Kyrö, Riikka; Peltokorpi, Antti; Artto, Karlos

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Published in:
Facilities

DOI:
10.1108/F-05-2015-0032

Published: 01/01/2016

Document Version
Peer-reviewed accepted author manuscript, also known as Final accepted manuscript or Post-print

Please cite the original version:
Kyrö, R., Peltokorpi, A., & Artto, K. (2016). Connectivity, cost-efficiency, community, and collaboration – the value of co-locating on a health campus. *Facilities*, *34*(13-14), 873-890. https://doi.org/10.1108/F-05-2015-0032

Connectivity, cost-efficiency, community, and collaboration – the value of co-locating on a health campus

Abstract

Purpose - The study aims to increase understanding on how co-locating in a multi-firm campus setting could bring value to healthcare organisations.

Design/methodology/approach - The paper presents a qualitative case study of two health campuses in Finland. The data comprises interviews with different organisations operating on the campuses, complemented by onsite observations, and analysis of archival data.

Findings – Based on the empirical analysis, the value of co-locating as perceived by the organisations operating on campus is grouped into four categories: Connectivity, Cost-efficiency, Community, and Collaboration (or the 'four Cs').

Research limitations/implications – The study does not aim at statistical genaralisability, but rather seeks to draw analytical generalisations based on identified empirical regularities. The developed value framework, the four Cs, contributes to current scholarly knowledge on location strategies.

Practical implications - Furthermore, the managerial implications of the four Cs entail a new two-fold role for property management: the traditional Facilitator role, which is suitable for delivering the two tangible values of Connectivity and Cost-efficiency, and the modern era Integrator, a community builder that is able to deliver Community and Collaboration.

Originality/value - Previous literature on healthcare facilities has focused on the technical performance of the buildings, while previous literature on the collaborative value of co-location has studied mainly single-firm corporate campuses. This study uniquely explores the potential value of health campuses, where different private, public and third sector organisations co-locate.

Keywords: Campus, Co-location, Collaboration, Community, Property management, Healthcare

Type: Research paper

1. Introduction

Healthcare facilities are undergoing a major transition and traditional hospital buildings are becoming obsolete as new treatment methods and increased specialization of service providers requires integration of resources from multiple organizations (Okoroh et al. 2001). At the same time, campuses and business parks where different organisations co-locate, have gained popularity. By definition, campuses host several buildings, which are located close to one another, and utilize joint resources, such as electricity grid or parking amenities.

Both campus co-location and healthcare facilities have received moderate research attention previously. Based on previous literature, corporate campuses are mainly seen valuable as a way of improving cost-efficiency (Green and Lazarus 1988), enforcing the culture and identity of an organization (Latshaw 2000; Airo 2013), and supporting social interaction and knowledge sharing among individuals (Becker et al. 2003, Appel-Meulenbeck 2010). Meanwhile, in the context of healthcare facilities, performance and maintenance management of facilities have been seen especially important (e.g. Abdelbase and Hegazy 2013, Ensharri and El Shorafa 2015, Lavy and Shohet 2009, Yuhainis et al. 2013). Despite the increasing attention towards both research areas, previous literature on the value of co-location has studied mainly single-firm corporate campuses, while previous literature on healthcare facilities has focused on the technical performance of hospital buildings.

Therefore, this study will focus on combining the two separate research areas through addressing the less discussed management issues of multi-organization health campuses. More specifically, the study addresses two research questions: 1) How do healthcare organisations perceive the value of operating in a multi-firm campus setting? and; 2) How should a multi-firm campus facility be managed to achieve said value? The study uniquely addresses health campuses, where not only private, but also public and even third sector organisations co-locate. Two existing health campuses from Finland are utilized as cases in this in-depth qualitative research.

The remainder of the paper is structured, as follows: the next section presents previous research on the two separate literature streams of co-location and healthcare facilities as a theoretical background for the research. Research method, cases, data collection and

evaluation of research validity is presented in the subsequent section, entitled Study design. The fourth section presents the empirical analysis and summarizes the key findings, and the fift section discusses the findings further. The sixth and final section provides conclusions and recommendations for future research.

