

# **WELL-BEING IN A MULTINATIONAL SERVICE ECOSYSTEM IN EDUCATION AT COVID-19 CRISIS**

**Jyväskylä University School  
of Business and Economics**

**Master's thesis**

**2022**

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**ABSTRACT**

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Title of thesis Well-being in a multinational service ecosystem in education at Covid-19 crisis	
Discipline Marketing	Type of work Master's thesis
Time (month/year) December 2022	Number of pages 79
<p>Abstract</p> <p>This case study attempted to understand how the well-being of a multinational service ecosystem that aimed to develop a service for a local education ecosystem was constructed at the time of the Covid-19 crisis. There is a lack of studies investigating service ecosystem well-being in other fields than healthcare. This study responds to the need to explore well-being in other knowledge intensive fields by exploring a case in the context of education, in a multinational service ecosystem and at a time of a crisis.</p> <p>This study also aimed to provide education organisations with insights into their approaches to collaboration in multinational service ecosystems at a time of uncertainty. This theme is topical because of the recent demands for Finnish education organisations to join multinational service ecosystems and share their expertise with other countries to jointly solve the global learning crisis. The Covid-19 crisis has also revealed a need to devise new strategies for coping with crises in multinational ecosystems.</p> <p>The multinational service ecosystem explored in this case study forms around a multinational structural project, which involves Northern and Southern higher education organisations and a Southern governmental actor. The service ecosystem attempted to cope with the Covid-19 crisis, which disrupted a shared institution that guided the collaboration and resource (knowledge and expertise) integration among the actors. The data is obtained by interviewing 11 experts from the Northern and Southern higher education organisations.</p> <p>The results suggest that the case under investigation shows characteristics of service ecosystem well-being previously identified in health care. They underly the importance of a long-term orientation, the emergence of a new shared institution and the beneficiary actor's enforced position for the well-being of the multinational service ecosystem investigated. This case study implies that managers should both understand the self-adjusting nature of service ecosystems and actively facilitate well-being by nurturing partnerships and relationships at different levels of the ecosystem, supporting the development of a shared institution and encouraging two-way collaboration among Northern and Southern actors.</p>	
<p>Keywords</p> <p>service ecosystem well-being, multinational service ecosystem, Covid-19 crisis, structural project in education</p>	
Location Jyväskylä University Library	

## TIIVISTELMÄ

Tekijä Tuulia Kiilavuori	
Työn nimi Hyvinvointi monikansallisessa palveluekosysteemissä koulutuksen alalla covid-19-kriisin aikana	
Oppiaine markkinointi	Työn laji pro-gradu tutkielma
Aika joulukuu 2022	Sivumäärä 79
<p>Tiivistelmä - Abstract</p> <p>Tämä tapaustutkimus pyrki ymmärtämään, kuinka hyvinvointi rakentui sellaisessa monikansallisessa palveluekosysteemissä, joka pyrki kehittämään palvelua paikalliseen koulutusekosysteemiin covid-19-kriisin aikana. Palveluekosysteemin hyvinvoinnista ei näyttäisi olevan tutkimusta muilla aloilla kuin terveydenhuollossa. Tämä tutkimus vastaa tarpeeseen tutkia hyvinvointia muillakin tietovaltaisilla aloilla. Se tarkastelee tapausta, joka sijoittuu koulutuksen alan monikansalliseen palveluekosysteemiin ja kriisiaikaan.</p> <p>Tämä tutkimus pyrki lisäksi antamaan koulutusorganisaatioille näkökulmia lähestymistapoihin tehdä yhteistyötä monikasallisissa palveluekosysteemeissä epävarmuuden aikoina. Aihe on ajankohtainen, koska suomalaisia koulutusorganisaatioita on vaadittu liittymään monikansallisiin palveluekosysteemiin ja antamaan osaamistaan muille maille globaalin oppimiskriisin ratkaisemiseksi. Covid-19-kriisi on lisäksi paljastanut tarpeen luoda uusia strategioita monikansallisten ekosysteemien selviytymiseen kriisiaikoina.</p> <p>Tutkimuksessa tarkasteltava monikansallinen palveluekosysteemi muodostui monikansallisen rakenteellisen hankkeen ympärille. Hankkeeseen kuului pohjoisia ja eteläisiä korkeakouluja ja eteläinen hallinnollinen toimija. Tämä palveluekosysteemi pyrki selviytymään covid-19-kriisissä, joka keskeytti toimijoille yhteisen ja heidän yhteistyötään ja resurssien (tieto ja asiantuntemus) yhdistämistään ohjaavan instituution. Aineisto kerättiin haastattelemalla 11 asiantuntijaa pohjoisista ja eteläisistä korkeakouluista.</p> <p>Tulosten mukaan tutkitussa tapauksessa ilmeni aiemmin terveydenhuollon alalla havaittuja palveluekosysteemin hyvinvoinnin piirteitä. Tulokset korostavat pitkäaikaisen toiminnan, toimijoille yhteisen uuden instituution muotoutumisen ja hyödynsaajan vahvistetun aseman tärkeyttä tutkitun monikansallisen palveluekosysteemin hyvinvoinnille. Tutkimuksen mukaan johtajien tulisi sekä ymmärtää palveluekosysteemien itsestään mukautuva luonne että aktiivisesti tukea palveluekosysteemin hyvinvointia hoitamalla kumppanuuksia ja suhteita ekosysteemin eri tasoilla, tukemalla toimijoille yhteisen instituution muotoutuista, ja rohkaisemalla pohjoisia ja eteläisiä toimijoita toispuoliseen yhteistyöhön.</p>	
Avainsanat palveluekosysteemin hyvinvointi, monikansallinen palveluekosysteemi, covid-19-kriisi, rakenteellinen hanke koulutuksessa	
Säilytyspaikka Jyväskylän yliopiston kirjasto	

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# 1 INTRODUCTION

## 1.1 Background of the study

Finland is determined to strengthen its role in solving humanity's common challenges. The Government Programme of Finland (Finnish Government, 2019, pp. 10, 60) advocates an extensive and broad-based international cooperation, and suggests that by taking a leading role, Finland can have a bigger impact on solving global challenges than might be expected from a nation of its size. One of the areas where Finland is extremely well placed is education.

The Education Export Roadmap 2020-2023 (Opetushallitus, 2020, p. 8) reflects the goals of the government programme by emphasising the need to strengthen Finland's role in solving the global learning crisis through education export. The learning crisis refers to the lack of attention to children's access to quality education and their possibilities to learn skills that are needed to get decent work and lead fulfilling lives (UNESCO, 2014, p. 18). In the context of development aid, it is highlighted that the reasoning behind the need for Finland to take a more active role in the global community cannot only be money, but rather Finland's reputation and expertise in education, which can have a significant effect on solving the common challenges (Reinikka, Niemi and Tulivuori, 2018, p. 11). Solving the global learning crisis is also one of the goals of Finland's Africa Strategy (Ministry for Foreign Affairs of Finland, 2021, p. 6) and it is also a prominent goal in Finn Church Aid's Recommendations to Finland's Africa Strategy (Finn Church Aid, 2020, p. 1).

The actions that the above documents propose to Finnish actors in the field of education seem to point to systems thinking and a need for competences that align with it. The government programme (Finnish Government, 2019, pp. 105, 211) demands that multiple actors, including higher education (HE) organisations, connect to international demand-driven ecosystems. It goes on to emphasise the need to intensify partnerships between Finland and African countries and the collaboration within the EU. The education export framework proposed by the Education export roadmap (Opetushallitus, 2020, p. 8) foregrounds the need for Finnish actors to join international ecosystems and partnerships in the field of education. Finland's Africa strategy (Ministry for Foreign Affairs of Finland, 2021, pp. 6, 15) calls for multiple actors to intensify their collaboration with African countries. It also estimates that co-operation in the field of education will grow stronger between Finland and African countries and organisations in future. Finn Church Aid (2020, pp. 3, 8) places emphasis on the collaboration between countries and deeper partnerships and recommends addressing the technical and vocational education ecosystem. In the context of development aid in education, Reinikka et al. (2018, p. 76) point out that a prerequisite for a systemic reform is a multi-sectoral collaboration and an ability to identify the services that are important from a perspective of a certain country and that cohere with the

rest of the country's system. They further explain that adding part from the educational system of one country to the educational system of another country is unlikely to work unless it aligns with the rest of the ecosystem.

Extensive development projects in the field of education with wide and long-lasting effects are often based on collaboration that involves several partners from different countries and the demand for educational institutions to join international ecosystems suggests multinational collaboration to take place also in the future. Thus, the internal and external threats and challenges that affect the educational ecosystem of one country are likely to be experienced by partners from all the countries involved in the collaboration. The COVID-19 pandemic has disrupted education globally and caused the worst education crisis on record (The World Bank, UNESCO & UNICEF, 2021, p. 4). It has put all the actors that jointly attempt to solve the common challenges in education in a new situation, where the old ways of collaboration cannot be taken for granted. Managers are faced with a need to reflect on their approaches to collaboration in multinational development projects and ecosystems and devise strategies for coping with crises.

This study uses the service ecosystem perspective (Lusch & Vargo, 2018) and the service ecosystem well-being framework (Frow, McColl-Kennedy, Payne and Govind, 2019) to learn how a service ecosystem, which forms around a structural project of Northern and Southern HE organisations and a Southern governmental actor, copes with the COVID-19 crisis. It investigates what affects the well-being of a multinational service ecosystem where the expertise of Northern HE organisations is made available to Southern HE organisations to develop a service for the Southern educational ecosystem at a time of crisis. This case study aims to give educational organisations insights into their approaches to collaboration and the possibilities available for them to facilitate the well-being of such service ecosystems during a crisis.

## **1.2 Conceptual background and the research question**

In this study, the service ecosystem is understood as defined by Vargo and Lusch to be "a relatively self-contained, self-adjusting system of resource integrating actors connected by shared institutional arrangements and mutual value creation through service exchange" (Vargo and Lusch, 2016, p. 14). The service ecosystem perspective is based on the foundations of service dominant logic (S-D logic). It offers a narrative for value co-creation, where resource integrating and service providing actors integrate resources in overlapping service ecosystems that are governed by institutional arrangements (Vargo and Lusch, 2016, p. 16). In the case under investigation, the project partners and other organisations and individuals involved in the collaboration have the roles of actors who integrate knowledge and expertise to co-create value as they develop a service for the Southern context. When they act in the multinational service ecosystem, they encounter multiple institutions prevailing in different countries and educational

contexts that are not necessarily shared by all of them. The COVID-19 crisis disrupts one of the shared institutions that is supposed to guide resource integration among the actors. So, what happens when a shared institution is disrupted in the case under investigation? The S-D logic narrative is a continuing story. With a positive turn at a time of crisis it can lead to ecosystem wellbeing and overcoming adverse outcomes (Brodie, Ranjan, Verreyne, Jiang and Previte, 2021, p. 228).

The S-D logic assumes a service-centred view of marketing. This view is customer-centric, which means that firms and customers are engaged in an iterative learning process where firms learn from customers' needs and adapt to them (Vargo and Lusch, 2004, p. 6). Thus, the S-D logic puts the firms and customers on the same level (Murphy and Laczniak, 2018, p. 2). The service-centric view is relational. It assumes the existence of emergent relationships (Vargo and Lusch, 2004, p. 6) and maintains that value is always co-created (Lusch & Vargo, 2018, p. 12). It is also beneficiary oriented, the beneficiary actor always being primary (Lusch & Vargo, 2018, p. 12).

The service ecosystem perspective distances itself from views that explain the complexity of context with fixed differences across countries and cultures, thus offering an alternative perspective for international marketing (Akaka, Vargo and Lusch, 2013, p. 13). It addresses the institutional complexity that is inherent in international marketing (Akaka et al., 2013) and the possibilities actors have for applying diverse sets of rules according to the problem at hand (Siltaloppi, Koskela-Huotari and Vargo, 2016, p. 333). The S-D logic focuses on countries serving themselves through serving others (Lusch & Vargo, 2018, p. 9).

The relational, participatory and dynamic nature of the service ecosystem perspective makes it suitable for investigating a multinational service ecosystem in the field of education where partners from Northern countries, which are categorised as developed economies and a Southern country, which is categorised as a developing economy (United Nations, 2022), use and share knowledge and expertise to create a service for the Southern country's educational ecosystem.

Even though studies in field of education that draw on the S-D logic or the service ecosystem perspective are only few, previous research suggests that that the involvement of various stakeholders in HE value co-creation processes (Díaz-Méndez, Parades and Saren, 2019) should be investigated and implies the suitability of the service ecosystem perspective for university service ecosystems (Polese, Ciasullo, Troisi, Maione, 2017; Díaz-Méndez, Saren and Gummesson, 2017). The service-ecosystem perspective has also been applied to investigating value co-creation transformation during the Covid-19 crisis in the context of course delivery in HE (Edvardsson & Tronvoll, 2022).

System level well-being has only recently been connected to the service literature and there are only a few studies that explore it from the service ecosystem perspective. This study uses the research of Frow et al. (2019) that applies the service ecosystem perspective to investigate the well-being of a healthcare system in a specific country. Service ecosystem well-being is thus understood in this study to be a "holistic, dynamic, positive state that is contextually determined and is characterized by: practices that achieve aligned configurational fit; institutional arrangements that are purposefully guided by a shared worldview; levels



of the ecosystem that are iteratively reinforcing, co-evolving and self-adjusting; resilience and an ability for the ecosystem to adapt to disruptions; emergence through the adoption of flexible, resource-integrating practices; and resulting in shared value co-creation" (Frow et al., 2019, p. 2667).

Frow et al. (2019) point out that well-being is context-specific and they highlight the need to investigate ecosystem well-being in other complex and knowledge-oriented human services (Frow et al., 2019, p. 2681) such as education. This study responds to their call by investigating well-being in the field of education. I have not been able to find studies that investigate service ecosystem well-being in the context of education. There also seems to be a lack of studies that specifically focus on the well-being of a multinational service ecosystem. By exploring well-being in a multinational context in the field of education, this study puts focus on the complexity brought by an international context. A third aspect of the context is provided by the Covid-19 crisis. System level well-being at a time of crisis has received little attention and no studies exploring service ecosystem well-being in the field of education at a time of crisis seem to exist. This study is inspired by Brodie et al. (2021), who have used the research of Frow et al. (2019) to learn from a healthcare system at a time of crisis. Their research shows that the service ecosystem perspective increases the understanding of the complexity and dynamics of health care service ecosystems during the crisis caused by the Covid-19 pandemic (Brodie et al., 2021). This study aims to learn how the well-being of the service ecosystem is in the unique case and thus contribute to the understanding of service ecosystem well-being in a new context.

The research question is: How is the well-being of a multinational service ecosystem that forms around a structural project in the field of education constructed during the Covid-19 crisis?

Thus, this study investigates service ecosystem well-being in a case that is situated in a previously unexplored context of, firstly, the field of education; secondly, a multinational service ecosystem and thirdly, the Covid-19 crisis.

### **1.3 Theoretical and practical contributions of the study**

This study aims to contribute to the understanding of the contextually determined phenomenon of service ecosystem well-being (Frow et al., 2019) by attempting to understand what happened in a case situated in a previously unexplored context. More specifically, it gives information on the well-being and emergence of a multinational service ecosystem in a situation where a shared institution was disrupted by the Covid-19 crisis. The results suggest that the case shows several characteristics of service ecosystem well-being identified in health care (Frow et al., 2019). They also highlight the importance of a long-term orientation, emergence of a new shared institution and the beneficiary actor's enforced position for the well-being of the multinational service ecosystem investigated. The results of this small-scale case study cannot be generalised. Rather, they can help pave the way for a more thorough investigation on how the well-being of a

multinational service ecosystems that aim for a structural change in a local education ecosystem is at a time of a crisis.

This case study implies that it is important for the managers in multinational service ecosystems who aim to achieve structural change and make expertise from Northern countries available to Southern countries to both understand the self-adjusting nature of a service ecosystem and to actively facilitate the well-being of the ecosystem during a crisis.

The study starts with a literature review that discusses the suitability of the service ecosystem perspective to this study, reviews studies on service ecosystem emergence and system level well-being and presents the service ecosystem well-being framework used in this study. After that the research approach is presented, the case under investigation is introduced and the findings are reported. The study concludes with the theoretical and practical contributions of the study, an evaluation of the study and suggestions for further research.

## 2 LITERATURE REVIEW

### 2.1 Service ecosystem perspective

The service ecosystem perspective relies on the S-D logic and its foundational premises. It has been applied to various fields, including education (Polese, Ciasullo, Troisi, Maione, 2017; Díaz-Méndez, Saren and Gummesson, 2017; Edvardsson & Tronvoll, 2022). It has gained importance in the healthcare systems research (e.g. Frow, McColl-Kennedy & Payne, 2016; Frow et al., 2019; Beirão, Patrício & Fisk, 2017; Pop, Leroi-Werelds, Roijackers & Andreassen, 2018; Finsterwalder and Kuppelweiser, 2021 and Brodie et al., 2021) and it has recently been used to investigate system level well-being both at the time of the Covid-19 crisis (Finsterwalder and Kuppelwieser; 2021 and Brodie et al., 2021) and in non-crisis situations (Frow et al., 2016) in health care. This study draws on previous studies that use the service ecosystem perspective in the field of health-care because they focus on the well-being and viability of service ecosystems.

To the best of my knowledge, there is no research that uses the service ecosystem perspective to explore collaboration among actors in structural projects aiming at system level change in the field of education either at a time of crises or in a non-crisis situation. It is the purpose of this chapter to elaborate why the service ecosystem perspective is assumed to provide educational organisations important insights into their approaches to collaboration in multinational service ecosystems. This chapter explains why this perspective is assumed to be applicable for exploring a case in which educational organisations engaged in a structural project at a time of crisis attempt to make the expertise of the Northern partners available to the Southern partners. At the same time, it clarifies the S-D logic vocabulary that is used in this study.

#### 2.1.1 The service-centred view

In 2004, Vargo and Lusch synthesised the thought emerging in academic and managerial discussion that moved to a new logic that regarded services rather than products as a basis for exchange. This new logic would later be called the S-D logic. In their seminal paper, the authors describe the foundational premises of the S-D logic, which shift the focus from tangible products towards intangible resources, such as application of specialized skills and knowledge, and towards co-creation of value and relationships (Vargo & Lusch, 2004, p. 1).

The service-centred view of marketing is inherent in the S-D logic. This view is customer-centric, which essentially means that firms collaborate with and learn from customers and that they seek to respond to customer's needs (Vargo & Lusch, 2004, p. 6). Observed from a service-centred perspective, firms are engaged in a process of continuous testing and hypothesis generation, and they are assumed learn from this process rather than optimise its outcomes (Vargo &

Lusch, 2004, p. 6). Thus, both the firm and customer are involved in an iterative learning process, which contributes to maximisation of the service provision (Vargo & Lusch, 2004, p. 12). At the early stages of the S-D logic, the service-centred view implied that value is cocreated with the consumer (Vargo & Lusch, 2004, p. 12). It was characterised as relational and customer-centric, and it assumed the existence of emergent relationships (Vargo & Lusch, 2004, p. 12).

Vargo and Lusch (2014, pp. 14, 15) explain that product dominant model, which prevailed before the emergence of the service-centred view, drew on the models of economics and marketing, which originated in the nineteenth century and the industrial revolution and focused on production efficiencies. They further add that it aligned with the political goals of the era to export products to developing and colonized regions to increase national wealth of the exporting countries (Vargo & Lusch, 2004, pp. 14, 15). This notion, even though describing a bygone era, reflects the ethical issues involved in transferring a part of a certain educational system in the North to another educational system in the South. It also seems to reflect the ethical issues involved in transferring an education product from one country to another - or delivering the 'full package' as described by educational experts in a study by Kandelin (2019, p. 6). The contrasting perspective of the service-centred view might offer fresh insights into the exploration of a collaboration in a structural project where Northern expertise is made available to Southern partners and a service is developed for the Southern ecosystem. This is one of the reasons why it is used in this study.

