphasis on new combinations within the Schumpeterian perspective is a distinctive process requiring explanation. Since Schumpeter himself does not explicitly develop a theory to explain the microlevel, behavioral decision process of how entrepreneurs generate change, to explore this process in more detail we turn to work of John Foster (1997, 2000). Foster argues that Schumpeter's understanding of economic evolution offers intuitions and insights compatible with a self-organizational approach and that Schumpeter's "self- organizational intuitions were derived from his extensive and detailed study of economic history" (Foster, 2000: 319). Thus, Foster points us in the direction of complexity science and expands on the self-organization approach of Schumpeter[1]. Entrepreneurial acts develop in a spontaneous process with innovation emerging from the endogenous novelty-creating, self-organizing acts of entrepreneurs. According to Foster (2000), "'Combination' implies, not competition, but the deliberate *formation and re-formation of cooperating groups* engaged in production. The result is expanding variety in products and processes" (p. 319, emphasis added).

How does Schumpeter's understanding of innovation relate to social entrepreneurship? Schumpeter divides people into "those who are dynamic and do what is new, and those who are static and only repeat what has already been done." Social entrepreneurship can therefore "be translated into Schumpeterian terminology as a form of dynamic behavior in one of the non-economic areas of society" (Swedberg, 2006: 33). To understand Schumpeter more clearly on this we need to return to the first edition of his *Theory of Economic Development*. In this edition Schumpeter discusses entrepreneurship and how it relates to different forms of economic as well as social change. Schumpeter states that the process of development has "remarkable analogies to other sectors of social life. Most importantly, these analogies can contribute to further illuminate our understanding, and to show that existence and activity in these other sectors can be grasped with a perspective parallel to ours" (Schumpeter, 1911: 422)[2]. Regarding this point, Becker and Knudsen (2002) argue that Schumpeter saw "the development of the economy as a whole is a phenomenon emerging on the basis of the *interaction* among the various parts" (p. 396; emphasis added). From an organizational perspective, these emergent possibilities occur when interactions lead to a region of requisite complexity (see Goldstein, Hazy, and Silberstang in this volume; and, Brown & Eisenhardt, 1997).

It has been suggested that organizations can be placed along a spectrum: at one end of the spectrum we have random and highly chaotic and at the other we have mechanistic and highly ordered (Carlisle & McMillan, 2006). The inbetween space of "requisite complexity" is labelled by Carlisle and McMillan (2006) as the Zone of Emergent Complexity. They suggest that organizational success and survival requires an organization to simultaneously operate at both edges while also avoiding movement of the Emergent Zone. Too much randomness or noise and the organization risks disintegration whereas too much structure and rigidity lead to ossification. This picture of the place of innovation within complex systems allows us to understand both radical and incremental change. Returning to Schumpeter's discussion, endogenously induced innovation in the form of new combinations would tend to occur when the system possesses requisite complexity while incremental change would occur when simplicity and hence stability are more dominant.

To explore the micro-level detail of innovation as it occurs in an historical context through the formation and reformation of cooperating groups, we also draw on the anthropological discipline of Ethnicity and associated kin identity studies in urban contexts[3]. These studies demonstrate that constant and dynamic reformation of ascribed (internal/external) ethnic group identity and associated proscribed (fixed) and prescribed (negotiable) boundaries continue to play a pivotal role in any kin group's cross-generational survival. Decision-making by today's tribal leaders—especially concerning access to and control of resources wherever they may dwell in the world—is more critical than ever. The challenge of enforcing boundaries in the face of colonization (especially effects of war, disease, famine, economic isolation, displacement and relocation), resource exploitation and ultimately urban development, and being forced to compete against wave after wave of incoming and well-organized ethnic-migrant groups seeking their own opportunities on someone else's customary lands is indeed perplexing.

Like many indigenous peoples around the world, the Maori peoples of New Zealand have experienced aggressive cross-generational competition for their customary resources (since 1840). The dynamic tension between younger opportunity seekers and conservative leadership within Maori society is not unique. This innovative tension, however, was deliberately destabilized by incoming colonial powers, upsetting the local leadership and enabling the establishment of the colonial divide and rule strategy (Tapsell & Woods, 2007). Examining the reestablishment of internal leadership structures and boundaries that is countering some of the effects of colonization and innovatively revitalizing Maori tribal identity can provide a useful approach to better understanding indigenous entrepreneurship worldwide.

