

4. Experimenting in the organisational periphery: introducing extra-curricular entrepreneurship education in traditional research universities

Juha Tuunainen, Kari Kantasalmi and Sari Laari-Salmela

INTRODUCTION

This chapter improves understanding of the organisational experimentation and decision-making universities engage in when seeking to introduce entrepreneurship education into their activities. We apply a systems theoretical approach to analyse university administration from the viewpoint of its decision-making communication (Seidl & Becker, 2005). In view of Luhmannian organisational analysis, we investigate how university management observes and interprets the conditions of its politico-economic environment leading to administrative-managerial decisions that align the university's educational programmes with extra-organisational entrepreneurship expectations (Luhmann, 1995, 2018; Baecker, 2010, 2011; Åkerstrøm Andersen & Grønæk Pors, 2016).

The novel organisational forms designed to advance entrepreneurship at the interface of the university and society is the object of the decision-making process we analysed. We observe the role of the university's administration office and provide analysis of how its various branches, including research, teaching and the third mission performance, process societal expectations directed at developing entrepreneurship education within the organisation. We focus on the selective use of information in decision-making about the new forms of extra-curricular entrepreneurship education, eventually at odds with the traditional discipline-based educational programmes.

The focus of the analysis is on the temporal dimension of decision-making communication in what Burton Clark (1998, pp. 5–6, 137–8) called the “strengthened steering core” of the emerging entrepreneurial university. We

also elaborate on the organisational locus that he calls the “enhanced developmental periphery” of the university (Clark, 1998, pp. 138–9). Further, our analysis resonates with higher education research, especially Ronald Barnett’s (1994, pp. 46–9) notion of the shift in curricular design from discipline-based to action-oriented and modular forms involving new competence-based vocabularies. However, according to Barnett and Coate (2005), the dilemma of choosing between the discipline-based and competence-based elements in educational content design is multi-dimensional, and modularisation provides only a limited solution to the problem. Thus, we approach the university as “a loosely coupled organisation” (Orton & Weick, 1990; Luhmann, 2018, p. viii) where scientific¹ disciplines cannot bind tightly the selection of knowledge contents of educational programmes and highlight the ways in which differences between the universities’ teaching programmes and optional competence-based credit units intensify the complexity of their internal organisational decision-making.

CHANGING SOCIETAL EXPECTATIONS OF THE UNIVERSITY ORGANISATION

Since the 1980s, drastic changes in the university–society relationship have taken place. Intensified economic globalisation has inspired political expectations for universities to foster balanced societal development. Governmental policies also have emphasised commerciality and market-like behaviours and encouraged universities to diversify their funding bases (Slaughter & Leslie, 1997). In this altered environment, universities have developed novel responses to the external utility expectations emphasising entrepreneurship and innovation. Thus, technology transfer offices, spin-off firms and entrepreneurship hubs have sprouted to gain a temporal leeway for universities to reform structural couplings between the systems of higher education, techno-science, politics and economy.

Additionally, the structural expectations about the discipline-based educational programmes and their societal relevance have increased. Interdisciplinary orientations and problem-focused co-creation programmes have become increasingly usual. As noted by Collins (1979), worldwide expansion of credentials implies their possible inflation and creates doubts about their abstract information value in labour markets. Current “schooling society” is overwhelmed by the growing expectations of more tangible information about competence, attitudes and contacts acquired during education (Baker, 2009). Consequently, higher education development specialists in universities’ administrative-managerial support services devise more flexibility in the curriculum instrument. Along with the Council of Europe’s Bologna Process, cross-faculty attention has been paid to students’ future employa-

bility (Teichler, 2011). In Finland, the first response to the Bologna Process led to the reintroduction of a two-stage programme design in bachelor's and master's degrees. Later, university leadership also decided to include options for degree programmes to enhance generic entrepreneurship and working life competencies. Often, such contents can be interpreted rather liberally but they must fit into the limits of the total credit units required for a degree. Instead of the weakening of disciplinary boundaries or a slide towards genericism (Shay, 2014), disciplines still structure scientific endeavour and university education even though societal concerns, such as entrepreneurship, are taken into consideration.