At the early stages of the S-D logic, the focus of investigation was on the dyadic relationship between the company and customer. The aspects that the dyadic perspective has revealed, such as the relational nature of the S-D logic, continue influencing current research, including research on the ethical foundations for exchange in service ecosystems (Murphy & Laczniak, 2018). Today the S-D logic assumes an ecosystem perspective that involves a system of multiple actors.

### **2.1.2 The actor-to-actor view**

The move in the development of the S-D logic from the dyadic company-customer relationship towards a system perspective is evident in the actor-to-actor view, which was introduced by Vargo and Lusch in 2011. The authors state that all social and economic actors, such as customers, companies and households, who are engaged in exchange do the same: they cocreate value by integrating resources and providing services (Vargo & Lusch, 2011, p. 181). The actor-to-actor view, coupled with an understanding of value as always being cocreated, moves from a linear view of value cocreation to a systems orientation where a complex and dynamic system of actors relationally cocreates value (Vargo & Lusch, 2011, p. 182). At the same time, the system of actors creates the context through which value is individually and collectively assessed (Vargo & Lush, 2011, p. 182; Giddens, 1984, p. 25). This dual perspective of the context highlights the crucial role of context in value-cocreation.

According to Vargo and Lush (2011, p. 185) the shift in focus from optimization to learning in a dynamic environment brought by the S-D logic reveals a

need to consider value creation taking place in service ecosystems. Their early definition of service ecosystem emphasises the relationships of loosely coupled actors (Vargo and Lusch, 2011, p. 185).

The actor-to-actor view allows the exploration of resource integration between various organisations, such as higher education organisation, associations and non-governmental and governmental organisations and individuals such as students and teachers, who form a service ecosystem around a structural project. This is one of the reasons why the service perspective is considered applicable to this study.

### 2.1.3 Resources and resource integration

The actors in a service ecosystem interact to integrate resources. Resource integration is given a central role in connecting people and technology within and among service systems by Vargo and Akaka (2012, p. 207). According to the authors the S-D logic's service-ecosystems view focuses on studying value co-creation through resource integration that is done by multiple actors (Vargo & Akaka, 2012, p. 210). What distinguishes S-D logics' service ecosystem view from the systems view of service systems is the reason for the interaction between actors, that is, the motivation to exchange resources to create value, and the emphasis the service ecosystem view puts on how social context influence and are influenced by value cocreation (Vargo & Akaka, 2012, p. 211).

The resources that are integrated by actors include operand and operant resources. Operand resources, such as goods, become useful when action is taken upon them, whereas operant resources, such as knowledge and skills, can act on other resources to provide benefit (Lusch & Vargo, 2018, p. 6). The operant resources have a more important role in the S-D logic than the operand resources because they drive exchange and value cocreation (Vargo & Lusch, 2004, 3; Vargo & Akaka, 2012, p. 209). This study focuses on operant resources, that is, expertise and knowledge that are to be made available and used to develop a service, which in turn helps provide students from disadvantaged backgrounds with an access to the education system.

Lusch & Vargo (2018, p. 9) explain that S-D logic views operant resources as the source of strategic benefit. The authors further explain that operant resources can help actors to offer services to other actors and beneficiaries, and as a result, obtain benefits through them. They highlight that the focus on strategic benefit moves the mindset of businesses and nations from gaining competitive advantage over others towards "serving one's self through beneficial service to others" (Lusch and Vargo, 2018, p. 9). This view is reflected in the calls (Finnish Government, 2019; Opetushallitus, 2020; Reinikka, Niemi and Tulivuori, 2018) for Finland to step up its role in solving the learning crisis by making its expertise in education available for other countries and especially those that are most severely affected by the crisis. It also suggests that the service ecosystem perspective is applicable to an investigation of the well-being of an educational ecosystem that strives to make the expertise and knowledge of the Northern partners

available to the Southern partners to jointly develop a service for the Southern education ecosystem.

#### **2.1.4 Resource integration as a practice**

Vargo and Akaka (2012, p. 211) conceptualize resource integration as a central practice in value cocreation. They emphasise the connection between practice theory and value cocreation established by Korkman, Storbacka and Harald (2010). Korkman et al. (2010, p. 236) argue that value is created when actors engage in practices and when resources are integrated. According to Schazki (1996, p. 11), practices are social phenomena by reference to which all social entities such as actions institutions and structures are to be understood. Practices are characterized by Lofland, Snow and Anderson (2006, p. 123) as “recurring and often regularized features of everyday life”, such as driving to work or school and eating dinner, which are considered rather routine by those who engage in them. The practice theory is not further discussed here because of the limited scope of the study.

The reasoning behind viewing resource integration as a central practice can be seen if we have a look at what happens when actors enact practices to integrate resources as explained by Vargo & Akaka (2012, p. 11): when actors integrate resources, they interact with each other and, at the same time, they contribute to value creation processes. These processes connect to other cocreation processes and eventually contribute to the development of relationships and social structures that compose service ecosystems. Thus, the service ecosystem view moves from transactions and dyadic exchange towards interaction and resource integration between multiple actors. The focus on resource integration also extends market practices beyond exchange-specific practices to encompass other forms of resource integration and specialization in knowledge and skills (operant resources) that exist in systems of service exchange (Vargo & Akaka, 2012, p. 211).

#### **2.1.5 Institutions**

To facilitate a better understanding of the cooperation and coordination involved in value co-creation, Vargo and Lusch (2016, p. 18) introduced a foundational premise to S-D logic stating that the coordination of value co-creation takes place through actor-generated institutions and institutional arrangements. Grounding on previous research (Scott, 2001; North, 1990), the authors define institutions as: “humanly devised rules, norms, and beliefs that enable and constrain action and make social life predictable and meaningful” (Vargo & Lusch, 2016, p. 11). Thus, institutions provide the rules of the game that coordinate the interaction between actors in service ecosystems. These rules assist actors in rationalising in complex situations and reconciling conflicts, thus providing efficient ways to reduce thinking (Vargo & Lusch, 2016, pp. 11, 17). In other words, actors can rely on institutions when they make decisions and solve problems in a complex environment. The more the actors share an institution, the more they benefit from its power to coordinate their actions (Vargo & Lusch, 2016, p. 11).

Institutions play a crucial role in the value cocreation narrative of the S-D logic because they control the interaction between actors who integrate resources and exchange services in overlapping service ecosystems (Vargo and Lusch, 2016, p. 7). This notion strengthens the relational view of S-D logic and ecosystem perspective (Lusch & Vargo, 2018, p. 11).

The coordinating role of institutions poses a risk to value co-creation if actors act on autopilot and do not evaluate the appropriateness of an institution to the context they operate in when they integrate resources. This may lead to the establishment of dominant logics that restrict the development of new solutions (Vargo & Lusch, 2016, p. 11). However, institutions are neither fixed nor exogenous to the ecosystem. Grounding on previous work (Alderson, 1965), Vargo and Lusch (2016, p. 11) explain that institutions are generated by interaction among the actors in a system as well as interaction between separate systems. In this view, institutions are dynamic. Actors can break, make and maintain institution in a service ecosystem to cocreate value in novel ways (Koskela-Huotari, Edvardsson, Jonas, Sörhammar and Witell, 2016, p. 2964).

Institutions are proposed to constitute a major part of the context of service systems by Edvardsson, Kleinaltenkamp, Tronvoll, McHugh and Windahl (2014, p. 293). The authors explain that institutions play a key role in shaping service systems, resource integration and value co-creation processes, which in turn are key in shaping institutions. According to the authors (Edvardsson et al., 2014, p. 293) value co-creation involves a reciprocal reaction, where institutions influence actors' behaviour and actors' behaviour influences institutions. This notion is relevant to this study because this study explores a contextually determined phenomenon of service ecosystem well-being (Frow et al., 2019, p. 2667) in a previously unexplored context. According to Edvardsson et al. (2014, p. 296) institutional logic coordinates actors' co-creative activities beyond knowledge and skills.

An exploration of international marketing from a service ecosystem perspective by Akaka, Vargo and Lusch (2013, p. 1) shows that the complexity of context, which the authors regard as a distinguishing feature of international marketing, is influenced by the multiplicity of institutions and embeddedness of social networks. The authors advocate a dynamic view where institutions are continually reproduced as actors enact practices to integrate resources (Akaka et al., 2013, p. 12). They view the complexity of context as "a function of overlapping, intersecting, and even conflicting institutions, rather than fixed differences (e.g., in laws, currencies, language) across countries or cultures (e.g., Hofstede 1980)" (Akaka et al., 2013, p. 13). The dynamic view with its focus on the multiplicity of continuously reproduced institutions rather than on fixed differences between countries and cultures implies that the ecosystem perspective may give a fresh perspective into exploring how educational organizations act in multinational service ecosystems to cope with challenges caused by crises.

### **2.1.6 Service ecosystem levels**

Chandler and Vargo (2011, p. 36) identify three levels of context, which coincide with value cocreation process and evolve simultaneously: the micro, meso and

macro level. The authors explain that the micro level context frames exchange among individual actors, who form a dyad of two actors that directly serve each other (Chandler & Vargo, 2001, pp. 41, 44). They go on to elaborate that the meso-level context frames exchange among such dyads: here two actors do not need to be directly connected to serve one another and co-create value, but they can do so indirectly through serving a third actor. The authors further identify a meta layer that covers these above levels and influences exchange in service ecosystems.

The micro, meso and macro levels of ecosystem reflect different levels context, thus offering different foci for analysing service ecosystems. As service ecosystems do not have fixed boundaries, a researcher must define the service ecosystem under investigation and its boundaries (Lusch, Vargo and Gustafsson, 2016, p. 2960). This study focuses on the meso-level of the service ecosystem it explores. Here the meso-level encompasses the six HE organisations from the Southern and Northern countries, the associated partner organisations and stakeholders around the HE organisations including, for example, local government actors and NGOs.

### **2.1.7 Applicability to education**

The service ecosystem perspective has been shown to increase the understanding of the complexity and dynamics of a health care service ecosystems during the crisis caused by the Covid-19 pandemic by Brodie et al. (2021). According to the authors (Brodie et al., 2021, p. 226), the service perspective provides a framework that helps to understand how a system can rapidly adapt to crisis and become resilient. The authors conclude that the service ecosystem perspective leads to learning, adapting and developing a more resilient healthcare system for resource integration among actively collaborating actors (Brodie et al., 2021, p. 241). They go on to explain that by focusing on co-creation, this perspective reveals how actors can intervene and manage the crisis to reach better outcomes and overcome unfavourable outcomes. They also point out that the service ecosystem perspective shows how activities and resource combinations might change and new opportunities might arise during uncertainty. Thus, the service perspective seems to be applicable for exploring the field of education at a time of crisis.

The study conducted by Edvardsson and Tronvoll (2022) applies the service ecosystem perspective to explore value cocreation transformation during the Covid-19 crisis and uses empirical examples from service ecosystems in the fields of retail and HE. The examples from HE concern the delivery of courses and teaching, as well as how scholars and students accommodate new ways of collaboration and how universities change institutional arrangements (Edvardsson & Tronvoll, 2022, p. 6). It is thus assumed in this study that the service perspective is suitable also for exploring multinational collaboration in educational ecosystems that aim to develop a service for a local education system.

The S-D logic lens has been used to investigate the challenges posed by the application of traditional management practices of the business sector to managing HE by Díaz-Méndez, Parades and Saren (2019). The authors challenge the



student-as-customer metaphor inherent in such practices by arguing that universities have multiple beneficiaries (e.g. employers, society) that can also be referred to as customer (Díaz-Méndez et al., 2019, p. 5). Even though the study focuses on the student-teacher dyad, the authors consider the higher education system as a complex system of value co-creating and resource integrating actors (Díaz-Méndez et al., 2019, p. 9). They suggest that further research should explore the involvement of other actors, such as employers, society and government in the higher education value co-creation processes and that the meso-level and macro level of the higher education system be included in the analysis. (Díaz-Méndez et al., 2019, p. 10). This view points to the applicability of the service ecosystem perspective in the field of education.

The service-ecosystem perspective has also been used in the field of education, for example, to investigate intellectual capital in HE by (Polese, Ciasullo, Troisi, Maione, 2017) and the influence of student evaluation surveys on the cocreation processes in HE (Díaz-Méndez, Saren and Gummesson, 2017). The results of Polese et al. (2017, section 6. Conclusion, limitations and insights for future research) imply the suitability of the service ecosystem view for exploring knowledge exchange and resource integration and the relationships of the university ecosystem's actors. Díaz-Méndez et al. (2017, p. 767) imply that it is important to HE organisations to embrace the service ecosystem approach to preserve the value co-creation processes that occur in the interactions among HE actors.

## **2.2 Service ecosystem emergence and well-being**

### **2.2.1 Ecosystems adjust to external changes and disruptions**

The COVID-19 pandemic has disrupted education globally causing the worst education crisis on record (The World Bank, UNESCO & UNICEF, 2021, p. 4). It has revealed inequalities in education systems, hitting the most vulnerable students that come from disadvantaged background hardest (Schleicher, 2020, p. 4). As countries have closed their borders, the Covid-19 crisis has severely affected HE and exposed the value proposition of universities that promises students networking and collaboration (Schleicher, 2020, p. 10). This has naturally also affected international collaboration among the HE organisations that seek solutions for the learning crisis.

The World Bank, UNESCO and UNICEF (2021, p. 4) emphasise the need to use the Covid-19 crisis as an opportunity to develop education. In the complex field of education, the way forward seems to require complex solutions that are based on systems thinking. The World Bank, UNESCO and UNICEF (2021, p. 40) advocate systematic implementation research in identifying capacity constraints at the various levels of the education system and they call for global collaboration in research and development. Drawing on the successful collaboration within the

global public health community, the organisations go on to demand that the education community search for possibilities to improve knowledge sharing and collaboration through co-creation approaches. Recent research on education's response to the Covid-19 pandemic advocates making education systems more resilient and stresses the need to focus on equity and inclusion (Reuge et al., 2021, pp. 2-4).

From the service ecosystem perspective, the Covid-19 pandemic has caused a service mega-disruption (SMD) in HE. SMDs are defined by Kabadayi, O'Connor and Tuzovic (2020, p. 810) as unforeseen service market disturbances caused by a pandemic. The authors characterise SMDs as disturbances that occur on a massive scale and simultaneously affect multiple stakeholders and service ecosystems, and that are difficult to recover from (2020, p. 810). They explain that SMDs can be felt in and between different levels of ecosystems by nations and economies, service industries and individuals, and point out that their effects are very noticeable when the service ecosystems are interrelated (Kabadayi et al., 2020, p. 812). The authors conclude that SMDs remind us of the importance of collaborations and partnerships between service organizations and other actors at different levels of an ecosystem (Kabadayi et al., 2020, p. 815). They then underscore the global effects of SMDs and view flexibility and agility as critical for discovering innovative solutions that help service organisations cope with crises.

Service ecosystems are known to adapt to external stress and environmental jolts that cause disturbances. Service ecosystems are self-adjusting systems of actors who integrate resources (Vargo & Lusch, 2016, p. 14) and they constantly evolve through the changes resulting from external factors (Frow et al., 2019, pp. 2666). Drawing on natural sciences (Costanza & Mageau, 1999), Frow et al. (2019, 2663) point out that the key principles concerning biological ecosystems also apply to service ecosystems. A healthy biological ecosystem is sustainable and it has "the ability to maintain its structure (organization) and function (vigor) over time in the face of external stress (resilience)" (Costanza & Mageau, 1999, p. 105). When a service ecosystem copes with stressors, maintains its stability and exhibits resilience and potential for resource integration, it emerges (Frow et al., 2019, p. 2666). Emergence involves multiple actors and, thus, it is beyond the control of any single actor (Chandler, Danatzis, Wernicke, Akaka & Reynolds, 2019, p. 85). At a time of conflicts and external shocks, service ecosystems transform through actors' resource integration and value cocreation, which can lead to positive or adverse outcomes (Skålen, Aal & Edvardsson, 2015, pp. 250, 262). The capacity of the ecosystem to cope with stressors and jolts through the process of adapting and self-adjusting are characteristics of service ecosystem well-being (Frow et al., 2019, p. 2668).

The disruptions service ecosystems experience are known to result in frequent changes to institutional arrangements among actors (Banoun, Dufour and Andiappan, 2016, p. 2990). Such changes affect the interaction among actors because it is assumed by the S-D logic that resource integrating actors act within the shared norms and rules provided by institutions (Edvardsson et al., 2014; Vargo & Lusch, 2016). The coordination provided institutions is essential because resource integration requires collaboration (Kleinaltenkamp, Brodie, Frow,

Hughes, Peters & Woratchek, 2012, p. 203) and the more actors share an institution, the more mechanisms become available for the coordination of the system, which will benefit everyone (Ng and Wakenshaw, 2018, p. 527).

The disruptions in service ecosystems and their effects on the prevailing institutions have been studied in the realm of innovations. Jaakkola, Aarikka-Stenroos and Ritala (2019, p. 497) explain that at the same time as innovations aim to support value cocreation they can cause disruptions that can challenge the prevailing practices. Grounding on previous research, the authors point out that diverging institutional logics are the main source of tensions and disruption in value cocreation in health care systems and that they hinder collaboration (Jaakkola et al., 2019, p. 510). The authors then argue that a sufficient level of convergence in logics among actors of a service ecosystem is needed for successful innovating. They continue by stating that actors need to overcome the challenges posed by competing and conflicting institutional logics. The authors propose that to support the emergence of a partially shared view of a new service among actors, communication and engagement should be increased (Jaakkola et al., 2019, p. 510).

Changes in institutional arrangements together with simultaneous changes in actors' mental models at the time of the Covid-19 crisis have been found to drive the transformation of value cocreation in education service ecosystems by Edvardsson and Tronvoll (2022). The authors note that in the context of education service ecosystems, the Covid-19 crisis stimulated innovation and change when diverse distance-learning solutions were developed by governments and partners worldwide and a rapid transition to using digital platforms to support communication and learning took place (Edvardsson and Tronvoll, 2022, p. 6). They go on to explain that while scholars and students had to change their mental models to accommodate the new ways of collaboration, universities had to change institutional arrangements by introducing new norms and rules for lecturers. They further conclude that these changes were the basis for the behavioural shifts in the education service system. The study shows that the macro-level changes in institutions and micro level changes in actors' mental models were enabled by digital platforms, which eventually drove value co-creation transformation (Edvardsson & Tronvoll, 2022, pp. 2, 5). It also shows that without digital platforms as an enabler, the speed of the transformation would have been slower (Edvardsson & Tronvoll, 2022, p. 5). The digital platforms are facilitators of collaboration and free flow of information. (Edvardsson & Tronvoll, 2022, p. 9).

In this study, the focus is on investigating the well-being of an ecosystem that is built around a structural project in the field of education rather than on the delivery of courses. Yet the results of Edvardsson and Tronvoll (2022) concerning changes in institutional arrangements during the Covid-19 crisis in HE are assumed to illuminate how the actors cope with a disruption of a shared institution, after which the only possibility for sharing knowledge and expertise between the partners from different countries is offered by digital technology.

Institutions, or rather the lack of development of new institutions, has also been found to affect the evolution of the eHealth service ecosystem during the

Covid-19 crisis by Sebastiani and Anzivino (2022). The authors show that the evolution of the Italian eHealth service ecosystem was inhibited by the fact that new institutions were not yet developed for the new situation caused by the pandemic (Sebastiani & Anzivino, 2022, p. 2043). They further explain that this led to a lack of mutual understanding and mutual worldviews as well as lack of coordination, which inhibited the development of the service ecosystem. Drawing on Lusch, Vargo and Gustafsson (2016), the authors point out that the evolution of eHealth due to the Covid-19 pandemic is an institutionalisation process where rules are developed and shared (Sebastiani & Anzivino, 2022, p. 2039). Their results also imply that the evolution of the ecosystem was affected by technological development and diffusion (Sebastiani & Anzivino, 2022, p. 2041) and that this process was accelerated due to the improvement of technology (Sebastiani & Anzivino, 2022, p. 2042). Interestingly, the inhibitors of the evolution included short sighted use of technological resources and a lack of virtual context where actors are coordinated and can interact and share best practices (Sebastiani & Anzivino, 2022, p. 2043).

