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Published in:

Proceedings of the ... DMI: Academic Design Management Conference

Published: 03.07.2020

Document Version

Publisher's PDF, also known as Version of record

Citation for pulished version (APA):

Ahola, S., Rinne, J., Sarantou, M., & Miettinen, S. (2020). ARCTA – Building a Design-and-Art-Driven Accelerator for Sustainable and Meaningful Business in the North. *Proceedings of the ... DMI: Academic Design Management Conference*, 43-54. <https://www.dmi.org/page/ADMC2020Proceedings>

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ARCTA – Building a Design-and-Art-Driven Accelerator for Sustainable and Meaningful Business in the North

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Coping strategies have become increasingly important for businesses, especially those operating in geographical peripheries. This paper explores ways of creating more meaningful, sustainable, responsible, long term and, thus, successful business. It draws on design and art-driven, and lean start-up approaches, and combines adaptation, tolerance and resilience with a set of indicators within an Arctic context. The research is based on well-documented case studies in Finnish Lapland and is conducted under the auspices of a centre of excellence and a smart specialisation cluster for Arctic art and design. Case studies and continuing development studies were conducted through ARCTA, Arctic Art and Design Laboratories, as part of the Arctic Design Cluster during the years 2017–2020. The research includes reflective practice and analysis of the different development phases for this Arctic innovation ecosystem.

The resulting vision is used to introduce a framework of an alternative accelerator model for businesses aimed at economic, ethical and environmental sustainability. The purpose of the paper is to establish why the developed framework can be applied and upscaled in the Arctic region and broadened to promote meaningful business development elsewhere.

Keywords: *Design-driven approach; art-driven approach; lean startup; traditional knowledge; sustainable business; meaningful business*

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Introduction

There is increasing pressure on businesses to be more sustainable, responsible and meaningful. These qualities will be necessary to succeed in future markets and, more importantly, to enable humans and nature to thrive together. Scalability and fast growth should not be the key questions for enterprises. The changing attitudes of consumers and entrepreneurs alike have highlighted the need for change in relation to sustainability.

Over the last three decades, customer development, design thinking, service design and the lean start-up approach have become widely acknowledged as methods of driving businesses innovation. The most efficient innovations are those which address the demands of users by developing user-centred solutions adapted to customers' needs (Mueller & Thoring, 2012). Similar ideas and tools can be found in art-based approaches, which have attracted growing interest from various businesses in recent years (Adler, 2006).

Although the global economy is still strongly based on the exploitation of human desires (Belk, Ger, & Askegaard, 2003), the demand for more sustainable and responsible business is growing. The need for sustainable and responsible business has been recognised by social entrepreneurs and social enterprises for three decades (Douglas & Grant, 2014) and has grown exponentially over the last decade (Bosma, Schøtt, Terjesen, & Kew, 2016). In broad terms, social entrepreneurship and social enterprises aim to achieve social purpose within the non-profit and commercial business sectors (Douglas & Grant, 2014). However, the theories of innovation that have prevailed over the last one and half decade do not consider adequately the need to adapt to a changing world (Verganti, 2016). Moreover, it has been argued that these methods provide marginal value for businesses and customers in a 'world overcrowded with ideas and existing solutions' (Verganti, 2016, p. 4).

As the business world requires new ways of becoming more sustainability in an increasingly changing world, providing products and services that are more desirable for customers point should no longer be the only approach to business development. Learning from old ways of doing things is crucial (Meadows & Wright, 2008). Traditional human coping strategies have been underpinned by an understanding of how to adapt to the environment and create vital solutions. In addition to adaptiveness, adjusting to changing environments and circumstances requires tolerance and resilience. Tolerance is the ability to endure continued subjection to prevailing conditions or adversity, while resilience is the ability to recover from adversity. In the past, people's lives were closely connected to nature and their livelihoods were directly affected by environmental conditions. This resulted in natural adaptivity and the sustainable use of resources (Meadows & Wright, 2008).

Traditions of coping with the natural environment have long prevailed in the peripheries of societies and on geographical margins. Traditional designs were developed in and from the local environment, of which many work in harmony with nature. This is particularly relevant in extreme Arctic conditions. In the Arctic, winters differ considerably from summers, and weather conditions have had a major impact on the way artefacts have been made and used. The traditional designs of Arctic communities are developed for the demanding local environment and include knowledge of the region and the adaptive capacities of these communities (Sydney-Smith, Andrachuk, Smit, & Hovelsrud, 2010), a resource that is rarely included in the designs of dominant cultures.

This paper addresses the following research questions:

RQ1. What kind of skills will be required from entrepreneurs and enterprises to enhance the flexibility and long-term success of business activities in peripheries such as the Arctic?

RQ2. Could today's businesses and entrepreneurs learn more from traditional Northern competences?

RQ3. How can design and art help to facilitate sustainable yet competitive modern economies based on traditional knowledge?

