Employees' preferences for services and facilities offered in serviced offices

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Employees' preferences for services and facilities offered in serviced offices

ABSTRACT

Purpose

Serviced offices are popular, offering many services and facilities to attract tenants. As research showed that most business centres occupy similar buildings, services are important to differentiate. All kind of people use them (from freelancers to employees of large corporates) and their characteristics are likely to influence how they value different services. This study identifies which services/facilities are perceived as most important and whether end-user characteristics explain differences between users regarding these preferences. Serviced office owners and operators can use the insights obtained from this study to differentiate their product offer from competitors and aim for specific tenant market segments.

Approach

Data were collected through a questionnaire among 137 end-users in 13 serviced offices in the Netherlands. With principal component analysis (PCA) 31 services and facilities could be reduced to six independent factors and four additional services. Multiple regression analysis was used to determine effects of user characteristics (employee demographics, job characteristics and reasons for using serviced offices) on perceived importance of each service/facility (factor).

Findings

Results showed that organizational characteristics had little effect on perceived importance of services and facilities. Especially the time spent at the office and the reasons for using it showed effects on importance of different services and facilities. Amenities like a gym and childcare were not deemed important by most of the respondents.

Originality/value

So far, research on office users focused largely on single-tenant offices and large corporates. Serviced offices have only been studied from the supply side until now.

Keywords

Serviced offices, user studies, service provision, co-working, value management, regression analysis.

Article Classification

Research paper

INTRODUCTION

Although serviced offices have existed for many decades, a first substantial rise in their numbers can be seen in the 1990s (Bröchner, *et al.*, 2004). However, by the change of the century the market was said to still be relatively immature (McAllister, 2001). But the increased vacancy rates in single-tenant office buildings since the latest economic downturn, combined with a decrease in the average number of square meters per Full-Time Equivalent (FTE) due to New Ways of Working, has given the market a great push forward. This past decade, many landlords have converted vacant single-tenant office buildings to different types of multi-tenant offices to be able to offer a variety of smaller floor areas to multiple tenants, and as such serve the increasing flexibility of the Dutch labour market (CBS and TNO, 2015) and demands of a highly dynamic business environment.

Weijs-Perrée *et al.* (2016) identified three different types of business centre concepts in the Netherlands besides serviced offices, namely regular business centres, incubators and co-working offices. Regular business centres simply offer office space with few or no services and facilities to those that are too small to afford their own office. Business incubators specifically focus on supporting start-ups, have been used mainly as an economic development tool and are thus initiated often by the public sector. As Reed and Stewart (2003, p.3) state: *“A serviced office is essentially an office that is fully operational in all respects and suitable for immediate occupation”*. Besides a range of office sizes, they offer varying levels of facilities and services. Although a distinction between serviced offices and the most recent development on the business centre spectrum: co-working offices is suggested, it is hard to see this in practice. The main difference lies in the specific intention of operators of co-working offices to stimulate collaboration and interaction between tenants (Kojo and Nenonen, 2014). But many serviced offices apply a hybrid concept, also offering co-working space in a subsection of their building.

Recently, it has been shown that most business centres are quite similar with regard to physical aspects (Weijs-Perrée *et al.*, 2016), so perhaps therefore there has been a relatively large availability of suitable premises for serviced offices (McAllister, 2001). That being the case, Weijs-Perrée *et al.* correctly emphasize that serviced offices should thus differentiate themselves with characteristics like services, contract types or social spaces. The access to support services has also been shown to be an important reason for tenants to choose for a specific serviced office (Gibson and Lizieri, 2000), as different users can have a different purpose for using a serviced office (Dabson and McAllister, 2014). Serviced offices therefore continuously adapt their concept, services and facilities (Laterveer, 2011).

Despite the awareness of the risk that for some services there could be insufficient tenant willingness-to-pay (Bröchner, *et al.*, 2004), the deemed importance of specific services and facilities is not supported by any academic research. As users of serviced offices are not only individuals and small and medium-sized enterprises, but also include larger corporates' project teams and/or overflow (Harris, 2000), their preferences for certain services and facilities are not likely to be homogeneous. It can be expected that tenants with varying characteristics do not value the same services to the same extent when they decide where to rent space (Troukens, 2001). Business centre operators could use such variations to differentiate their product offer and attract specific tenant segments. The same might be true at the end-user

level. User preferences have been studied extensively in both single-tenant offices (e.g. Remøy and Van der Voordt, 2014) and regular business centres (e.g. Hartog *et al.*, 2017). Also, incubators have been the subject of many academic studies (e.g. Hackett and Dilts, 2004). But despite their immense popularity, scientific research on serviced offices and co-working offices remains scarce, especially regarding the demand side. So far, serviced office studies mainly stem from the early 2000's and are focused on explaining drivers behind their initial popularity (e.g. Harris, 2001), valuation issues (McAllister, 2001), which type of owners can best coordinate the provision of so many services (Bröchner *et al.*, 2004), and implications of their rise for the Central Business District property markets (Reed and Kay, 2003). Studies on co-working are also still scarce (Leclercq-Vandelannoitte and Isaac, 2016) and focus largely on the performance of their users with regard to creativity, innovation, etcetera (e.g. Capdevila, 2013) or their importance to the city (Moriset, 2013).