### **2.2.2 Actors have a capacity to shape institutions**

It is clear that actors can react to changes in institutions and that they can create, break and maintain institutional arrangements, thus inducing institutional change (Koskela-Huotari et al., 2016, p. 2964; Pop et al., 2018, p. 593). This was also seen during the Covid-19 pandemic in the field of education when universities changed institutional arrangements by introducing new norms and rules to lecturers for giving tuition during the Covid-19 crisis (Edvardsson & Tornvoll, 2022, p. 6). Institutions are not exogenous to the ecosystem, but actors can engage in institutional work and build institutions (Vargo and Lush, 2016; Frow et al., 2016, p. 33). The actors of an ecosystem have agency. It allows actors to take actions that shape the ecosystem (Lusch & Vargo, 2014, p. 164). Agency has been used to refer to an ability to act and coordinate actions in relation to the actions of others (Mele, Nenonen, Pels, Storbacka, Nariswari & Kaartemo, 2018, p. 526) and to the capacity of an individual or group of actors to act (Taillard, Peters, Pels & Mele, 2016, p. 2974).

According to Taillard et al. (2016, p. 2973), service ecosystem emergence is driven by collective agency that is enabled by shared intentions among actors. The authors ground on (Giddens, 1984) when they explain that a service ecosystem is a social structure that exhibits institutional arrangements, which together with agency are mutually constitutive entities of the ecosystem (Taillard et al., 2016, p. 2972). They conceptualise the forming of a service ecosystem as “an emergent process in which individual and collective agency, together with the institutional arrangements of the social system in which they operate, are mutually constitutive entities of that system” (Taillard et al., p. 2972).

Mele et al. (2018, p. 522) point out that the definition of ecosystem puts the focus on networks and actors who have agency and can act liberally and purposefully. They ask what happens when actors do not share institutional logics. Their study shows that there is a dark side of agency that emerges when actors

deliberately attempt to influence a service ecosystem to achieve self-interested benefits even when they understand that their actions inhibit the work of other actors in the service ecosystem and can be detrimental to them (Mele et al., 2018, p. 521).

So, agency involves actors' capacity to shape the service ecosystem (Taillard, 2016, p. 2979). By inducing institutional change, actors can facilitate and shape interactions and collaborations in a service ecosystem (Pop et al., 2018). Pop et al. (2016, p. 610) show that companies can facilitate interactions with customers in a service ecosystem through institutional change. With institutions they refer to, for example, common language among actors and industry practices that support interaction and collaboration with customers. The authors advocate an active role for managers in identifying situations that enable or hamper interactions and collaborations and underscore the importance of creating institutional change instead of taking institutions for granted (Pop et al., 2018, p. 610).

Suddaby, Viale and Gendron (2016, p. 227) emphasise the role of reflexivity in shaping prevailing institutions. The authors explain that if actors aim to shape the prevailing institutions, they first need to become aware of them, and what they need in this process is reflexivity. Recent research on ecosystem service design also highlights the importance of reflexivity in intentional and long-term change (Vink, Koskela-Huotari, Tronvoll, Edvarsson, Wetter-Edman, 2021, p. 178). Grounding on Schön (1992) Vink et al. (2021, p. 175) state that the form of service ecosystems is affected by recursive loops of reflection (actors recognise the institutions) and reformation (actors move the institutions). Drawing on previous research, the authors go on to note that actors' awareness of institutional arrangements is enabled by ongoing institutional complexity.

Institutional complexity in turn has been shown to drive innovation by making several "institutional toolkits" available to actors (Siltaloppi, Koskela-Huotari & Vargo, 2016). Siltaloppi et al. (2016, pp. 333, 337) demonstrate that when actors are faced with institutional complexity, they can use several "institutional toolkits" to construct new solutions to the problems they encounter. The authors go on to explain that these toolkits are dynamic and that they comprise, for example, cultural symbols, shared assumptions and meanings and strategies of action that guide or constrain action. They continue by stating that complexity of context tones down the influence of prevailing institutional arrangements, activates problem solving and gives actors access to multiple toolkits for solving problems and creating new solutions.

So, diverging institutions logics have been found to be the main sources of tension and disruption in value co-creation (Jaakkola et al., 2019) and the lack of shared institutions has been shown to inhibit the evolution of the eHealth service ecosystem (Sebastiani & Anzivino, 2021). A lack of shared institutions among actors has also been shown to allow deliberate actions with self-interested motives that are detrimental to other actors (Mele et al., 2018). Yet institutional complexity has also been shown to offer actors diverse toolkits for solving problems and drive innovation by toning down the prevailing institutions (Siltaloppi et al., 2016). The changes in institutional arrangements have also been found to drive transformation and value cocreation in delivering HE during the Covid-19 crisis

(Edvardsson & Tronvoll, 2022). By exploring a case where a shared institution among the actors is disrupted by the Covid-19 crisis, this study gives insights into how a service ecosystem in the field of education copes with the disruption of a shared institution in a multinational context that is characterised by institutional complexity.

## **2.3 Approaches to well-being using the service ecosystem perspective**

System level well-being has only recently gained attention in service research. This section gives an overview of system level as it is approached from the service ecosystem perspective (Frow et al., 2016; Beirão et al., 2017, Frow et al., 2019; Brodie et al., 2021; Finsterwalder and Kuppelwieser, 2022) both in the context of the Covid-19 crisis and in a noncrisis situation. System level well-being has been explored from other perspectives by Hepi, Foote, Finsterwalder, Moana-o-Hinerangi, Carswell & Baker (2017), who combine service theory, activity theory and engagement theory, and by Leo, Laud and Chou (2019), who draw on organisational theory and interestingly use the activity system (Engeström, 2014) as a unit of analysis. These system level studies are not discussed here because this study uses the service ecosystem perspective.

### **2.3.1 Approaches applied to non-crisis situations**

Well-being has been addressed in the S-D logic as the adaptability and survivability of the system (Vargo, Maglio & Akaka, 2008) and as the viability (Lusch & Vargo, 2018, pp. 11-12) of the system. Yet only few studies that draw on the SD logic use the service ecosystem perspective to investigate system level well-being. One of such studies has been conducted by Frow et al. (2016), who approach well-being through co-creation practices and how they shape the health care ecosystem. Grounding on Vargo and Lusch (2008), the authors characterise ecosystem well-being by the ecosystem's ability to adapt to the changes in the environment (Frow et al., 2016, p. 26). The authors understand ecosystem well-being in the context of health care as defined by Mazzara (2014, p. 13) to be an end state, which allows the whole ecosystem to collaborate to enhance efficiency and effectiveness.

Frow et al. (2016, p. 35) present a typology of cocreation practices and indicative measures, which provide insights into the well-being of a service ecosystem. With cocreation practices the authors refer to activities in which actors engage collaboratively and through interacting within a specific social context (Frow et al., 2016, p. 26). These practices endow actors with social capital; provide the ecosystem with a shared language, symbols and stories; shape actors' mental models; impact the ecosystem created and constrained by structures and institutions that form their context; shape value propositions and inspire new value propositions; affect access to resources; forge new relationships and generate interactive and experiential opportunities; and intentionally cause destruction and

imbalance (Frow et al., 2016, pp. 30, 34). The dynamic changes that happen as the result of resource sharing during the cocreation practices shape the composition of the ecosystem, the strength and relationships between actors and the availability of resources (Frow et al., 2016, p. 35).

Frow et al. (2016, p. 35) highlight the importance of using a broad perspective to manage co-creation practices and emphasise the need to extend managerial practice to encompass collaboration between actors in all ecosystem levels.

Service ecosystem well-being and viability has been explored through value co-creation factors and value outcomes at the different levels of the health care ecosystem by Beirão et al. (2017) in a study concerning the Portuguese health information ecosystem. The authors identify value co-creation factors, which allow actors to integrate resources, and as a result, co-create value outcomes that contribute to the health care ecosystem's viability and well-being (Beirão et al., 2017, p. 242). These factors differ across the ecosystem levels, but they are also interdependent (Beirão et al., 2017, p. 227). The factors are: resource access, resource sharing, resource recombination, resource monitoring and government/institutions generation (Beirão et al., 2017, p. 242).

Beirão et al. (2017, p. 242) surface the critical roles of the macro-level governance/institution generation and the actions of the keystone actors in fostering ecosystem viability at all levels of the ecosystem. Governance/institutions generation is regarded as crucial to value co-creation because the rules and norms that govern interaction among actors minimize uncertainty among the actors at all levels of the system (Beirão et al., 2017, p. 244). The authors underscore that ecosystem keystone players must ensure that shared norms, rules and language exist in the ecosystem, because they shape interactions and resource integration and foster ecosystem evolution and viability (Beirão et al., 2017, p. 244). The authors go on to point out the important role keystone players have in creating conditions that enhance innovation. They conclude that keystone players should promote resource integration for each actor, thus fostering resource density and ecosystem viability (Beirão et al., 2017, p. 227).

The co-creation practices (Frow et al., 2016) and value cocreation factors (Beirão et al., 2017) share similarities in terms of their focus on resource integration and collaboration among actors and how they shape the service ecosystem, thus contributing to its viability and well-being. Both studies identify the important role of institutions to system level well-being. While Beirão et al. (2017) emphasise the critical role of macro level institution generation, the co-creation practices identified by Frow et al. (2016) point out the constraining power of institutions.

Service ecosystem well-being has been conceptualized and characterized by Frow et al. (2019) in their seminal study. The study shows how service ecosystem well-being, "a holistic, dynamic, positive state that is contextually-determined" (Frow et al., 2019, p. 2667), emerges. It shows that a shared world view among the actors of the service ecosystem is crucial in this process. A shared world view aligns institutionally embedded practices and, as a result, it fosters the resilience and successful emergence of an ecosystem (Frow et al., 2019, p. 2681). It establishes institutional structures that guide resource integration, thus

enabling the ecosystem to cope with disruptors (Frow et al, 2019, p. 2681). When practices are guided by a shared worldview, the service ecosystem is more likely to successfully adapt to disruptions throughout its different levels, whereas less evident institutional norms prevent the ecosystem from adapting, which may cause disruption (Frow et al., 2019, p. 2681). The study also shows the importance of involving keystone actors in micro-level interactions for the establishment of norms and rules, which eventually contribute to ecosystem well-being (Frow et al, 2019, p. 2681).

The conceptualisation and characterisation of service ecosystem well-being by Frow et al (2019) underscores that service ecosystem well-being is determined by context. The authors explain that since well-being is a relative state, it emerges in an iterative process over time as each end state of well-being provides a context for further iterations and emergence (Frow et al., 2019, p. 2681). They (Frow et al., 2019, p. 2681) call for explorations of service ecosystem well-being in other contexts than health care. This study responds to the call by using their framework and characterisation of well-being to explore service ecosystem well-being in a case that is situated in a new context. The service ecosystem well-being framework allows viewing system level well-being from the service ecosystem perspective and through SD logic lens. It gives a central role to a shared worldview and its power to align institutionally embedded practices and foster the emergence of the ecosystem. It is thus assumed to be suitable for investigating ecosystem well-being in a situation where an institution shared among actors is disrupted because of the Covid-19 crisis.

The seminal study of Frow et al. (2019) has important implications to managers in service ecosystems. The authors state that managers should constantly be engaged in shaping the well-being of a service ecosystem and promoting conditions in which it can be achieved (Frow et al., 2019, p. 2682). They also foreground the importance of adopting a broad focus across the ecosystem levels and embedding practices that align across the ecosystem. They go on to highlight the importance of establishing a shared worldview by challenging institutional norms and establishing common practices that fit together and help to cope with disruptions.

### **2.3.2 The characterisation of and framework for service ecosystem well-being used in this study**

Based on the findings of an exploration in a health care context in a major city in a Western country Frow et al. (2019, pp. 2672 - 2680) identify the following six characteristics of ecosystem well-being:

1. Ecosystem well-being is enhanced when practices achieve a configurational fit.
2. Ecosystem well-being is enhanced by institutional arrangements that are purposefully guided by a shared worldview.
3. Ecosystem well-being is supported by iteratively reinforcing, co-evolving and self-adjusting ecosystem levels.



4. Ecosystem well-being is enhanced by ecosystem resilience and an ability to adapt to disruptions.
5. Emergence through the adoption of flexible, resource integrating practices.
6. Ecosystem well-being resulting in enhanced value co-creation.

Grounding these findings and their conceptualization of well-being that is based on the service dominant logic, the authors characterise service ecosystem well-being as:

*“a holistic, dynamic, positive state that is contextually determined and is characterized by: practices that achieve aligned configurational fit; institutional arrangements that are purposefully guided by a shared worldview; levels of the ecosystem that are iteratively reinforcing, co-evolving and self-adjusting; resilience and an ability for the ecosystem to adapt to disruptions; emergence through the adoption of flexible, resource integrating practices; and resulting in shared value co-creation” (Frow et al., 2019, p. 2667).*

This characterisation emphasises that service ecosystem well-being is a positive state that is determined by context. The authors characterise service ecosystem well-being as complex and multidimensional in nature, involving several different resource integrating actors (Frow et al., 2019, p. 2668). They go on to describe it as a dynamic state where the ecosystem levels continuously cope with changes through self-adjustment. They then state that ecosystem well-being depends on the ecosystem’s resilience and ability to cope with stressors by adapting and self-adjusting. They further explain that well-being increases when purposeful practices, which result from interactions and activities among actors and are guided by a shared worldview, achieve a configurational fit. The authors point out that the purposeful practices can also be shaped by keystone actors. They further state that a shared purpose among actors helps the ecosystem cope with disruptions. Finally, they point out that the configurational fit of appropriate resource-integrating practices increases resource density, which leads to value co-creation and benefits the ecosystem.

The conceptual framework of service ecosystem well-being explicates a process where a shared worldview establishes institutions that guide resource integration practices and help the ecosystem cope with disruptions and emerge (Frow et al., 2019, p. 2681). It identifies five components (Frow et al., 2019, p. 2663-2664), which are described in figure 1. In the centre of the framework is the specific ecosystem and its relationship to the larger service ecosystem. It comprises resource integrating practices and institutions that guide the practices. It also encompasses mutually adapting levels of the ecosystem. The left component represents the shared worldview and other characteristics facilitating well-being, which affect the ecosystem and its subsequent emergence. The right component represents the emergence of the ecosystem. The upper component represents supportive factors impacting ecosystem well-being, and the lower component represents disruptive factors impacting ecosystem well-being. The five main components of the framework are next discussed.

This conceptual framework has been applied by Frow et al. (2019, p. 2660) to investigate a hospital service ecosystem, the macro level referring to the hospital, the meso-level comprising aggregates of actors and their interactions within a hospital ward, and the micro level comprising dyadic interactions between actors. The meta level refers to the wider ecosystem that the specific ecosystem is part of (Frow et al., 2019, p. 2660). The multinational service ecosystem in the case under investigation also involves different types of actors and levels. Following the analysis of Beirão et al. (2017), the ecosystem levels are categorised according to national, organisational/regional/local and individual levels in this study. The levels defined as follows:

- Micro level: individual level (e.g. lecturers, specialists, teachers, rectors, officers in NGO's and associations and government organisations and family members)
- Meso-level: organisational, regional and local level organisations (e.g. HE organisations, NGOs, associations, secondary schools, regional government)
- Macro-level: national level (e.g. nation level governmental actors in education)

The larger service ecosystem, or the meta-level includes political, social and economic institutions and society that are exogenous to the service ecosystem investigated. It is similar to the external environment in the framework for health care and well-being during the Covid-19 crisis in Brodie et al. (2021).

This study focuses on the meso-level of the service ecosystem because the interactions between HE organisations and their partners are assumed to give information that is relevant to the research problem. Thus, the service ecosystem well-being framework of Frow et al. (2019), which focuses on the meso-level, is assumed to be applicable to this study.

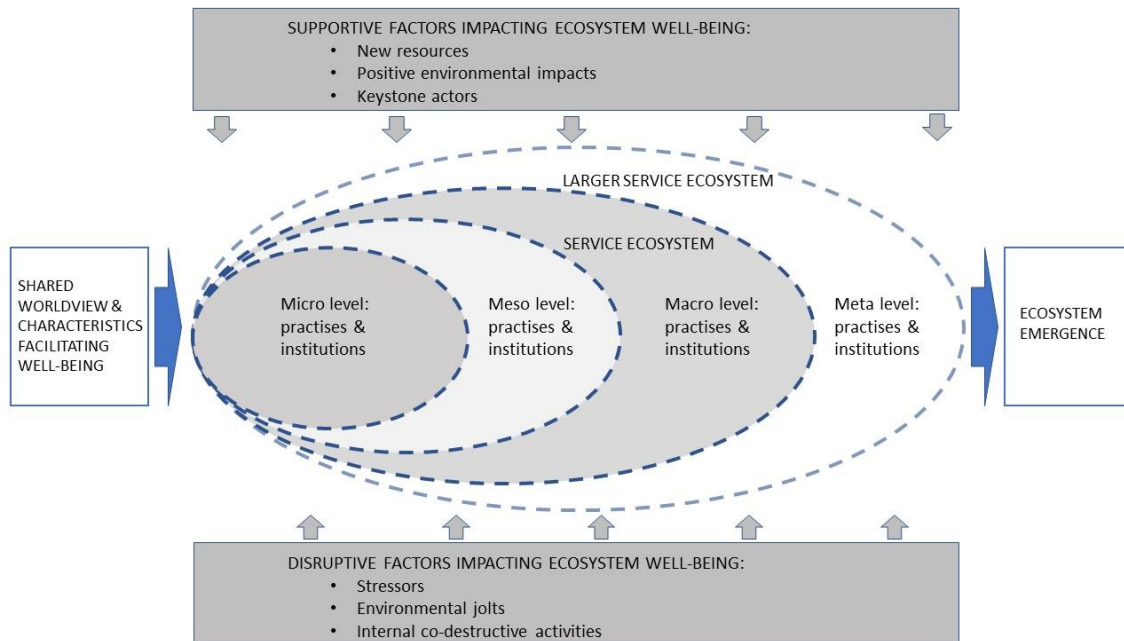


FIGURE 1 Conceptualization of service ecosystem well-being created by Frow et al. (2019, p. 2664).

*Shared world-view.* The shared worldview as a facilitator of well-being has a crucial role in the framework. Grounding on Valkokari (2015), Frow et al. (2019, p. 2664) point out that intentionality is a key feature that distinguishes service ecosystems from biological ecosystems. Valkokari (2015, p. 21) states that man-made ecosystems involve intentional organising, which shapes the attraction, selection and retention of ecosystem members. She continues by explaining that intentional interaction among ecosystem actors strengthens the dependencies between the actors. Frow et al. (2019, p. 2664) highlight the potential a shared worldview, purpose and mindset can have on a service ecosystem's vigour. Drawing on previous research, they further point out that actors with a shared world view can assume more intentional and active roles in shaping ecosystems.

In this framework, a shared worldview together with other characteristics facilitating well-being impacts the ecosystem at the centre of the framework and its emergence (Frow et al., 2019, p. 2663). It increases the efficiency and effectiveness of resource integration and the resource density in the ecosystem (Frow et al., 2019, pp. 2663 - 2664).

*Service ecosystem with practices, institutions and mutually adapting levels.* At the heart of the framework is the service ecosystem and its micro, meso, macro and meta levels, which are mutually adapting. The ecosystem consists of resource integrating practices that are structured and guided by institutional rules and norms (Frow et al., 2019, p. 2665). Drawing on Nicolini (2012) the authors explain that the ecosystem forms a configuration of practices and that the "configurational fit" of the resource-sharing practices is affected by the shared worldview among the actors (Frow et al., 2019, p. 2665). They ground on previous research (Siggelkow, 2002) and further explain that configurations of practices attempt to achieve a stable evolutionary state of configurational fit. Grounding on Normann

(2001) the authors point out that when a configurational fit of practices exists, resource density increases (Frow et al., 2019, p. 2665). Resource density refers to the best combination of resources in a specific situation or a degree to which the “mobilization of resources for a ‘time/space/actor’ unit can take place” (Normann, 2001, p. 21).