These research questions relate to business in the context of the Arctic region and Finnish Lapland. The study is carried out under the auspices of ARCTA, Arctic Art and Design Labs as part of the Arctic Design Cluster (ADC) coordinated by the Faculty of Art and Design at the University of Lapland (Laasonen et al., 2019). ARCTA is a centre of excellence for Arctic art and design. It aims to connect art and design laboratories and other competences of the University of Lapland to offer an easily accessible and flexible service in the Arctic, catering especially to the needs of businesses. The centre was established in December 2017 as part of a project funded by the European Regional Development Fund. Since then, it has been developed through ongoing practice to become a central part of the ADC's collaboration (Laasonen et al., 2019).

A set of well-documented case studies and continuing development studies were carried out through ARCTA, as part of the work of ADC during the period 2017–2020. The design cases were purposely selected from the ongoing operations of ARCTA, which focuses on the application of design and art to the development of multidisciplinary businesses. This includes reflective practice and analysis of different development phases. Focus group discussions and interviews with relevant stakeholders were conducted focusing on the development activities of the centre and

on addressing identified knowledge gaps. This approach yielded useful insights for the development of a conceptual framework. The purpose of this paper is to introduce a framework for a meaningful business accelerator model to promote ethical, environmental and economic sustainability. The outcomes of this paper can be used to implement the model in the innovation ecosystem of Lapland, Finland. The term ‘innovation ecosystem’ is used in the sense defined by Oh, Philipps, Park and Lee (2016) as a common metaphor instead of an attempt to relate to the biological origin of the word ‘ecosystem’ (p. 4). The model presented here can be refined and upscaled for meaningful business development in the broader Arctic region and elsewhere.

Conceptual framework

This paper is informed by a conceptual framework developed by Brown (2009), which is based on design thinking and an approach to successful innovation. This model demonstrates that successful innovation can be realised through the intersection of *feasibility*, which refers to functional orientation; *viability*, which refers to business orientation; and *desirability*, which refers to user orientation (Brown 2009). This paper views the innovation process from a holistic business perspective (Verhees & Meulenber, 2004). The research is set in the context of ADC. Mercan and Göktaş (2011) define a cluster as a ‘geographic concentration of interconnected firms, suppliers and institutions in a particular industry’, the main objective of which is to drive innovation and enable cumulative knowledge formation by gathering experts (p. 103).

Innovation is defined as a ‘multi-stage process whereby organizations transform ideas into new/improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace’ (Baregheh, Rowley & Sambrook, 2009, p. 1334). Innovation is not only a process but is also based on individual action and thinking and is underpinned by openness to new ideas, willingness to engage in learning, agile responsiveness to change and an entrepreneurial orientation (Verhees & Meulenber, 2004). Innovation thrives through human capacities such as high autonomy, risk-taking, and tolerance of failure (Miron, Erez, & Naveh, 2004). It involves the deliberate application of information, imagination and the initiative to derive more or different values from resources and includes all processes by which new ideas are generated and converted into useful products.

Kirton’s adaptation-innovation theory (KAI; Kirton, 2004) is useful in this respect. It relates to thinking in the context of problem-solving and adaptation through the combined implementation of selected elements and can be defined as exploring and describing ‘preferred individual differences in the way humans solve problems [by means of a] related psychometric inventory [that] locates individuals on a continuum ranging from high adaptation to high innovation’ (p. 1). According to Kirton (2004), thinking is the means by which people use creativity to solve problems and adapt to changing environments or worlds to acquire and apply what is necessary to survive. People must be able to manage diversity and change, or they will perish. Individual problem-solving approaches vary in accordance with personal tendencies and often constantly changing environments. Mind-sets are influenced by individual characteristics as well as social paradigms, which means that thinking varies across people. A thinking style based on problem-solving can create opportunities, generate motivation and stimulate learning attitudes that can positively contribute to and enhance both individual actions and group dynamics.

In essence, KAI concerns the differences between adaptors and innovators (Stum, 2009). Adaptors focus on realising improvement, while innovators focus on achieving results through alternative ways of working. Thus, adaptors focus on problem-solving, and innovators focus on approaching problems from different angles. Innovators are interested in finding problems and not on accepted means to solve them. The KAI model is valuable for helping managers to deal with ‘cognitive gaps’ within organisations. Business leaders can deal with organisational challenges by accommodating and managing a variety of cognitive styles, especially in volatile organisational climates. Stum (2009) argues that the KAI model can be refined by considering specific case studies stemming from specific work environments and the working processes of multicultural teams.

Verhees and Meulenber (2004) argue that the innovativeness of small firms (with less than ten employees and managed by the business owner) enables them to have a positive effect on market orientation and performance. In business, innovation is a result of the application of ideas to solutions that satisfy the needs and expectations of customers. *Lean start-up* is a methodology for developing business by creating and testing assumptions. It is a hypothesis-driven approach that is driven by entrepreneurial chance and continuous innovation (Ries, 2011). It is ‘an approach to entrepreneurial and innovative activities that emphasizes placing resources into the creation of customer value’ and seeks a perfect fit between a product or service and an intended market (York & Danes, 2014, p. 21–22). Lean start-up follows a strong effectuation logic, which means it is implementation-driven; thus, it favours experimentation over long-term planning (Frederiksen & Brem, 2017).

