Tackling the challenges of university campus management processes

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Abstract: A majority of universities occupy expensive campuses that incorporate outdated designs and low utilization rates while campus users can conduct working and learning activities from a distance. For instance, Massive Open Online Courses and totally virtual universities allow self-education virtually free of charge. In this complex environment, campus managers face a strategic alignment problem between supporting research, education and societal impact. Strategic alignment in corporate real estate is an act of aligning the services with the core business. To outline the dynamic conditions of campus management processes, this paper explores two cases in the University of Melbourne main campus. It aims to answer: 1) What kinds of challenges does campus management encounter in strategic alignment? and 2) How do the explored cases aim to tackle the challenges? The literature overview discusses strategic alignment. Thereafter, ten campus management organization interviews are reported based on analysis in a qualitative research analysis software Atlas.ti. Conceptual guidelines of strategic alignment are drawn. University campus process challenges can be tackled by, for example: real time Big data of built environment for future foresight; Integrated services for economical paucity; Cross-pollination for institutional sharing; and Open access to information services for functional flexibility.

Keywords: Campus management process; added value; new ways of working and learning.

1. Introduction

Share of private expenditure for universities is increasing globally (Van Damme 2012) and competition between universities is tightening (Barnett, 2013; Poon and Brownlow 2015). Consequently, universities are increasingly run like highly branded market-driven businesses rather than guild-like institutions (Bernasconi, 2013; Drori, 2013; Levy 2013). Multiple scholars play with future university scenarios ranging from absolute meltdown through virtually open mass-learning to traditional elite ivory tower visions (Maassen \textit{et al.}, 2012; Den Heijer, 2011; Tapio \textit{et al.}, 2011).
Tackling the challenges of university campus management processes

New ways of working and learning are affecting the ways in which facilities are used and designed as these actions are disseminated around city structures and scattered in online environments. Totally virtual universities are also emerging allowing anyone to educate themselves virtually either free of charge or with a clearly smaller cost than accompanying a physically-based education (Lambert and Carter, 2013; Carr, 2012; Evans et al., 2013).

The changing environment and pressure to be highly ranked globally leave campus managers with a strategic alignment problem. Strategic alignment in real estate can be seen as an act of aligning the services with the core business of an organization (Heywood and Kenley 2013). In between the university management strategies, school, faculty and user demands, campus managers need to facilitate a variety of internal and external stakeholders.

Earlier research on university campus management suggests that business models and processes have a core role in regards to the resulting campus (Rytkönen et al., 2015; Rytkönen, 2015). As units of analyses, business models and processes interlink the strategic and the operational levels of an organization which argues for the rationale of applying them in strategic alignment. To outline the challenges of this complex decision making act, this paper reports on two cases in the University of Melbourne Parkville campus: a faculty-specific building project and a thematic collaborative building project. It reflects on ten thematic semi-structured interviews conducted with campus management professionals from operational, tactical and strategic organizational levels.

First, the literature overview outlines the decision-making field from the strategic alignment aspect of campus management. Second, the methodology chapter explains the qualitative methodology, data collection and analysis. Third, the results are introduced. Fourth, the limitations and implications are discussed. Finally, the concluding chapter highlights the main message of the study.

2. Literature Overview

Jensen (2011) argues that while core business should add value to external customers, Facilities Management (FM) must create value for internal customers by supporting the core business. Accordingly, Corporate Real Estate Management (CREM) should be conceived as an act to align the services with the core business of an organization (Heywood and Kenley, 2013; Dewulf et al., 2000).

Facilities form the second largest cost of universities after HR ranging between 5-15% in Europe (Den Heijer and Zovlas, 2014) and around 20 % in Australia (AAPPA, 2000). Multiple studies indicate that university facilities have high vacancy but utilization rates as low as 20-40%, for example, SMG, 2008; OECD, 2012; University Herald, 2013; Neary et al., 2010; Harrison and Les Hutton, 2014. On the other hand, the majority of university facilities in Europe, for example, were built in the 1960s and the 1970s and appear in poor technical conditions with outdated designs (Den Heijer and Zovlas, 2014).

Kamarazaly et al. (2013) concluded that inadequate funding is the toughest challenge university facilities managers face in Australasian universities. A shortcut to economically viable pedagogical arrangements is arranging part of the education virtually which some scholars perceive to decrease pedagogical quality and others as a huge opportunity. Yet, even though the costs of the education are seen as a major attraction factor of the virtual experiments (Cheung, 2013), White (2013), for instance, suggests their biggest potential lies in flexible access, tailor-made education curriculum and lifelong learning possibilities.