Grounding on previous research, Frow et al. (2018, p. 2665) point out that the practices within the ecosystem are guided by institutional structures that limit and enable interactions between actors across the ecosystem. The authors go on to explain that practices, which are guided by the prevailing worldview among actors and structural guidelines, forge relationships. They state that service ecosystem is a dynamic state and that occurs when a configurational fit of practices exists (Frow et al., 2019, p. 2665). Drawing on Giddens (1984), the authors then note that the enactment of practices can also influence the institutional structures within the ecosystem, and as a result form, change and reform social systems. Referring to the findings of Koskela-Huotari et al. (2016), the authors also explain that adoption of supportive practices entails reconfiguring institutional rules (Frow et al., 2019, p. 2665).

*Factors supportive or disruptive of ecosystem well-being.* This component comprises the external and internal influences that can support or disrupt service ecosystem well-being. Frow et al. (2019, p. 2666) regard new resources, positive environmental factors and keystone actors as supporting factors of well-being. They go on to describe keystone actors as individual actors who are capable of shaping ecosystem well-being through their leadership and by establishing activities that positively impact ecosystem well-being and value co-creation. With disruptive factors the authors refer to stressors that affect the various ecosystem levels, such as environmental catastrophes and actors’ resistance to change, which can arise from a new or modified worldview. Frow et al. (2019, p. 2666) characterise robust ecosystems with their capability to rebound from disturbances and emerge. They continue by suggesting that the ability of the service ecosystem to successfully deal with disruptions and adjust its interactions to changes in resource requirements that are caused by stressors is a useful indicator of well-being.

*Ecosystem emergence.* This component represents the constant emergence of an ecosystem, which occurs as the result of both the changes that happen on the ecosystem’s multiple levels and the changes caused by factors external to the ecosystem (Frow et al., 2019, p. 2667). Drawing on previous research in natural sciences, the authors characterise emergence as a phenomenon that takes place when an ecosystem can cope with stressors and maintain its stability, and when it shows resilience and potential for resource integration (Frow et al., 2019, p. 2667). They continue by explaining that stability does not mean inactivity, but it reflects the systemic adaptation and renewed configurations of the service ecosystem. Drawing on Lusch et al. (2016, p. 2960) the authors point out that the evolution of an ecosystem towards at least some stability is part of an institutionalization process (Frow et al., 2019, p. 2667).

Frow et al. (2019, p. 2667) also note that emergence is linked to the capability of the ecosystem to adapt to new practices, such as the introduction of new re-

sources to the ecosystem. Service ecosystems have been shown to evolve and alternate between phases of tensions and solutions that affect their stability by Banoun et al. (2016, p. 2990). Drawing on these findings, Frow et al. (2019, p. 2667) define resilience as the ecosystem's ability to withstand disruption and find ways to reduce tensions and find solutions. They go on to explain that such solutions may involve adaptation of practices, mental models and configurations, and strengthening of relationships within the ecosystem (Frow et al. 2019, p. 2667). They continue by elaborating that the ability of the ecosystem to adapt to a new situation quickly and responsively may enhance resiliency and explain that the sensing and learning processes of the ecosystem play an important role here.

Grounding on previous research, the authors state that well-being does not necessarily mean an optimal condition of the ecosystem and explain that ecosystems must accommodate multiple goals (Frow et al. 2019, p. 2667). They continue by noting that if emergence does not support well-being, the ecosystem may fail. Grounding on Skålen et al. (2015) they go on to point out a threat of destruction can motivate the transformation of ecosystem and lead to new combinations of resources that bring about change.

### **2.3.3 Approaches linking service ecosystem well-being to crises**

Finsterwalder and Kuppelwieser (2020) have contextualised how pandemics influence actors' well-being across service ecosystem levels. Their Resources-challenges equilibrium (RCE) framework for service ecosystem well-being builds on the work of Chen et al. (2020) and extends it to the system level.

At the core of framework is the understanding of Dodge et al. (2012) of well-being as a state. This is in line with Frow et al.'s (2019) view of ecosystem well-being as pointed out by Finsterwalder & Kuppelwieser (2020, p. 1112). Dodge et al. (2012, p. 230) define well-being as "the balance point between an individual's resource pool and the challenges faced". Finsterwalder and Kuppelwieser (2020, pp. 1113, 1115) apply this notion to the system level. The authors explain that the actors at a certain ecosystem level balance between challenges and available resources, and as a result, their activities influence well-being both within this level and across service ecosystem levels. They go on to emphasise that such balancing also happens when the service ecosystem encounters positive or negative shocks, such as the Covid-19 pandemic. They further point out that regaining equilibrium during a crisis is easier when the service ecosystem is more flexible.

The authors define service ecosystem well-being as: "a system's transformational capability to balance challenges and resources within and across system levels to achieve system level-specific and overall service ecosystem equilibria and well-being via new actor and resource combinations, in order to adapt to system inherent or external critical incidents" (Finsterwalder and Kuppelwieser, 2020, p. 1115). This understanding of ecosystem well-being emphasises the system's ability to transform across its all levels when it is hit by a critical incident. According to this approach, well-being seems to emerge through actors' collective balancing acts at the different levels of the ecosystem.

Finsterwalder and Kuppelwieser (2020) propose that managers of businesses and governmental agencies and policy makers need to understand the interplay between the different ecosystem levels and the challenges actors at the different level face versus the resources that are available to them. They also highlight the need to learn new behaviours and to introduce new processes in society to maintain well-being during crises (Finsterwalder and Kuppelwieser, 2020, p. 1107).

The complexity of service ecosystems during the Covid-19 crises has also been investigated by Brodie et al. (2021) in a study that uses the Covid-19 crisis in the Australian healthcare ecosystem as an illustrative case. The study the importance of managerial flexibility, learning and knowledge sharing during a time of crisis and how they can increase resilience in the ecosystem (Brodie et al., 2021, p. 225). The authors also show how a shared worldview, institutional practices and supportive and disruptive factors affect the well-being of a service ecosystem during the Covid-19 crisis (Brodie et al., 2021, p. 225).

The above results become apparent through the three processes of the framework for health care and well-being during the Covid-19 crisis developed by Brodie et al. (2021). The framework has been adapted from the framework of Frow et al. (2019) to more explicitly focus on factors that directly influence the health care ecosystem in crisis (Brodie et al., 2021, p. 229). The five basic components of these two frameworks are similar with one exception: Brodie et al. (2021, p. 229) exclude the larger service ecosystem with meta level practices and institutions from the ecosystem and regard it as the external environment. The external environment comprises political, social and economic institutions and society, including the scientific environment, which are exogenous to the system they study. By separating the external environment, such as political, social and economic institutions and society, from the service ecosystem, they put emphasis on the effects of the Covid-19 crisis. The three processes identified by Brodie et al. (2021) are introduced below because of their relevance to this small-scale study, which explores an ecosystem that faces the Covid-19 crisis.

The first of the three processes is shifting from an initial to an improved ecosystem state. The authors emphasise the role of a shared world view as a facilitator of ecosystem well-being in this process (Brodie et al., 2021, p. 235). They go on to explain that purposeful interactions between actors strengthen their dependencies and help them respond to a crisis. They then describe the health care ecosystem as dynamic and evolving and, drawing on Vargo and Lusch (2016), they point out that the evolution towards stability is a part of an institutionalization process. The authors also note that crises mobilise actors (Brodie et al., 2021, p. 231). They continue by explaining that the services that are developed to control disruptive factors can combine to provide an improved service system. They then point out that interactions among actors involve sensing and learning processes, which allow the ecosystem to learn from experience, change and show resilience (Meynhardt et al., 2016, as cited in Brodie et al., 2021, p. 230). Their findings show that a crisis can have long term multilevel implications on service ecosystems and involve self-adjusting and learning based on experience (Brodie et al., 2021, p. 235).

The second process in the framework, the process that drives ecosystem practices, comprises the practices, institutions and the mutually adapting levels the ecosystem incorporates, which eventually lead to an improved state and well-being. This process reveals the power of the practices and institutions in shaping and influencing the collaboration between the actors at the different levels of the ecosystem. Brodie et al. (2021, pp. 230, 231) describe, for example, how information sharing can shape and reshape practices at the micro level during a crisis, and how the practices and institutions at the meso-level can allow adaptation and flexibility for unusual collaborations at a time of uncertainty. They also highlight the institutional influence the interactions at macro level may have on cooperation across the ecosystem. The authors continue by pointing out that practices and institutional arrangements are shaped by external influences and explain that such influences can lead to differences in the operation of healthcare systems in different states and countries, thus creating challenges to bring about change.

The findings concerning this process show the importance of a shared worldview to joint activities, which allow efficient resource integration (Brodie et al., 2021, p. 235). The authors state that skilful resource combination is as important as resource ownership because it can lead to new possibilities and innovation (Brodie et al., 2021, p. 235). They continue by noting the impact actors' collective strength and co-creation can have on producing superior outcomes. They also explain that the drivers of ecosystem activities that lead to a shared worldview include activities that facilitate resource integration and support relationships, which create social capital, shared communication and aligned mental models.

Finally, the process that moderates ecosystem practices comprises supportive and disruptive factors. The supportive factors include new valuable resources, such as key actors, that complement activities and enhance resilience (Brodie et al., 2021, p. 237). Disruptive factors comprise both minor stressors, which can maintain the current state, and major shocks, which can trigger new combinations and shape the ecosystem and lead to new application of resources (Brodie et al., 2021, p. 237). Brodie et al. (2021, p. 231) point out that actors need to learn to use supportive and disruptive factors to reach their outcomes. Grounding on the research of Starbuck (2017) they emphasise that actors also need to give up the practices that are made redundant by environmental changes and adopt new practices to enhance well-being. This is because poor and slow initial responses to crises lead to organizations going into a stage of "unlearning", where managers implement changes that do not threaten core strategies, which eventually have harmful and demoralizing effects (Starbuck, 2017, pp. 30, 35).

The above conceptualizations of well-being seem to highlight the interplay between different levels of the system and focus on resource integration among actors at different levels of the system. They underline a broad managerial approach and emphasise the need to actively manage across the different levels of the service ecosystem. System level well-being is viewed as a positive state (Frow et al., 2019, p. 2667) or an end state that allows the ecosystem to collaborate to enhance efficiency and effectiveness (Frow et al., 2019) or state where well-being exists (Finsterwalder & Kupplewieser, 2020). Emphasis is put on the importance

of institutional rules in ecosystem governance and their impact to resource integration and the role of keystone actors in establishing them (Frow et al., 2016; Beirão et al., 2017); Frow et al., 2019 and Brodie et al., 2021). The most recent studies (Frow et al., 2019 and Brodie et al., 2021) also highlight the importance of shared worldview.



### 3 RESEARCH METHOD AND DATA

This study is a qualitative case study that attempts to understand what affects service ecosystem well-being in the case under investigation. Case study research has been characterised as a research strategy and approach rather than a methodology or method (Eriksson & Koistinen, 2014, p. 4).

#### 3.1 Method

A researcher needs to recognise and justify the interlocking choices of the research design she or he uses, starting from the articulation of the researcher's epistemology and ontology (O'Gorman and MacIntosh (2015, pp. 50, 55, 59). In this study, the author assumes a subjective ontology, which sees the world as subjective and views reality as created of the perceptions and interactions of living subjects (O'Gorman & MacIntosh, 2015, p. 57, emphasis in the original). Thus, the well-being of the service ecosystem under investigation is understood to be constructed by the perceptions and interactions of the people researched and the author. Given the subjective perspective, the author's experience of multinational development projects in the field of education and multinational ecosystems affects the author's perceptions of collaboration in such projects and multinational ecosystems. These perceptions may have unintentionally impacted the choices made throughout the research process and they may have influenced, for example, the construction of the case, the interaction between the author and the researched during the interviews and the conclusions made by the author.

This study assumes an interpretivist epistemology. Interpretivism identifies fundamental differences between natural and human science and it also identifies that these differences arise from different aims, those of explaining and understanding (O'Gorman & MacIntosh, 2015, p. 65). Grounding on previous research, O'Gorman and Macintosh (2015, p. 65) point out that interpretivism allows the researcher to focus on understanding what is happening. The authors further state that the most important characteristics of interpretivism are the consideration of multiple realities revealed by the perspectives of different individual(s), the context of the phenomenon investigated, the contextual understanding and interpretation of data and the nature and depth of the involvement of the researcher. Assuming an interpretivist perspective means that any claims made in this study are based on the interpretation of the experience of those researched and the researcher, and thus on the multiple realities of the people involved. Also, the context of the case is in the core of this study because service ecosystem well-being is understood to be contextually determined and it is purposefully investigated in a previously unexplored context. The contextual understanding and interpretation of data relies on the perspectives of the different individuals involved in the study. It is to be noted that the author has only lived several years

in one of the national contexts that form the multinational context of the case explored, so the author's experience of this context may unwittingly affect the interpretation of data.

This study is an intensive case study because it is interested in the case itself rather than testing theoretical propositions (Eriksson and Kovalainen, 2016, p. 134). Intensive case studies aim to explore the case from the inside and construct and understanding from the perspectives of the people involved in (Eriksson and Kovalainen, 2016, p. 134). The main purpose of such studies is to offer interpretations of the case made by the researcher, who both constructs the case and analyses it through the perspectives of the people involved in the study (Eriksson and Kovalainen, 2016, p. 135). This study aims to understand the case through the interpretations that the author makes of the perceptions of the people involved in this study.

This study can be characterised as an intrinsic case study rather than an instrumental case study because it is interested in the case itself and learning from it, instead of treating it as instrumental in understanding something else (Stake, 1995, p. 3). So, how does a research question that focuses on service ecosystem well-being align with the approach used in an intrinsic case study? This study started when the author gained an access to a multinational structural project, which was perceived as extremely interesting from the perspective of the recent calls for HE organisations to engage in international service. It was assumed that the case might offer interesting insights because it involved actors from different levels of the service ecosystem, including macro-level keystone actors, and from several countries, HE organisations and stakeholders. An access to a service ecosystem built around a structural project aiming for structural change was also considered a rare opportunity. The author was initially interested in learning from the collaboration between the actors from the perspectives of service ecosystems and the S-D logic. The outbreak of the Covid-19 crisis provided a new and interesting context for the exploration and literature suggested that there is a need to explore service ecosystem well-being in previously unexplored contexts. Since various official documents demanded that Finland should use its expertise to solve common problems in the field of education (see 'Introduction'), the focus of the study was at first on learning how expertise and knowledge are shared and used by the actors of the case during the Covid-19 crisis, that is, the focus was on resource integration and how it would affect well-being at a time of crisis. However, when the 11 interviews were being analysed, the data was interpreted to contain several characteristics of service ecosystem well-being (Frow et al., 2019) and factors that specifically affected service ecosystem well-being in the case under investigation, which was situated in a previously unexplored context. Consequently, the focus shifted to learning what affects the well-being of service ecosystem during the Covid-19 crisis in the case under investigation.

The research process in intensive case studies is characterised by continuous dialogue of theory and empirical data (Eriksson & Kovalainen, 2016, pp. 135-136). At the same time, the linking of theoretical concepts with empirical investigation to engage readers to learn and act is considered a typical challenge of intensive case studies (Eriksson & Kovalainen, 2016, p. 136). A need for continuous

dialogue between theory and empirical data and the challenges to relate theoretical concepts to the investigation was also experienced in this study as the discussion about the shift in focus above shows. Such dialogue also took place as the case was constructed. During data analysis, a review of recent service ecosystem literature suggested that Covid-19 caused a disruption of a shared institution among the actors. This was interpreted to contribute to the setting and context of the case and to offer a possibility to learn from the situation. Also, as the data analysis proceeded, the involvement of the Southern stakeholders seemed to be much stronger than the involvement of the Northern stakeholders, which was not as clear at the beginning of the investigation when the project plan was used to construct the case. Thus, the definition of the case and the service ecosystem under investigation continued throughout the study, which is typical of an intensive case study research (Kovalainen & Koistinen, 2014, p. 6).

Intensive case studies have been reported to be subject to criticism because of lax analysis, lack of evidence and conclusions that are not justified (Eriksson & Koistinen, 2014, p. 9). This study attempts to combat such challenges and the challenges involved in linking theoretical concepts with the empirical investigation by explicitly connecting the findings to the concept of service ecosystem well-being and the used framework. This is done in 'Conclusions'. This information then serves as a basis for discussing the main contributions of the study. A thick description, or a verbalized interpretation that crystallizes the reasons behind a case (Eriksson & Kovalainen, 2016, pp. 134, 135), might have served the reader better and helped to present the meanings of the case. The linear-analytic structure was used instead because this reporting style is typical of case studies in business and economics (Eriksson & Koistinen, 2014, p. 41). This study provides the reader with several extracts of the to allow the reader to make judgments of the case. Yet the selection of the extracts represents the authors perceptions on what is interesting from the perspective of the research question.

This study could also be characterised as a descriptive case study, because it describes new procedures (Eriksson & Koistinen, 2014, p. 10) such as new ways of working that were adopted due to the Covid-19 crisis and that were interpreted to affect the well-being of the service ecosystem in the case studied. Eriksson and Koistinen (2014, p. 10) call descriptive case studies illustrative case studies when they describe things that have been achieved in a certain context. Ryan (2002, p. 114) explains that illustrative case studies illustrate new and possibly innovative practices developed by certain companies.

## **3.2 Data**

### **3.2.1 Data collection**

Data was gathered by interviewing 11 experts from six HE organisations, which were partners of a structural project. Three of the HE organisations were based

on three Northern countries and three of them were based on a Southern country. Two experts involved in the project were interviewed from all the organisations except for one organisation, from which only one expert was interviewed due to the composition of the project team. The interviewees were academics who worked for the project. Most of them were experienced in international projects between Northern and Southern countries in the field of HE. The interviews were conducted in December 2021 after the project had worked for approximately two years. The partners had met each other only once during the project before the interviews. This was in the project kick-off event, which took place in the Southern country before the outbreak of the Covid-19 crisis. Because of the varying Covid-19 situations in the involved countries, the partners did not know at the time of the interviews when it would be possible for them to travel to partner countries. The interviews were semi-structured and they lasted from 43 minutes 1 hour and 18 minutes. The above details of the interviews are summarised in table 1.

TABLE 1 Details about the interviews.

<b>North</b>		<b>Length of interview</b>
Country A	Northern HE 1, interviewee A	56 min
	Northern HE 1, interviewee B	1 h 5 min
Country B	Northern HE 2, interviewee C	55 min
	Northern HE 2, interviewee D	43 min
Country C	Northern HE 3, interviewee E	1 h 18 min
<b>South</b>		<b>Length of interview</b>
Country D	Southern HE 1, interviewee F	1 hour 9 min
	Southern HE 1, interviewee G	1 hour 10 min
	Southern HE 2, interviewee H	1 hour 11 min
	Southern HE 2, interviewee I	55 min
	Southern HE 3, interviewee J	58 min
	Southern HE 3, interviewee K	51 min

Before the interviews each interviewee was asked for their consent to participate in the interview and the study. They were informed of the purpose of the interviews, how the interviews are used and handled and the anonymisation of the interviews.

### 3.2.2 Data analysis

The data was analysed using thematic analysis. The phases of thematic analysis suggested by Braun and Clarke (2006, p. 87) were followed in the analysis. The process started by transcribing the interviews into text and reading the transcribed interviews to search for meanings and patterns. Initial codes were then gradually generated from chunks of text with certain meanings. As the work proceeded, codes were revised, new codes were generated and old codes were deleted. After coding the data, themes were searched for by considering whether groupings and combinations of codes would capture something important from the perspective of the research question and thus form a theme (Braun & Clarke, 2006, p. 82). This phase was done by sketching groupings and combinations of codes from each interview by hand on separate pieces of paper. As each sketch only represented one interview, the codes were then organised under initial themes in a digital table to better understand the essence of the themes. The initial themes and codes are in appendix 1. This time the codes were categorised under each initial theme in detail, after which the themes were given initial names. The initial themes were reviewed by drawing them on a virtual board to decide on the subthemes. The subthemes were formed by combining the initial themes and some of the initial themes were deleted. The main themes were then formed around the subthemes. Here, it was considered what would be interesting from the perspective of the research question. The intention was not to derive the themes from the framework of service ecosystem well-being or the characteristics of well-being, but the characterisation of well-being and the framework influenced what was regarded as interesting. The approach to data analysis could be characterised as inductive, yet the iterative work done when defining themes and trying to understand why they are interesting involved going back to theory to consider what was interesting. Finally, the themes and subthemes were given their final meanings and names.