2. Literature

Corporate campuses, where a single company operates multiple business units on the same site, are the most common form of co-location, and have also been the most researched. Green and Lazarus (1988) studied corporate educational campuses as early as 1988, listing a number of benefits experienced by the owner-occupiers of corporate campuses, including cost-efficiency, and the ability to tailor the facilities to their individual needs. Site setting, size, meeting rooms, catering services and recreational facilities were among the facility related items to consider (Green and Lazarus 1988). Latshaw (2000) presented a similar list of items to consider, however, she emphasized the significance of corporate culture in planning a campus, along with the notion that the facility should always fit the organization, not the other way around. Becker et al. (2003) also studied the social implications of co-location, and found that employees appreciated the chance encounters created by physical proximity, rather than viewing them as interference. In fact, the encounters allowed building a trust and sense of belonging, which would then enable collaboration on campus (Becker et al. 2003). Appel-Meulenbeck (2010) suggested that the potential value of co-location lies in knowledge sharing. Sailor (2011) likewise studied the relationship between physical workplaces and organizational behaviour, and found that facilities that enable spontaneous encounters are key in promoting knowledge sharing, and that co-location also tends to foster creativity (Sailer 2011). Jaitli and Hua (2013) address the sense of belonging on a campus and argue that, in order for the workplace to support the employees' sense of belonging and community, the workplace physical attributes needed to be of relevance to said employee. In other words, in order for the employee to appreciate the physical surroundings, they not only had to find the facilities suitable for their work, but first think that a good work environment is of importance.

The sense of belonging is closely linked to corporate culture and identity, for which the facilities also bear meaning. Becker et al. (2003) submits that the physical facilities on a campus are representative of the respective company culture, and that the employees appreciate a strong architectural branding. This resonates with Airo (2013) who found that, due to their academic identity, academics felt their workplace should reflect the academic tradition. As a consequence, a new business park setting located off campus was less pleasing to the academics even though the physical facilities were considered more comfortable than the previous facilities on campus (Airo 2013).

Meanwhile, facilities management within the field of healthcare is particularly complex (Shohet 2003), and previous literature has largely focused on the technical, maintenance and performance management. Several studies have developed frameworks for the performance and maintenance management of healthcare facilities (Abdelbase and Hegazy 2013, Ensharri and El Shorafa 2015, Shohet and Lavy 2004a, Shohet and Lavy 2004b, Lavy and Shohet 2009, Yuhainis et al. 2013). Research comprises suggestions for suitable performance indicators such as occupancy levels, building age, or level of outsourcing of maintenance personnel (Shohet 2003). The potential of outsourced FM services to improve patient experience and create cost savings was studied by Okoroh et al. (2001), while Liyanage and Egbu (2008) focused on performance measurement of the housekeeping service in healthcare facilities. The performance indicators and parameters included in these studies are all quantitative, and quite heavily motivated by either cost-efficiency or risk management. As an example, Shohet and Lavy (2004a) propose an integrated facilities management model, and develop three key groups: maintenance management, performance and risk management, and energy and operations. A newer study introduces additional categories of asset and organizational management of the maintance organization, with indicators related to the level of outsourcing and organization structure (Shohet 2006).

While recognizing the need for a more strategic facilities management model, Shohet and Lavy (2004b) define facilities management as measures aiming to optimize the cost-efficiency and performance of a building in order to support the core organization. Strategic support to healthcare organizations could, however, go beyond the technical performance of the building. One of the rare less technical studies of healthcare facilites management,

Oommen at al. (2008) discuss the recent shift to open plan offices. The universal shift is taking place in healthcare facilities also, and affects healthcare professionals. The study suggests that health service managers should carefully consider the effects of workplace design to workplace satisfaction and productiveness, as healthcare professionals might not be prepared for the shift (Oommen et al 2008).

3. Study design

As the phenomenon under investigation is rather unknown and lacks well-established theory, this research employs a qualitative research approach (Edmundson and Mcmanus 2007). Furthermore, a case study method was chosen in order to engage in in-depth analysis of the subject of study in its real-life context (Yin 1994). The qualitative research approach in general, and the case study method in particular, enables the researchers to explore the phenomenon of co-location in detail, and detect the associated underlying influences (Johnson and Onwuegbuzie 2004; Edmondson and McManus 2007). In other words, the goal of this research is to gain new insight, and refine existing understanding of campus co-location. This study is explorative in nature and seeks to obtain detailed and strong empirical evidence of the two cases. First and foremost, it seeks to identify empirical regularities within and across the cases (Amaratunga et al. 2002). The attempt is to create new theory through analysing these regularities within and across cases, using different data sources, and related literature (Eisenhardt 1989). Statistical generalizability, or generalizability beyond the context of the study is not the aim of this study. In fact, as also Yin (1994) points out, the studied phenomenon and unique context of the study may not even exist in real-life without one another. Instead, this study draws analytical generalizations as defined by e.g. Miles and Huberman (1994) and Curtis et al. (2000), and thus aims at contributing to both the existing scientific body of knowledge, and current practice.