Therefore, this paper aims to give insight in the demand of serviced office users (including those with co-working floors) for services and facilities and identify possibilities for service menu differentiation. It does so by exploring how user characteristics influence to what extent specific services and facilities are considered important. The next sections review existing literature on serviced offices, the characteristics of their users and the services and facilities that are offered, as input for the empirical data collection. Next, the survey approach among 137 end-users of 13 serviced offices in the Netherlands is discussed, measuring perceived importance of 31 different services and facilities. The data were analysed with multiple regression analyses (MRA). Last, a conclusion is drawn and recommendations are given for practice and for future research.

SERVICED OFFICES AND THEIR SERVICES AND FACILITIES

The business model of serviced offices is funded based on the same principles as other forms of outsourcing, namely the conversion of fixed costs to variable costs and the transfer of risk to another party (Dabson and McAllister, 2014). Instead of the fixed costs associated with regular long-term leases and facility contracts, serviced offices offer products with flexible contracts that can be classified as variable costs. As facility managers see a lack of flexibility in real estate as a very important risk (Bartelink *et al.*, 2015), leasing space at serviced offices could help to reduce this risk. Tenants also benefit from the advantage of a 'one-stop-shop', which means that the search costs that clients may incur in procuring office equipment and facility services when they would lease regular office space are reduced substantially (Dabson and McAllister, 2014).

The serviced office sector is relatively fragmented and operators vary in terms of their scale and scope (Dabson and McAllister, 2014). There seems to be a distinction between a few large, multi-national, regional or national, operators that have a mix of large corporate and small-medium enterprise (SME) tenants and multiple small operators that focus on a local market of SMEs, start-ups and freelancers (Peltier, 2001; Troukens, 2001; Dabson and McAllister, 2014). Due to the diversity of the market it is hard to generalise about the serviced office sector. Where some offer only the bare basics, others offer high end technology and equipment and a

highly personalised service with the hope of developing loyalty of the tenant that way (Reed and Stewart, 2003).

Peltier (2001) showed that large and small serviced office operators do offer different products, aligned with their diverse tenant target groups. Large serviced office suppliers operate on a multinational scale in order to serve their corporate clients. Generally they are located on prime locations in grade-A buildings and offer a sophisticated set of products and services. Consistently, their clients expect to pay a premium for the offered product and services, compared to regular office space. On the other hand, small serviced office suppliers operate on a local or regional level, are located in ordinary adequate offices and offer a limited number of products and services. Their clients are willing to compromise product for cost and consequently expect to pay less compared to regular office space (Peltier, 2001). This lower price for the space and services can be offered because they can procure a large range of services at discounted rates, due to scale advantages and existing relationships with suppliers (McAllister, 2001).

Co-working offices (also called co-working spaces by Kojo and Nenonen, 2014) is the most recent development on the multi-tenant market (Deijl, 2012). Many freelancers and employees that worked at home felt the need to interact, socialise or collaborate with others. For users of co-working offices the immaterial benefits of co-working (e.g. knowledge sharing, collaboration and interaction with others) are not just a side-effect but the main reason to work in this kind of office space (Döring, 2010). Co-working is mainly practiced by small enterprises and freelancers. Therefore it is likely that the more flexible labour market and higher number of freelancers have contributed to the increased popularity of this type of office. The popularity of the co-working phenomenon may be an important reason why many serviced offices have integrated a co-working concept in (part of) their office space. Therefore, in the present study a definition of serviced offices is used that is only partly based on Dabson and McAllister (2014, p.4, underlined words are added by the authors):

“fully furnished office space within a building that is let, sub-let or licensed to third parties on a serviced basis. The services will tend to comprise all of the building services and a menu of business support services. It is an umbrella term that includes...” hybrid forms of serviced offices with co-working offices.