## 4 RESEARCH FINDINGS

### 4.1 General information

The case under investigation is a multinational service ecosystem that forms around a structural project that involves three HE institutions from three Northern countries, and three HE institutions and a governmental organisation from a Southern country. These organisations collaborate with each other and with various stakeholders especially in the Southern country and to some extent in the Northern countries to support structural development of the Southern education ecosystem. One of the main goals of the project is to make the knowledge of the Northern partners available to the Southern partners. The project aims to develop a service for the Southern country's educational ecosystem to support the access of students from disadvantaged backgrounds to HE. This study focuses on the resource (knowledge and expertise) integration the actors of the case do as they develop the service to the Southern education system.

All the Northern countries included in the case are classified as developed economies whereas the Southern country is classified as a developing economy by the United Nations (2022). According to the interviewees, all the HE organisation involved in the project have previously worked in international development projects except for one Southern HE organisation, and three of the HE organisations have worked together in previous international projects. Some of the experts working for the project had known each other before the project started and almost all the experts are experienced in multinational collaboration.

When the project started in December 2019, the partners met each other face-to-face in the Southern country. After the outbreak of the Covid-19 virus, the travelling restrictions and lockdowns imposed by the governments of the participating countries prevented the partners from meeting each other and getting to know the diverse contexts involved in the project. The planned mode of working, which relied on face-to-face interaction and collaboration on site in the partner countries, was thus disrupted by the Covid-19 crisis. The only possibility for the partners to move forward at the crisis was offered by digital technology. This was a drastic change because none of the partners had previous experience of collaboration between Northern and Southern countries in development projects that are conducted in the online only mode. Neither had any of them coordinated such projects. Both the Northern and Southern partners had been using digital tools before the Covid-19 crisis and most Northern partners were used to working in the online only environment. However, working in the online only environment was not as common among the Southern partners except for one of the HE organisations. Digital technology was there for the partners to use, but their mode of collaborating and the rules and conventions, or institutions, that guided

the collaboration were disrupted by the Covid-19 crisis. This study aims to understand how the well-being of the service ecosystem is constructed in such a situation.

The multinational service ecosystem that formed around the structural project is presented in figure 2.

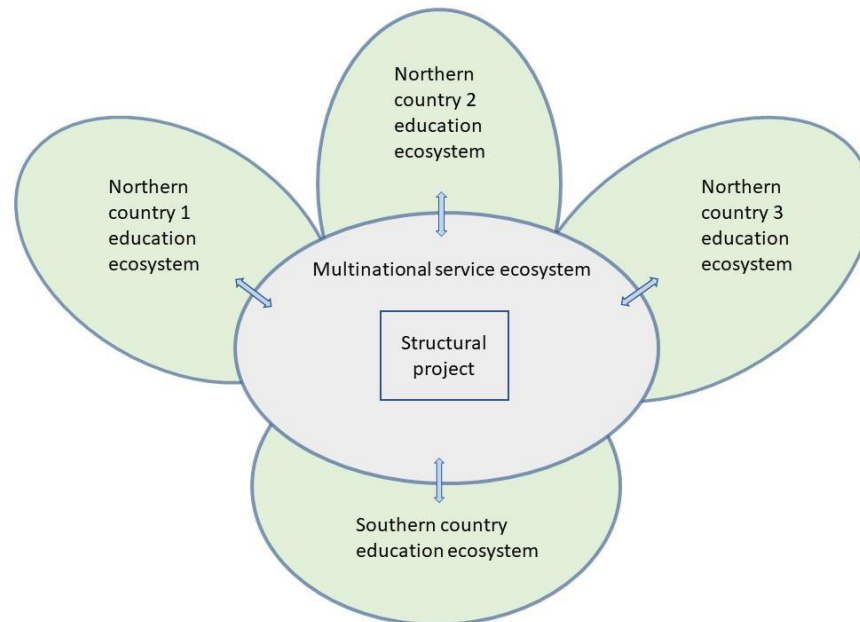


FIGURE 2. The multinational service ecosystem investigated in this study.

As can be seen in figure 2, the multinational service ecosystem is formed by actors that come from the education systems of three Northern countries and one Southern country. These actors are brought together by a multinational structural project, which forms the core of the multinational service ecosystem. The structural project consists of one HE organisation from each Northern country, three HE organisations from the Southern country and one governmental organisation from the Southern country.

Around the project in the multinational service ecosystem are the associated partners that were mentioned in the project plan and their staff, and the stakeholders that were mentioned by the interviewees and who the interviewees frequently collaborated with or who were key to the work of the interviewees in the project. These partners and stakeholders are mainly actors located in the Southern context. They include HE organisations, NGOs, associations, secondary schools and regional and local government actors, as well as the staff of these organisations, including lecturers, specialists, teachers, rectors and officers in NGOs and associations and government organisations. They also include students and their families. The actors from the Northern education systems included in the multinational service ecosystem are the project partners and the associations they cooperate with.

The collaboration within the multinational service ecosystem affects the local service ecosystems and vice versa because the members of the structural project work both in the local education system and the international service ecosystem. The affiliated partners and other stakeholders may also work in both the local education system and the multinational service ecosystem. The multinational service ecosystem is influenced by the external service ecosystem which consists of political, social and economic institutions and society.

The multinational service ecosystem includes three embedded levels (micro-level, meso-level and macro-level).

## 4.2 Findings

The findings of the study are presented in this section under four main themes their 11 subthemes that were formed during the data. The themes are shown in table 2. The findings are further discussed in relation to the used framework in 'Conclusions'.

TABLE 2 Themes and subthemes.

Theme	Subthemes
Facilitators of and support for proceeding at a crisis	<ul style="list-style-type: none"> <li>• Facilitators of moving forward towards project goals</li> <li>• Partnerships and relationships as a backbone of collaboration</li> <li>• Long-term orientation</li> </ul>
Working at the crisis	<ul style="list-style-type: none"> <li>• Two-way nature of context specific knowledge and expertise</li> <li>• Two faces of technology</li> </ul>
Guiding the way of working	<ul style="list-style-type: none"> <li>• Reflexivity</li> <li>• New way of working in the online only mode</li> <li>• Ownership</li> <li>• Coordination, keystone actors and administration</li> </ul>
Progress	<ul style="list-style-type: none"> <li>• Developments</li> <li>• Learnings</li> </ul>



#### 4.2.1 Facilitators of and support for proceeding at a crisis

This theme comprises two subthemes that include factors that were key in helping the partners proceed with the project and in supporting their collaboration during the Covid-19 crisis.

*Facilitators of moving forward towards project goals* This theme includes factors that were perceived to help the project proceed despite the disruption caused by the Covid-19 crisis. The most important factor seemed to be the project intent and the project goals and their perceived importance.

the very intent of the project is so marvellous (Interviewee F, Southern HE 1)

a very a potential change [laughter] in the main objectives (--) for me it's a very strong element of motivation are connected in a in a very deep way with people (--) that live in a particular and hard situation (Interviewee A, Northern HE 1)

Commitment to the project goals and the project, and commitment in general was often mentioned.

it's the commitment of the partners, the Northern as well as the Southern partners, that we all feel responsible for the project and its outcomes so we work on the common goal (Interviewee C, Northern HE 2)

The importance of an understanding of the project goal among the project members and how to move ahead towards the goals was also emphasised.

we have to have a very good understanding of the intent of the project, so the intent of the project was understood, very well despite some sort of little confusion in the beginning (Interviewee F, Southern HE 1)

the most important thing was this alternative approach (--) we developed common understanding among the partners to move ahead that was really a great thing and right thing we adapted which helped us to move forward (Interviewee J, Southern HE 3)

The motivation, willingness and eagerness of the partners to move forward towards the project goals and the responsibility they felt for the goals was also frequently brought up by the interviewees. Both Northern and Southern partners expressed their appreciation for each other's efforts and dedication to the joint work.

we were very resilient...I think especially our Southern partners were showing a deep knowledge and a commitment so that I think they felt a lot the responsibility to continue their activity (Interviewee B, Northern HE 1)

our Northern partners have left no stone unturned to show their dedication, their hard work and their dedication towards fulfilling the objective of this project, I really appreciate that (Interviewee J, Southern HE 3)

These findings suggest that the partners had a shared understanding of the importance of the project intent and that they purposefully made efforts to achieve it during the crisis. The interviewees did not explicitly describe how they understood all the aspects of the project goals, so it is not clear if they had a shared understanding of all the aspects, but the findings imply that there was a shared understanding of the overall intent of the project. Southern interviewees also described how they slowly worked to understand the intent of the project, and as can be seen in the extract above, they jointly decided how to move towards the goals. Their shared intent also showed in their joint endeavour to serve the final beneficiaries and establish sustainability of the outcomes in the wider Southern educational system.

*Partnerships and relationships as a backbone of collaboration* The long-term partnerships between the HE organisations, governmental actors and other actors in the wider educational ecosystem especially in the Southern country were perceived as crucial for the collaboration and the sharing and using of knowledge and expertise in the new online only mode. Similarly, the long-term relationships between the experts from these organizations and within them as well as personal relationships with people in the Southern education ecosystem and the multinational ecosystem were considered crucial. Joint learning and bonding among partners in the new digital environment and importance of partnerships become evident in the interviews.

they were brought together in a platform where, you know, this sharing and learning from each other was made possible, and it is due to the contribution of the project (--) to develop bonding, you know, relation among the higher education organisations here [emphasis in voice], but at the same time (--) we could better understand our (--) partners from North, right, and we knew them, we're very familiar with their expertise, the way they understand us the way we understand them (--) so that's another aa major contribution to develop the binding or the bonding okay, bridging [laughter] you know North and South (Interviewee F, Southern HE 1)

we are very lucky that Northern HE organisations 2 and 3 are having a partnership connection for a longer time (Interviewee D, Northern HE 2)

definitely, number one is that we knew each others personally (--) I knew person personally many of the project partners beforehand (Interviewee E, Northern HE 3)

The participants highlighted the importance of informal communication for learning to know each other, for example, meeting partners over a cup of coffee to get to know each other, and spending time together, which was not possible after the Covid-19 outbreak.

the time you can spend with people is I think the most important resource (Interviewee B, Northern HE 1)

The intention of the interviewees to intensify the partnership at the time of the crisis and in the future also seemed to reflect the importance of long-term partnerships and relationships.

we will definitely [emphasis in voice] work on our partnership, on our network will be much more stronger and our network will have a more meaningful collaboration in days to come, yes (Interviewee H, Southern HE 2)

This intention showed in the everyday interactions as the partners diligently worked to support each other. Several interviewees appreciated the partners' availability for discussions and their readiness and willingness to help each other.

their approach to support us is really a need based, they are always ready, they seek to they try to help us what we need (Interviewee J, Southern HE 3)

The project management and a governmental actor was appreciated for the same reason. The crucial importance of a long-term relationship with the governmental actor was also evident.

does not hesitate to contact all the time no (--) always always keeping touch and what's always given a kind of energy to do...not hesitate to hear all this thing (Interviewee G, Southern HE 1)

they always support this way and always take the report what is happening and how you are going on (Interviewee G, Southern HE 1)

*Long term orientation* The long-term orientation of the partners and their concern about the sustainability of their achievements and the reaching of the final beneficiaries showed in the interviews. They suggest that the partners saw a connection between the project intent and the development of the larger local educational system. The interviewees also emphasised the importance of involvement of the macro level actors' and their ability to influence both the local education ecosystem and the multinational service ecosystem. This finding implies that the policy level intent to develop educational structures in the local educational ecosystem, to which the project goal was connected, may have enhanced the sense of a shared purpose among actors and the wider service ecosystem and helped move forward during the crisis.

That is the really the most important thing that whatever we do within this project the governmental actor is responsible or is supposed to be responsible for ensuring sustainability of the outcomes (Interviewee E, Northern HE 3)

actually we are very much concerned about one thing. That is we should reach to the people we should reach to the beneficiaries (--) so once we reach there we can see the tangible benefit of the project (Interviewee K, Southern HE 3)

continuous effort is necessary because for the sustainability purpose aa we need to still struggle with our authorities (--) we need to convince our many organisations and we need to convince we need to show role model with many (beneficiaries) and we need to reach more aa to our target groups (--) even our partners we should continue collaboration (Interviewee J, Southern HE 3)

These findings are relevant to the understanding of the project's connection to the wider ecosystem and the policy level intent, and how they might influence the partners' work during the crisis.

#### 4.2.2 Working at the crisis

This theme includes two subthemes that revealed the importance of context specific information and physical presence as well as the two-way nature of the collaboration at the time of crisis. It also shows that technology was viewed both as an enabler of and barrier to the collaboration.

*Two-way nature of context specific knowledge and expertise* According to the project plan, one of the main aims of the project was to make Northern expertise available to the Southern beneficiaries. The crucial importance of the knowledge and expertise from both the Southern and Northern partners for developing a service to the Southern educational ecosystem, the two-way nature of expertise exchange, however, seemed to be clear to the interviewees.

we have to work on let's say on the reality of the context (--) so it is important that they know what we do but they also combine the knowledge they have with the reality of the context (Interviewee B, Northern HE 1)

The Northern partners explained that the need for the project was drafted by the Southern partners at the pre-planning phase, because the Northern partners lacked a proper understanding of it and the Southern context.

The crisis and the impossibility to travel from South to North and vice versa surfaced the importance of context specific information. The Northern partners were desperate to get expertise and knowledge from the Southern partners to better understand the local context and need so that they could offer expertise and knowledge that is needed in the South. The Northern partners explained that they were not able to meet stakeholders to discuss the local need as they had planned before the crisis. They seemed to be on a quest to understand the Southern partners' need for their knowledge and expertise and to find a configurational fit of resources.

we desperately need their expertise (Interviewee C, Northern HE 2)

we're trying to find the right fit for them because we can't implement what we think is good, it doesn't work for them (Interviewee C, Northern HE 2)

we could not do on-site assessment so we had to rely on the expertise and information from partners (Interviewee C, Northern HE 2)

Both partners also explained how important it would be for their international partners to visit their context to learn from it and the solutions available in it.

this situation is different from what you have in North, so given the differences between the situations our Northern partners, they may have learned something new from us (Interviewee F, Southern HE 1)

Despite the challenges, both partners did manage to get context specific information. The Northern partners explained how they restructured the services and requirements together with the Southern partners and reduced and modified their own ideas after online discussions with Southern partners. They also mentioned frequent discussions about training needs with the Southern partners. The Southern partners used their expertise to localise what they obtained from the Northern partners and context.

it would never have been customised, otherwise in the absence of intervention from Southern HE organisations 4, 5 and 6...straight away would have been landed in Southern context... it would have been rejected, but at this moment ...we have been able to test, contextualize and again retest ... so it could have a little but meaningful impact (Interviewee H, Southern HE 2)

Thus, the expertise of both the Northern and Southern partners was needed and used to develop the service.

*Two faces of technology* After the outbreak of the Covid-19 crisis disrupted the face-to-face mode of working, the only means available for continuing the collaboration between the partner countries and within them was provided by digital technology. It enabled the new mode of working, which the partners adopted rather quickly and fluently. Yet it was not able to provide the same possibilities for communication the face-to-face mode had offered. Technology was seen to have a “double face” by a Northern partner:

is a double face is a very important opportunity that give us the possibility to going on with the project but is also [laughter] a barrier between us (Interviewee A, Northern HE 1)

Both Northern and Southern partners suffered from the barrier placed by the online only mode, which was seen to slow down the progress of the project. Partners were forced to find new ways of working in the unpleasant situation.

our mode of communication was fully changed, we couldn't make verbal and physical connections and contacts and we had to make connection through this kind of virtual mode it was complex, we had to adapt into this situation, of course at a only few months it took a it was a really kind of a very awkward situation for us (Interviewee H, Southern HE 2)

It was not only the great efforts the transition to the digital environment resulted in. A Northern partner explained that the virtual mode of working made them feel less nearness, proximity and closeness, and emphasised the need to feel the ambience of context, to “live the project”. A Southern partner highlighted the

importance of a Northern partner's visit to a local organisation for understanding one another and the situation in the local organisation.

The lack of physical presence was frequently discussed by the Southern partners. They described how it prevented them from providing the kind of training that was expected, having face-to-face meetings with international and local partners, confirming their ideas, getting to know each other and working as efficiently and convincingly as they would in the face-to-face mode. It severely affected their work.

because of the Covid-19 pandemic we were unable to meet much in person like especially with the partners or the collaborative partners and the communities, so that keeps like a distance between us although we can connect virtually but it is not as much like we meet in person -- only online it has been very challenging (Interviewee I, Southern HE 2)

Both partners highlighted how important it would be for partners to come and observe and experience their local context:

the personal experiences and the possibilities you see on their own eyes (-- I do believe would highly help aa to our Southern colleagues to have a aa clear perspective on how the service could work (Interviewee D, Northern HE 2)

(--) please come, I will escort you, I will make you stay in one of our premises and you feel the problem with the people (Interviewee H, Southern HE 2)

The findings also showed that technology offered new opportunities for proceeding at a time of crisis.

The desire of the partners to visit their partners' context to observe it and meet people implies that there is more to making knowledge and expertise available from a certain context to another than individuals transferring it in the digital environment. It is to be noted that the project used digital tools that were widely used in the North and gradually adopted in the South at the time of the project.

### **4.2.3 Guiding the way of working**

This theme comprises four subthemes that guided the partners in the collaboration among the project partners or with the wider service ecosystem.

*Reflexivity* It was noticed during the analysis that both the Northern and Southern partners reflected on the ways of working in the Southern and Northern countries and within the multinational project. The rationale for forming this theme were the findings of previous research indicating a relation between actors' reflection and their recognition of different institutions in different countries (Vink et al., 2021, p. 175) and the availability of different institutional toolkits (Siltaloppi et al., 2016) in a multinational context.

In the words of a Northern partner, there seemed to be lots of invisible things that affected the ways the partners communicated:

there is a lot of invisible things going on when it comes to our attitudes and our knowledge and it also, I think that from these invisible things it influences the way we communicate with the partners because slowly bit by bit we get to know all those or all different aspects both in country A and in South (Interviewee C, Northern HE 2)

The Northern partners reflected on the ways of working in the Southern context and their own approach to work with both the Southern and Northern partners.

our teaching ideology is more based on involvement of all partners participants and maybe maybe [emphasis in voice] our project management is differs from the expectations from the Southern partners (Interviewee E, Northern HE 3)

The same partner then continued to reflect on whether a more directive approach should have been used, and in case such an approach had been used, whether they would have lost a little from the feeling of togetherness and sense of community. Another Northern partner reflected on how the partner distanced herself/himself from a certain approach and favoured another approach instead.

I don't like a top-down approach as I told you arrive and say what they have to do but it is important this bottom-up (Interviewee B, Northern HE 1)

The partner elaborated that such an approach would be easier to use but it would not work.

The Northern partners reflected the Southern context from several angles. They considered meeting people face-to-face and the need for getting together to be important in the Southern context. They seemed to regard the authority of some of the actors and the involvement of a Southern macro level actor and people from the directorial level from the North as important for the collaboration. A Northern partner experienced obtaining information from stakeholders as challenging in online meetings when people from different levels of the hierarchy were present and concluded that:

that was one, one cultural aspect we had to work with and I don't think we managed (Interviewee C, Northern HE 2)

Some of the Northern partners reflected the different understanding of a good training among the partners by discussing "the cultural perception of training" and explained that they had to change their initial idea of training. Here it should be noticed that the trainers and trainees had only worked together for a few days, unlike the project team members who knew one another, and that the interview was done approximately only one week after the training.