Universities are interested in Massive Open Online Courses (MOOCs) as R&D platforms for pedagogical experiments and data gatherers. Wappett (2013) sees two fundamentally different
demographics taking part in educational activities – on the one hand the diploma-seekers who tend to be mid-20s and need their diploma to conduct their career, and on the other hand the lifelong learners who are interested in the subject and self-education but do not emphasize the value of the diploma. MOOCs seem to provide flexibly accessible knowledge for professionals on-demand, which is different from the diploma-seekers who prioritize the value of the degree and need a certification to conduct their career. (Wappett, 2013)

Alongside multiple other stakeholders, students are a focal representative group of the demand side of Corporate Real Estate (CRE) practices in universities. The major decision rulers when students search their future university are: programs, student satisfaction, teaching quality, tuition fees and university rankings (Go8, 2014; Poon and Brownlow, 2015; Price et al. 2003). Especially international students are charged increasing tuition fees (Margison, 2007; OECD, 2012; Wilkins et al, 2013; Dunnett et al., 2012) an increasing part of which is allocated to university supportive services and facilities (Maassen and Stensaker, 2015).

At the same time, university management aims for high rankings to attract students, which requires focus on research activities. The time per student by an academic staff member is steadily decreasing due to constantly growing student intakes (De Vries et al., 2008; Larkins, 2015) and proportionally smaller increase in academic staff numbers (Maassen and Stensaker, 2015). The value of a degree is dropping due to larger student intakes, while tuition fees are growing (OECD, 2011; 2012). Universities have been criticized of becoming increasingly research-intensive with less emphasis on education and societal impact (Barnett, 2013; Berner, 2015) even though they are increasingly funded by the students either straight or later in forms of taxes (Maassen and Stensaker, 2015; Larkins 2015). The funding systems can be divided in three main categories in OECD countries usually dictated by national legislation: high-tuition fee –, progressive tax – and low tuition fee –based model (OECD, 2012).

We can simplify the challenges that university campus managers encounter in strategic alignment under organizational levels of strategic, tactical and operational as described in Table 1.

Table 1: The challenges in strategic alignment from campus manager perspective according to reviewed literature.

<table>
<thead>
<tr>
<th>Decision rulers from student perspective.</th>
<th>Challenges from campus manager perspective.</th>
<th>Challenges from university management perspective.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic</td>
<td>MOOCs and virtual universities vs increasing demands vs inadequate funding.</td>
<td>Attract talents vs aim for high rankings vs funding systems dictated by legislation.</td>
</tr>
<tr>
<td>University rankings vs costs of education vs value of a degree.</td>
<td>How to facilitate programs and courses while adding value to education, research and societal impact?</td>
<td>Synergies and balance between core tasks.</td>
</tr>
<tr>
<td>Tactical</td>
<td>Ineffective campus utilization and outdated campus design, poor technical building condition, requirements for investments.</td>
<td>Level of pedagogy, number of students, number of staff.</td>
</tr>
<tr>
<td>Satisfication and teaching quality.</td>
<td></td>
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</tr>
</tbody>
</table>

The reviewed literature has not touched the tactical level of campus management organization which links the operational and strategic levels, and the tactical student and university management
perspectives together. The analyses of the interviews focus on identifying first, the challenges, and second, how the processes of the state-of-the-art case projects try to tackle the identified challenges.

3. Method

This paper employs a qualitative case study with embedded units approach as described by Yin (2009). We consider this method valid, because we are particularly interested in not only examining phenomena in university campus management processes in one context but between two sub-cases which follows the description of the method by Baxter and Jack (2008). The applied research instrument is semi-structured thematic interviews.

3.1. Case Selection

The two cases explored were selected based on four criteria:

- They are located in the same campus and are initiated and managed by the same university;
- They have been recently developed representing the state of the art of university facilities;
- They can be assumed to differ in terms of their processes due to the nature of the cases; and
- They both aim to facilitate interdisciplinary collaboration

The selected cases are the new development for the University of Melbourne School of Design (MSD), Faculty of Architecture, Building and Planning which has the faculty and the university as tenants, and the Carlton Connect Initiative which aims to attract multiple tenants from university, public, government and industries to encourage collaboration and drive innovation.

The MSD building, covering an area of 14,320 square meters, replaced a poor-condition 1960’s-built building. In the end, the entire project cost 129 million $AUD. First and foremost it was designed as a new home for the MSD promoting interdisciplinary collaboration between the MSD’s disciplines, and a place for meeting and working for the whole university community in the centre of the Parkville campus.