Modular curriculum as a planning device allows educational support services to develop schemes for introducing entrepreneurial competence into curricular decision-making. Thus, what for educators appear as "non-formal" or extra-curricular become possibly includible into degree programmes' structural options or even requirements. Varieties of social forms originally developed in other social systems, firms for instance, can therefore be considered to improve competence for (self-)employability (Broomé & Ohlsson, 2018) or generating more employable and innovation-driven economy via developing students' and teachers' entrepreneurial mindsets. However, it is difficult to anticipate what educational contents graduates need to improve their labour market capacity let alone to meet their future workforce requirements. Thus, the radically contingent and complex society develops a rather open notion of expertise while the modern discipline-based views of professionalism still prevail at the structural levels of universities.

Instead of mono-professionally structured societal communication, multi-professional coordination is increasingly expected. Consequently, the university encounters an increasingly challenging task of preparing students for organisations in which they face the complexities of work practices embedded in the interdependency of the functionally differentiated societal sub-systems.² Thus, the notion of expertise is increasingly used to characterise the targeted outcomes connected to the creation of an employment-generating economy by way of using the form of the firm (Baecker, 2006). The universities also adjust their educational programmes to the structural expectations of labour markets that highlight academic entrepreneurship. Further, according to their organisational specificity within the system of higher education, universities' curricular contents must observe the evolving requirements for advancing the scientific and technological workforce. As the expectations in educational reproduction of the scientific workforce differ from those of business, their reconciliation in educational programme design is difficult. Therefore, analysing the administration's ways of observing and communicating related decisional uncertainties is paramount for understanding the organisational emergence of the entrepreneurial university.

ENTREPRENEURIAL RESPONSE OF THE UNIVERSITY ORGANISATION

Discussion about the entrepreneurial university has addressed the above-mentioned changes and envisioned reformatory needs, while presuming that universities organisationally assimilate their intra-societal environments. For instance, Etzkowitz (2008) emphasises that intermingling science, politics and industry results in the emergence of the entrepreneurial university, which hybridises economic development with scientific research and higher education. A managerial view of the entrepreneurial university, provided by Clark (1998), in turn, delineates a pathway to the organisational transformation by emphasising explorative and experimental approaches in deciding how the university reacts to the versatile demands of society. The “enormous demand overload” (Clark, 1998, p. 131) creates organisational crisis and entrepreneurial responses within universities. According to Clark (1998), this transformation is structured by five “elements” that support the university’s self-determination: “the strengthened steering core”, “expanded developmental periphery”, “diversified funding base”, “stimulated academic heartland” and “integrated entrepreneurial culture” (pp. 3–8). In Clark’s (1998, p. 145) view, the university’s transformation into an entrepreneurial mould is a piecemeal process of experimentation through which all these elements interact with one another thereby turning the university into an “organizational actor” (Krücken & Meier, 2006) capable of controlling itself autonomously.

Of Clark’s concepts, the “strengthened steering core” accounts for strong, quick, flexible and focused managerial capacity that universities necessarily develop to be able to react to the expanding external demands. This mandatory feature of an entrepreneurial university does not concern hierarchical administrative relations only, but involves academic faculties and departments as well, especially in terms of intensifying their participation in the university’s collegial administration (Clark, 1998, pp. 5–6, 137). During the process of organisational transformation, the function of this strengthened steering core is to actively search for opportunities to diversify the organisation’s resource base as well as to “seek out new infrastructure units that reach across old university boundaries to link up ... with outside establishments” (Clark, 1998, p. 138). These new “non-traditional” units then form the second relevant element in our analysis, that is, “expanded developmental periphery”, which refers to “an organized location ... for the entry and absorption of whole new modes of thinking” within the stretched organisational boundaries of the university (Clark, 1998, p. 139). The flexible, outward-oriented offices, units and centres inhabiting this periphery mediate between departments and the outside world and, due to their experimental character, remain easy to initiate and disband

(Clark, 1998, p. 6). In this chapter, we elaborate on the relationship between the strengthened steering core and expanded developmental periphery, as it is crucial for understanding how the organisation widens its options to respond flexibly to the demands emphasising entrepreneurship (Clark, 1998, pp. 5–6).