Social innovation in an indigenous context

We now turn to consider social entrepreneurship in the form of indigenous entrepreneurship, in this case, Maori entrepreneurship. Indigenous entrepreneurship operates at the intersection of social and economic entrepreneurship (Anderson *et al.*, 2006). It incorporates both social and economic entrepreneurial activity and explicitly acknowledges the particular historical and cultural context from which they arise (Tapsell & Woods, 2007). Maori entrepreneurship is one form of indigenous entrepreneurship; it can be described as social entrepreneurship since it is entrepreneurial activity underpinned by social objectives (Henry, 2007; Tapsell & Woods, 2007).

At first glance, a complex systems perspective would suggest that within Maori culture, stability is represented by the action of the rangatira (chiefly elder) and entrepreneurial opportunity is represented by the potiki or opportunity seeker (Tapsell & Woods, 2007). Below we consider how appropriate this representation is in light of one social innovation: Maori Maps. However, before examining how innovation plays out within this illustrative case, it is important to consider the nature of potiki and rangatira and the role of the marae in more detail (Tapsell & Woods, 2008).

The marae is a Maori community centre and symbol of tribal identity. It evolved to become the symbolic manifestation of kin economic, environmental, social and political well-being. Despite colonization, marae still remain the quintessential focus of kin identity and are the accepted forum in which the equally ancient ritual of encounter—host:visitor—is still practiced today. During such encounters, the home kin ancestrally connect themselves to particular landscapes and resources in contradistinction to those visiting.

It is the elders—*rangatira*—who are ultimately responsible for ensuring kin-survival from one life-crisis to the next. They are the kin group's social accountants and must remember debts owed or owing that may be generations old, but still carry obligations of reciprocity. Not surprisingly, customary Maori leadership of the rangatira is predicated on maintaining sanctions, risk-management, administering resources, generous hosting of guests, protecting tribal estates and serving the kin group. In Maori terms elder leadership is better known as *rangatiratanga*.

Like all things Maori, *rangatiratanga* too has a complementary but different counterpoint, which is best described as *potikitanga* —the quest by individuals to be recognized by wider kin for outstanding achievement. The potiki is generally a younger, more energetic tribal member not afraid to explore or test sanctions set and maintained by his or her elders, the rangatira. In former times potiki was a title reserved for younger males who were seeking to aspire to positions of marae leadership by accomplishing daring feats. Sometimes potiki succeeded and the whole kin group celebrated his courage. But it is also possible to push too far, perhaps resulting in conflict and his own death (if not others). Then, it was the rangatira who rebalanced the resulting crisis, ultimately establishing a new matrix of relationships—predicated on kin-survival—out of which new opportunities emerged (so long as the kin group survived!). Thus the potiki was indulged and recognized as the genealogical embodiment of all the qualities attributed to Maui—as described by Keelan and Woods (2006)—who perpetuated kin access to new opportunities. With success—especially in battle, experience and wisdom of age came increased responsibility, which eventually burdens the once-potiki with the wider duties associated with becoming a kin-accountable rangatira. Meanwhile yet another generation of potiki will have begun asserting themselves: testing their rangatira (elders) by seeking ever-new and emerging opportunities. Like generations of potiki before them, they too are indulged and protected by the new generation of rangatira, who, despite now carrying the tribal mantle, fondly remember the critical role they themselves once played when they were potiki to their elders.

Within and between kin communities there are two particular boundaries that are constantly tested, often requiring ongoing—inter-generational—recognition, maintenance and negotiation. Not surprisingly it is the opportunity-seeking potiki who tests boundaries in his/her quest to demonstrate leadership ability by opening up wider access. This apparent disregard by potiki for rangatira-set boundaries and sanctions is an essential element underpinning customary Maori society. It tests and revitalizes internal kin-leadership while also creating inter-kin opportunities to access new resources for wider kin benefit. Chasing such opportunities ultimately carries risk, especially if a boundary proscribed by a powerful neighbor is transgressed, placing all kin at risk. In such a case, inherent internal and external relationships are threatened, resulting in a life-crisis that ultimately requires amelioration led by rangatira in marae contexts if kin-boundaries and respective authority over people and resources are to be proscriptively (fixed) or prescriptively (negotiable) reestablished (Tapsell & Woods, 2007).