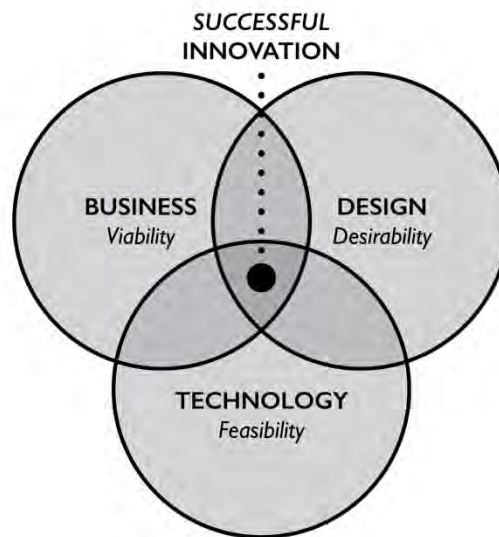


Figure 1 Successful innovation (adapted from Brown [2009] and Mueller & Thoring [2012])

Brown (2009) presented a model for successful innovation that is based on the constraints of viability, desirability and feasibility. Mueller and Thoring (2012) have represented the model in relation to lean start-up with elements of business, user (design) and technology (Figure 1). Business viability is often achieved by matching human and financial capital inputs, which means that human skills and capacity can determine the success of a business as much as monetary resources (Bates, 1985). Ries (2011) defines a start-up as ‘a human institution designed to deliver a new product or service under conditions of extreme uncertainty’ (p. 28). Desirability concerns how products and services satisfy the functional and emotional needs of end-users (Thomas & McDonagh, 2013). Designers attempt to narrow the gap between themselves and potential end-users by addressing the needs of users in the design of products and services. This design approach is termed ‘empathic design’ (Koskinen & Battarbee, 2003). Empathic modelling enables designers to obtain insights and an understanding of users to support more effective design outcomes. Empathic designers are sensitive to the different ways in which users want to experience products and services. Empathic design strategies incorporate shared languages and collaboration between designers and users and integrate the voices of end-users who have been marginalised. Empathic designers have either a user-centred or a participatory focus (Postma, Zwartkruis-Pelgrim, Daemen, & Du, 2012). This paper considers the role of empathy in the development of new products and services from the perspective of human-centred design (Mattelmäki, Vaajakallio, & Koskinen, 2013; Thomas & McDonagh, 2013; Postma et al., 2012). Technological feasibility refers to whether a particular method of improving or sustaining business activities and gaining profit is viable for commercial application. A lean start-up approach that is customer-centred matches the needs of users with business solutions that are technologically feasible. This involves an iterative process of empathic design and experimentation with simple product and service prototypes (Koen, 2015).

Methodology (research design)

This paper uses a case study methodology (Yin, 1981) combined with reflective practice. Case studies are empirical enquiries into contemporary phenomena in ‘real-life contexts’ and are especially useful when the boundaries between phenomena and their contexts need to be determined or understood (Yin, 1981, p.98). The terms ‘reflection-*on*-action’ and ‘reflection-*in*-action’ describe two methods of reflective thinking and were coined by Schön (1983; see also Leitch & Day, 2000). Whilst reflection-*on*-action may include outsider perspectives on reflective practice and reflection in retrospection, reflection-*in*-action is based on tacit knowledge, contemplative self-examination and learning from experience. Reflection is predominantly associated with acts of cognition linked to learning ‘how’ rather than learning ‘about’ or ‘what’ (Leitch & Day, 2000, p. 180).

Reflective practice is human-centred rather than problem-centred (Anderson, Knowles, & Gilbourne, 2004) and entails detailed analysis of emotions and their role ‘in understanding and developing the capacities for reflection

which facilitates personal, professional and ultimately system change’ (Leitch & Day, 2000, p. 179). However, Cox (2005) argues that ‘intuitive reasoning, inference and inductive thinking’ are generally based on tacit knowledge, which is not ‘available for analysis’ (p. 459).

The reflexive researcher attempts to understand not only the ‘assumptions, biases, and perspectives that underlie one component of their research’ but also ‘the interrelationships among them’ (Weber, 2003, p. vi). Reflexive researchers try first to understand all the single components of a phenomenon by adopting a pluralistic view of theories and methods to develop a holistic understanding of their research. They then use meta-theoretical assumptions to explore interrelationships between these single components. Attia and Edge (2017) argue that reflexive researchers should develop procedures that are appropriate to the environments in which they work through conceptualisation and awareness of context and by consciously distancing themselves from actions to create theories that can be implemented.

This paper is based on empirical data and reflective practice and draws on the day-to-day activities of a centre of excellence for art and design and a smart specialisation cluster during the period 2017–2020. The study includes data from case studies involving thirty-four local companies, two national enterprises and two international enterprises over these four years. Service design and strategic design played central roles in the cases, which involved general design thinking and a lean start-up approach. The study also draws on data collected from development workshops, interviews and discussions on business development. The first set of interviews were conducted in 2017. The second set of interviews and focus group discussions were carried out in 2019 and 2020.