In Clark's theorisation, these concepts are empirical generalisations that highlight selected features shared across many universities. Clark (1998, pp. 8, 128) has stayed close to his research material to allow for local empirical variation of their content while simultaneously seeking to produce a simplified framework for understanding the main elements involved in the emergence of an entrepreneurial university. We acknowledge the inspirational value of this conceptualisation and examine the stated transformation through systems theoretical optics. We focus on the problems of administrative decision-making during the university's entrepreneurial response and address the decisional complexity involved in the installation of entrepreneurship education not as resulting from the external causal forces, but as a self-referential, internally produced phenomenon. Such insight allows us to acknowledge the fact that any attempt to reduce the decisional complexity connects the present situation to the past and future. Our system-theoretical view therefore shows how the attempts to decrease the complexity of decision-making by experimenting with novel forms of entrepreneurship education also increase the decisional complexity during the educational programme design.

SYSTEMS THEORETICAL VIEW OF THE UNIVERSITY AS A LOOSELY COUPLED ORGANISATION

In our Luhmannian view, modern society is differentiated into various operationally closed, self-referentially orienting and self-reproducing sub-systems, that is, distinct modes of communication with proper societal functionalities, including science, education, economy and politics (Luhmann, 2012, 2013). Whereas the old theory of systems used an input–output scheme based on direct information or resource injection between the focal system and its environment, Luhmann's theory conceptualises systems as operationally closed and acknowledges that transmission between the bounded system and its environment takes place via evolving forms of structural couplings. Thus, the co-evolving societal sub-systems develop sensitivity for mutual irritations (e.g., being stimulated, surprised or depressed) that become internal information within a system only when deemed relevant to the systems' own structural state (Luhmann, 1986).

The university organisation, in turn, is a type of social system with an organisational form that has evolved as a structural coupling for coordinating the knowledge-related interdependency within and between internally differentiated societal systems of science and education. The university as a social

system is operationally closed yet internally organised into three interdependent “offices” (Baecker, 2010): (1) research with primary reference problems within the global system of science, (2) education for higher learning and tertiary schooling for distribution of authorised credentials, and (3) administration involved in the organisational steering which evolves in relation to the societal expectations and the organisation’s internal reference problems (i.e., issues at hand in organising research and teaching).

The introduction of the third mission into the university legislation and administrative amendments typical of the so-called New Public Management have further altered the internal administrative structure of the university. We thus refine Baecker’s (2010) analysis of the university’s internal administrative division structure and recognise the differing emphases of its sub-units in terms of their primary reference problems, either in research, teaching or the third mission performance. Examining the complexities of the university’s administrative decision-making enables us to analyse the novel managerial techniques that are receptive to the logics and dynamics of global communication systems of science and education, and to the expectations of the university’s intra-societal environment – most importantly the political system and economy that have an effect on the resources available for research and education.

As an organisation, the university has institutionalised disciplines for structural features of both scientific research and educational degree programmes. With these forms of structural coupling, the university as a “loosely coupled organisation” (Orton & Weick, 1990) coordinates its societal performance in particular ways. The well-known organisation theoretical distinction between loose and strict coupling thus can be seen in terms of organising coordination between operations (i.e., communications and observations) of different societal communication systems. Different systemic modes of communication have developed their own mediums (e.g., symbolically generalised life course in education, truth in science or money in economy) that make the continuity of each mode of communication likely. For Luhmann (2012), “the distinction between medium and form translates the improbability of the system’s operational continuity into *a difference that can be handled within the system*” (italics in the original), meaning that “the system operates in tying its own medium to its own forms without consuming this medium” (p. 117). The system’s medium thus consists of loosely coupled elements and available forms couple these – in temporal terms – strictly (Luhmann, 2012, p. 118), meaning that available forms keep the fragile elements of the medium alive and observable in the situational complexity of the ongoing communicative events. For example, the continuity of higher education in the medium of life course can be more or less strictly coupled with economy (and its entrepreneurial expectations) via the form of scientific disciplines (i.e., evolving specifications in

theories of economics) or novel forms of professional expertise (e.g., start-up consultants).

Following from this, both academic degrees and additional expertise credentials can have binding consequences for a variety of career opportunities and employability by providing means for labour market inclusion and exclusion. Institutionalised structural expectations for acquiring degrees in the expanded system of higher education allow designing a wide supply of programmes and involve increasing complexity of choosing between specific educational contents. Balancing such options is framed by uncertainty over the relevance of curricular content offers in relation to the functional problem of the reproduction of the workforce in society. In administrative terms, this means oscillating between indeterminate and determinate decisional forms in the curriculum design. The solutions made in this respect offer ample potential for societal coordination with many sub-systems of society, such as science, economy, law, religion and health care. Systems theory thus helps us explain how the administrative-managerial support organisation observes the external expectations of various sub-systems of society, takes into account the existing organisational bases of decision-making, and finally transforms the external problems into such forms that can be resolved within the organisation.