According to Gibson and Lizieri (2001), the rental fee of serviced offices is often based on a menu system in which there is a standard product bundle for a fixed price, which can be upgraded with communal services on a pay-as-use basis. Only a few studies were found that provide a list of possible services in multi-tenant buildings in general (Weijs-Perrée *et al.*, 2016; Peltier, 2001; Gibson and Lizieri, 2001), but none have focused on serviced offices. In order to obtain a more comprehensive list, the websites of 11 different serviced office providers (international-local, small-large) were studied as well, which resulted in ten additional facilities and services that were not yet mentioned in these previous studies (see Table 1, underlined services were only found on the websites). To provide a clearer overview, the 31 services and facilities in Table 1, were categorised in building related services and facilities (e.g. cleaning and maintenance); food and drinks related services and facilities (e.g. catering); work related

services and facilities (e.g. secretarial service); non-work related services and facilities (e.g. gym, childcare); and all sorts of spaces and areas (e.g. conference room, outdoor area).

INSERT TABLE 1 HERE

OFFICE USERS AND THEIR CHARACTERISTICS

Serviced offices are used by a broad spectrum of organisations, employees and freelancers. A serviced office manager has to deal with two levels of office users, namely companies, often referred to as tenants or occupiers, and the end-users, the people who work at these companies. For freelancers this is the same person, but for larger organisations it is not. Laterveer (2011) distinguished ten types of users of serviced offices based on a literature review: starting businesses; businesses that enter a new market; freelancers; virtual workers; flexible corporate employees; flex workers between appointments; organisations that need temporary office space; project teams; meeting teams; and video conference users. Although it has not been tested empirically and additional user types might exist, his typology provides an overview of users that have also been mentioned in other studies (e.g. Dabson and McAllister, 2014; Peltier, 2001). Moreover, his study provided insights in relevant characteristics on which serviced office users differ from each other.

With regard to relevant demographic characteristics of end users, previous studies on preferences and/or user satisfaction in either single- or multi-tenant buildings have found a significant influence of age and gender (e.g. Rothe *et al.*, 2011) and educational level and income (e.g. Hartog *et al.*, 2017). As the interest in some of the non-work-related services might depend on the household composition (e.g. childcare), this also seemed relevant to describe the office users. Although this paper focuses on the importance of services and facilities for the end-user, some basic organisational characteristics were also deemed relevant to define the end-users more completely. Previous studies have used several aspects to distinguish between serviced office users, such as the primary activity/sector (Gibson and Lizieri, 2000), size (Peltier, 2001) and maturity (Laterveer, 2011) of the organisation.

The largest influence on perceived importance of specific services and facilities can be expected to stem from job related characteristics of the end user and the main purpose for which he/she decided to make use of a serviced office. As the possibility of choice might influence preferences, the ability to influence accommodation decisions is potentially an important user variable. Where freelancers decide themselves whether they want to rent a space in a serviced office and in which one, for employees in multiple person organisations this is usually decided by the boss only (maybe in consultation with others). Also, temporary users might have different preferences than users that intend to use the serviced office for a long period. Hartog *et al.* (2017) included other job-related characteristics in their study on users of multi-tenant buildings, such as an end user's current position (support staff, regular employee or manager) and the working hours per week. They found significant correlations that managers overall were more satisfied with the office than regular employees. Rothe *et al.* (2011) showed that the time spent at the office relates to preferences as well (e.g. with regard to adjustability of the

indoor climate and commuting). They also found that the time working individually related significantly to preferences for several work-related services.

With regard to the main purpose for using a serviced office, Dabson and McAllister (2014) mentioned several purposes, ranging from aligning workforce change with portfolio change to transferring risk by adopting and paying for flexible space. Although the purposes for which an organisation makes use of a serviced office might be a relevant characteristic, end-users may not be aware of all the organisational arguments. On the other hand, they could have reasons of their own, that could be inventoried. It was expected that end-users will be aware of organisational purposes such as using the serviced office as regular office, accommodating a project team, holding meetings or solving a temporary shortage of office space. More individual purposes could be to work in between meetings, to work in a certain atmosphere, to work at a specific location, to meet and interact with outsiders and lastly to be able to use specific services /facilities that are offered. A combination of purposes is also likely.

All user characteristics discussed here (plus the list of possible services and facilities) are visible in the conceptual model presented in figure i. The next sections describe how this model was tested empirically.

SURVEY, SAMPLE AND STATISTICS PROCEDURE

A questionnaire was used to collect data on the end users' demographics, job characteristics and purpose(s) for using serviced offices. It also included self-stated rating scales for measuring the perceived importance of 31 services and facilities on a 5-point scale ranging from very unimportant (1) to very important (5). Rating scales were chosen, as in general respondents find this type of questions easy to answer and they provide more stable weights compared to other direct methods (Bottomley *et al.*, 2000; Gustafsson *et al.*, 2004).