Two health campuses were chosen for investigation. The limited number allows for the collection of rich empirical data, and in-depth analysis. On the other hand, two cases provide stronger empirical evidence than a single case, as well as enable controlling variation in the

empirical context (Eisenhardt 1989). Theoretical sampling was used to select campuses that are sufficiently similar, yet have distinctive characteristics. Next, the two selected cases are described in detail.

3.1. Cases

The cases include two health campuses in Finland: Campus A is located in the capital Helsinki, and Campus B in the Northern city of Oulu. Both campuses are specialized in rehabilitation healthcare, but only Campus A hosts a hospital. The campuses are also of different sizes and ages, but share some of the same key organisations, including a foundation that is a real estate owner on both campuses (hereinafter "the Foundation"). The case campuses are presented briefly in the following.

Campus A dates back to the 1940s, when it was developed to provide comprehensive care for injured World War II veterans. The full service chain included healthcare, rehabilitation, and vocational training for those who could not return to their pre-war occupation. While the customer segment has changed over the years, the campus still hosts an orthopaedic and rehabilitation hospitals, imaging services, rehabilitation aid providers, and educational services for the physically disabled. Campus facilities include two main buildings, service facilities, and a parking lot. All facilities on campus are owned by the Foundation, which maintains the onsite hospitals and vocational schools. Since the Foundation divested their prosthetic aid manufacture, import and sales unit in 2013, the campus has been developing into a multi-firm campus, where different organisations from the rehabilitation field operate. Currently, in addition to the internal organisations, three external healthcare organisations have facilities onsite, and a fourth one utilizes onsite operating rooms. The campus is located some 5 km from Helsinki city centre in an area with many other health sector organisations within a 1 km radius. The area is well accessible through both private car and alternative transit.

Campus B dates back to the turn of the century, when different organisations in the Oulu region, including the Foundation, the city of Oulu, the local university hospital and third sector organisations representing patients with disabilities, started visioning a full service rehabilitation campus. As a result, the campus quite uniquely hosts both public and private organisations, as well as third party organizations. The campus was first developed in 2004, and

a second building was construced in 2008. The third and newest building on campus is a parking structure from 2013. The buildings have shared ownership between the Foundation, the city of Oulu and the local university hospital. Altogether 16 organizations, from the health and wellbeing sector, operate on campus. Joint facilities include meeting rooms, and a social space with recreational sauna facilities. The two buildings are connected via a connecting corridor, and the campus boasts having open access within the campus with no locked doors. The campus is located some 2 km outside the city centre by a major highway. Several other organisations from the healthcare sector are located in the same neighborhood. Details about the campuses and their organizations are shown in Table 1.

TABLE 1 CASE CAMPUS CHARACTERISTICS

	Campus A	Campus B
First developed	1942	2004
Leasable area	35, 000 m^2	8, 500 m^2
No of buildings	2 main buildings	2 main buildings and a parking structure
Ownership	Single owner (the Foundation)	Shared ownership between the Foundation, the city, and the local university hospital
Actors	7 actors Private sector: • Orthopaedic hospital • Rehabilitation hospital • 2 vocational schools, which also operate the onsite restaurant and café • Rehabilitation aid manufacturer and importer • Rehabilitation aid sale • Health care provider (incl. scanning services) Public sector: • Neurosurgery unit of the local university hospital	16 actors Private sector: • Rehabilitation aid manufacture, import and sales • Rehabilitation aid (wheelchair) import and sales • Hearing aid import and sales • Physiotherapy provider • Functional therapy provider • Occupational health care provider • R&D company from the health sector • Wellness tourism provider • Traditional healing (alternative medicine) provider • Catering company operating the onsite restaurant Public sector: • Rehabilitation aid provider of the local university hospital • Rehabilitation aid provider of the city • Vaccination clinic of the city Third sector: • Association for the physically disabled • Rheumatism association
Shared facilities	Amenities: • Restaurant • Café • Car parking Health care: • Operating rooms • Imaging services, x-rays	Amenities: • Restaurant • Café • Car parking • Meeting rooms • Social space with sauna (used daily for coffee and lunch breaks, occasionally for social gatherings)

3.2. Data collection and analysis

The main data for the study comprise 29 semi-structured interviews of organisations on both case campuses. All organisations currently operating of the two campuses were contacted, and 20 of the total 23 organizations agreed to be interviewed. Altogether 28 infromants represent different organisations from the public, private and third sectors. Several informants from the key organisation, the Foundation, were included in the interviews, and one informant was interviewed twice due to their significant role and knowledge of both case campuses. Most informants represent the executive or senior management level in their respective organizations. A list of informants with their role and organization is included as Appendix I to this paper.