Some of the Southern partners reflected on the approach of the Northern partners to training. A Southern partner explained that the trainees in the South

expected more from the Northern partners in terms of the knowledge the partners and assumed that this might have been due to the online mode of the training or a cultural factor. The Southern partners also reflected on the needs-based approach of the Northern partners and the joint-work the Northern and Southern partners did to revise the training plan several times according to the needs of the Southern organisation. This seemed to be appreciated by the Southern partners.

It is important to note that according to a Northern partner the partners had openly discussed cultural issues together.

The co-creative way of working in the project team and among the Southern partners and to some degree also at the wider multinational ecosystem was reflected by a Southern partner:

in North you are you often emphasize using this phrase 'co-creation', you know that is true [laughter], so this co-creation (--) is beginning to take shape, (--) so should I just say this aa is quite a rewarding an experience for us (Interviewee F, Southern HE 1)

this is not a one-way traffic, it's a two-way traffic [silence] you see, I want to see I want to make you feel it's not a one-way traffic, is a two-way traffic... a win-win situation, how I can learn a good part from North and how you can learn a good part from South and take it back (Interviewee H, Southern HE 2)

A Southern partner considered the Northern partners to be more confident in working in the online environment and another partner appreciated the understanding of some of the Northern partners had about the Southern context and how it strengthened the bonding between the partners.

I've seen is this attitude, very positive and respecting attitude of Northern partners that has also changed us and put us on the same footing (Interviewee F, Southern HE 1)

A Southern partner also reflected on the participation of both academy and organisations exerting governance in the collaboration and connected it to a Northern philosophy, to which they subscribed to according to the partner.

Even though the partners reflected on the suitability of various approaches, including the above challenges related to hierarchy, it seems that the diverse approaches did not prevent the project from proceeding during the crisis, except for the local administrative procedures. I was not able to find direct reflections or comments that would have indicated that the partners would have stopped working or that they would have felt extremely uncomfortable working during the crisis because of the different approaches they encountered. It was rather the delays caused by the local administrative procedures and the impossibility to travel to the context, to experience it and to engage in discussions with the people in the context that seemed to challenge the work. They all seemed to result at least partly from the Covid-19 crisis.



*New way of working in the online only mode* The project was forced to adopt an online only mode of working in the multinational context and at times also in the local context after the Covid-19 pandemic disrupted the shared ways of working in the face-to-face mode. Even though digital technology was the enabler of the new mode of collaboration, it did not enable experiencing the context and meeting people in the same way as the face-to-face mode did. Yet that international partners were able to collaborate in the new mode and move towards the project goals. The following examples illustrate the routine activities of the partners in the online only environment.

The international team frequently met in online meetings to plan and develop the service, to exchange Northern and Southern expertise and knowledge and to devise strategies for moving ahead at the crisis. The channels for direct interaction and communication were provided by online conferencing tools. The main channels for indirect communication were email and messaging applications, and a platform for storing project documentation. Using some of these tools for international work-related communication was new to most Southern partners and to some of Northern partners too. The importance of efficient communication channels was highlighted especially by Northern partners.

first thing of any for any efficient international project to be absolutely clear about how to communicate with the partners especially when we need to have and get information from the Southern side (Interviewee D, Northern HE 2)

The changes in the activities in relation to those planned for the time before the crisis were discussed extensively. The Northern partners discussed the introduction of new types of meetings. For example, one of them experienced small group meetings as useful, pointing out how pre-meetings where only one or two partners worked on a certain issue to prepare for a meeting with several partners helped to push things forward and clarify issues. The partner elaborated that moving to the online mode resulted in more frequent meetings and discussions among partners compared to the traditional structure of travelling over, which the partner considered an efficient way of working. Another Northern partner explained that they had become more active than in the past and continuously worked throughout the year instead of only during and around the face-to-face meetings that would involve travelling as planned before the crisis. The Southern partners also discussed the new ways of collaboration, one of them explaining that they were more connected with all the partners because digital technology allowed quick connections. The Southern partners were agile in alternating between the online only and face-to-face mode as they collaborated with project partners and local stakeholders.

These new recurring activities that were adopted in the online environment could be regarded as emerging practices and it seems that they achieved a 'fit', which helped the partners continue integrating their knowledge and expertise after the disruption. This implies that a configurational fit of practices was developing during the crisis.

The above examples also show that the partners made efforts to create possibilities for interaction and for jointly developing the service. It seems that a new institution governing a co-creative way of working in the digital environment was emerging. One of the partners concluded that co-creation is taking shape. The iterative ways of working among partners to use each other's expertise in developing the service also suggest a co-creative way of working in the online only environment.

it actually took us I would say five five online meetings to actually discuss the to have an idea of the needs that they have, and to actually reduce the ideas that we had and what helped us was that we were meeting with our partners and we were asking them questions and we were discussing (Interviewee C, Northern HE 2)

they accommodate their suggestions or their knowledge sharing in the way what we need what we request... we discuss a lot we revised, we changed according to the needs of our HE organisations, according to the real context and then this programme was revised or like that to respond our request or to respond our needs (Interviewee J, Southern HE 3)

we have to take small steps and repeat the same programme two three times, always start with revising what has already been done and then moving one step forward (Interviewee C, Northern HE 2)

Some of the challenges encountered also point to a co-creative approach. For example, a Northern partner regarded the time it took to get information from the South as a major challenge and explained that the joint work depended largely on the Northern partners taking initiative to organise meetings.

The crucial importance of receiving knowledge and expertise from both Northern and Southern partners, the two-way nature of the work, and the reflections about a new co-creative approach, also point to a co-creative way of working.

It is interesting to note that even though the partners suffered from not being able to meet each other and informally spend time together, the atmosphere in the international project team was described as warm and characterised with a feeling of togetherness and closeness.

it was very very nice to meet every time in in webinars and meetings, people were happy, because somehow aa somehow they feel that we are like I don't think I'm exaggerating but they feel and I feel and Northern partners feel that we are like a one group like a project family, and it's very very nice to meet in every time, so its its like encouraging to see at least online although not physically face-to-face (Interviewee E, Northern HE 3)

These findings suggest that a co-creative way of working and a warm atmosphere supported the partners in their work. It seems that the partners were able to gradually create a new shared institution that guided their work in the online environment and to some degree beyond the project in the multinational service ecosystem. At the same time new practices emerged in the digital environment, which helped the partners share and use each other's expertise and knowledge.

*Ownership* There seemed to be a common understanding among the project partners that the ownership of the project was with the Southern partners, that is, the beneficiaries of the project. Project ownership was purposefully given to the Southern partners by the project management and the Southern ownership was seen as critical for the progress of the project by the project management. The fact that the ownership had been in the South right from the pre-planning phase of the project was seen as a success factor by the project management.

The Southern partners seemed to have taken the ownership of the project:

this is a greatest support and ownership that we have received from our Northern partner, especially the coordinating organisation (Interviewee H, Southern HE 2)

The Southern partners' active and agile work and the way they steered their work in the local context became evident from the interviews. The partners extensively discussed the collaborative work between the HE organisations and the governmental actors and stakeholders that they did amidst the crisis in the local context, and how they adapted their mode of working and schedules according to the changing circumstances. During lockdowns, they worked online, and when the situation allowed, they travelled to the different parts of the country to meet the final beneficiaries. In the periods between the lockdowns, they also visited governmental actors to report how the project was implemented and to get advice on how to move ahead. Together with the stakeholders they produced information to be used in the wider ecosystem.

The demanding work of the Southern partners did to investigate the needs of the final beneficiaries and produce information was also extensively discussed by the Northern partners. They emphasised the responsibility their Southern partners took. It appears that the active and agile work of the Southern partners to get, analyse and share knowledge from the local context and the alternative strategies they devised to get it during the crisis was a major contribution to the development of the service.

The Southern ownership of the project seems to reflect the agency the Southern partners and their capacity to act especially as a group. The partners had a permission to act and make decisions within the framework of project goals and they were able to act and make decisions collectively. The ownership and agency of the Southern partners showed in their decision making and steering of activities at the time of uncertainty:

we do the decisions independently first but I think we keep the project coordinator in loop and also if needed we discuss (Interviewee I, Southern HE 2)

we were encouraged to discuss ourselves, encouraged to think ourselves how to take decisions, how to develop alternative strategies or like that and mostly the international partners were readily support us in the ideas we developed and I think this was one of the key, key thing to develop the common understanding and to move ahead (Interviewee H, Southern HE 2)

we are able to take decisions within the intent of the project within the framework of the project we are doing. We are doing even we discuss with each other with among the Southern partners, and as many activities we conducted in this manner (--) actually, we have discussed each other and developed some common consent and moved ahead like that so we are free to develop our understandings or common consent yeah. (Interviewee H, Southern HE 2)

It also showed in the collective decision of the Southern partners to continue the work despite the disruption:

I must say that the day we decided to continue our work with the project plan that was designed to be implemented in non-covid situations and that is simply a big challenge, but we decided to take a leap and really thank (--) Northern partners who have been always backing us to continue our work even through these virtual modes (Interviewee H, Southern HE 2)

it was very difficult to cope with the challenges, anyway we tried to find how this challenge can be mitigated and how we should work in this time, and we talked, we coordinators talked, and the coordinators of the service talked we should not stay without doing anything, we should do something for the project so, we discuss with each other how we should move ahead the project (Interviewee K, Southern HE 3)

A lot of the coordination happened locally. The Southern project partners met one another and the local coordinator guided the work and requested experts, for example, to travel to meet beneficiaries when the Covid-19 restrictions allowed it. It seems that by giving the ownership of the project to the Southern partners the project management may have enforced the agency of the Southern partners.

*Coordination, keystone actors and administration* This subtheme reports the findings related to the coordination of the multinational project, which was the responsibility of a Northern organisation, and the influence of the keystone actors and local administration on the work during the crisis. It is to be noted that a lot of coordination was done in the Southern context.

*Coordination.* The ideology applied by the project management was to give the ownership of the project to the Southern partners.

I was doing it purposefully to let them understand that the ownership of the project is on their shoulders, not on us, that that is my ideology [laughter] (Interviewee E, Northern HE 3)

A Northern partner explained that the role of project management was to coordinate the whole project team and to support the work of the partners. According to the partner, the project was led by the Southern partners and the Southern partners were the ones who planned and did the work and searched for future prospects for the project, the latter being the rationale for doing the project. Giving the ownership to the Southern partners was seen to help to cope with unexpected events and it was considered critical in proceeding during the crisis.

without their ownership of the project, without that [emphasis in voice] this couldn't have happened (Interviewee E, Northern HE 3)

The project coordinator was forced to adopt new ways of coordinating the project because of the disruption in the mode of working. Project coordination involved online meetings with the whole team and meetings with individual partners. It also involved updates on what had happened, how the project had succeeded and what was going on and what was about to happen. According to a project partner, such updates also served to sustain the feeling that they all work together and "are there". Informal messages to say hello and hear what is going were also sent using different tools preferred by project members.

Project coordination and the warm messages were highly appreciated by project members. A Southern partner explained that keeping touch both formally and informally and discussing small things made working easy during the crisis. Another Southern partner explained that coordination helped to bring the local organisations together and supported working with a macro level organisation. The Southern partners also mentioned the importance of coordination in convincing the project team to interact in the virtual mode after the old mode of working was disrupted.

our team leader took really bold steps and convinced entire team members to have interactions, have virtual mode of meetings, have some sort of virtual network and connectivity ...I do believe that in the changed situation and scenario this was the best possible thing we did (Interviewee H, Southern HE 2)

The Northern partners explained, for example, how coordination helped to obtain knowledge from the Southern partners and they described the flexible use of different online tools for communication as well as the delicate ways of reminding partners of activities. The collaboration of project management with the governmental actor was also appreciated.

The findings under this theme show that the interviewees appreciated the coordination done by the project management in proceeding at a time of crisis and an approach that encouraged participation.

*Keystone actors.* The Southern governmental actors are considered as keystone actors in this case study. The crucial importance of the keystone actors in shaping the local educational ecosystem and the work of the multinational service ecosystem was clear to both Northern and Southern partners. The involvement of the governmental actors was also seen as important for the sustainability of the project work by both partners.

Even though the Southern partners were able to collaborate with the keystone actors, get policy level advice from them, report and discuss the project intent, they explained that communication between the HE organisations and the keystone actor was challenging at times partly due to the transition into the online mode. Meeting face-to-face meetings were only occasionally possible and making appointments was challenging during the crisis. The Northern partners

also referred to such challenges. The partners made great efforts to maintain communication with the keystone actors during the crisis. These findings point to the crucial role of the governmental actor in the structural project.

*Administration.* The administration in the Southern context was seen to slow down the project by both the Northern and Southern partners. This was because the administrative services were available only for more essential activities of local organisations during the crisis and because the administrative staff was not used to working in the online mode.

#### 4.2.4 Progress

This theme comprises two subthemes that report the emergence of new developments in the service ecosystem and what the partners said to have learned or obtained from the collaboration.

*Developments* A new shared institution guiding the work of the partners and new practices for integrating resources in the digital environment seemed to emerge within the multinational project. It also appears that the partners applied the new practices and used each other's resources in a new way to provide services for the stakeholders in the wider service ecosystem. For example, the new ways of sharing expertise and giving online training allowed a local HE organisation to give people from remote areas, who only had a limited access to the main education system, a possibility to obtain the same knowledge as those who had a better access to the educational system. This was seen by a Southern partner as an opportunity brought by the crisis.

I do believe that of course even if in no covid situations the people from rural areas could not have a full access to this out for this main education system but thankful to this Covid sometime, we must thank because they are fully connected through this Zoom and through digital system they are connected and they have they got enough training and orientation from our experts in Northern HE organisation 1 through a virtual means of training (Interviewee H, Southern HE 2)

This implies that a configurational fit of new practices had been achieved in providing a service to the remote areas. As a result, the expertise of Northern partners could be made available to people from remote areas when it was needed despite the travelling restrictions. This suggests that resource density was increased. Thus, a possibility to access the educational system and obtain knowledge was brought to people from remote areas as a result of the Covid-19 crisis. These people might not have been reached without the new practices adopted due to the disruption caused by the crisis. Here it should be noted that the training and its planning involved both Northern and Southern expertise.

Another example of new the ways of working that seemed to increase the configurational fit of practices and resource density both regarding the collaboration within the international project and the development of the new service was a virtual tour to the premises of a Northern partner. In the tour, Northern partners toured around their organisation and showed the solutions they had

built in their premises using a mobile device and an online conferencing tool. This made it possible for the partners to observe the solutions and discuss them “online on site” with the organising partner and with the online participants. Several partners mentioned this new way of working more than once and it was also considered “eye-opening”.

The virtual tour seems to have facilitated the configurational fit of practices as it allowed partners to organise an online benchmarking visit to obtain context specific expertise and knowledge despite travelling restrictions and use it to support their development work. They were able combine observing and discussing solutions on site and visualise the future service.

we can visualise the Southern HE organisation 6 at least in any of our campus in future so that is the one utilisation of the partners’ knowledge is visualising for the future (Interviewee I, Southern HE 2)

The virtual tour also seems to have provided the partners with a good combination of resources at a time when they were needed, thus increasing resource density in the concepting work of the final solution.

next is for the immediate action (--) we are going to establish the service and we at least have knowledge of what kind of equipment or facilities we should have (--) (Interviewee I, Southern HE 2)

These outcomes seem to have resulted from the new practices that were adopted because of the crisis and the ‘fit’ between the practices.

*Learnings* This subtheme was formed around what the interviewees told they had learned or realised during the collaboration or received from it during the Covid-19 crisis. It overlaps with theme Developments above, which describes new ways of doing, which could also be interpreted to imply learning. However, as several participants explicitly mentioned learning and explained what they had learned even though learning was not discussed by the interviewer unless the interviewees explicitly mentioned it, a specific category was formed around learning.

One of the participants seemed to regard joint learning as a method of working among the project members to obtain expertise and possibly also with stakeholders:

mutual learning, that is why we used this thing very much and even we at the time when we could not go to office we used that time even from the house we use internet facilities and online meetings and online activities were mostly carried through online activities even we could gather some knowledge from partners and we could learn from partners and so on (Interviewee J, Southern HE 3)

It is to be noted that even though the Southern interviewees explained that they had learned a lot from the expertise that was to be made available to them according to the project plan, a lot of what both they and their Northern partners explicitly said to have learned was not described in the project plan. What was

most frequently brought up by partners from North and South was learning to work in the digital environment. Some of them also mentioned learning to teach online. Several Southern partners discussed the transition from physical presence to virtual presence. Some of the Southern partners also emphasised that they had learned to work in uncertainty because of the Covid-19 crisis. They discussed the experiences they now had about collaborating and overcoming challenges in such an unexpected situation. They explained that they were better prepared for working in a pandemic in the future.

we are now equipped to handle both pandemic or non-pandemic situations, you know so that has given us how to make use of this technology (Interviewee H, Southern HE 2)

Certain project work practices such as preparing progress briefs and writing blogs were also mentioned by the Southern partners. The learnings of the Northern partners included the importance of having time to get to know people, intercultural communication, listening to the needs of the beneficiaries, opening online discussion the potential for future projects and the ways of working.

I'm learning a lot from that and I think this this can be can be a good way to work also for for future projects so it is really really I'm learning so much, and [laughter] I'm very happy for that (Interviewee B, Northern HE 1)

It seems that both the Northern and Southern partners intended to apply their learnings from the work at the online only environment not only to the collaboration but also to the services they were developing.

I think mm it has changes a lot in these strategies we mm initially take took and we now mm are able to think about the online or remote support (Interviewee J, Southern HE 3)

These findings imply that the partners applied what they had learned from each other and the new situation both to the collaboration and to the service they were developing.



## 5 CONCLUSIONS

The purpose of this study was to learn from a unique case to be able to give educational organisations insights into their approaches to collaboration in multinational service ecosystems in the field of education at a time of crisis and how they can facilitate the well-being of such ecosystems. In response to the recent calls for Finland to make its expertise available in international ecosystems to jointly solve common challenges in education, the study attempted to learn from a multinational ecosystem where the expertise and knowledge of Northern partners was to be made available to Southern partners. It investigated how the wellbeing of such an ecosystem was constructed during the Covid-19 crisis.

The study used the service ecosystem perspective and the service ecosystem well-being framework of Frow et al. (2019) to understand how a multinational service ecosystem in the field of education coped with the service mega disruption caused by the Covid-19 crisis and what affected its well-being. It aimed to contribute to the understanding of service ecosystem well-being, which has previously mainly been explored in the field of health care in Western countries (Frow et al., 2019; Brodie et al., 2021), by investigating the phenomenon in a case that was situated in an unexplored context, that is, in the field of education, in a multinational service ecosystem and at a time of crisis. More specifically, the study explored what supported service ecosystem well-being when a shared institution that was expected to guide actors work was disrupted by a service mega disruption (Kabadayi et al., 2020) in a service ecosystem where the multiple institutions of the international context (Akaka et al., 2013) were not necessarily shared by the actors.

The research question was: How is the well-being of a multinational service ecosystem that forms around a structural project in the field of education constructed during the Covid-19 crisis? The study explored this question in a case that comprised a multinational service ecosystem that formed around a structural project comprising Northern and Southern HE organisations and a Southern governmental actor and aimed at a structural change. One of the goals of the project was to make the expertise and knowledge of the Northern organisations available to the Southern organisations. The focus of the study was on resource (expertise and knowledge) integration that was done as a service was developed for the Southern educational ecosystem.

The service ecosystem perspective was assumed to offer a fresh view of the collaboration in a multinational ecosystem, where the expertise of educational organisations from developed economies was made available to beneficiaries from developing economies. This is because the S-D logic is characterised as relational and participatory (Vargo & Lusch, 2004) and it puts the actors on the same level (Murphy & Laczniak, 2018). Since the service ecosystem perspective considers culture as a dynamic phenomenon comprising multiple institutions (Aka et al., 2013), it was also assumed to give relevant insights to educational institutions that are planning to join multinational service ecosystems.