The questionnaire was distributed physically in 13 serviced offices spread across the Netherlands in June and July 2016. Respondents also had the possibility to complete it online. In total 137 respondents that work in these thirteen serviced offices filled in the questionnaire (110 on paper, 27 online). Although it was not possible to obtain a completely random sample this way, the participants do represent end-users of a diverse range of serviced offices (see Table 2). The locations of the 13 serviced offices differed much, from mixed use environments, to business parks and monotonous office locations. Furthermore, some were located near the city centre and others in city peripheries. The appearances of the buildings also differed much, as some were former industrial high-rises from the 1940s and others date from the beginning of the 21st century. The interiors of the building differed from hip/trendy and basic, to luxurious and high-end.

INSERT TABLE 2 HERE

First a descriptive analysis was performed on the importance of each service and facility, in order to show which ones are considered most important and which ones the least. Before testing the conceptual model, principal component analysis (PCA) was used to reduce the data on importance into fewer dependent variables. The sample size (N=137) limits the number of

independent variables that could be entered in the MRAs. Following Green (1991) who recommends using $N > 50 + 8k$ (where k is the number of independent variables) as a rule of thumb, no more than ten independent variables were used in the regression analyses. Therefore, associations were first explored with bivariate analyses. Only those user characteristics that significantly related to importance of a service/facility (factor) were entered into MRA's to test the conceptual model, with a maximum of ten independent variables.

RESULTS

Sample description and reasons to work in a serviced office

Almost a third of the respondents indicated that they work at an organisation with a primary activity in 'other business services' (31%). Thereafter 'education, training, coaching' (15%) is most common, followed by 'ICT Information & Communication Technology', telecom' (14%), 'marketing, communication, media' (13%) and 'other' (12%). Because of the low number of cases in the sectors 'industry', 'financial institutions', 'wholesale, retail', 'healthcare, welfare' and 'public administration, government' these categories were combined into 'other'. Approximately 50% of the end-users work for an organisation with less than ten employees and almost 90% for one with less than 100 employees. But also some respondents work at large firms with as many as 5,000 employees. As this variable was not normally distributed, it was transformed into a categorical variable with 3 levels: <10 employees (micro; $n=48$); 10 – 49 employees (small; $n=30$); ≥ 50 employees (large; $n=22$). With regard to maturity, 41% of the respondents were from a start-up organisation, versus 59% that were from a mature organisation.

The respondents were mostly male (65%) and the age ranged from 17 to 63 years ($m = 39.6$; $SD=11.8$). This variable was also recoded into three categories for further analyses: ≤ 35 years ($n=41$); 36 – 50 years ($n=41$) and > 50 years ($n=18$). Most end-users in the sample (68%) were married or living together and 38% had children living at home. In general, respondents were highly educated, with 51% having a bachelor's degree and 28% a master's degree, which was also reflected in a generally higher income than the average active working population in the Netherlands.

With regard to the job characteristics, most end-users in the sample were (regular) employees (45%), although almost as many indicated they are a manager or director in their organisation (42%), probably due to the large number of micro organisations in the sample. The average income of the active working population in the Netherlands is approximately € 36.100 a year, but in the sample the mode is the highest income category ($>€50.000$) and the median the category of € 40.001 - € 50.000. The end-users work 40.5 hours a week on average ($SD=9.5$), which is normal in the Netherlands. They spent a little over half of their time in the serviced office ($m=24.2$ hours; $SD=11.5$) and work individually a lot ($m=21.3$ hours; $SD =13.0$).

Only 42% was (jointly) responsible for making accommodation decisions. Two third of the end-users in the sample indicated that they expect to use this serviced office for a long term. This means they use the serviced office on a structural basis, e.g. as a fixed office address, a regular place to hold meetings or as a flexible workplace on the long run. A smaller group (10%) of the

respondents expected to use the serviced office for a short term only. These users are temporarily using the office, for example because of a project, a shortage of space in their regular office, or maybe just once to have a meeting. The remainder of the sample (24%) does not know how long the serviced office will be used by them.

The most important purpose for using a serviced office appears to be to use it as a regular office (83% respondents). The second most relevant purpose is for holding meetings (42%). As expected, the services and facilities seem to be an important reason to work in a serviced office too for part of the users (34%), followed by working in a project team (21%). At the bottom of the list appear the atmosphere of a serviced office (20%), meeting and interacting with people from other organisations (15%), working at a specific location (12%) and working in between meetings (9%). Other purposes that have been filled in by respondents are: to receive customers in a suitable office and location (n=4) and to give trainings (n=2).