The Carlton Connect Initiative occupies an old hospital building covering an area of about 50 000 square meters located on the eastern edge of the campus along a major street in Melbourne. The building is being planned, updated and retrofitted step-by-step during of this study, and the aim of the project is to facilitate problem solving of major sustainability challenges of our times through encouraging cross-organizational and interdisciplinary collaboration.

3.2. Informant selection

The informants were initially selected based on their occupation in the university campus management organization on three levels: operational, tactical and strategic. Students and university management were not interviewed because this paper focuses on exploration of the challenges that the campus managers encounter in their processes. A snowball approach was applied meaning that the initial informants were allowed to suggest other informants to be interviewed.

3.3. Interviews

The interviews were semi-structured and divided into three themes: General questions on the present and future of university campuses; Business models; and Management processes. The general questions
handled a larger perspective of campuses in general whereas the business model and the process questions were targeted to a specific case that the informant had been involved in.

3.4. Analyses

The interviews were transcribed and uploaded into the qualitative analysis program Atlas.ti. The aim of the analyses was to understand first the main challenges of campus management, and second how the two projects tackle the challenges.

Each interview was analyzed without formal lenses allowing the evidence to emerge from the data resulting in 106 codes. The most often referred codes were taken into a closer examination and integrated with alike codes that were referred to more seldom. They were then clustered into major challenges that the campus management organization faces in its work resulting in four interlinked thematic entities of Future foresight (42 codes), Institutional sharing (38 codes), Economical paucity (32 codes) and Functional flexibility (30 codes). The challenge clusters were then observed from strategic, tactical and operational levels of the management organization.

4. Results

The results of the analyses suggest that the major challenges can be clustered under four interlinked themes as illustrated in Figure 1: Future foresight, Economical paucity, Institutional sharing, and Functional flexibility. The social interaction of the university community was seen to be the focal aim to be supported with physical and virtual environments as a result of campus management processes.

![Figure 1: The challenge field of university campus management processes.](image)

*Foresight* was seen as a challenge because the very moment a building is completed, it is a product of the past no matter how future-oriented the development process has been. *Economical* challenges arose from inadequate monetary resources which some informants suggested to be tackled by taking a
wider portfolio approach to assets in the long-term combined with a short-term view on execution in a minor scale.

Institutionally speaking, the organizational structures and discipline-specific projects were seen to create barriers for sharing and collaboration between units. On the contrary, identity building through placemaking was seen as a very important means of engaging students with the faculty. The trade-off was considered problematic because barriers between disciplines maintain low utilization but high occupancy rates. Then again, inviting the whole university community in by effective building design and shared spaces was seen as a potential way for improved utilization.

The main Functional challenges related to designing for flexibility in an ever-changing university organization in both virtual and physical environments. Virtual environments were seen as only a supporting layer of the face-to-face pedagogies and as a way of reaching a totally different student market who were not after a certification but rather interested in continuous life-long learning. However, the evolving virtual pedagogies were increasingly seen to affect campus and building designs—the curriculum must be matched with activities most suitable for virtual and physical formats. The main means of tackling the identified challenges are listed in Table 2 and practical guidelines visualized in Figure 2.

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Carlton Connect Initiative</th>
<th>MSD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic</strong></td>
<td>Strategic campus framework</td>
<td>Strategic campus framework</td>
</tr>
<tr>
<td><strong>Future foresight</strong></td>
<td>Strategic campus framework</td>
<td>Process linked to intellectual capital of the unit</td>
</tr>
<tr>
<td>How to foresee what will be needed in the future?</td>
<td>Step by step experimentation and iteration</td>
<td>Placemaking</td>
</tr>
<tr>
<td></td>
<td>Bottom-up activity creation</td>
<td>Top-down collaborative planning</td>
</tr>
<tr>
<td></td>
<td>Constant development</td>
<td></td>
</tr>
<tr>
<td><strong>Tactical</strong></td>
<td>Renovating the old considered more viable economically</td>
<td>Renovating the old considered less viable economically</td>
</tr>
<tr>
<td><strong>Economical paucity</strong></td>
<td>Renovating the old considered more viable economically</td>
<td>Fund raising and donations</td>
</tr>
<tr>
<td>How to get enough money to do all that is needed in</td>
<td>Attracting tenants from the outside</td>
<td>Faculty and university funding</td>
</tr>
<tr>
<td>a limited amount of time?</td>
<td>Monetary incentives to seed-fund collaborative research</td>
<td>Careful financial planning</td>
</tr>
<tr>
<td></td>
<td>Facilitating emerging action step-by-step</td>
<td>Short-term sacrifice for long-term advantage</td>
</tr>
<tr>
<td></td>
<td>Thematic cohesion of multiple stakeholders</td>
<td>Open for the whole University community</td>
</tr>
<tr>
<td><strong>Institutional sharing</strong></td>
<td>Inviting in industry, government and municipalities</td>
<td>Cross-pollination</td>
</tr>
<tr>
<td>How to arrange the organization to utilize the</td>
<td>Recruiting platform</td>
<td>Exhibitions and event</td>
</tr>
<tr>
<td>assets effectively?</td>
<td>Sharing spaces</td>
<td>Placemaking</td>
</tr>
<tr>
<td></td>
<td>Events</td>
<td>Focal location</td>
</tr>
<tr>
<td></td>
<td>Highly visible building</td>
<td>Design for people flow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Encouraging bottom-up research</td>
</tr>
</tbody>
</table>
## 5. Discussion