The informants were asked to describe their experiences from operating on the campus. The researchers loosely followed an interview guideline, with themes ranging from past and current operations to key stakeholders and joint activities on campus. The attempt was to give the informants a chance to freely reflect on their relationship with the campus and the other organizations, and the researchers were careful not to inflict their own vocabulary, professional jargon or any foreign concepts upon the informants. Additionally, some specific questions about e.g. the campus amenities were asked for clarification. All interviews were conducted face-to-face during site visits between October 2014 and March 2015. The interviews ranging from 60 to 90 minutes were recorded and transcribed. Several researchers were present in each interview, and at least one of the authors of this paper was always present. All informants were very co-operative and helpful, allowing the researchers access to their internal data and even internal meetings. Consequently, the interview data could be complimented with secondary data sources such as archival material (campus layouts, 315 pages of historical documents, and marketing material). Additionally, the researchers made observations during the site visits, including 10 interview visits and 5 campus development meetings on Campus A, and four full days spent on Campus B.

The empirical data analysis commenced through first defining the most relevant themes of co-location in the studied context. Previous literature on healthcare facilities and co-location benefits provided initial guidance and directed attention to 1) site setting (e.g. Green & Lazarus 1988), 2) shared facilities (e.g. Green & Lazarus 1988), and 3) sense of belonging (e.g. Becker et

al. 2003). Additionally, the shared customer segment of the case campuses strongly emerged from the interviews outside of the literature review, and was therefore included as a fourth theme in the data analysis. The second phase of the analysis comprised manual coding of the transcribed interview narratives. Any comments related to the four themes were manually selected, and grouped under the themes. As an example, comments related to the campus location and surroundings were grouped under 1) site setting; whereas comments related to cost savings from operating rooms were grouped under 2) shared facilities, and so forth. Both positive and negative comments (i.e. both things the informants appreciated to be well in place, and things the informants were missing) were included in the analysis. In the third phase, these positive and negative comments were classified as value enhancing enablers or value hindering barriers within the four themes, for example "attractive location" is a value enhancing enabler within theme 1) site setting. Finally, the underlying values for each theme were identified as the 4Cs, namely, Connectivity, Cost-efficiency, Community, and Collaboration.

3.3. Validity of study

The presence of several researchers in every interview provided investigator triangulation and reduced researcher bias. Respondent bias was reduced by selecting informants from all types of organizations operating on the case campuses (Eisenhardt 1989). The three organizations that were not interviewed represented small organizations with only one or two employees on campus. Data source triangulation was achieved by utilizing secondary data, such as archived material and observations made during site visits, thus further improving the robustness of the findings (Miles and Huberman 1984). Researcher observations during the numberous site visits and participating in several internal meetings as observers constitute a form of participatory, action-based research method, thus providing methodological triangulation.

4. Empirical analysis and findings

Next, the attributes that were identified to enhance or hinder value creation on campus are presented under the four themes: site setting, shared facilities, sense of belonging, and shared

customer segment, and connected to the respective underlying values, the four Cs. Each sub-section includes selected quotes from informants to provide descriptiveness. The quotes are attributed to an informant using indexing 'NX', where X denotes the number of informant (for a full list of the informants with the indexing, see Appendix I). It is also stated whether the quotes refer to Campus A, B, or both.

