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OUTSOURCING: A COST-SAVING APPROACH IN FM?

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ABSTRACT

Purpose – The purpose of this paper is to measure use and practices of outsourcing to understand the functions, reasoning, advantages, disadvantages and trends involved in the outsourcing decision and process.

Background (State of the Art) – The theoretical background underlines the assumption that organizations who outsource their facility services, gain more added value than organizations that control their facility services in-house.

Approach (Theory/Methodology) – The research is based on the Mixed Method Approach and the Mixed Model Research. A large sample of companies is interviewed and the data (answers) statistical analyzed. The population for the surveys were the Top 500 companies in Austria. Interviewees were the Facility Managers themselves or the persons responsible for all FM tasks.

Findings/Results – The results show that the most outsourced services are cleaning, winter service and heating/ventilation/air condition. Most of the companies had between 3 to 10 external service providers under contract. Companies have to find a trade-off between the costs for complex administration and coordination according to a high number of external service providers and the dependence on the external service provider.

Practical implications – Although organizations may outsource for cost related reasons, there are no guarantees that expected savings will be realized. The results of the statistical analyses show that it is important to specify which and how many facility services have to be outsourced.

Research limitations – The effects of Outsourcing on an organization's cost are not yet fully understood and the variables and their relationships are more complex than expected. More detailed analysis of different industries or countries are possible to gather more information about Outsourcing and an expansion of the data within this research field.

Originality/value – The sample represents a solid statistical base for analyses and permits to make statements which are statistically well-founded.

Keywords: Outsourcing, Facility Management, Cost Savings, Facility Services

1 INTRODUCTION

Facility Management (FM) is a key function in managing facility services and working environment to support the core business of the organisation (Chotipanich, 2004). Outsourcing is a common practice for companies and an important element in business strategy. Outsourcing mostly refers to the development of a new contractual relationship where tasks formerly carried out by in-house employees are transferred to one or more companies. This practice of replacing in-house support functions with support bought from external service providers has expanded during the 1990s (Bröchner et al., 2002). In the area of FM the facility services/activities are contracted out to external service providers (organizations that are responsible for the delivery of one or more facility services) instead of carried out in-house. Depending on the size of the company or institution, some or many facility services are outsourced. Making the decision about what should be provided in-house or outsourced is not always easy to determine. There are pros and cons for both (Campbell, 2011). Outsourcing decisions are typically based on the potential to realize cost savings through economies of scale and specialization by the outsourcing providers. One link between added value and outsourcing is found in cost reduction objectives, ranging from redirecting capital, refocusing on corporate core business, transferring real estate related risks and increasing occupational flexibility (Jensen et al., 2012). Although there are significant risks (e.g. poor performance/quality, less flexibility) that may be realized if outsourcing is not successful. The pros and cons of outsourcing have become a frequent topic in the literature (Kremic et al., 2006).

Since 2005 the Vienna University of Technology (TU Vienna) analyze the demand side of FM on a yearly basis in different European countries such as Austria, Germany, Bulgaria, Romania, Turkey and the Netherlands. The researches have been based on (standardized) questionnaire survey. The research objectives were to help facility professionals better understand the functions, reasoning, advantages and disadvantages and trends typically involved in the outsourcing process and to better understand how the outsourcing process is managed. In detail, following research questions should be answered: Is there a value through outsourcing and how are trends (according to different studies/articles) in outsourcing implemented in companies? Is there a trade-off between the outsourcing degree respectively the number of external service providers and cost savings? Does an increasing number of external service providers respectively an increasing outsourcing degree automatically lead to more cost savings?