## 5.1 Theoretical contributions

This study aimed to contribute to the understanding of service ecosystem well-being by investigating this contextually determined phenomenon in a previously unexplored context. This section attempts to give answers to the question how the well-being of the multinational service ecosystem under investigation was constructed during the Covid-19 crisis. It discusses the results in relation to the used framework (Frow et al., 2019) and previous studies and summarises what was specific to well-being in the case and context explored.

### 5.1.1 Factors disruptive of ecosystem well-being

The factors disruptive of ecosystem well-being were *the Covid-19 crisis, impossibility to meet face-to-face and observe context, and diminished administrative capacity*. They are presented together with the other factors that affected well-being in figure 3, which has a similar layout as the service ecosystem well-being framework of Frow et al. (2019).

The Covid-19 crisis was clearly a main disruptive factor of ecosystem well-being. In the used framework these factors include stressors and environmental jolts (Frow et al., 2019, p. 2666). In this case, the Covid-19 crisis was clearly a major stressor that caused a service mega disruption on a global scale (Kabadayi et al., 2021). It disrupted a shared institution that guided the actors' mode of collaboration, which resulted in an impossibility to meet partners and stakeholders face-to-face and observe their context. This became a major stressor for the resource integration among actors.

It also surfaced the crucial importance of obtaining context specific information by experiencing and observing the context and the two-way nature of knowledge and expertise sharing between partners from the North and South. It revealed the pressing need of the benefactors for the expertise and knowledge of the beneficiaries and for experiencing their context and vice versa. This finding reflects S-D logic's positioning of the actors on the same footing (Murphy & Laczniak, 2018) because it was not only the expertise of the Northern partners that was of crucial importance for developing the service but also the expertise and knowledge of the Southern beneficiaries.

The diminished capacity of administration at a partner organisation, which resulted from the safety restrictions and lockdowns placed by the Southern government due to the Covid-19 crisis, was also clearly a disruptive factor. The crisis seemed to have disrupted administrative work in the local HE organisation and at times the services were hard to reach, which affected the well-being of the multinational service ecosystem.

### 5.1.2 Factors supportive of ecosystem well-being

The factors supportive of ecosystem well-being were *keystone actors, new resources, digital technology and coordination*.

In line with the used framework, the keystone actors and new resources were found support ecosystem well-being. Making new resources (knowledge and expertise) available to the ecosystem was one of the goals of the collaboration and the partners were able to do that at a time of crisis.

The macro-level keystone actors, that is, governmental actors of the local educational ecosystem, had a critical role in shaping the local service ecosystem (Beirão et al., 2017, p. 244; Frow et al., 2019, p. 2666) and consequently the multinational service ecosystem. Their involvement in the collaboration was important because of the policy level advice they gave and the power they had to influence the sustainability of the work. So, maintaining collaboration to the keystone actors during the crisis was of crucial importance.

Digital technology not only supported the well-being of the ecosystem, but it was clearly an enabler (Edvardsson & Tronvoll, 2019; Edvardsson & Tronvoll, 2022) of the emergence of a new institution that guided the co-creative work in the online environment. In line with the findings of Edvardsson and Tronvoll (2022, p. 6), it also seemed to accelerate the changes in the service ecosystem at a time of a crisis. This is also in line with Sebastiani and Anzivino (2021), who show that improvement in technology accelerated the evolution of a service ecosystem during the Covid-19 crisis. The changes could be seen in partners' fluent adoption of new practices in the new only mode, which increased configurational fit and resource density. That is, digital technology allowed partners to make the right combination of resources available to each other and the stakeholders, who they might not have otherwise reached even in a non-crisis situation, thus enhancing the well-being of the ecosystem (Frow et al., 2019). It seems that the disruption triggered new associations that brought up new resource applications (Brodie et al., 2021, p. 231).

It is of note that digital technology was not able to provide the benefits of face-to-face meetings and observing the context on site and the impossibility to meet face-to-face and observe the context created a major challenge for the collaboration. So, digital technology could also be considered a factor disruptive of ecosystem well-being.

The coordination of the collaboration among the educational organisations and governmental actors facilitated interaction. It seems to have supported the transition to the online only mode and the emergence of the new shared institution governing the co-creative work in the new mode. Coordination made great efforts to maintain and establish partnerships between organisations and relationships between individuals in the multinational service ecosystem, which were key to proceeding in the crisis and for building resilience. Coordination showed managerial flexibility (Brodie et al., 2021, p. 225) in using new practices in coordination and communication, which is important at a time of crisis. It promoted the participation of all partners in the collaboration and a warm atmosphere. It also encouraged the adoption of the new mode of working. Project coordination assigned the ownership of the project to the Southern beneficiaries, which seemed to be critical for the well-being of the ecosystem.

From the service ecosystem perspective, the coordination of the multinational project seems to have acknowledged the self-adjusting nature of the service

ecosystem (Vargo & Lusch, 2016, p. 4) and the power of the various institutions to guide the actors (Vargo & Lusch, 2016, p. 11), because it appeared not to control the actor's work or decisions, but it rather facilitated interaction and collaboration among them. On the other hand, it seems to have aimed to support the agency (Taillard et al., 2016, p. 2974) of Southern actors to act by purposefully giving the ownership of the project to them.

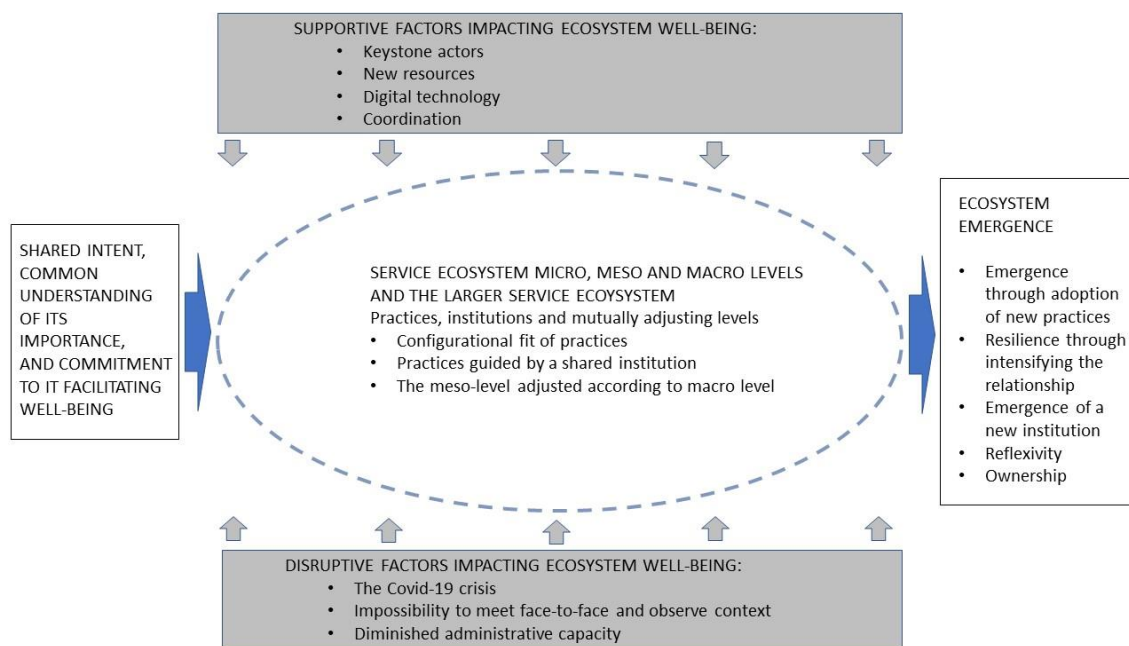


FIGURE 3 Factors that affected service ecosystem well-being in the case investigated presented within a similar layout as the framework for service ecosystem well-being of Frow et al. (2019).

### 5.1.3 Shared intent, understanding of its importance and commitment to it

The shared understanding among the partners of the importance of the project intent, their commitment to it and their purposeful actions to move towards it during the crisis implies the existence of a shared intent among the actors. Intentional interaction among actors has been shown to strengthen the dependencies among actors (Valkokari, 2015, p. 21). It is not clear whether all aspects of the project intent and goals were understood similarly by the partners. The findings also show that partners made efforts to achieve a common understanding of the project intent. Therefore, the left-hand component in figure 3 is labelled 'Shared intent, understanding of its importance and commitment to it' instead of 'Shared worldview and characteristics facilitating well-being' that was used in the framework of Frow et al. (2019). However, the results concerning shared intent suggest that at least a partially shared worldview existed among the actors and that it facilitated the well-being of the service ecosystem. Thus, they align with the results of Frow et al. (2019, p. 2664), which highlight the importance of a shared worldview as the facilitator of service ecosystem well-being. They also align with the results of Brodie et al (2021, p. 230), which show that purposeful interactions

guided by a shared worldview strengthen the capacity of actors to be responsive in a crisis.

The connection of the project goals to the policy level intent of the local educational ecosystem may also have underlined the importance of the project intent.

#### **5.1.4 Service ecosystem: practices, institutions and mutually adjusting levels**

At the heart of the service ecosystem in this study were *configurational fit of practices, practices guided by a shared institution* and the *meso-level adjusting according to the macro level*.

The findings suggest that a configurational fit of practices, which is one of the characteristics that enhances ecosystem well-being (Frow et al., 2019), was achieved in the multinational service ecosystem during the crisis. The actors were able to adopt new practices in the digital environment that enabled collaboration and resource integration. This seemed to increase resource density, because the partners were able to offer the right combination of knowledge and expertise to each other and the stakeholders in the wider educational ecosystem at the right time. This implies that the actors were able to create new opportunities by combining their resources, which is as important for a service ecosystem facing a crisis (Brodie et al., 2021, p. 235).

A shared institution, which gradually emerged after the disruption, seemed to guide the co-creative work of the multinational project in the online only environment. This result is connected to another characteristic of well-being at the heart of the service ecosystem, that is, ecosystem well-being is enhanced by institutional arrangements that are purposefully guided by a shared worldview (Frow et al., 2019, p. 2667). However, it is not clear if the institution was guided by a shared worldview. Yet the new institution seemed to be shared by the partners because it guided their co-creative work in the multinational project. The sharing of resources through co-creation seems to have provided collective strength to produce project outcomes (Brodie et al., 2021, p. 235) during the crisis. The emergence of the new institution was key in coping with the disruption.

Macro-level keystone actors were found to influence the work of the partner organisations in the multinational ecosystem, which suggests that the meso-level of the ecosystem adjusted according to the macro level influence. This is in line with the used framework (Frow et al., 2019). The influence of the meso-level activities on the macro level was not clear enough to make conclusions about it.

#### **5.1.5 Emergence**

Emergence included *emergence through adoption of new practices, resilience through intensifying the relationship, emergence of a new institution, reflexivity and ownership*.

The results show that the ecosystem under investigation was able to cope with the Covid-19 crisis and achieve at least some stability and resilience, which suggests that it emerged (Frow et al., 2019, p. 2667). The collaboration among the

actors and the concepting of the service proceeded through the adaption of flexible new resource integrating practices, which is characteristic of ecosystem well-being (Frow et al., 2019, p. 2679).

The ecosystem seemed to exhibit resilience by adopting new solutions to withstand the disruption, which are found to enhance ecosystem well-being (Frow et al., 2019, p. 2667; Banoun et al., 2016, p. 2990). The results also show that partners experienced that they had learned a lot during the Covid-19 crisis and that joint learning was “used” in the collaboration among the international team. This may have increased the ability to quickly respond to the disruption (Frow et al., 2019, p. 2667). Learning among actors also reflects the iterative learning process between firms and customers the service-centered view assumed at its early stages (Vargo & Lusch, 2004, pp. 5, 12).

The results underline the critical role of partnerships between the organisations and the relationships between partners involved in the project and within the larger service ecosystem in supporting the collaboration during the crisis. Intensifying the relationship is one of the strategies that can be used to increase resilience (Frow et al., 2019, p. 2667). The results show that the partners and especially the project management diligently worked to maintain and intensify relationships and that they were committed to the relationships. This also applied to the maintenance of partnerships between the organisations.

Murphy and Laczniak (2018, p. 3), who discuss the relational nature of the S-D logic in connection to ethical marketing, point out that the relation of the ethical business virtues of trust, commitment and diligence are paired with establishing, sustaining and reinforcing relationships with consumers. They go on to elaborate that the reasoning for these three core virtues is that trust is required to establish a relationship, commitment is needed to continue it and diligence is needed for enduring relationships. Drawing on Murphy, Laczniak and Wood (2007, p. 48) the authors describe diligence as “earnest endeavour, preserving application and steady attention” (Murphy & Laczniak, 2018, p. 5). The efforts the partners made during the crisis could be characterised as such an endeavour. The commitment they showed to the project might not only relate to the project goals as suggested above, but it could also be connected to the relationship. Relationship commitment entails that exchange partners believe that their relationship is so important that it is necessary to invest maximum efforts in its maintenance (Morgan and Hunt, 1994, p. 23). The diligence and commitment of the partners imply that they made great efforts to nurture the relationships amidst the disruption they encountered.

The new practices allowed opportunities for interaction in the digital environment, and by doing so, they may have helped forge relationships (Frow et al., 2016, p. 34). Project coordination also made efforts to establish such opportunities by introducing new ways for collaboration and supporting frequent communication. The relational nature of the S-D logic and its assumption of emergent relationships (Vargo & Lusch, 2004, p. 12) shows in these results. Viewing the results from the service ecosystem perspective pronounces the importance of long-term relationships in coping with the crisis.

The results suggest that a new shared institution that guided co-creative work among the actors of the multinational project in the online only environment emerged. It filled the gap left by the disruption of the institution governing the face-to-face mode of working. The emergence of a new institution is viewed here as a factor that enhanced the emergence of the service ecosystem because it helped the actors withstand the crisis by guiding their work in the changed situation. It could also be considered as a new solution that helped the actors withstand disruption, thus helping to increase resilience (Frow et al., 2019, p. 2667).

According to Lusch et al. (2016, p. 2960), “evolution toward at least some stability is part of an institutionalization process in which rules are developed and shared and become a vital coordination mechanism”. In this case, the emergence of a new institution seemed to help achieve at least some stability in the multinational ecosystem, because it guided working online, which was the only means to proceed after the disruption, and adopting a co-creative approach, which was needed to for two-way expertise sharing and joint work among the multiple partners.

Such an emergence of a new institution seems not to be included in the factors supporting emergence in the service ecosystem framework of Frow et al. (2019). Neither is it included in the framework for health care and well-being during the coronavirus crisis of Brodie et al. (2021). However, Frow et al. (2019) identify that establishing a shared worldview through challenging institutional norms can help organizations cope with disruptions.

Changes in institutional arrangements together with changes in actors’ mental models have been shown to drive transformation of value cocreation in service ecosystems by Edvardsson and Tronvoll (2022), who have explored the context of education and retail during the Covid-19 crisis. These results are relevant to this study, and they give support to the finding that the emergence of a new institution seems to support the emergence of the service system, thus enhancing its well-being.

The emergence of a shared institution within the multinational team reflects the interplay between the context, which here is multinational, and the institutions shaping it (Edvardsson et al., 2014, p. 293). That is, the actor’s behaviour during the crisis seems to have influenced the emergence of the institution, which then appears to have influenced the actors’ behaviour. The results suggest that creating an institution for governing multinational collaboration that is shared among the actors is possible in a multinational context. The study did not focus on what caused the emergence of the institution, but it is known that ecosystem actors can induce institutional change and consequently influence collaborations and interactions in the service ecosystem (Pop et al., 2018, p. 610). It is to be noted that the new emerging institution was only one of the institutions that influenced the multinational service ecosystem, which was influenced by multiple institutions.

What was specific to the collaboration in the multinational service ecosystem in this case was the reflexivity partners showed. Reflexivity may have been connected to the institutional complexity of the multinational ecosystem, which

results from the multiple institutions (Akaka et al., 2013) prevailing in the different countries. The results do not show whether reflexivity played a specific role in coping with the crisis or in collaborating in multinational ecosystems in general. However, partners' reflection of the diverse approaches to collaboration that existed in the different partner countries and in the multinational ecosystem as well as their reflection of the suitability of their own approaches, including the approaches they wanted to distance themselves from, suggests that partners encountered and contemplated diverse institutions. It also implies that the partners may have applied different "institutional toolkits" (Siltaloppi et al., 2016, p. 334) to the collaboration according to the diverse situations. Reflection was mainly done individually but there was also evidence of reflection in a group of actors at the meso-level, which involved project management. Reflection may have supported the emergence of the new shared institution, because recognising prevailing institutions is a prerequisite for changing them (Vink et al., 2021, p. 175). The findings also involved reflection about the emergence of the new co-creative way of working within the multinational project.

It is interesting to note that even though the partners struggled with some of the prevailing institutions (e.g. hierarchical structures and diverse training processes), I could not recognise reflections on ethical concerns related to bringing the "full package" (Kandelin, 2019, p. 6) from the Northern context to the Southern context. The interviewees rather contemplated on how to adapt to the different conventions and ways of working and they also explained that it was the Southern partners who localised the expertise from the North to suit their context.

What also seemed to be specific to the well-being of the ecosystem under investigation was the fact that the Southern beneficiaries had the ownership of the project. This was critical in moving forward at the time of crisis. I was not able to find literature on service ecosystem well-being that would explicitly discuss the concept of 'ownership' and neither did I realise to ask the interviewees what they meant with it. What it seemed to denote was the freedom of the Southern partners to act and make decisions that concerned their work in the project within the frame placed by the project goals. This implies that the agency of the Southern partners, and especially their collective agency (Taillard et al., 2016, p. 2973), played an important role when new strategies to move forward in the local context during the crisis were made. This also reflects the connectedness of the multinational project to the wider ecosystem and the changes occurring in it. Purposefully assigning the ownership of the project to the Southern partners could also be interpreted as an attempt to strengthen the position of the Southern actors in the service ecosystem. According to Tronvoll (2017, p. 9), an actors' position in a service ecosystem determines which resources the actor can access. He further explains that a higher position in the service ecosystem commands a greater number of resources, thus facilitating co-creation.

It was not clear whether and how the Southern ownership of the project affected the sense of agency of the Northern partners. Some of the findings suggest that the challenges in obtaining knowledge from the Southern context in the



online environment limited their capacity to act in the way they would have preferred to, but the results do not indicate whether this was connected to the ownership being in the South.

### 5.1.6 Summary of the factors affecting service ecosystem well-being

The factors affecting service ecosystem well-being discussed above are summarised below. It is to be noted that this study did not aim to analyse the characterisation of service ecosystem well-being proposed by Frow et al. (2019) but it rather investigated the factors that affect service ecosystem well-being in this case, which is situated in a previously unexplored context. So, only the factors found to affect service ecosystem well-being in this study are discussed in relation to the characterisation of and framework for service ecosystem well-being by Frow et al. (2019).

Firstly, the study suggests that the well-being of the service ecosystem in the field of education under investigation at a time of crisis was affected by certain factors that are included in the service ecosystem well-being framework and characterisation of well-being by Frow et al. (2019, pp. 2672 - 2680). These factors are: a shared worldview implied by a shared intent facilitating well-being; the Covid-19 crisis as a stressor and disruptive factor of well-being; keystone actors and new resources as supportive factors of ecosystem well-being; a configurational fit of at least some practices; emergence through the adoption of new practices and resilience. It was not clear if a shared worldview guided the institutions, yet a shared institution emerged to guide the new mode of working, which was of critical importance for the emergence of the ecosystem, and thus for its well-being.

Secondly, the contextual nature of service ecosystem well-being becomes evident through the factors that are specific to this case. This can be seen especially in the factors related to emergence, that is, coping with the Covid-19 crisis, which is one of the aspects of the context explored in this study. They also reflect the nature of a structural project in the field of education, around which the multinational service ecosystem formed. The factors affecting service ecosystem well-being through emergence were: long-term partnerships and relationships, the ownership being with the beneficiaries in the South, emergence of new institutions and reflexivity.