The data collection methods were participant observation, note-taking, focus group discussions and semi-structured interviews. In total, 16 interviews and two focus group discussions were conducted on themes related to business development. The interviews were digitally recorded and transcribed. Various stakeholders, including students, researchers, teaching staff, entrepreneurs, business developers and regional authorities, were involved in the activities. Local entrepreneurs who have collaborated with the cluster played a particularly important role. Several cases involved local business and regional development bodies and other research and development organisations. In addition, these collaborative experiences were reflected on during general discussions with stakeholders at the national and international levels.

The researchers actively participated in the development processes and engaged in reflection-in-action in their roles as project coordinators and workshop facilitators. The researchers collaborated and discussed interpretations of the semi-structured interviews and focus group discussions, supporting an analytical process focused on human-centred findings. They also took a reflection-on-action approach which involved stepping away from processes and drawing on content analysis to gain a holistic understanding of development activities.

Study analysis

The data from observations, note-taking, focus group discussions and interviews were combined and analysed as follows. In general, the findings referred to the entrepreneur, enterprise and ecosystem levels, all of which are relevant for ADC. On the entrepreneurial level, we focused on the personal skills and characteristics of single entrepreneurs. On the enterprise level, we examined the characteristics of companies consisting of one or several entrepreneurs with more than one employee. Finally, on the ecosystem level, we considered the characteristics of regional businesses or innovation ecosystems consisting of several enterprises. The focus of this paper is on the first level, that is the level of entrepreneurs, who, as business leaders, play a key role in deciding on the strategy and operation of an enterprise. The vast majority of enterprises studied are micro-sized, which is representative of the region. This supports the focus on single entrepreneurs. The recurring and prominent themes that emerged in the data are presented below and are reflected in the model presented in the section ‘Discussion’ (Figures 2 and 3).

Entrepreneurial skills and needs

In general, entrepreneurs and enterprises play a central role in creating solutions and generating change in society. As one of the interviewees (researcher, futurology) noted, scalable businesses, in particular, ‘have absolutely incredible possibilities at the global scale’. This applies not only in terms of profit, as in traditional approaches to business, but also in terms of the potential impact of solutions.

The culture of Lapland is not perceived to be as business-oriented as that of the south of Finland. The ways in which businesses are run are qualitatively different insofar as they are local and family- and person-oriented. While there are noticeable sub-regional differences, it is widely believed that the entrepreneurial mindset is different in northern Finland compared to the south. As a result, there is often no desire for growth or so-called development leaps. This mindset hinders the growth of many enterprises in the local business ecosystem. Even where the desire for

entrepreneurship exists, people in Lapland often tend to settle for permanent employment, lacking encouraging culture for starting their own businesses.

In most of the cases under study, the practical challenges facing entrepreneurs were found to be superficial when a more holistic view of the enterprise was considered. The solutions developed to meet such challenges were deemed necessary but were often viewed as a 'first-aid bandage' applied over deeper structural problems relating to the operational environment of enterprises. For more long-term solutions, development on a strategic level is needed to identify a clear strategic vision. In many cases, disagreements emerged not only between the entrepreneur and the development team but also between participating entrepreneurs with differing goals and opinions. These disagreements illustrate the kind of illusions entrepreneurs may have when considering development needs. Needs are often viewed from a strongly personal perspective, which means that the opinions of customers and other stakeholders may be neglected.

In addition, the personal views of entrepreneurs had negative effects on their willingness to cooperate with other local enterprises, which were often perceived as rivals. However, the need for more effective collaboration and network thinking to enable small enterprises working at the periphery to survive in a globalised world was acknowledged. These findings were supported by the interview data. From an individual perspective, the desire to focus on doing 'one's own thing' is not always optimal, and development is often enabled by collaboration.

Several interviewees stated that an ability to develop oneself and up-to-date knowledge are vital for business success, especially in the long term. One interviewee (researcher) noted that 'systemic thinking is needed so that innovations are not developed in a vacuum' and continuing that, from an ethical sustainability point of view, 'innovations developed for some certain need may work fine but when looking at the bigger picture, they can be even destructive'. Consideration of ecological and ethical values is perceived to be a superficial add-on for marketing purposes. However, transparency and sensitivity in incorporating such values into business activities is crucial for sustainable business.

In summary, entrepreneurs need to assume an outsider view and focus on practical aspects to identify development needs and new procedures and develop new solutions. For the development of entrepreneurial skills and thinking, a clear need exists as there is more willingness than courage for the entrepreneurial path. In addition, more diversity is needed within the enterprises and the business ecosystem in this cluster.

Design and art

In several cases, combining service design and general design thinking with a lean start-up approach as a basis for business development activities proved effective for the development activities within the cluster. These have been examined and practised, especially in relation to design cases that harnessed the potential of the Service Innovation Corner (SINCO), a service design lab that constitutes a major part of the business development activities of ARCTA. The effectiveness of SINCO and, for the most part, ARCTA, is particularly notable in the early phases of the development process, involving functional human-centred solutions that have been tested through prototyping.