We thus observe the ways in which the university administration observes problems in designing education and opts between functionally equivalent resolutions, meaning that different alternatives can function similarly from the point of view of the immediate problem and its functional reference in society. For example, the organisational solution of developing entrepreneurial mindset via extra-curricular education can function, from the point of view of economy, just as well as the solution of integrating the topic of entrepreneurship into the curricular requirements. Analysing the problems related to the organisational decision-making about the integration of entrepreneurship education within the higher education curricula allows us to infer the ways in which external stimuli emphasising entrepreneurship in education are semantically adjusted and then organisationally self-reproduced according to the internal structural states of the university. Thus, we point to the evolving organisational forms as structural couplings and observe the ways in which the higher education system resonates with the economy via administrative-managerial decision-making of the university organisation.

In our analysis, which is based on 19 interviews and 90 documents covering the period between 2010 and 2020, we used the above-mentioned systems theoretical optics as the conceptual resource for observing how the administrative-managerial decision-making deals with these complexities and how it absorbs uncertainties by emphasising a temporal dimension in decision-making communication. This analytical strategy follows Åkerström Andersen and Grønbæk Pors's (2016, p. 22) thesis about the primacy of the

temporal dimension over the substantial and social ones in current public administration as is the case, for instance, in situations where administrators deal with the controversial contents and unusual participatory forms of entrepreneurship education within the research university.³ This prioritisation can also be observed in the university's stakeholder relations (Åkerström Andersen, 2008) that have become all the more important in Finland since the creation of universities of applied sciences in 1995 and after the new university legislation of 2010, which introduced obligations for universities to become engaged in the third mission activities.⁴

INTRODUCING ENTREPRENEURIAL EDUCATION INTO UNIVERSITIES

In this section, we focus on two entrepreneurship hubs, the University of Helsinki's Helsinki Think Company (HTC) and the University of Oulu's Business Kitchen (BK), both established in Finland at the beginning of the 2010s to facilitate the universities' intra-societal engagement with the economy via entrepreneurship education. HTC and BK thus represent local instantiations of the university's expanded developmental peripheries formed according to models of students' entrepreneurial communities present in Finland and elsewhere. In what follows, we describe the decisional measures the universities took, discuss what Clark (1998) envisioned as the "strengthened steering core" and suggest systems theoretical elaboration of the administrative functions concealed in his notion of "expanded developmental periphery".

ORGANISATIONAL CONTEXT OF DECISION-MAKING ABOUT ENTREPRENEURIAL EDUCATION

Since 1990, innovation policy has underlined the importance of research to Finland's economic growth and employment. In the 2000s, it was modified by adding the topic of entrepreneurship into it (Heinonen & Hytti, 2016) and initiating efforts to bring universities closer to economic life, for instance, by merging three universities into what initially was called "an innovation university" and which later adopted the name of Aalto University (Tienari et al., 2015). Over decades, the government also reformed the universities' legislative status, introduced management by results and stimulated traditional public administration to adopt new managerial practices. The universities' internal decision-making power was transferred from collegial academic bodies to individual leaders, such as rectors, deans and department heads, who decide on issues based on presentation by managers and administrative experts. This extended period of reform finally culminated in 2010 with the new university legislation that consolidated many of the above-mentioned changes and trans-

formed the universities from governmental accounting offices into independent organisational actors responsible for their management and finances.

The more independent judicial status and inclusion of the third mission into the universities inspired the organisations to strengthen their communications and community relations offices as well as develop their technology transfer capabilities. The universities' connections to society were strengthened by adding non-academic stakeholders to their governing boards as well. These changes sensitised the universities to observe their societal environments and adjust their practices according to the external expectations. This observation varied according to the universities' distinct regional locations and organisational histories that rendered different managerial perceptions and measures conceivable. Having a history dating back to 1640, the University of Helsinki chose to manifest the German "Bildung" tradition (Ahonen, 2016) and aimed to be among the leading research universities worldwide while simultaneously advancing the nation's cultural and economic prosperity, especially in the Helsinki metropolitan area. Established during the post-war period of Finland's industrialisation in 1958, the University of Oulu wanted to increase its level of research and support the regional economy via extensive and successful R&D collaboration with Nokia, a global telecom giant. Further, after the growth in unemployment levels resulting from Nokia's failure in the mobile telephone business in the early 2010s, the university sought to alleviate the resulting economic harm by many means, such as entrepreneurial education. Both universities thus chose to pay attention to the expectations ensuing from their operational surroundings in terms of their graduates' entrepreneurial skills and employability while retaining their specific historical characteristics. In what follows, we analyse these processes by means of focusing on contingencies in three distinct phases of development: (1) introduction of the entrepreneurship education initiative into the university, (2) funding crisis of the initial organisational solution to enhance entrepreneurship education, and (3) integration of entrepreneurship education into the curricular degree structures.