Together these factors support resource integration and the emergence of the service ecosystem during the crisis. This is illustrated in figure 4. The backbone of the collaboration is formed by the partnerships and relationships that support interaction between partners. The collaboration between the partners in the multinational project is guided by an emerging institution that supports co-creation among the partners in the digital environment. Reflexivity and ownership support actors' work: while reflexivity helps in adapting to diverse institutions and selecting a preferred approach to collaboration, ownership enforces the agency of the beneficiaries and their agility to proceed according to the changes and needs in the local context. These factors were all classified under emergence. Together with technology, which enables the emergence of the new institution,

and the participatory approach promoted by project coordination, they seem to form a “platform” that facilitates collaboration and interaction among multiple actors as they attempt to cope with the crisis.

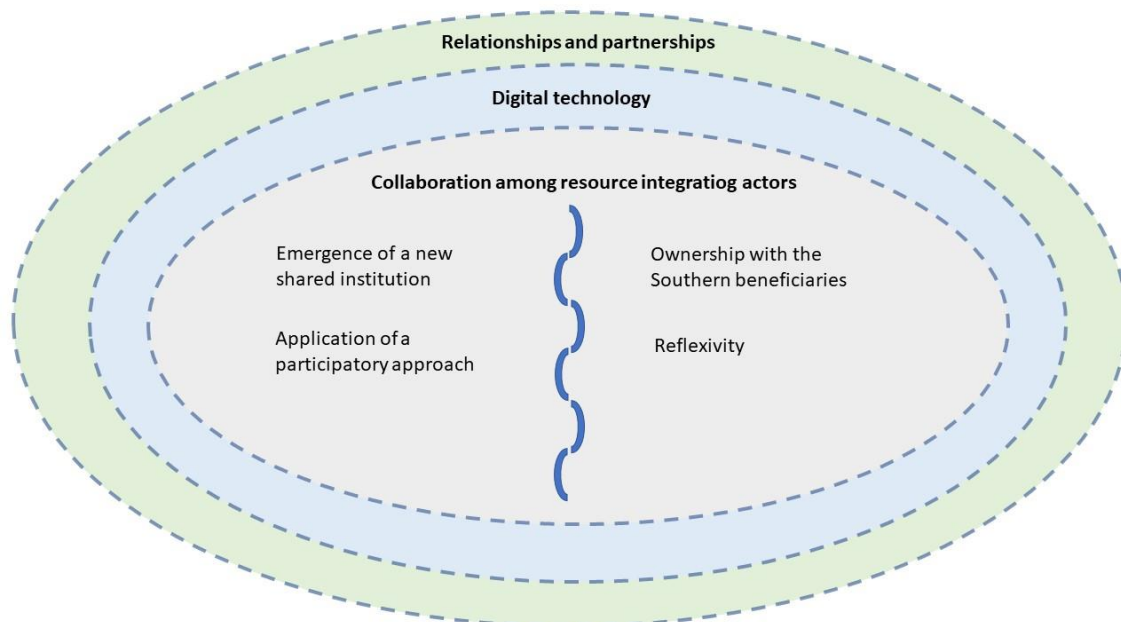


FIGURE 4 Platform facilitating collaboration and interaction formed by factors affecting ecosystem emergence, digital technology and a participatory approach.

It is interesting to note that the absence of a virtual platform that allows actors to interact and create connections has been found to inhibit the sharing of best practices in the field of eHealth during a crisis, and thus inhibit the evolution of an eHealth system during the Covid-19 crisis (Sebastiani and Anzivino, 2021, p. 2044).

### 5.1.7 Main theoretical contributions

Based on the findings and the discussion above, this case study has four main theoretical contributions. Firstly, this exploration of a case situated in a multinational service ecosystem in the field of education at a time of the Covid-19 crisis shows several characteristics of service ecosystem well-being that have been found in the field of healthcare (Frow et al., 2019). These characteristics are listed above.

Secondly, long-term orientation among the actors supports ecosystem emergence and well-being in a service ecosystem in the field of education that aims to achieve structural change at time of crisis. It involves partnerships between organisations and relationships between individuals in the service ecosystem, thus reflecting the relational nature of the S-D logic (Vargo & Lusch, 2004, p. 12), and the constant nurturing of them. Partnerships and relationships sup-

port collaboration and resource integration among actors during a crisis. Intensifying relationships serves as a strategy for increasing resilience (Frow et al., 2019, p. 2667) and thus, the emergence of the service ecosystem. Long-term orientation also involves tying the project intent tightly with long term macro-level policy goals that are supported by macro-level key stone actors. This seems to enforce the importance of the project intent and it may consequently enhance a sense of shared purpose, thus facilitating service ecosystem well-being (Frow et al., 2019, p. 2664; Brodie et al., 2021, p. 230).

Thirdly, the results suggest that the emergence of a shared institution among the multinational project supports the ability of the ecosystem to emerge. It is clear that actors can break, make and create institutions (Koskela-Huotari et al., 2016, p. 2964; Pop et al., 2018, p. 593). It is also known that changes in institutional arrangements together with changes in actors' mental models have the capacity to drive the transformation of value cocreation in service ecosystems in the field of education (Edvardsson and Tronvoll, 2022, p. 5). This case study suggests that actors in a multinational project are able create an institution that guides their work during a crisis and that is shared by them. It is important to remember that there is a counterreaction between the institutions influencing actors' behaviour and actors' behaviour influencing institutions (Edvardsson et al., 2014, p. 293). In the case investigated here, the shared institution seems to have emerged in the multinational context. It guided the collaboration of the multinational actors.

Fourthly, the beneficiaries from a Southern country having the ownership of the project around which the multinational service ecosystem forms is key for the emergence of the service ecosystem, and thus for its well-being. It seems to support the agency of the beneficiaries and enforce their capacity to devise strategies for moving forward according to the changing situation and needs in the local context. It seems to enhance their position in the network and thus enforce their access to resources and facilitate co-creation efforts (Tronvoll, 2017, p. 9).

## 5.2 Managerial contributions

The managerial implications of this study are drawn from the data that was obtained from a case that is situated in a particular context. Thus, they do not apply to other cases and contexts. Yet the learnings of the case may offer fresh insights to managers of educational institutions that plan to engage in multinational service ecosystems where expertise from Northern educational organisations is made available to Southern educational organisations to build a service and achieve structural change.

Firstly, the results highlight the importance of managing across the mutually adapting levels of the ecosystem (Frow et al., 2019, p. 2682) and the importance of a long-term orientation in a collaboration that aims to change educational structures. Managers should understand the crucial role of the partnerships between organisations and the relationships between individuals play in

supporting the collaboration and resource integration among the actors of a multinational service ecosystem at a time of crisis. They should nurture the relationships and partnerships during the crisis by encouraging the participation of all partners in the development work and introducing collaborative practices that help forge relationships. Aligning project intent with long term macro-level goals and involving macro-level keystone actors that have power to promote such goals and their sustainability in the context of the beneficiaries may strengthen the importance of the project intent and support establishing a shared purpose among actors. Consequently, this may facilitate the well-being of the ecosystem (Frow et al., 2019). Here, managing across the different levels of the service ecosystem is crucial.

This case study implies that managers should support the creation of a new shared institution that guides resource integration among the multinational actors in case their shared institution is disrupted by a crisis. It is known that actors have the capacity to induce institutional change and consequently facilitate interactions (Vargo and Lush, 2016, p. 11; Pop et al., 2018, p. 610). Managers have also been advised to induce institutional change to facilitate collaboration with customers instead of merely reacting to changes made by others (Pop et al., 2018, p. 610). The case investigated suggests that actors from different countries have the capacity to create a shared institution that facilitates their collaboration and interaction in a multinational service ecosystem after a disruption. It also suggests that creating a shared institution may help withstand a crisis and increase resilience. Managers should ensure that shared rules exist for guiding resource integration among actors in the new situation and, in the absence of such rules, facilitate their development. At the same time, it is important to note that flexibility is needed to comply with the diverse institutions influencing a multinational service ecosystem. Here, reflexivity and supporting reflexivity among actors are important.

Managerial flexibility has been found to be important in coping with the Covid-19 a crisis by Brodie et al. (2021, p. 225). The results obtained from this case also underline the need for managerial flexibility. In addition to complying with the diverse institutions influencing the service ecosystem discussed above, managers should be agile in adopting a new mode of working and encourage partners in the transition after a disruption caused by a crisis. Flexibility in using diverse tools and channels for supporting frequent communication among actors is also important. Managers also need to balance between appreciating the self-adjusting nature of service ecosystems, both the multinational ecosystem and the local educational ecosystem of the beneficiary, and coordinating the collaboration across the mutually adjusting levels of the service ecosystem.

Finally, using the service ecosystem perspective to learn from the case helps to understand the critical importance of the two-way mode of knowledge and expertise sharing and co-creation among the partners when expertise of the Northern partners is to be made available to the Southern partners to develop a service for the Southern education ecosystem. According to S-D logic, value is cocreated by multiple actors and this process always includes the beneficiary, yet "its appraisal is assessed by, or at least in reference to, a particular beneficiary"

(Lusch & Vargo, 2018, p. 12). The beneficiary having the ownership of the multinational project and their freedom to act and make decisions within the project framework seemed to be critical for moving ahead at the time of crisis, which implies the importance of giving attention to the position of the beneficiary in the collaboration.

Viewing the case from the service perspective also revealed the importance of context specific expertise and knowledge and experiencing the new context and meeting people on site. It showed how the lack of such opportunities became a major stressor of the collaboration in this case. Thus, it is important to create opportunities for interaction and observation: on the one hand, they allow the Southern partners obtain expertise from the Northern context and visualise how they possibly can use it in their context, and on the other hand, they help the Northern partners understand the Southern context and expertise and what part of their expertise should be made available to the Southern partners. This conclusion is linked to project goals that aim to make the expertise of Northern partners available to the Southern partners. It is to be noted that there is more to jointly developing a service than making the expertise of certain partners available to other partners. It is crucial to create opportunities for co-creation where the expertise of all partners can be used to develop a solution or a service. It is also important to create opportunities for partners to spend time together informally to learn to know each other and build and maintain partnerships and relationships. This may require the forming of a new shared institution that supports collaboration among the actors in the changed context at a time of a crisis. It may also require digital technology to enable the change. This once again reflects the relational nature of the S-D logic.

Going back to the service perspective, which sees the company and customers engaged in a learning process (Vargo & Lusch, 2004, p. 6), directs attention to the learning among actors. Learning has also been found to lead to greater resilience in a health care ecosystem during the Covid-19 crisis (Brodie et al., 2021, p. 225). The results obtained from this case suggest that it is important to support learning among the multinational partners at a time of crisis, because it seems to help the partners adopt new practices from each other. Consequently, it may support collaboration in the new situation and the emergence of new ideas, which in turn help to respond to the needs of the beneficiaries in the changed situation.

An exploration of ecosystem well-being in a multi-faceted case without a deeper investigation of any of its aspects leaves many questions unanswered. The importance of the beneficiaries having the ownership of the structural project for the well-being of the ecosystem at a time of crisis suggests that it might be interesting to investigate the factors supporting the agency of the beneficiaries in a collaboration aiming for structural change in the local education ecosystem. This theme could expand to the agency of the benefactors and the collective agency of both the beneficiaries and benefactors, and its effects on the well-being of the multinational service ecosystem. Such an investigation might help understand the practical actions that can support the agency of the actors in multinational ecosystems in education and the impact of agency to the collaboration at a time of a crisis or in non-crisis situations. The S-D logic gives actors an active role, yet

agency is also known to have a dark side (Mele et al., 2018) and understanding tensions and trade-offs in service ecosystems is in its early stages (McColl-Kennedy, Chung and Coote, 2020, 664). An investigation of actor's agency in a multinational service ecosystem involving beneficiaries and benefactors might also give insights into the collaboration that puts the actors on the same footing.

Using the service ecosystem perspective and the S-D logic to explore country programmes or funding instruments supporting structural change and development of new services in local education ecosystems might also give insights into how the ownership and agency of local actors and their role in a collaboration that aims to benefit them is supported by such programmes and instruments.

The conclusion about the importance of the emergence of a new shared institution for the well-being of the multinational ecosystem made in this study was based on the collaboration among the multinational actors and it was about guiding the actors' development work. It might be interesting to investigate the emergence of a new shared institution that would guide the work of the local actors in delivering a new service in their local ecosystem that is developed in collaboration with multinational partners. Recent service design literature ((Vink et al., 2020) indicates that service design has ignored the institutional arrangements that influence design efforts in service systems.

### 5.3 Evaluation of the study

The concepts of reliability and validity provide criteria for evaluating studies in business research (Eriksson & Kovalainen, 2016, p. 305). Yet method books are divided in their opinion about whether the concepts of reliability and validity can be used to evaluate, for example, the accuracy of interviews, and whether validity is a good enough criterion for evaluating qualitative research (Eriksson & Kovalainen, 2016, p. 305). The quality of this study is evaluated by first briefly discussing reliability, then considering the study against the criteria of validity that are applicable to qualitative case studies, then very briefly discussing generalizability and finally by considering the study against the evaluation criteria that have been specifically developed for case studies. The study could also have been evaluated using alternative criteria for qualitative studies that replace the traditional notions of validity, reliability and generalizability. Such an approach is suggested by Eriksson and Kovalainen (2016, p. 307) for research that relies on relativistic ontology and subjectivistic epistemology. The decision to discuss the validity of the study through certain procedures and to evaluate the study against the characteristics of a good case study is based on the advice offered by case study method books.

The classic evaluation criterion of reliability tells the extent to which a procedure gives the same results when it is repeated (Eriksson & Kovalainen, 2016, p. 305). Considering the subjectivistic ontology assumed in this study, it can be concluded that if this study was conducted by someone else, the perceptions and interpretations of the researcher in question and the author would most likely

differ, and the diverse perceptions would most likely affect research procedures and eventually the interpretation of the case and the conclusions of this study. This study attempts to follow proper research design. To give the reader a possibility to judge the quality of this study, this report articulates the choices that were made and describes how the study was done, including a detailed description how the data collected and analysed.

Validity refers to the extent to which conclusions made in research accurately describe or explain what happened (Eriksson & Kovalainen, 2016, p. 305). Considering the interpretivist epistemology assumed in this study, the conclusions made in this study are based on the author's interpretation of the multiple realities constructed by the people involved in the study rather than assuming that the study would have obtained an accurate description of the case.

The validity of this study could have been increased through triangulation and member check, which are common procedures for evaluation the validity of research (Eriksson & Kovalainen, 2016, p. 305) and which are important procedures for evaluating case study research (Stake, 1995, pp. 107, 110 & p. 115; Yin, 2003, pp. 98, 159). Stake (1995, p. 110) points out that additional observations offer opportunities to a researcher for revising his or her interpretations. He emphasises that important data claims need to be triangulated with the help of different data sources, investigators, theoretical viewpoints or methods (1995, pp. 112, 114). Yin (2003, p. 97) highlights the advantages brought by multiple sources of evidence and suggests that case studies based on different sources of information are more convincing and accurate. He goes on to state that triangulation is the rational for using multiple sources of evidence. This study relies on a single source of evidence, that is, interviews. It only uses one additional source of evidence, the project plan, in constructing the case. So, triangulation is not used in this study, and even though not all method books see it as a prerequisite for a good descriptive case study (Eriksson & Koistinen, 2014, p. 46), it is one of the shortcomings of this study. Other data sources such as the minutes of online meetings, email messages and messages in instant messaging application would have offered additional information and interpretations of what happened in the case. The rationale for focusing on the 11 interviews was the rare opportunity to use the time of the experts who collaborated in the multinational service ecosystem and who at the same time had connections to the stakeholders in the local educational ecosystems, especially in the Southern context. Their perceptions were seen as important in understanding what happened in the unique case. An access to the above data sources was not requested. Accessing data sources offering evidence of the collaboration with diverse local stakeholders and even with all the actors directly involved in the project might not have been possible because the records might not capture the everyday interaction or even formal interaction with these actors or they might not exist.

Member checking (Stake, 1995, p. 115), or having the participants of the study to read the report (Yin, 2003, p. 159), also offers additional observations and a possibility to triangulate the researcher's interpretations and observations (Stake, p. 115). Conducting this procedure enhances the accuracy of a case study and helps to identify the various perspectives (Yin, 2003, p. 159). A member check

was not carried out in this study. This is because the author did not want to add to the burden of the researched, who had given their time for lengthy interviews. Even if an interviewee might have had time, it was considered important to give a chance to all the interviewees to read the interpretations based on their interviews in case a member check was done. Not conducting a member check is one of the flaws of this study, because additional observations would certainly have helped to revise the interpretations made by the author and they might have allowed additional interpretations.

The third concept of classic criteria of good quality research, generalizability, is concerned with whether the research results can be extended into a wider context (Eriksson & Kovalainen, 2016, p. 307). In an analytic generalization, a case study's empirical results are compared with a previously developed theory, and in case two or more cases support the same theory, replication may be claimed (Yin, 2003, pp. 32-33). This study does not claim replication. The conclusions are based on the specific case and the findings on which they are based are compared to previous research findings.

Yin (2003) has proposed five general characteristics for an excellent case study. These criteria are also presented by Eriksson and Kovalainen (2016, p. 145) as specific criteria developed for evaluating case study research. According to Yin (2003, pp. 160, 165) a case study must be significant and complete, it must consider alternative perspective and display sufficient evidence, and it must be composed in an engaging manner. When evaluating this study against these criteria, this study could be viewed as significant because it is unusual (Yin 2003, p. 162), or at least because it gained a rare access to a case that was situated in a multinational service ecosystem where the actors collaborated to achieve a structural change in a local educational ecosystem at a time of a crisis caused by a pandemic. In addition, the case involved experts from six HE organisations with their connections to stakeholders and a macro-level keystone actor. The 11 interviews with participants from four countries and six organisations and the multiple extracts of interviews presented above could be considered to display sufficient evidence of what happened, even though other sources of data would have offered more information on what happened and additional perspectives. This brings us to the shortcomings of the study. Using other sources of evidence would have contributed to the case study being complete. They would also have given alternative perspectives to avoid presenting a one-sided report. In this study, the interpretations of what happened and what affected the well-being of the service ecosystem under investigation relied on the author's interpretation of the perspectives of 11 experts from different countries and organisations. The reasons for the report not being composed in a very engaging manner may be my attempts to tone down my interest in finding out what happened as well as the feelings of being privileged to have gained an access to such a significant case, as if they would have diminished the unintentional impact of my views on the interpretation of the case.



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## APPENDIX 1 INITIAL THEMES AND CODES

Initial themes	Codes
Way of working	<ul style="list-style-type: none"> <li>• Way of working</li> </ul>
Partnerships and relationships	<ul style="list-style-type: none"> <li>• Collaboration, relationships</li> <li>• International partners</li> </ul>
Long term orientation	<ul style="list-style-type: none"> <li>• Sustainability</li> </ul>
Context	<ul style="list-style-type: none"> <li>• Context and localisation</li> </ul>
Technology vs. physical presence	<ul style="list-style-type: none"> <li>• Technology</li> </ul>
Reflecting	<ul style="list-style-type: none"> <li>• Compare Northern and Southern ways of doing, perspectives</li> </ul>
New activities, including services	<ul style="list-style-type: none"> <li>• New activities, knowledge sharing and interaction online</li> </ul>
Ownership	<ul style="list-style-type: none"> <li>• Norther partners' talk about the work of Southern partners</li> <li>• Southern work, ownership</li> </ul>
Intent and commitment	<ul style="list-style-type: none"> <li>• Intent, commitment, responsibility</li> </ul>
Coordination	<ul style="list-style-type: none"> <li>• Project coordination, project leader</li> </ul>
Government	<ul style="list-style-type: none"> <li>• Government</li> </ul>
Learned and got	<ul style="list-style-type: none"> <li>• Learned and got</li> </ul>
Administration	<ul style="list-style-type: none"> <li>• Administration</li> </ul>
Other stakeholders	<ul style="list-style-type: none"> <li>• Other stakeholders</li> </ul>
What helped	<ul style="list-style-type: none"> <li>• What helped</li> </ul>
What was challenging	<ul style="list-style-type: none"> <li>• What was challenging</li> </ul>