Seemingly, the major challenges incorporated in university campus processes can be tackled by: collecting and sharing real time *Big data of the built environment* for future insight; providing user organisations with *Integrated services* for economical paucity; encouraging *Cross-pollination* for institutional sharing regarding the variety of learner, worker and community types with differing and similar demands; and providing *Open access* for functional flexibility regarding information and infrastructure services.

These challenges call for more interlinked and cross-disciplinary approaches than the existing university campus management literature suggests, for example, Den Heijer (2011), and Den Heijer and Zovlas (2014). In order to effectively manage the built environment and foresee the demands of the future, the management focus needs to shift from managing quantifiable empty facilities walls, roofs

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<table>
<thead>
<tr>
<th>Challenge</th>
<th>Carlton Connect Initiative</th>
<th>MSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational <strong>Functional flexibility</strong> How to design for flexibility?</td>
<td>Encouraging collaborative research agendas Activity-based office building Action creation Less specialized spaces Open spaces</td>
<td>Designing for the future Movable walls Open spaces Less specialized spaces Less auditoriums, more studio spaces Living learning building Sensoring the building functions Successful design for people flow</td>
</tr>
</tbody>
</table>

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Figure 2: Guidelines for the campus managers on how to answer the challenges of campus management identified in this paper.
Tackling the challenges of university campus management processes

and floors towards facilitating the user communities that act inside the facilities. As the users act increasingly in both virtual and physical environments and have greater decision power over the ways in which they learn and work the best, effective campus management becomes increasingly complex and tailored. Therefore, real time Big data on space use patterns need to be collected, shared, followed and analysed to create evolving standards on the go.

Because of Economical paucity, which was also identified as a focal challenge by Kamarazaly et al. (2013), the results suggest a holistic portfolio approach to the campus as a series of precincts rather than a single building approach. As discussed by Den Heijer (2011) assessing the existing assets is crucial before commencing with new projects but the whole campus should be considered as a pool of potential assets. Economical paucity also calls for collaborative business models.

Regarding Institutional sharing and Functional flexibility, the tactical level of campus management gains more importance through potential of shared use and externally accessible facilities. Spatial standards that define ‘right’ amounts of allocated space per a student of a faculty, such as AAPPA (2000) are losing their relevancy as spatial management tools. However, tackling the institutional sharing challenges require more proactivity from the users, and a more supportive, dynamic and agile approach from the campus management, administration and information systems of the university. The campuses that embrace shared use designs and cross-pollination call for an integrated approach of HR, Communications, IT, Real Estate and other services which is similar to what Joroff (2002) and Materna (2007) suggest for corporations.

This research is based on a preliminary literature overview and 10 thematic semi-structured interviews on two cases. Due to the small amount of interviews in just one organization, the validity of the results is limited. The interviewees represent the internal organization of only one university which might result in bias regarding the reliability of the data. Further research should compare the findings with similar national and international cases under different circumstances to increase the reliability of the results.

6. Conclusions

Campus management is a complex decision-making act during the process of which user activities and clients’ strategic aims are aligned and implemented to support working, learning and living in physical and virtual environments. The process outcome affects multiple stakeholders who contribute to and demand from the project. This study suggests that the major challenges incorporated with university campus processes can be tackled by: collecting and sharing real time Big data in the built environment for future insight; providing user organisations with Integrated services for economical paucity; encouraging Cross-pollination for institutional sharing regarding the variety of learner, worker and community types with differing and similar demands; and providing Open access for functional flexibility regarding information and infrastructure services.

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