4.1. Site setting supports Connectivity

Attractive location within the city was considered a key benefit on both campuses due to the potential of increased customer flow. Both campuses are located in areas with a range of health and wellbeing activities in the vicinity (within 1 km) from the site. On the other hand, already a 500-800 meter distance to other healthcare collaborators was seen as too far for customers with physical disabilities. Nonetheless, the site setting was seen as an advantage:

"And then there is the location. That is a clear attraction. The location is just great. There is the University Hospital and, everything else around there: the area has so many {healthcare organisations}". (N27, Campus B)

The informants also noted the good parking facilities, and on Campus A, the public transit options. Proper guidance to and at the site was seen as particularly important for the customer group, and on Campus B the informants noted some deficiencies in the signage:

"The signage and guidance is not on a level it should be. There are a lot of people walking around looking lost. And of course we have a lot of elderly people and people with disabilities, it must be hard for them anyway, so we really should have decent signage here."
(N5, Campus B)

Another amenity affecting the accessibility to the site was the reception, or lack thereof. Neither campus has a joint campus reception, resulting in customers resorting to ask the person they first meet for directions. On Campus B, the lack of a reception service has lead to a peculiar situation where the restaurant also acts as an unofficial information desk for visitors. Moreover,

until recently, a member of the catering service controlled and distributed keys to any newcomers.

4.2. Shared facilities deliver Cost-efficiency

One of the most commonly perceived benefits of co-location and shared facilities identified in previous literature include cost saving through more active use of spaces. For this study, the possibility to utilize the joint meeting rooms and social spaces mostly came up in discussions about the shared facilities being underused, as many organisations still prefer their own private coffee rooms. On Campus B the possibility to rent meeting and conference rooms was therefore advertised externally as well.

Nonetheless, in a health campus setting the shared facilities may also comprise more specialized facilities and hospital equipment. Specialized healthcare equipment (x-ray, imaging services) and operating rooms on Campus A are particularly beneficial to share due to their high expense and typically low utilization rate. As the head of the local university hospital argued about their collaboration on the campus:

"They {the hospital on Campus A} are superior to everyone as they do a lot of spinal surgery themselves, they have the experience and the equipment and all the resources. I have understood that they have had some low utilisation rates {in the operation rooms} and that they would gladly host this type of clean surgery. So we sort of landed a win-win situation, where everybody benefits from collaboration."

(N25, Campus A)

Besides optimizing the use of operating rooms, the cost optimization was only discussed by the real estate owners. Moreover, the history and nature of the foundation-ownership may have affected the previous apparent nonchalance towards minimizing the costs.

"Up until now it has been so that, since the Foundation owns the real estate, it has been the mother hen for all the organisations. So the foundation management has decided who uses which facility. {Deciding} who gets which facility has been kind of forced. It is not like it has

been a commercial lease negotiation: "Would you like to rent this facility?", and "What is the rent?"'. No, it has been more like "That is your facility and this is the rent."
(N12, Campus A and B)

Additionally on Campus B, the shared ownership of the spaces has caused some problems with space-use optimization. Some organisations had separate lease agreements with the different owners for their spaces, and have found it inconvenient to increase, decrease, or alter facilities within campus. On the other hand, this non-commercial approach has likely simultaneously contributed to the sense of belonging and collaboration on the campuses.

4.3. Sense of belonging fosters Community

The one feature that came across the most in the informants' stories was what they described as 'community feel', or 'the spirit of the campus'. This sense of belonging was discussed in lenght through both positive and negative narrative, namely, issues that enhanced or hindered the feeling, and changes along the way: most informants on both campuses reflected that the community feel had been very strong during some period of campus. The identitied enablers comprised facility related features, but also more abstract attributes such as a shared campus vision. On Campus A the spirit was noted to arise from the common mission of helping people with disabilities, and the will to serve those customers well:

"And it was really, it was so, it was tangibly strong, the feeling of pulling together. For one reason or another it has now faded, but it is still there. Maybe it arises from this everyday work, you mentioned talent, I would also say loyalty and the will to work with these people that are not the easiest cases. We have such difficult cases here, so where do these people find the everyday spirit and motivation to deal with these cases… That has to be respected. That is the thing that I most {appreciate} here, that there is something that gives me strength, every day." (N10, Campus A)

On Campus B, informal encounters in joint coffee rooms or the onsite restaurants were appreciated as they allow spontaneous interaction with others, even outside one's own

organization. Campus amenities, the cafeteria in particular, was also thought to create opportunities for informal encounters as many of the site employees had lunch there. The policy of unlocked doors and having free access throughout the campus to each other's facilities was seen as a clear advantage and a unique feature of Campus B, that enabled informal encounters and community building:

"It {Campus B} is more than just core and shell. It concretizes in that you have facilities that other tenants can walk across. And it is allowed. It is not like that elsewhere. No, it is completely out of the question to have one tenant passing through another's facility. {Campus B} is built like that, that is the thing there. You have other tenants passing through your space, which allows you to network." (N19, Campus B)

Notwithstanding, after almost ten years of operation, some organisations on Campus B had started wishing for more privacy. Mainly the private healthcare service providers had asked permission to limit access to their facilities by locking doors and building interior walls as a courtesy to their customers. This shift in general was not thought to improve the community feel on campus. In conclusion, only a few informants thought that the facilities and space design were neutral, i.e., that they neither increased nor limited community engagement.