The interviews and discussions conducted for this study show that regional development organisations view design as an important basis for business and start-up activities. Design is viewed as a process of defining customer-related challenges, particularly 'challenges that customers can't solve themselves'; finding new solutions and developing them for the customer or, in the best case, with them; and ensuring high-quality work that contributes to the vitality and adaptivity of the company. The power of these approaches and activities for developing successful businesses and innovations has been established globally (Brown, 2009; Pinheiro, 2014). By contrast, art is rarely considered in relation to business. Artists are traditionally viewed as deliberately distancing themselves from business to practise art for art's sake. The data show that arts-based activities have to be explained and defended in the northern business world but that cooperation between artists and the business world is recognised. Artists are increasingly choosing to cooperate more closely with businesses, as well as choosing the path of an entrepreneur themselves. Art educators and researchers in the Faculty of Art and Design at the University of Lapland have participated in strong and long-term collaborations with businesses, which has helped establish a strong role for art in local businesses in the Arctic.

The interviews revealed that arts-based methods were generally believed to have more to offer to the business world. As entrepreneurs are believed to be able to tolerate uncertainty, there is a strong connection between entrepreneurship and artistic thinking. Arts-based approaches and tools facilitate different ways of knowing and understanding the world; they are viewed as a way of evoking thoughts, stimulating reflection, making sense of intangible worlds and devising novel ideas (Leavy, 2014). Such connections to art can be of practical use to businesses, especially in their early phases of development but also in preparation for changes. The view of art differs from that of

design; an art-based approach is viewed as more open with more room for creativity and innovation. One participant (entrepreneur, applied art and culture) argued that *'art-based thinking starts with no defined assumptions, leaving room for "not-knowing" and thus helping to bring up new, unexcepted aspects'*.

Schiama (2009) defines an arts-based initiative as

any organizational and management intervention using one or more art forms to enable people to undergo an art experience within an organizational context, as well as to embed the arts as a business asset. It is primarily and fundamentally an experience-based process involving and engaging people both rationally and emotionally through either active or passive participation. (p. 7)

Arts-based initiatives and approaches can be applied at both entrepreneurial and enterprise levels to identify new possibilities and skills in both the business world and artistic practice. Arts-based approaches are deemed important for enhancing the visibility of local businesses. However, arts-based activities are interpreted as having more indirect benefits for businesses and, thus, as being more difficult to recognise and justify in terms of revenue. However, as Austin (cited in Adler, 2006) has stated, 'the economy of the future will be about creating value and appropriate forms, and no one knows more about the processes for doing that than artists' (p. 487).

There is a recognised need for a more 'cross-sectoral approach and the use of imagination to find new, unrealised solutions' but also 'to build the business so that it not only would it be profitable today but also in the future' (interviewee, researcher). Together, art and design are viewed as complementary approaches with the potential to contribute to business development. Both are creative approaches. However, art is more open-ended and can bring limitless visions, whilst design is more systematic and practical and is aimed at functional solutions. These were viewed as working best when used in combination, with arts-based 'outside-the-box' thinking and art activities offering new directions and design-based thinking and related activities offering problem-oriented solutions.

Traditional knowledge

A nature-related orientation is perceived as particularly pursuable in the north and is generally considered essential for economic activities to aim for sustainable outcomes. In the north, a respect for nature and tradition is strong due to the specific needs presented by the environment (despite many personal attitudes to the contrary). Several interviewees regarded people in the north to be genuinely concerned with issues of sustainability with regard to business practices and the negative impacts on nature. This reflects a sustainable livelihood approach, which means not living beyond the means of one's own community and nature but rather being thrifty and resourceful and using resources wisely and only according to one's needs. Communal thinking is considered a strength, even though it is not always aimed at positive ends. At best, it is seen as connecting generations through practice. The bountiful knowledge stemming from traditional knowledge should be harnessed in collaboration with new (technological) approaches (teacher, indigenous business).

Essential values of sustainability and a meaningful livelihood may be based on an 'innate tendency to focus on life and lifelike processes' and an 'innate emotional affiliation of human beings to other living organisms' (Wilson, 1984, p. 1). An innate tendency 'to affiliate emotionally' can lead to correctly identifying social environments, as well as the species living in specific environments (Wilson, 1993, p. 31). These fundamental features are attributes of sustainable business activities. Wilson (1984, 1993, 2002) refers to the epigenetic rules of mental development, which encompass the roles of both genetic predisposition and environmental factors on mental development.

The environment in the north is characterized by a harsh climate, strong seasonal changes, long distances and a sparse population, all of which influence the inhabitants' mentality. Adaptation to prevailing conditions and preparedness for change (adaptivity), acceptance 'things as they are' when one does not have the power to change them (tolerance), and the ability to recover from and persist in face of setbacks (resilience) are essential. Traditional thinking is viewed as valuable for business but, at the same time, not easily realisable.

Chambers and Conway (1991) suggest that 'a livelihood comprises the assets (natural, physical, human, financial and social capital), the activities, and the access to these, mediated by institutions or household' (p. 10). The five assets listed above constitute a wide range of resources that can be applied in business, in addition to economic theories and business activities, such as financing, marketing or human resources (Chambers, 1988). An understanding of how to optimise resources is needed to achieve sustainability in business, and this should include socio-ecological systems thinking (Folke, 2016; Gowdy & O'Hara, 1997).