Perceived importance of services and facilities

Looking in more detail at the specific services and facilities, the ones that on average were considered very important (importance score > 4) are cleaning and maintenance (m=4.3; SD=0.5), coffee/tea (m=4.3; SD=0.9), managed technology services (m=4.18; SD=1.0), office space with private/fixed workplaces (m=4.18; SD=0.8), small conference rooms (m=4.17; SD=0.7), extensive opening hours (m=4.1; SD=0.9) and advanced climate control (m=4.0; SD=0.8). These services and facilities are most likely considered as basic needs for working in a serviced office, and represent all the categories of services that were distinguished, except non-work-related services/facilities. In this last category none of the services scored higher than neutral on average and they are all present in the bottom five. So, apparently offering these amenities is not so important for most users as office providers might think. The only exception was having a gym/fitness, which was at least appreciated by some of the end-users (m=2.7; SD=0.9). A smoking area was the only service/facility scoring even lower than the non-work-related ones.

The PCA reduced the 31 variables into a list of six factors formed by 22 variables (see Table 3):

- Building related (e.g. security, cleaning),
- Amenities (e.g. childcare),
- Technology (e.g. printing),
- Supportive (e.g. reception),
- Interactive (e.g. workshops) and
- Rooms & spaces.

INSERT TABLE 3 HERE

Nine services and facilities were not grouped into a factor by the PCA due to a lack of correlation with the other services. Because four of these were in the top of the importance ranking, they hardly showed any variance, and thus they were not considered in further

analyses. The same was true for smoking area, as it was at the bottom of the list. So only the following four separate variables were tested separately besides the 6 PCA factors:

- multiple office locations,
- an own postal address,
- catering and
- outdoor area for breaks.

This provided 10 dependent variables for the regression analyses.

The influence of user characteristics

An overview of the results of the regression analyses (and which variables were entered based on having significant bivariate correlations) is presented in table 4. Overall, the proportion of the variance that is explained by the regression models is quite small (3.5% to 13.6%). This indicates that the known user characteristics explain only a very small proportion of the total variance of perceived importance of services and facilities.

INSERT TABLE 4 HERE

It is striking that only three associations were found between the organisational characteristics and the importance of services and facilities. This is surprising because literature on serviced office users up until now mainly focussed on organisational aspects. Moreover, other studies (e.g. Troukens, 2001) mention a division of the market between major international operators and small local operators that cater the needs of respectively large corporate organisations and small businesses. The results of this study do not indicate that employees of small and large organisations have different preferences regarding most services and facilities, except the building related ones. Those working at a small organisation with 10 to 49 employees consider building related services and facilities of less importance than end-users of even smaller size, but no logical explanation comes to mind. The organisation's primary activity seems a reliable predictor for a small proportion of the variance in importance of ICT services and facilities and in importance of catering. End-users that work for organisations with primary activities in legal and financial (and other business) services find ICT services and facilities relatively more important. Catering services are particularly important for tenants involved in education/training/coaching and marketing/communication/media. Organisation maturity (starting/mature) was not significant in any bivariate analysis, and thus not entered into the MRA's.

Demographic characteristics also only have a small effect on the perceived importance of services and facilities. Gender was not significant in any bivariate analysis, thus not entered into the MRA's, and household composition (married, children, etc.) turned out to be irrelevant too. Previous research on single tenant office users (e.g. Rothe et al., 2011) found several effects of age on end-user satisfaction, but this dataset showed that only people over 50 years find interactive services/facilities more important. Users with a lower income and those with a lower educational level considered both the supportive and the interactive services and facilities relatively more important (e.g. reception, consultancy services, atelier space). A

possible explanation might be that users with a low income value interaction more, hoping to increase their income and growth of their organisation that way, but alternative explanations are possible as well. Last, educational level also related positively to the importance of the factor rooms & spaces.

Table 4 also shows that job characteristics affect how important users consider certain services and facilities. For example, managers/directors found building related services and facilities less important than regular employees ($\beta=-0.232$; $t(137)=-2.371$; $p<0.05$). Also, the time spent at the serviced office was a negative predictor of the importance of having multiple locations and an outdoor area. The importance of an own postal address seems a relevant service to offer, as it is considered more important by those users that can influence accommodation decisions and those that spend more time at the office. The time spent working individually and the intended period of use (unknown/short term/long term) of this serviced office did not show any effects in the bivariate analyses.