INTRODUCTION OF ENTREPRENEURSHIP EDUCATION INTO UNIVERSITIES

At the University of Helsinki, entrepreneurship emerged as a topic in the early 2010s. At the time, the university had just altered its management structure by establishing a new post of Research Services Director into the central administration and transforming the position of Chief Communications Officer into that of Director of Communication and Community Relations. Furthermore, both posts were filled from outside, that is, the business world, thus the new directors were open to stimuli coming from the university's economic environment and using management methods differing from those traditional in

public administration. Based on his work experience in Silicon Valley and capitalising on his interactions with persons running entrepreneurial activities in the City of Helsinki and Aalto University, the Director of Research Services started to think about boosting student entrepreneurship at the university. The idea was strictly commercial, directed at the establishment of new businesses. In parallel, the university's communications and community relations administration observed that the university's interest groups considered the university passive towards business life. The communications and community relations administration thus began efforts to strengthen the organisation's brand image by building bridges between the university and society, including an idea to create a community for entrepreneurially minded students. At this stage, the university's educational administration chose not to participate in these efforts.

The two branches of the administration thus independently recognised an intensified external expectation to pay more attention to business life. These observations led to a decision to start experimenting with the student entrepreneurship hub known as Helsinki Think Company (HTC). The responsibility for further developing the idea was given to the communications and community relations administration as it already had experience in turning similar ideas into practice. Communications and community relations administration thus started pilot testing HTC with the City of Helsinki's business services centre.

If the idea to experiment with entrepreneurial education sprouted within the "steering core" (Clark, 1998, pp. 5–6, 137) of the University of Helsinki, the situation was different at Oulu, where a local business school was the initiator while the university's central administration remained passive. The issue of responding to the societal expectation for developing entrepreneurial education was taken up by the business school in response to the massive lay-offs by the university's important external partner, Finnish telecommunication giant Nokia. Seeking to support the development of the region's entrepreneurial capabilities, the university's business school and Oulu University of Applied Sciences (OUAS) designed a joint externally funded project for creating a business development organisation. This project and communication related to it marked the birth of Business Kitchen (BK), a student entrepreneurship hub, the idea of which was to support students' innovative activities and new business development in the city centre of Oulu. The joint project increased the awareness of the topic of entrepreneurship by the University of Oulu's new Rector and Board of Directors, especially after BK's project manager had lobbied to secure the project's continuation once its first three-year term was to end. Once the continuation project was approved and the necessary six-month funding to fill the budgetary gap between the two projects was received, awareness of the importance of entrepreneurship had also increased to such a degree that the university's Board officially recognised 2015 as "the theme year of entrepreneurship" in the university's strategy.

In sum, both universities observed the external societal expectations to become engaged in entrepreneurship and chose to proceed with these via organisational experimentation. The ensuing resolutions allowed for the opening up of an organisational space for clarifying the vague ideas about entrepreneurship education and gradually absorbing the uncertainties present in making decisions about its integration with the university organisation. At the University of Helsinki, the pilot testing was done by the central administration with an indeterminate time frame, while at the University of Oulu the efforts by the local business school and its partner, OUAS, were tied to two consecutive projects fixed to three years each. In both cases, the experimental process was thus in step with options either to proceed or to step back in response to the experiences, opportunities and emergent organisational needs. Interestingly enough, both experimental processes soon encountered serious financial problems that changed the course of their development.