Questions related to human livelihoods have shifted to a global level to address challenges regarding resource adequacy, climate change and biodiversity. As one interviewee (researcher, interdisciplinary) highlighted, 'in all

development, there should absolutely be an ecological basis in order [...] but it is left disconnected if it doesn't come close to human---staying as far off ecological tinkering'. Strengthening the link between these questions and traditional livelihoods rooted in cultural values is one way of seeking new sustainable solutions. Small-scale business acceleration programmes require the implementation and monitoring of business plans based on more sustainable innovations to ensure long-term success. A more holistic view of ecosystems is needed, and more appropriate ways of living so-called traditional lifestyles must be sought. Business acceleration programmes have the potential to strengthen links between human livelihoods and more sustainable ways of using natural resources (Berry, 1989). Preserving biodiversity and encouraging coexistence with nature can be seen as one part of the specificity of a northern accelerator model.

Discussion

The findings of this study show that a traditional livelihood approach to business, focusing on providing sustenance for oneself, continues to reflect the general mindset in Finnish Lapland. However, over time, livelihoods have changed and connections to traditional knowledge and designs have diminished, at least for the majority of people. Reverting to old ways is desirable, but cultures and the demands of competitive business have changed. However, there is much to be learnt from traditional knowledge, approaches and attitudes with respect to finding more adaptive and resilient ways of running a business of today and building a competence hub that supports this goal based on local specialisms.

Kirton's adaption-innovation theory (Kirton, 2004) offers insights into how people solve problems, based on the assumption that this is an activity practised by all humans through thinking and creativity. To survive, every living organism has to manage diverse environments. Adaptability, tolerance and resilience, which are characteristics of traditional knowledge, are based on the desire for survival paired with the ability to recognize and optimally use resources. From a societal perspective, traditional communal abilities, such as consideration for others and cooperation, are required. These are all attributes that can be learnt and developed.

The case studies show that these attributes can help entrepreneurs to operate and develop their business in many ways, particularly in relation to enhancing sustainability from both an environmental and a long-term success point of view. Moreover, given the definition of a start-up offered by Ries (2011), which includes operating under extreme conditions of uncertainty, this traditional approach is particularly relevant for innovation and the creation of new businesses in the Arctic. Figure 2 depicts a model of sustainable innovation based on successful innovation complemented by traditional knowledge.

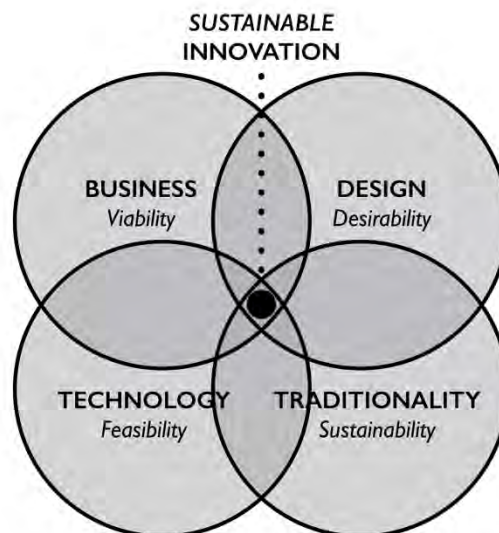


Figure 2 Sustainable innovation (based on Brown [2009] and Mueller & Thoring [2012])

It can be argued that to be sustainable, innovations must meaningfully address people's needs. Victor Papanek (1992) sees design as the basis of all human activity and defines it as a 'conscious and intuitive effort to impose

meaningful order’ (p. 3–4). As such, all design and innovation must be meaningful and responsive to problems, that is, to respond to that which has meaning. Verganti (2016) has proposed the concept ‘innovation of meaning’, which involves focusing not on ‘how’ but on ‘why’ in order to redefine problems that are worth addressing. Yet, the focus on meaningful innovation approaches is still on providing meaning to customers, which is based on individual desires. Again, it can be argued that traditional thinking offers opportunities for more meaningful business that addresses vital needs and offers appropriate solutions, while also incorporating adaptive thinking.

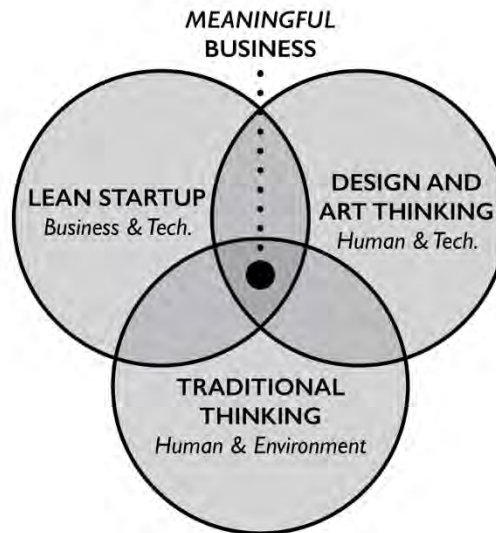


Figure 3 Meaningful business – A framework for a meaningful business accelerator

Figure 3 presents a conceptual framework that can be termed ‘meaningful business’. The model is based on successful innovation (Brown, 2009; Mueller & Thoring, 2012) and sustainable innovation. It draws on the lean start-up approach, design thinking and the competences of ARCTA as a centre of excellence for Arctic art and design.