The results also show logical effects of the purpose of using a serviced office on perceived importance of services and facilities, although many findings from the bivariate analyses were not confirmed in the regression. Respondents that use the serviced office as a regular office found an own postal address more important (and in the bivariate analyses also technology). In the bivariate analyses users that come to the office to work in a project team found shared workspaces and rooms relatively more important and attached less importance to a postal address, but this was not confirmed in the regression analysis. Respondents that use the serviced office to hold meetings found catering relatively more important, while people that use the serviced office to work at a specific location found multiple office locations more important. Respondents that use the serviced office for its services and facilities only found the amenities (e.g. gym, childcare) relatively more important in the bivariate analyses, but in the regression only having an own postal address was significant. Although several associations were found, it is surprising that no relation was found between the usage purpose 'to meet and interact with outsiders' and the importance of interactive services and facilities (e.g. networking events). Interactive services were only considered more important by users that use the serviced office because of its atmosphere.

CONCLUSION AND RECOMMENDATIONS

This exploratory study showed that several services and facilities offered in serviced offices are actually not considered to be important by most users. The results also indicate that user characteristics significantly influence how important services and facilities are considered to be by end-users of serviced offices, especially job-related characteristics and the purpose of using a serviced office. Although the results of this study do not offer direct tools that can be used to differentiate service menus from competitors, they do indicate that job characteristics and reasons for using a serviced office are likely more relevant for differentiation strategies than organisational and demographic characteristics.

Discussion and recommendations for further research

This study adds demand-focused insights to the existing supply focused studies on serviced offices, by identifying user preferences. Because it focused on importance, it was also possible to gather data on users' opinions on services and facilities that are not offered in their serviced office. Most striking in this respect was that concentration rooms were rarely offered in the sample of serviced offices, while more than half of the respondents indicated that these are (very) important for them. Unexpectedly, the amount of time spent individually in the serviced office did not significantly relate to the importance assigned to different services and facilities, nor to the presence of concentration rooms. But with the increased openness of current day single- and multi-tenant office layouts, it is important to safeguard support of concentration and privacy, which are known to be important needs of all end-users. A user preferences study among co-workers (Weijs-Perrée et al., 2017) showed for example that a semi-open layout was preferred over a fully open or closed layout. Although increased flexibility is allowed in most organisations regarding how much time employees spend in the office and which activities they perform there, it appears that (at least part of) concentrated work is also still done at the office. It might be that the home situation does not allow for concentrated work or that some people just prefer to be in the office and combine this type of work with other activities (e.g. informal meetings). Further research could provide further insight in this, using interviews to get more insight in concentration needs and field experiments to confirm what ensures the ability to concentrate. Previous studies already questioned whether building owners have the knowledge and experience to offer more business oriented services (McAllister, 2001) or even be efficient coordinators of so many services (Bröchner *et al.*, 2004). The findings of this study add the question whether from a demand point of view it even makes sense to offer so many services in the first place. Although Dabson & McAllister (2014) found that an increasing range of services is being offered over the last ten years, the end-users in underlying study did not find the category called amenities very important, while this is the factor that holds such additional services that have been added more recently to high end serviced offices. The most important services and facilities found in this study, do not distinguish a serviced office from a regular office. Cleaning and maintenance, coffee, technology, workspaces and meeting rooms are present in every type of office building. The question for future studies thus would be, whether the additional services do make a difference during location choice decision making of tenants. Laddering interviews (e.g. Bourne and Jenkins, 2005) could be a suitable method for more insight in decision making processes. And it also deserves more study, whether offering more personalised services indeed increases loyalty after the location choice has been made, like the operators are hoping for (according to Reed and Stewart, 2003). Also, as Petrulaitiene *et al.* (2017) state: "Applying more service oriented business models means taking more responsibility for the functioning of customer's operations" and often requires cooperation with other companies and better information exchange with customers. So, serviced office managers could better spend more time on considering their value proposition, to allow them to actually create added value for the segment of end-users that they are targeting and avoid the risk of offering services that many are not willing to pay for. Frequent surveys of the user population might provide insight in which services are valued and which are not, and these do not need to be very complicated nor time-consuming. Especially the time spent at the office and the reasons for using it could provide valuable insights for deciding which services to offer.

Operators of co-working offices see interaction as their most important strength and value to attract tenants (Kojo and Nenonen, 2014) and co-workers have mentioned it to be the main reason to work there (Döring, 2010). However the respondents in this sample hardly mentioned the atmosphere and interaction with people from other organisations as the purpose for using a serviced office. So apparently these offices attract a different crowd than co-working offices, even the hybrid ones that also offer co-working on the ground floor. As both types of offices have not been studied that much yet, further research could provide more insight in differences between them, by studying both their characteristics and the characteristics and opinions of their users. Surprisingly, the respondents in this study that use the serviced office particularly to meet and interact with others, did not find the interactive services (e.g. networking events) more important than other users. This could be an indication, that their need for interaction is not fully supported yet by the current services and facilities in serviced offices. A study on co-working offices (Weijs-Perrée et al., 2017) also showed that their users prefer events sometimes, but not too often. So the question is whether the trend towards promoting the office as a service (abbreviated to OaaS) is based on sufficient (scientific) insight in how to actually do so. Cushman & Wakefield (2015, p.16) mentioned that OaaS are expected to be “*a strategic tool where employees come together on a short term basis, to inspire and innovate in an environment outside the usual corporate constraints.*” Future studies could question users on additional services and facilities that they would like to be offered to them to support interaction and networking and thus the validity of an OaaS concept.