FUNDING CRISES OF INITIAL ORGANISATIONAL SOLUTIONS

As the University of Helsinki administrators did not want HTC to be administratively led by them, they merely launched it, then stepped aside and hired a part-time “student captain” from Aalto University’s student entrepreneurship hub to build the community. At that time, HTC was administratively located within the communications and community relations administration, which paid the salaries of the student captain and several of HTC’s half-time personnel. However, this soon changed, as the university was hit by a financial shock, which led to a co-determination procedure and lay-offs totalling up to 570 employees. The situation put HTC’s employees at risk of dismissal, thus endangering the continuation of the hub. Conceptualising the problem from the financial administration’s point of view, the university decided to delimit the contingencies and save HTC by outsourcing it: the temporal urgency of the university’s financial situation resulted in a decision following which HTC’s social form was transformed from an administrative unit to a limited company tied to the university by a steering group and annual service contracts. Based on these, the university was able to pay HTC for the extra-curricular entrepreneurial education services it received. Thus, despite its formal status as a private company, the mission of HTC was still to facilitate entrepreneurialism among the students of the university.

As mentioned earlier, the University of Helsinki’s teaching and learning services administration was not involved in initiating and running HTC. This resulted from the fact that the degree programmes were the responsibility of the faculties rather than of the educational administration. The teaching and learning services thus did not see it as its mission to become engaged in HTC,

a stance strengthened by HTC, which stated that it did not want any course credits to be awarded from its education as these would attract the “wrong” students to the hub. Instead, HTC wanted “the curious”, “experimenters” and “impact seekers” to develop their entrepreneurial skills in activities tailored to suit campus and discipline-based subcultures of the university. Thus, the link between HTC and the formal curricular programmes remained weak.

At the University of Oulu, BK encountered serious financial problems as well. These were tied to the fact that it was no longer able to attract external funding, which created a situation in which BK was in danger of being closed. The crisis took place in a situation where the university had started to develop a new administrative branch of cooperation relations and had established a new academic leadership position, Vice Rector of Cooperation Affairs to head it. The organisational circumstances potentialised BK’s future development: lacking a clear organisational position, the university decided to place BK within the newly created administrative office, which was soon transformed into Tellus Arena, a low-threshold meeting place for the university’s students, employees and their partners. Because in Oulu the word “entrepreneurship” was often loaded with meanings connected to developing and managing one’s own business only and was, thus, rejected by the students, Tellus’ mission was broadened to enhance an entrepreneurial mindset via a “pre-business phase, label-free” space open for everyone. The administrative route thus chosen at the University of Oulu was significantly different from that of the University of Helsinki where HTC, now in the form of a company only temporarily tied to the university via service contracts, cultivated a vocabulary and communication style reminiscent of the North American start-up buzz outside the university’s organisational structure. The University of Oulu’s Tellus Arena, in turn, took critical distance from this culture and operated with an extensive time frame as part of the core of the university’s administration.

INTEGRATION OF ENTREPRENEURIAL EDUCATION INTO CURRICULA

Although HTC was placed as a company outside of the university’s organisation and did not want to be engaged in curricular education, entrepreneurial education and career planning entered the University of Helsinki’s degree structures. This took place in the form of a compulsory 10-credit unit every student had to take to increase their future work competence. The background to the resolution was in students’ recruitment and career services organised by the teaching and learning services since the 1990s following an initiative by the Ministry of Education. These services gained further momentum with the Bologna Process and the ensuing structural reform of the university’s curricula called “Big Wheel”. As a part of this restructuring, the Rector’s decision intro-

duced the specific module in all the university's bachelor's degrees to increase the students' work capabilities. Once it was established, the experts working in the teaching and learning administration started to design content for it, with faculty members. Entrepreneurship was thus integrated with discipline-based courses, for instance, by means of reflective interactive sessions during which the students elaborated their evolving expertise and discussed it from the perspective of their career goals. However, HTC did not have any role in these studies, but the opportunity for that was not ruled out.

At the University of Oulu, the decision to integrate BK into the university's structure as part of its cooperation relations administration opened a new phase in its development. During it, Tellus Arena and the newly established University Innovation Centre (UIC, a joint unit of the university and OULU fostering new business development and university–industry cooperation), also supervised by the Vice Rector of Cooperation Affairs, took over most of the educational activities organised by BK, while some of these were externalised from the university altogether. Demola, a concept which focused on students' open innovation projects with companies, became an independent activity organised by Demola Global Ltd, and Avanto Accelerator, the business development programme, moved under the auspices of UIC. Tellus itself adopted BK's operational idea, that is, the development of an entrepreneurial mindset among the students. Besides this, Tellus sheltered two strategic development projects funded by the Ministry of Education and Culture. The first of these focused on the preparation of students' entrepreneurial mindsets during general studies of their degree programmes, for instance, via “hacking” of courses in language education with entrepreneurial methods, such as pitching, and orientation of first-year students via a “self-hack” day. The aim of the second project was to develop processes and tools for recognising existing entrepreneurial capabilities in the formal university degrees. Further, Tellus Arena coordinated and hosted the entrepreneurship minor studies run by teachers of the business school. As a result, BK had become a part of the university's administrative core simultaneously as it had lost a specific mission of its own. Because of this, BK as a separate unit was abandoned as redundant.