2 STATE OF THE ART

The fundamental argument for introducing outsourcing and market competition to management services is that such delivery approach can save costs by reducing bureaucratic inefficiencies, allowing large organizations and governments to access economies of scale, bypassing costly labour and generating competition among service providers (Lam, 2011). The International Facility Management Association (IFMA) has conducted a tracking survey on the practice of outsourcing in the facility management field. In 1993 and 1999, IFMA conducted surveys of its members on outsourcing issues. Again in 2006, IFMA conducted another study of its members to measure use and practices of outsourcing. In 2006 a total of 487 complete surveys were collected from IFMA members, for a final response rate of 10 percent.

The report reveals that over the past years, the use of out-tasking (hiring individual, specialized vendors to provide one or more FM functions) has decreased from 91% in 1993 to 77% in 2006. The steepest decline has come from 1999 to 2006 with a corresponding increase in the number of companies that are outsourcing (hiring full-service, single vendor to provide many services bundled together). The mainly outsourced/out-tasked are housekeeping, architectural design, trash and waste removal and landscape maintenance. The most important criteria when deciding whether or not to outsource are financial in nature: controlling costs, freeing capital funds, improving ROI, and reducing turnover and training costs. Over one-half of companies have saved money through outsourcing/out-tasking and one-third has seen a quality improvement. Two out of five companies have brought services back in-house after outsourcing the service. Typically reasons are to regain control of the service, either in terms of costs, quality or response time. Part of an outsourced/out-tasked function is kept in-house. In recent years, the standard length of outsourcing contracts has stayed the same at most companies. One-fourth of Facility Managers use longer-term contracts and 15% use shorter contracts. One-half of the companies have consolidated their vendor base to use fewer service providers (IFMA, 2006). In the year 2000 a survey of Swedish and UK process industry companies was performed. Ten managers were interviewed, based on a questionnaire. The survey confirms that the willingness among process industry companies to transfer support services to external contractors depends on cost advantages while restrained by the risk of disruption of core production processes (Bröchner et al., 2002). DeAnne (2008) points out, based on the literature findings, that competitive tendering can yield 10 to 30% of cost savings with no adverse effect and sometimes an improvement in service quality (Lam, 2011).

Several studies on the risk factors associated with outsourcing of functions have been reported. Kremic et al. (2006) developed a survey of risk factors for outsourcing IT functions. These risk factors include: unrealised savings with a potential for increased costs; employee morale problems; over-dependence on a supplier; loss of corporate knowledge and future opportunities and inadequate requirement definitions. Atkins and Brooks (2009) developed a set of risks that organisations face in their pursuit for more and effective facilities management. These risks have the potential to hinder or even negate attempts at achieving value for money. They include e.g. inadequately resourced or inexperienced client function; poor relationship between contractor and contract manager; possible loss of control over the facilities management function; inadequate definition of the scope and content of services; financial failure of chosen service provider during contract period; lack of education and training in facilities management and excessive monitoring of contract performance. Ikediashi et al. (2012) analysed the risks associated with outsourcing of FM services in Nigeria. They developed a list of critical risks using descriptive statistics and used Principal Component Analysis (PCA) to select the most representative of the risks in each risk category. They field survey involved 37 client based respondents and 24 vendor based respondents cutting across the top, middle and low managerial levels in their companies. Findings from the study reveal that poor quality of services was rated the most critical while security issues was rated second. This was followed by inexperience of client. Findings from PCA indicate that three risk factors namely inexperienced client, interruption to supply of services and unclear responsibilities and targets showed significant loadings to represent the client risk. Financial failure of chosen vendor, poor quality of services and vendor underperformance showed significant loadings to represent vendor risk. Also contract risk is represented by four factors namely absence of benchmark for quality, inadequate definition of scope and services, lack of standard forms of contract for facility services, inadequate planning of policies implementation and loss of strategic flexibility. Poor relationship between clients and vendors and conflict of

interest exhibited significant loadings to represent relationship risk. Security requirement issues and fear of uncertainty represent the general risks. Outsourcing, even popular and driven by global competition, is still risk prone (Ikediashi et al., 2012).