Limitations

Although it was attempted to include end-users of a diverse range of serviced offices, the selection of the sample was not random. The relative small sample size of 137 respondents furthermore imposed a limitation on the ability to identify significant effects. Also, the proportion of the variance that is explained by the regression models is quite small. This means that there are likely other aspects that also affect the users’ opinion on the importance of services and facilities, for example personality, activity profiles and actual use of each service and facility. For further research it is recommended to gather data from more respondents and include such characteristics. Furthermore, this study explored the effect of the purpose of use on users’ opinions on importance of services and facilities and showed some promising results. Elaborating on this subject, further research could be conducted on serviced office users’ motives, activities and needs, both on organisational and end-user level. Conjoint analysis could be an appropriate method to cross-validate the present results in a follow-up study.

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Figure i Conceptual model

Table 1 Overview of services and facilities in literature (those underlined were found on serviced office provider websites)

		Weijs-Perrée et al. (2016)	Peltier (2001)	Gibson & Lizieri (2000)
General services and facilities	<u>Multiple locations</u>			
	<u>Extensive opening hours</u>			
	<u>Own postal address</u>			
	Security	Security		
	Cleaning and maintenance	Cleaning and maintenance		FM services (cleaning, security)
	<u>Advanced climate control</u>			
	<u>Electric car / bike charging</u>			
Food and drinks related services and facilities	Coffee / tea machine	Use of coffee and tea maker		
		Coffee corner		
	Pantry	Kitchen		
	Catering	Catering		Catering
Work related services and facilities	Copy / printing facilities	Space for copy, print, mail etc.	Colour copiers	Photocopying
	Managed technology services	Managed technology services	LAN connections, internet	IT/telephone lines
			Video conferencing	Video conferencing
			Local phone service	
			Long distance phone service	
	Reception services	Reception/entrance	Voicemail	Reception
				Telephone message
				Telephone answering
	Secretarial services	Secretarial services	Secretarial services	Secretarial services
		Business services		Word processing
	Consultancy services	Consultancy services	Translation / interpretation	
	Workshops and lectures	Workshops and lectures		
	Networking facilities	Networking events		
Non-work related services and facilities	<u>Gym / fitness</u>			
	<u>Childcare</u>			
	Other service providers	Other services (fitness, use of bicycles, dry cleaning, clothing repair)		
	<u>Entertainment / expositions</u>			
Spaces and	Atelier space	Atelier space		

areas	Office space with shared / flexible workplaces	Office space with shared/flexible workplaces		
	Office space with private / fixed workplaces	Office space with fixed workstations		
	Concentration room	Concentration room /study room		
	Conference room small	Conference room		Meeting rooms
	Conference room large	Project, creative- or classroom	Training room	
	Social meeting space	Informal/social meeting space		Social facilities
	<u>Smoking area</u>			
	<u>Outdoor area</u>			
	Storage room / lockers	Storage room		

Table 2 Sample of serviced offices

City	Location	Appearance	Interior	Year of construction	Serviced office since	Building size (sq.m.)	# of respondents
Eindhoven	Urban mixed use environment, near train station and city ring road	Upgraded existing office building	Industrial with high end fit out	1959	2016	1.100	2
Eindhoven	Urban mixed use environment, near train station and city ring road	Redeveloped former industrial high-rise building	Industrial with high end fit out	1964	2013	23.000	11
Eindhoven	Urban mixed use environment, near train station and city ring road	Redeveloped former industrial high-rise building	Industrial with high end fit out	1948	2012	8.500	9
Eindhoven	Business park near city ring road and small river/park	Upgraded existing office building with terrace at river	Basic	1992	2014	4.400	15
Eindhoven	Near central train station	Three floors in a multi-tenant office building	Basic	1987	unknown	unknown	1
Eindhoven	Office park near central train station	Upgraded existing office building	Trendy/hip and new	1989	2014	3.000	16
Den Bosch	Business park at high-profile highway location	Upgraded existing office building	Basic and new	1990	2015	3.800	8
Utrecht	Business park near city ring road	Upgraded existing office building	Basic and new	1990	2013	3.000	13
Utrecht	Near central train station	Upgraded existing office building	Basic and new	1992	2015	7.000	18
Ede	Business park, green surroundings, near train station and highway	Upgraded existing office building	Basic and new	2002	2015	6.200	21
Apeldoorn	Business park in city periphery	Upgraded existing office building	Basic and new	2002	2014	unknown	7
Rotterdam	Near central train station	Small space in iconic multi-tenant office building	Basic and new	1948	2014	115.000	1
Eindhoven	Business park near highway	Upgraded existing office building	High-end ground floor, offices basic and new	2003	2015	7.300	15