This resolution advanced the institutionalisation of entrepreneurial education within the University of Oulu and opened up an option to strengthen entrepreneurship minor study as one of the university's strategic goals. This study was open to all students and its aim was to solve the problems of how to integrate the former BK entrepreneurship activities with the university's discipline-based degree education: using the curricular modules of the entrepreneurship minor, the credits could be acknowledged by the degree programmes. The problem of combining extra-curricular entrepreneurship studies and degree programmes was thus partially resolved at the University of Oulu by formalising the former. Such an administrative resolution to a similar

problem was not even considered at the University of Helsinki, due to the strict division of labour between the central administration's educational services office and discipline-based decision-making power of the faculties. Thus, at Helsinki, only the generic module for work competence could be installed across the curriculum requirements controlled by the faculties.

RESUMING COMPARISON OF UNIVERSITIES' MANAGERIAL EXPERIMENTATION

The processes described above illustrate the different ways of responding to the ambiguous environmental expectations in decision-making at the Universities of Helsinki and Oulu. The increasing emphasis on the universities' societal services created managerial uncertainties that were gradually absorbed by the university via experimentally expanding the variation of contents of the universities' educational programmes. The controversial subject matter of entrepreneurship education with novel pedagogical forms (e.g., hackathons, boot camps and pitches) that, according to the traditional academic view, featured somewhat oddly in the social dimension of the communication⁵ increased the decisional complexity of administration and turned the focus of decision-making into a temporal dimension (Baecker, 2011). This communicative emphasis meant the creation of an experimental operative space through which it became possible for the university to gradually adjust the administrative structures with the expectations of widening credit programmes by introducing entrepreneurship-enhancing content into education. This kind of administrative strategy has been identified in recent forms of public administration. Operating by enhancing the potential for dealing with unexpected conditions for change means "creation of possibilities for change beyond the presently imaginable" (Åkerstrøm Andersen & Grønbæk Pors, 2016, p. 22). The managerial interpretations and decisions thus created a leeway (Spielraum) for curricular design decisions, that is, an experimental operative space that allowed gradual adjustment of the administrative structures with the expected widening of the scope of educational credit programmes by novel subject matter aligned with social forms unusual in the university.

Thus, contrasting the two case examples illustrates interesting differences in the organisational decision-making processes that opted between functionally equivalent solutions to the entrepreneurial expectations present in the societal environment of the universities. This comparison also offers an avenue for better understanding the possible directions available for each university as they sought to respond to the calls for providing more entrepreneurship education for their students. At the University of Helsinki, the starting point of the decision-making process was in the research services administration, which had facilitated entrepreneurship via relatively narrow technology transfer

services directed at natural sciences and biomedicine for years. The research services branch was thus sensitive to the expectations and opportunities related to entrepreneurship present in the university's societal environment and paid attention to the rise of student entrepreneurship in Finland and elsewhere. Lacking capacity to process the topic further administratively, it passed the idea on to the communications and community relations office, which was alert to the underdeveloped capacity of the university to communicate with business life. With relevant external stakeholders, the administration offices involved adopted an ecosystem view for developing the concept of a student entrepreneurship hub. Via experimental pilot testing supervised by the communications and community relations administration, the ambiguous idea was gradually processed into a crystallised concept that, due to temporally strict financial constraints, adopted the form of a limited company with firm social inclusion criteria to entrepreneurially minded students only. The educational services branch of administration did not participate in this effort due to its respect for the decision-making power of the faculties relating to the contents of degree programmes. Thus, the generic module of the degree programmes for increasing the students' work competence, which was socially open to a diversity of students, remained weakly connected to the operations of the hub, which did not seek to provide course credits for those participating in its activities. The decision-making process at the University of Helsinki thus illustrates the importance of detailed consideration of the university's internally differentiated "steering core" and the ways its sub-units contextualised their operative problems in a temporal manner.