Besides the openness of the layout and chance encounters in the cafeterias, planned social activites were thought increase the sense of belonging and spirit on Campus B. The most memorable events seemed to be the annual Christmas parties, which were no longer held as regretted by many. There had previously been a designated committee with representation from each organization, which organized the parties and events:

"There was a Christmas party with a certain number of people and it was fun. So, I think it reflects that you should have something in common. And it often builds from that it is not in the everday life and all that, but in connection to something else. I think it (Christmas tradition) should have continued, it would have brought people together a little bit." (N5, Campus B)

A key finding on Campus B was that, there was currently an apparent power vacuum: the lack of a strong, charismatic, leader onsite. This vacuum was created after two charismatic leaders working for one of the key organisations had retired recently. Besides dismanteling the social activities and marketing committees, many informants said that this strongly affected the campus spririt: no one was going around the premises every day, to greet everyone good morning, ask how they were doing, or bring everyone small gifts during the holiday season.

"There are these little things, when we still had N.N. here, they used to organize events, invite people to visit, and show the visitors around campus, introduce everyone: 'Here is X.X., their role is this….'. Which I thought was really important, that is something that I still remember."
(N6, Campus B)

The new property manager, representing a professional property management service, was described as competent and knowledgeable of the campus issues. However, the property manager was seen as somewhat impersonal for not continuously being present on campus, but rather visiting occasionally. The new property manager role did not include organizing social events or other community engagement, even though many had expected that to be their responsibility. It is therefore reasonable to assume that the "face of the campus" could also be an outsourced service, should the service agreement scope be widened. One clear benefit of having an outsourced service is the impartiality, which might be difficult to achieve if the manager represents one of onsite organisations.

4.4. Shared customer segment drives Collaboration

The campus setting with multiple organisations from the same field of business enables providing complementing services and products for a shared customer segment. A wider offering to potential customers, derived from the will to provide a full service chain to the customer, was one of the key reasons for the campus location for many informants. It was also aknowledged that, in order to truly serve the client in the form a full service chain, collaboration

between the different organisations was required. Even the presence of competitors was tolerated on campus, as it was thought to increase the offering and thus benefit the customers, and the campus as a whole:

"I would actucally see it as positive, if the competitors were a bit closer. That would energize and help people see that there are… because so often when something awful happens in life and you get hurt in an accident or something, you get stuck with the one solution, so bringing the customer more options and the freedom to choose would be smart."

(N11, Campus A and B)

It seemed that many of the organisations were hoping to see the health campuses as sort of a health and wellbeing sector version of shopping centres, where the customers would find everything they need under the same roof, or at least on the same campus. This has to some extent been achieved on Campus B, where several informants noted the customers to benefit from the active collaboration and physical proximity:

"We have, for example, orthotics theme days together, when our staff calls the patients and schedules them, and then we take the clients to the service provider's facilities to make them an orthotics."

(N7, Campus B)

Notwithstanding, some admitted that healthcare as a field of business is problematic, as it entails many rather conservative ideals and practices that might hinder collaboration and not directly contribute to customer service or experience:

"I think we have pretty much gone {clinical} practice first, so we have paid a lot of attention to whether the practice has all the necessary instruments there and they suffice the doctor, but we have not thought about the customer, when they come into the room, and how they would be comfortable, or what would be important to them in their situation."

(N1, Campus A)

The conservativeness is most visible on the hospital environment of Campus A. As a further example, the current brand relies heavily on the campus' reputation dating from back to the post-war 1940's, as well as on the personal reputation of the orthopaedists of the hospital. The campus hosts a few marketing events annually for rehabilitation professionals, but no events open to the public. There even seems to be unwillingness among the orthopaedists to promote the campus to potential customers, as this has not traditionally been done in the field.

On Campus B, however, a joint campus brand is seen as a valuable marketing niche, which is thought to bring credibility and publicity particularly to the smaller organisations. The campus brand is actively utilized to attract customers and other external visitors. A small marketing fee is collected from each organisation to maintain the brand. Additionally, the campus has a designated marketing team comprising members from volunteers from the different organizations. The committee gathers to plan and update joint webpages, advertisements and activities, such as open days for potential customers.