Table 3 Rotated component matrix (PCA) for importance of services & facilities

PCA with varimax rotation converged in 7 iterations (N=137)	Factors Services & Facilities					
	building related	amenities	technology	supportive	interactive	rooms & spaces
Security	0,575	0,132	0,185	0,103	-0,125	-0,046
Cleaning and maintenance	0,744	-0,127	-0,097	0,087	0,129	-0,048
Advanced climate control	0,631	0,106	-0,138	-0,019	0,083	0,126
Electric car / bike charging	0,303	0,469	0,336	-0,001	0,108	0,164
Gym / fitness	0,057	0,639	0,067	-0,033	0,213	-0,076
Childcare	0,069	0,780	0,110	0,042	-0,040	0,079
Other service providers	-0,047	0,800	-0,005	0,222	0,008	0,080
Entertainment / art expositions	-0,047	0,650	-0,154	0,206	0,278	0,025
Copy / printing facilities	0,037	-0,031	0,693	0,221	0,216	0,075
Managed technology services (e.g. LAN, phone)	-0,142	0,129	0,792	-0,009	0,088	0,041
Reception services	0,074	-0,083	0,423	0,422	-0,013	0,370
Secretarial services	0,267	0,099	0,144	0,798	-0,017	-0,078
Consultancy services	0,119	0,156	0,228	0,743	0,197	-0,224
Workshops and lectures	0,038	0,235	0,159	0,246	0,756	0,119
Networking facilities	0,099	0,095	0,128	0,089	0,820	0,062
Atelier space	-0,321	0,330	-0,107	0,491	0,211	0,180
Storage room / lockers	-0,080	0,077	-0,039	0,569	0,097	0,308
Social meeting space	-0,066	0,188	0,114	-0,081	0,504	0,485
Office space with shared / flexible workplaces	-0,217	0,028	-0,005	0,093	0,054	0,673
Concentration room	-0,051	0,031	-0,061	0,107	0,307	0,667
Conference room small	0,308	-0,081	0,084	-0,048	0,049	0,708
Conference room large	0,173	0,248	0,325	-0,045	-0,155	0,697

Total variance explained 58,7%

Table 4 Overview of results of multiple regression analyses

β 's		Importance of ... services & facilities									
		Building related	Amenities	Technology	Support	Interactive	Rooms & spaces	Multiple locations	Own postal address	Catering	Outdoor area
	Variance explained by model (%)	7.4	4.4	7.3	10.6	13.6	5.4	3.5	10.3	6.1	9.3
Organisational	Primary activity of organisation - other (ref group)										
	- ICT, telecom - legal or financial services - education, training, coaching - marketing, communication, media - other business services			.015 .184** .040 -.009 .298**						-.029 .060 .197** .234** .070	
Organisational	Organisation size - micro (ref group)										
	- small - medium & large	-.173* .085									
Demographics	Age - ≤ 35 years (ref group) - 36-50 years - > 50 years					-.093 .158*					
	Household composition					X					
	Educational level - ≤ intermedial vocational education (ref group) - bachelor's degree - master's degree				-.172 -.263**		.184 .269**				
	Income - ≤ €30.000 (ref group) - €30.001 - €50.000 - > €50.000				-.226** -.276**	-.365** -.293**					-.228** -.348**
Job	Current position - (regular) employee (ref group) - manager/director - other	-.232** .061							.159* .008		
	Time spent at the serviced office (hours)							-.147*	.147*		-.191*
	Influence on accommodation decisions - no influence (ref group) - not responsible, but can influence - responsible with others - individually responsible		.254** .161 .036		-.140 -.186* -.109						.132 -.038 .078
Purpose of use	To use as regular office			.109					.144*		
	To work in a project team						.110				
	To hold meetings						.082			.151*	.108
	To work in between meetings										

	To work in a certain atmosphere					.197**					
	To work at a specific location							.171**			
	To meet and interact with outsiders										
	To be able to use services and facilities		.101						.215**		

*Significant at 90% confidence interval

**Significant at 95% confidence interval

X Only significant in bivariate analyses