The formation and reformation of cooperating sectors of society allow opportunity, as represented by the potiki, and heritage as maintained by the rangatira, to shape the path to innovation. Rangatira and potiki represent two aspects of the CAS. As stated above, it would appear that the potiki operates at the boundaries of disorder and autonomy and the rangatira at the boundaries of stability and connectivity. Actions are guided by Tikanga or customary practice, which must be able to adapt and change in response to internal and external forces[4]. To explore this assertion in more detail we discuss one illustrative example and consider what theoretical insights might emerge from examining the interplay between potiki and rangatira.

Case study illustration

To illustrate the potiki:rangatira dynamic in more detail we draw on the revealing example of Maori Maps. Maori Maps is about social and genealogical entrepreneurship. It is a Maori driven response to a very real, emerging crisis: Maori cross-generational alienation. Its challenge is to find an effective way to meaningfully reconnect the urban-raised 'potiki generation' to their home

communities and elders. It recognizes that the marae has been the continuous focus of tribal values, spanning 3000 plus years of oceanic voyaging, settlement, innovation and most recently a retreat from colonization. Post World War Two urbanization has not only ruptured customary knowledge transfer—elder to grandchild—but geographically separated them, rendering each invisible to the other and preventing marae rejuvenation. Maori have become a very mobile society as a result of urbanization. The new generation, however, has grown up mostly away from their home marae. As a result, many neither know the way back to home marae nor are able to easily find their way to other marae in times of celebration and crisis. Without being rejuvenated by the next generation, the very essence of New Zealand's Maori identity, its tribal marae cultural heritage, is in jeopardy of being lost forever. This emerging crisis is affecting national well-being.

The potiki inspired venture, Maori Maps, aims to provide a roadmap/guide that will assist the new generation of 500,000 plus Maori to find marae in New Zealand. In addition, it is hoped it will fulfil the need of wider New Zealanders (national and abroad) and international visitors; it will not only provide directions but also key information to facilitate greater understanding of the role marae still play and surrounding protocols and boundaries as they vary from one tribe to the next. Most importantly, Maori Maps does not seek to replace tribal knowledge as maintained by rangatira, but rather aims to protect their role and ensure everyone understands the basic protocols required of them if they wish to approach or engage with any marae community in New Zealand. It seeks to reconnect core kin-relationship and ensure Aotearoa's unique marae remains central to New Zealand's future well-being and national identity.

Core principles and ideas behind the venture have been tested and feedback sought from all sectors: Maori youth, older Maori, Pakeha New Zealanders, international visitors. Key partnerships (social, cultural and economic) have been developed, strengthening Maori Maps governance (Te Potiki National Trust – see Figure 1) and operational viability (Nga Potiki). There are two levels of advice structured into Maori Maps: cultural/lore advice (Nga Rangatira) and business/legal advice (Nga Ture). The importance of cultural/lore advice cannot be over-stated. The appointed elders are nationally recognized and respected Maori elders who have accepted Maori Maps invitation to contribute their time. Nga Rangatira are important in maintaining the cultural integrity of Maori Maps and are assisting the directors and management (Nga Potiki) in delivery of a product that aligns with Maori aspirations and values, especially as maintained by marae. Maori Maps have developed this twin advisory governance process so it might encourage challenging discussion between fiscal/legal (Nga Ture) and Maori/cultural (Nga Rangatira) values, ultimately resulting in a robust process of bicultural accountability so it might be profitable, culturally as well as fiscally.

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Fig. 1: Figure 1

Structure of Te Potiki National Trust

In summary, Te Potiki National Trust through Maori Maps aims to reconnect core kin-relationships, ensuring New Zealand's unique marae remains central to New Zealand's future well-being and national identity. Maori Maps is socially entrepreneurial and fundamentally based on genealogical accountability. As a potiki inspired venture exploring opportunities to enhance and improve the well-being of Maori, the venture will work with experienced business people to develop a sustainable business platform while at the same time continually seeking the guidance of rangatira (chiefly elders) to maintain genealogical balance and transparency. The interaction of potiki and rangatira provides a platform for an innovative new product, Maori Maps.