4.5. The four Cs: Connectivity, Cost-efficiency, Community, Collaboration

Based on the empirical analysis, the features reported by the informants to be of importance when they assessed the value of co-location are suggested to be classified into four value categories: *Connectivity, Cost-efficiency, Community, Collaboration*. All of the identifyed value enhancing enablers or hindering barriers, along with the respective value category and theme, are listed in Table 2. The table also denotes whether the enablers and barriers were identified for Campus A, B, or both.

TABLE 2 THE FOUR CS: COST-EFFICIENCY, CONNECTIVITY, COLLABORATION, AND COMMUNITY (A AND B REFER TO THE CASE CAMPUSES)

Value	Theme	Identified enablers and barriers
Connectivity	Site setting	Enablers: • Attractive location (A&B) • Adequate parking (A&B) • Public transport (A) Barriers: • Poor signage (B) • Lack of reception service (A&B)
Cost-efficiency	Shared facilities	Enablers: • Shared meeting rooms (A&B) • Shared operating rooms (A) • Shared hospital equipment (A) Barriers: • Ownership type and structure (A&B)
Community	Sense of belonging	Enablers: • Shared vision (A&B) • Restaurants, cafés (A&B) • Shared social spaces (coffee rooms, sauna) (B) • Open access campus (B) • Social gatherings (A&B) Barriers: • Locked doors and hallways (B) • Lack of an integrator (B)
Collaboration	Shared customer segment	Enablers: • Full supply chains on campus (A&B) • Wider offering to end-customer (A&B) • Brand and reputation (A&B) • Joint marketing (A&B) Barriers: • Conservative field of business (A&B)

Within this value framework, Cost-efficiency and Connectivity represent traditional and tangible value dimensions that have been widely discussed in previous literature regarding corporate campuses (e.g. Green and Lazarus 1988), as well as company location strategies in general (e.g. Christersson and Rothe 2012). Cost is a key driver for companies selecting new facilities according to e.g. Elgar and Miller (2010) and Leishman et al. (2012), while for example Archer (1999) and Abel (1994) emphasize the importance of location even before cost.

Interestingly, the informants of this study only discussed these traditionally valued features in passing. Factors related to Connectivity rose into the discussion when considered poorly managed, i.e., the informants noted insufficient signage or lack of reception services. Cost-efficiency was mentioned by informants in connection with the high-cost and highly specialized hospital equipment, and not in connection with meeting rooms or recreational facilities as anticipated based on previous literature. Instead, the joint recreational facilities came into discussion in connection with informal encounters on campus: the recreational facilities were thought to promote interaction, which in turn contributed to the sense of belonging and related value category, Community. Appel-Meulenbroek (2010) and Sailer (2011) have argued that campus co-location enhances communication, and that informal encounters allow for knowledge sharing and even promote creativity. However, their studies addressed single-firm corporate campuses. It is therefore noteworthy how much the informants placed emphasis on the interaction with others even in the case of a multi-firm campus, representing a conservative field of business. The reason may lie with the other key finding of this study, namely, the value of Collaboration. As Becker (2003) noted, community building is a prerequisite to functioning collaboration. The two identified intangible value categories Community and Collaboration are therefore closely interlinked. The informants of this study saw collaboration, and a little surprisingly even competition, as valuable in providing the customer with a full service and a wider offering. Collaboration was also motivated by the desire to compete with other similar campuses.

5. Discussion

The study set out to learn how healthcare organisations value co-locating on a campus with organisations from the same business sector. The findings indicate that healthcare organisations benefit from the possibility to operate on multi-firm campus for a number of reasons, which form a value framework for co-location: Connectivity, Cost-efficiency, Community, and Collaboration. The second research question addressed the role of management in achieving the value. This study takes the viewpoint of a professional property manager, and focuses on their role in enhancing the value of co-location. For the purpose of

detailing the managerial implications, the four Cs are further grouped into two, based on their intangible vs. tangible nature. Subsequently, the study suggests a two-fold managerial role of the Facilitator/Integrator. The roles with associated example tasks are detailed in Figure 1.