In relation to the original model, feasibility or technology aspects are connected to lean start-up and design thinking. The *lean start-up* approach is widely used by technology-oriented start-ups and, more recently, businesses in general, and *design thinking* is widely applied in general business and product and service development. The approaches have several similarities, including the goal of creating innovations, a user-centred approach, and a practice-based approach to development (prototypes and rapid iteration) (Mueller & Thoring, 2012).

Whereas the lean start-up approach is customer-centric, the specific user-centred orientation of this model comes from design and art thinking. Art is not traditionally connected to business. However, what is called *art thinking* in this model complements the human and creative design orientation, enabling a more open-ended approach to sense-making. *Traditional thinking* is recognised as a general adaptive worldview that seeks to inspire design and development activities. In this framework, traditional thinking also relates to a human orientation towards meaningful solutions, as well as a sustainable environmental orientation.

The framework connects different kinds of approaches to business and entrepreneurial development in an interdisciplinary manner. As such, it is used as a framework for a *meaningful business accelerator*. As a whole, this model constitutes a holistic approach to the development of more competent entrepreneurs and more sustainable, meaningful and competitive business in the north. Moreover, this approach has the potential for wider application due to its holistic nature.

Conclusion

A different and more critical approach to innovation and developing business is needed in the Arctic. The authors present a model for meaningful business development derived from the Arctic context of Finnish Lapland. This model is specifically targeted at marginal business environments. There is little need for new business models aimed solely at creating innovations or business growth. A user-centred design approach can generate more human-oriented solutions. Today, the focus of business development should be on sustainable approaches to ecosystems in which

humans participate. The research supports the application of traditional knowledge to business. Traditional knowledge can support developing an entrepreneurial mindset based on skills such as adaptability, tolerance and resilience. This approach to knowledge can complement modern mindsets to inform, develop and apply holistic and sustainable approaches to meaningful business.

This paper presents a conceptual model that draws strongly on local views and that supports the main goal of the framework, which is to serve local businesses. However, it should be noted that the sample size is limited. Therefore, the authors acknowledge that the framework may not reflect common views or have practical applications on a larger scale. Yet, the framework has been identified as a potential solution for the needs of Finnish Lapland, which, being geographically remote, can be considered a marginal area. Future work will include further research and theoretical development and practice to analyse the impact of the framework and develop a process for its application.