Theoretical insights

Drawing on Maori Maps as an illustrative example we offer the following interpretation of innovation as self-organization within an indigenous Maori context: Table 1[5].

We suggest that Maori tribal communities can act as a complex adaptive system. Intense interactions between tribal members and the environment enabled the formation and self-organization of tribal identities that operated within self-generated boundaries. Typical of a CAS, Maori society forms into nested self-similar layers (MacGill, 2007). However, while society is hierarchically organized with clearly defined roles, interactions between all levels of society is significant. Autonomy and connectivity are vital for the continuation of a CAS. If the autonomy of the individual takes precedence

Table 1

The Spiral of Innovation

Type of systemSystem properties	Chaos	Flow of Opportunity	Spiral of Innovation	Flow of Heritage	Stagnation
Controlling Mechanisms	None	Structural Attractor: Marae	Structural attractor: MaraeLargely self-organizing	Structural attractor: Marae	Command and Control Tight rigid controls
Nature of relationships between actors	Independent actors—no detectable relationships	Random, chasing opportunity with little/no accountability back to tribe.	Networked and highly connected	Formally guided by the rules and principles of the group. Tikanga guides action	Fixed and prescribedUnchanging Tikanga
Tribal actors		Opportunity seeking potiki	Interaction of potiki and rangatira. Tikanga changes in response to internal and external change	Rangatira guided kin accountability.	
Nature of interactions	Random and totally irregular	Some detectable regularities and patterning	Fluid and Interdependent	Mostly dependent	Fully dependent
Outcome	Random changes and outcomes. Disintegration certain	Instability—unpredictable changes and outcomes. Disintegration possible	Flexible new order involving radical and/or incremental changes	Stability—incremental changes. Ossification possible	StagnationSystems are resistant to change. Ossification certain

then the group looses its ability to cooperate and coordinate resources which can lead to chaos (Tapsell & Woods, 2007). If, on the other hand, connectivity becomes paramount then actors lose their individuality and diversity and the tribal community becomes too inflexible and stagnation can result (MacGill, 2007).

In Table 1 we suggest that the complex adaptive system operates in the Spiral of Innovation which brings together the flows of opportunity and heritage. Beyond the boundaries of this interaction are Chaos and Stagnation. The lines are deliberately dashed as the boundaries between are permeable. Operating in the flow of opportunity is the potiki or opportunity seeker. In Maori Maps this is represented by the initial discussions between various potiki as the idea of Maori Maps was explored. While potiki were aware of the cultural context in which they were operating, there was no accountability back to the tribe. Two possibilities could have occurred. The first was that venture could have resulted in chaos. With too much autonomy and without any relationship back to the tribe this venture would have been difficult to develop. To the broader Maori community the venture would have lacked connection. From a complexity perspective this could be described as randomness leading to chaos and disintegration as represented by the realm of chaos. The venture would not have succeeded without tribal support from rangatira from each Marae. The second possibility for Maori Maps was to connect with tribal elders to explore what steps were necessary to take the venture forward. Interaction needed to take place with rangatira. This is formally represented in the Maori Maps organizational structure by the Nga Rangatira. Nga Rangatira sits within the flow of heritage. Rangatira define the acceptable rules of behavior and are formally guided by Tikanga or customary practice. They provide the necessary stability to the emergence of Maori Maps—necessary in the sense that for innovation to emerge, some aspect of the structure must be stable so that others can weave the new social innovation out of this stability (Maguire & McKelvey, 1999). The heritage flow is maintained by the risk adverse rangatira; they recognise that accommodation of change is necessary for the perpetuation of kin identity into the future. Solidifying rules of acceptable behavior such that they no longer take account of the current social context could result in the spiral moving toward stagnation and ossification. The twin flows of heritage and opportunity come together to form the double spiral we call the Spiral of Innovation.

At this point it is worth commenting in more detail on the use of the term Spiral instead of the more common descriptor of Zone. First, the spiral has symbolic meaning within Maori tikanga or customary practice (Mead, 1995). It is used extensively in Maori art work and carving and is a culturally appropriate way of understanding and representing the activity taking place with Maori Maps. Second, a spiral embodies the dynamic of positive and negative feedback loops that are inherent in a complexity

perspective. For example, negative feedback loops in the spiral could result in the movement toward chaos or stagnation; similarly, positive feedback loops result in the movement toward the Spiral of Innovation. The same can also be of the flow of heritage.