At the University of Oulu, the idea of the hub originated from the university's business school, which with its partners observed the increasing unemployment levels in the region and launched two projects to enhance business development together with OUAS. Once the first project was ending, the efforts for its continuation led to the inclusion of entrepreneurship in the university strategy and its gradual integration into the evolving branch of cooperation affairs within the central administration. These decisions opened up novel opportunities for subsequent managerial decision-making and enabled the gradual integration of extra-curricular entrepreneurship education into the core services of the university's third mission administration. In systems theoretical terms, the new pedagogical practices and evolving entrepreneurship minor study thus created structural coupling between the discipline-based degree programmes and the university's third mission administration.

In the context of envisioned emergence of the "entrepreneurial university" both cases define the meaning of the "expanded developmental periphery" and its significance for the steering of the university (Clark, 1998). They were new initiatives that did not readily comply with the university's existing administrative structures or with structures of discipline-based degree programmes.

Because both the topic of entrepreneurship and the unusual social forms of its training were difficult to handle in research universities, the decision-making communication stressed the temporal dimension via experimentation and piloting. Furthermore, from a systems theoretical view, the decisions provided a limited frame from which to observe the topic, thus narrowing down the subsequent options for decision-making while simultaneously enabling other, previously unobservable choices to be possible. The last point is theoretically important. Although a certain path-dependent trajectory of decision-making was observable, the analysed cases should not be understood as being conditioned by their histories only. As was illustrated above, the decision-making processes also included breaks, time lags and leaps, such as that of the creation of the module for work capabilities at the University of Helsinki or the strong strategic importance given to entrepreneurship by the top management of the University of Oulu. Thus, these findings highlight the universities as evolving through the responses to the situational contingencies that in this case enhanced entrepreneurship education.

CONCLUSION

In this chapter, we elaborated on the administrative-managerial decision-making involved in what Clark (1998) called the “entrepreneurial response” of the university. We analysed decision-making on the emerging extra-curricular forms of entrepreneurial education, meaning that we looked at challenges identified by the university management and the resolutions it proposed to foster such activities in connection with the university’s evolving environmental expectation structures. Instead of Clark’s “strengthened steering core”, which conveys an idea of a unitary managerial structure, we conceptualised the university administration in terms of internally differentiated sub-organisational units. These units envisioned problems, challenges and resolutions differently, thereby providing flexible and creative management pathways and versatile time perspectives to process subject matter as complex as entrepreneurship education. Using systems theoretical optics, we also approached the three-fold university organisation, which includes offices with inherent logics in science, education and administration (Baecker, 2010) to elaborate on the inner differentiation of the forms in the university’s administrative-managerial decision-making contexts. Thus, we were able to scrutinise how the administration produced a variety of observations on the problems faced and eventually decided about internally proper responses to the societal expectations to enhance entrepreneurship education. In our view, Clark’s concept of “expanded developmental periphery” refers to a locus for gaining the decisional leeway that the university administration needs in order to manage the controversial societal expectations it often encounters.

NOTES

1. In Luhmannian systems theory, the concept of science covers the whole spectrum of disciplines rather than natural and physical sciences only. In this chapter, we stick to this broad semantic and use the word to cover science, social science and humanities.
2. In sociology, societal development is often described in terms of functional differentiation. In systems theoretical view, this means emergence of societal sub-systems with unique societal functions (see Roth & Schütz, 2015).
3. Communication always involves three dimensions, substantial, temporal and social. Although entrepreneurship as a mode of economy is not substantially strange from the point of view of the university's decision-making, it becomes odd in terms of its social dimension, if the university tries to incorporate entrepreneurial modes of communication, such as hackathons, boot camps and pitches, into its academic self-understanding. Attempts like these create problems that become temporalised in different ways depending on which administrative office of the university observes the problem. We therefore focus on the temporal dimension, not so much from the point of view of official decision-making, but from the perspective of how managers in different administrative branches of the university experimentally delimit the contingencies while keeping different decision-making options open.
4. Since 2014, the universities of applied sciences, which are legally limited companies, have also been guided towards innovation and co-development with local partners under the leadership of their Rectors-CEOs.
5. The mode of communication used in the Silicon Valley inspired start-up scene was often quite different from the academic discourse, which made it difficult for many university employees to adapt to it.

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