References

- Adler, N. (2006). The arts and leadership: Now that we can do anything, what will we do? *Academy of Management Learning & Education*, 5(4), 486–499.
- Anderson, A. G., Knowles, Z., & Gilbourne, D. (2004). Reflective practice for sport psychologists: Concepts, models, practical implications, and thoughts on dissemination. *The Sport Psychologist*, 18(2), 188–203.
- Attia, M., & Edge, J. (2017). Be(com)ing a reflexive researcher: A developmental approach to research methodology. *Open Review of Educational Research*, 4(1), 33–45.
- Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, 47(8), 1323–1339. <https://doi.org/10.1108/00251740910984578>.
- Bates, T. (1985). Entrepreneur human capital endowments and minority business viability. *Journal of Human Resources*, 20(4), 540–554.
- Belk, R., & Ger, G., & Askegaard, S. (2003). The fire of desire: A multisited inquiry into consumer passion. *Journal of Consumer Research*, 30(3), 326–51.
- Berry, S. (1989). Social institutions and access to resources. *Africa*, 59(1), 41–55.
- Bosma, N.S., Schött, T., Terjesen S.E., & Kew, P. (2016). *Global entrepreneurship monitor 2015 to 2016: Special report on social entrepreneurship*, Global Entrepreneurship Research Association.
- Brown, T. (2009). *Change by design: How design thinking transforms organizations and inspires innovation*. New York : HarperCollins.
- Chambers, R. (1988). Sustainable rural livelihoods: A key strategy for people, environment and development. In C. Conroy and M. Litvinoff (Eds.), *The greening of aid: Sustainable livelihoods in practice* (pp. 1- 17). London: Earthscan.
- Chambers, R. & Conway, G.R. (1991). *Sustainable Rural Livelihood: Practical Concept for the 21st Century*. IDS Discussion Paper 296. Institute of Development Studies (IDS), Brighton, GB.
- Cox, E. (2005). Adult learners learning from experience: Using a reflective practice model to support work-based learning. *Reflective practice*, 6(4), 459–472.
- Douglas, H., & Grant, S. (2014). *Social entrepreneurship and enterprise: Concepts in context*. Victoria: Tilde Publishing and Distribution.
- Folke, C. (2016). Resilience. In H. H. Shugart (Ed.), *Oxford research encyclopedia of environmental science*. New York: Oxford University Press, Available from <http://environmentalscience.oxfordre.com/>.
- Frederiksen, D. L., & Brem, A. (2017). How do entrepreneurs think they create value? A scientific reflection of Eric Ries' Lean startup approach. *International Entrepreneurship and Management Journal*, 13(1), 169–189.
- Gowdy, J., & O'Hara, S. (1997). Analysis: Weak sustainability and viable technologies. *Ecological Economics* 22, 239–247.
- Kirton, M. J. (2004). *Adaption-innovation: In the context of diversity and change*. London and New York: Routledge.
- Koen, P. (2015). Lean startup in large enterprises using human-centered design thinking: A new approach for developing transformational and disruptive innovations. Howe School Research Paper, (2015-46).
- Koskinen, I. and Battarbee, K., 2003. Introduction to user experience and empathic design. In: I. Koskinen, K. Battarbee, and T. Mattelmäki, eds. *Empathic design, user experience in product design*. Helsinki: IT Press, 37–50.
- Laasonen, V., Ruokonen H., Talvitie, J., Lähteenmäki-Smith, K., Kolehmainen J., Ranta, T.,... Piiraine, K. (2019). *Selvitys innovaatioympäristöjen ja -ekosysteemien menestystekijöistä sekä julkisen sektorin rooleista kehityksessä [Study on the success factors of innovation environments and ecosystems and the roles of the public sector in development]*. *Opetus- ja kulttuuriministeriön julkaisuja*, 32. <http://urn.fi/URN:ISBN:978-952-263-660-7>
- Leavy, P. (Ed.). (2014). *The Oxford handbook of qualitative research*. Oxford: Oxford University Press.
- Leitch, R., & Day, C. (2000). Action research and reflective practice: Towards a holistic view. *Educational Action Research*, 8 (1), 179–193.
- Mattelmäki, T., Vaajakallio, K., & Koskinen, I. (2014). What happened to empathic design? *Design Issues*, 30(1), 67–77.
- Meadows, D. H. & Wright, D. (2008). *Thinking in systems: A primer*. White River Junction: Chelsea Green.
- Mercan, B., & Göktas, D. (2011). Components of innovation ecosystems: A cross-country study. *International Research Journal of Finance and Economics*, 76(16), 102–112.
- Miron, E., Erez, M., & Naveh, E. (2004). Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete or complement each other? *Journal of Organizational Behavior*, 25(2), 175–199.
- Mueller, R., & Thoring, K. (2012). Design thinking vs. lean startup: A comparison of two user-driven innovation strategies. International Design Management Research Conference, August 8-9, 2012, Boston, USA.
- Oh, D. S., Phillips, F., Park, S., & Lee, E. (2016). Innovation ecosystems: A critical examination. *Technovation*, 54(2016), 1-6.
- Papanek, V. (1992). *Design for the real world: Human ecology and social change* (2nd ed.). London: Thames and Hudson.

- Pinheiro, T. (2014). *The service startup: Design gets lean : a practical guide to integrate design thinking and lean startup*. USA: Hayakawa, Altabooks and Createspace.
- Postma, C. E., Zwartkruis-Pelgrim, E., Daemen, E., & Du, J. (2012). Challenges of doing empathic design: Experiences from industry. *International Journal of Design*, 6(1), 59–70.
- Ries, E. (2011). *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*. Redfurn: Currency.
- Schiama, G. (2009). The value of arts-based initiatives: Mapping arts-based initiatives. Arts & Business. Available from: <http://www.arts4business.org/content/resources/reports/Mapping-Arts-Based-Initiatives.pdf>.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Stum, J. (2009). Kirton's adaption-innovation theory: Managing cognitive styles in times of diversity and change. *Emerging Leadership Journeys*, 2(1), 66–78.
- Sydneysmith, R., Andrachuk, M., Smit, B., & Hovelsrud, G. K. (2010). Vulnerability and adaptive capacity in Arctic communities. In Armitage, D. and Plummer, R. (eds.), *Adaptive capacity and environmental governance*, pp. 133-156. Heidelberg and Berlin: Springer.
- Thomas, J., & McDonagh, D. (2013). Empathic design: Research strategies. *The Australasian Medical Journal*, 6(1), 1-6.
- Verganti, R. (2016). *Overcrowded: Designing meaningful products in a world awash with ideas*. Cambridge and London: The MIT Press.
- Verhees, F. J., & Meulenbergh, M. T. (2004). Market orientation, innovativeness, product innovation, and performance in small firms. *Journal of Small Business Management*, 42(2), 134–154.
- Weber, R. (2003). Editor's comments: The reflexive researcher. *MIS Quarterly*, 27(4), v-xiv.
- Wilson, E. O. (1984). *Biophilia, the human bond with other species*. Cambridge, MA: Harvard University Press.
- Wilson, E. O. (1993). Biophilia and the conservation ethic. In Kellert S. and Wilson E.O. (Eds.), *The Biophilia* (pp. pages293–322).
- Wilson, E. O. (2002). *The future of life*. New York: Alfred A. Knopf.
- Yin, R. K. (1981). The case study as a serious research strategy. *Knowledge*, 3(1), 97-114.
- York, J. L., & Danes, J. E. (2014). Customer development, innovation, and decision-making biases in the lean startup. *Journal of Small Business Strategy*, 24(2), 21–40.