The Spiral of Innovation is deliberately represented by a double spiral; in the Maori world this innovative spiral of creation is called Takarangi and can be found symbolically represented in the carvings and artwork adorning marae throughout New Zealand. It can be used to symbolise the individual and the whole people—whakapapa (genealogical ordering of the universe)—an appropriate metaphorical understanding of social innovation in this context.

Two further points are worth noting. Boundaries can move from being fixed (proscribed) in one generation to being prescribed (negotiable) the next. What lies at the heart of boundaries is their negotiability according to those who maintain them (inside) in counter-distinction to others (outside). Boundary acknowledges a dynamic tension that more readily allows movement back and forward rather than would a "tipping over the edge". Second, we suggest that for Maori Maps the marae may serve as a structural attractor in the flow of opportunity and heritage and the Spiral of Innovation (see, e.g., Allen, 2001). Preserving marae is an overarching concern for all Maori involved in this venture and in this illustration has served as an aspect of stability. However, further research needs to be carried out to explore both these points as well as the use of spiral in more detail.

Concluding comments

Drawing on Schumpeterian / neo-Schumpeterian insights on entrepreneurial behavior and the notion of complex adaptive systems, we suggest that social entrepreneurship can be understood as dynamic social change resulting from innovation which takes the form of new combinations. These new combinations come about through the formation and reformation of cooperating groups engaged in production; these groups are socially and historically situated, ascribing themselves associated identities as they are ascribed by others, across proscribed or prescribed boundaries.

The specific group that we have examined in this paper is the Maori tribal community. Operating as a complex adaptive system, we suggest that innovation emerges as the result of interactions between the opportunity seeking potiki and the tikanga guided rangatira. The rangatira provides stability and connectivity to the heritage of the tribe, whilst the potiki embodies the opportunistic emergence of new possibilities. Working in the Spiral of Innovation, interaction between these two groups can lead to exciting new opportunities grounded in the traditions of the past. One example of this is Maori Maps. Maori Maps, an innovative new product, emerged as the result of a small group of individuals (Nga Potiki) interacting with the whole tribe as represented by Nga Rangatira in the Spiral of Innovation. This venture provides two examples of innovation: first is the offer of a new product: a map book of New Zealand Marae. Second, the structure of the venture, with its dual lines of accountability and advice, offers a new formation of cooperating groups engaged in production.

Our discussion has also provided some detail to the Schumpeterian understanding of innovation. We have theoretically connected the discussion of social innovation and social entrepreneurship back to Schumpeter and have explored the micro-level detail of entrepreneurial change. The interactions occurring in the emergence of a new innovative product have been broadly categorized as occurring in the Spiral of Innovation. The spiral takes account of and draws from the historical and social context that provides the platform for innovation.

In conclusion, we suggest that innovation can be usefully thought of as a double spiral (Takarangi) combining the twin flows of opportunity (potikitanga) and heritage (rangatiratanga). These flows contract and expand at the central point of creation—collapsing time—enabling future and past to meet in the present as represented by the marae, out of which self-organization and innovation emerges.

Notes

1. McKelvey (2004) notes that Schumpeter's highlighted other key principles of complexity theory such as phase transitions and punctuated equilibrium well before leading complexity theorists like Prigogine and Muruyama.

2. This quote is taken from Chapter 7 of the first edition (Schumpeter, 1911 [2002]). This chapter was totally eliminated from the 1934 English translation.

3. For theoretical discussion see Barth, 1969; Epstein, 1978; Jenkins, 1986; Wallman, 1979. Theoretically applied examples can be found in I. Kawharu, 1975, 1989, 2003; M. Kawharu, 1998, 2002; Tapsell, 1998, 2002.

4. The many stories of Maui provide examples of how innovation can occur when the potiki engages in entrepreneurial activities whilst respecting Tikanga as exemplified by the rangatira (Keelan & Woods, 2006).

5. Table 1 is adapted from Carlisle and MacMillan (2006: 4)

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