FIGURE 1 THE DUAL ROLE OF THE PROPERTY MANAGER

Naturally, the traditional management tasks where the property manager acts as a Facilitator to the core business continue to be crucial (see Figure 1). These tasks typically include cost-efficiency improvements such as optimising space-efficiency and utilization, as well as items related to connectivity, such as accessibility or reception services. The Facilitator's role tend to rise to discussion when these tasks are neglected or poorly managed. However, the future role of a property manager could be more that of an Integrator. The Integrator role comprises tasks related to collaboration, such as maintaining and marketing a campus brand. Another key component of the Integrator role is community engagement, which can be

enhanced with welcoming and open space design, as well as organising joint campus activities. The need for an impartial Integrator became evident on Campus B after the retirement of two strong community builders who were employed by one of the key organizations onsite. None of the remaining organizations or their staff were willing to take on the duties related to collaboration and community building on campus. Instead, many expected property management to take on these duties, as they had the potential to become an impartial integrator. This empirical evidence supports the notion that community building as an outsourced service could have business potential. Professional property managers and companies should therefore consider adopting the presented two-fold managerial role as a Facilitator/Integrator.

The findings could also entail implications on other stakeholders, such as company top management, HR, and corporate real estate professionals. These stakeholders could actively promote collaboration with other campus organisations i.e. by encouraging employees to participate in joint workgroups, or by organizing social events onsite.

6. Future research avenues and concluding remarks

The findings of this study suggest that more managerial attention should be placed on the intangible values of co-location. Understandably, the focus of the property management practice has long been on minimizing cost and ensuring the technical performance of buildings. The suggested extension to the traditional role, with new tasks and responsibilities related to community engagement and collaboration between campus organisations, deserves more research attention. One avenue for further research is to test these findings with a wider sample aiming at statistical generalization.

A successful shift toward the Integrator role would generate new business opprotunities for professional property managers and property management companies. Furthermore, as the Integrator role would also require re-educating property professionals, the shift could carry great potential for education providers. Overall the field of property management would benefit from ventures into new business areas: the suggested community Integrator role is but one example.

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Appendix I

The following table contains a full list of informants with description of organization, organization type and informants' role. The letters A and B in the informant number denote Campus A or B, respectively.

Informant ID_Campus	Organization	Organization type	Role in organization
N1_AB	Foundation which maintains a vocational institute, orthopedic and rehabilitation hospitals, and a research center. Real estate ownership on both campuses (hereinafter Foundation)	Private sector	Real Estate Manager
N2_A	Hospital specialized in orthopedic care and rehabilitation	Private sector	Former CEO
N3_AB*	Manufacture, sales and import of prosthetic aids and equipment	Private sector	Former CEO
N4_B	Restaurant and catering services	Private sector	Service Manager
N5_B	Manufacture, sales and import of prosthetic aids and equipment	Private sector	Regional Manager
N6_B	Physiotherapy service provider	Private sector	CEO
N7_B	Provider of prosthetic aids and equipment	Public sector	Regional Manager
N8_A	Manufacture, sales and import of prosthetic aids and equipment	Private sector	Regional Manager
N9_A	Import and sales of prosthetic aids and equipment	Private sector	CEO & COO
N10_A	Secondary level vocational institute	Private sector	Principal
N11_AB	Manufacture, sales and import of prosthetic aids and equipment	Private sector	CEO
N12_AB	Foundation	Private sector	CEO
N13_A	Hospital specialized in orthopedic care and rehabilitation	Private sector	Board member, CEO (acting)
N14_B	Regional Association of People with Physical Disabilities.	Third sector	COO
N15_B	Rheumatism Association	Third sector	COO
N16_B	Import and sales of hearing aid	Private sector	CEO
N17_B	Wellbeing tourism service provider	Private	COO
N18_B	Physiotherapy and occupational therapy provider	Private sector	CEO
N19_B	Real estate company of the local university hospital	Public sector	CEO
N20_B	Real estate service provider	Private sector	Property manager
N21_B	Occupational health care provider	Private sector	Head of unit
N22_B	Wheelchair sales and import	Private sector	Regional manager
N23_B	Foundation	Private sector	Former campus director
N24_B	Biomedical research and development company	Private sector	CEO
N25_A	Neurosurgery unit of the local university hospital	Public sector	Head of unit
N26_A	Secondary level vocational institute	Private sector	Former principal
N27_AB	Manufacture, sales and import of prosthetic aids and equipment	Private sector	Former HR Manager
N28_AB	Foundation	Public sector	Former CEO

* Informant was interviewed twice for their significant role on Campus B