The theoretical background underlines the assumption that organizations who outsource their facility services, gain more added value than organizations that control their facility services in-house. That is why in this research organizations are asked how they control their facility services and which percentage they source out.

3 APPROACH

There are currently three major research paradigms: quantitative research, qualitative research and mixed research. The major characteristics of quantitative research are a focus on deduction, confirmation, theory/hypothesis testing, explanation, prediction, standardized data collection and statistical analysis. The characteristics of qualitative research are induction, discovery, exploration, theory/hypothesis generation, the researcher as the primary “instrument” of data collection and qualitative analysis (Johnson and Onwuegbuzie, 2004). Quantitative and qualitative methods have particular lacks of strengths (Johnson and Christensen, 2007). So the authors used the research method “Mixed Research”. It is a type of research in which qualitative and quantitative methods, techniques or other paradigm characteristics are mixed in one overall study (Johnson et al., 2007). Its logic inquiry includes the use of induction (discovery of patterns), deduction (testing of theories and hypotheses) and abduction (uncovering and relying on the best of a set of explanations for understanding one’s results). The goal is to draw from the strengths and minimize the weaknesses of both research methods (quantitative and qualitative) in single research studies and across studies. Taking a mixed position allows researchers to mix and match design components that offer the best chance of answering their specific (research) questions (Johnson and Onwuegbuzie, 2004).

Based on the Mixed Method Research, the studies include quantitative and qualitative research phases. The first step was to analyse and validate the existing data and results of the former surveys. In addition, qualitative studies (literature review, brainstorming, expert interviews and group discussions) were used to analyse problems, define additional parameters and improve the questionnaire. With the help of the parameters new hypotheses were set up. Based on the hypotheses, a new questionnaire was set up and the survey was carried out. An extended ex post office analysis of the existing profit and loss reports and balance sheets was performed. The main goal of this step was to provide more accurate data. An indexation of the respective years should verify that the results are comparable (Redlein and Sustr, 2008). The whole survey process from creating the questionnaire to evaluating results is under yearly review. Questions are rephrased if necessary, added or deleted. It is important that the questions are short and clear otherwise the risks of misunderstanding and wrong answers are very high (Hizgilov and Redlein, 2011). Also the mixed model research was used. The qualitative and quantitative approaches are mixed within a research phase (Johnson and Christensen, 2007). The questionnaire included summated rating scales (quantitative data collection) and open-ended questions (qualitative data collection). The questionnaire was subdivided into the main areas: Companies in general and FM organisation (for example questions about the industry of the company, number of employees, turnover, number of sites), value added (e.g. cost drivers and savings through the introduction of FM, increase of productivity through the use of FM), the way of service provision (e.g. number of external service providers, outsourced facility services/areas), IT support (e.g. used IT system, areas of IT support) and Sus-

tainability (CSR etc.). Depending on the answers there are up to about forty questions. The population for the survey were the Top 500 companies published by an Austrian business magazine called "Trend" (ranking is sales driven). Interviewees were the Facility Managers themselves or the persons responsible for all FM tasks according to the European Norm EN 15221-1. Tools for the survey were phone, personal face-to-face interviews and/or E-Mail. From the listed Austria's Top 500 companies, in the year 2012 82 companies participated in the survey and in the year 2011 70 companies participated in the survey. The phone interviews were carried out by one researcher, thus the manner of questioning was always the same. This was done to secure data quality. To ensure the plausibility and validity of the data the results of the different research steps were compared with each other and with other studies in this research field. The data (answers) were entered in a MS Access database and afterwards exported into statistical programmes (SPSS, MS Excel), analyzed and evaluated. As mentioned before the questionnaire included also questions with open answering possibilities. That means that answers need to be reviewed, if necessary renamed and afterwards clustered to make the findings comparable. The renaming and clustering was double checked to ensure correctness. At least the results are validated by questioning the outliers, retracements and changes in trends. Additional points were validated through internet research.

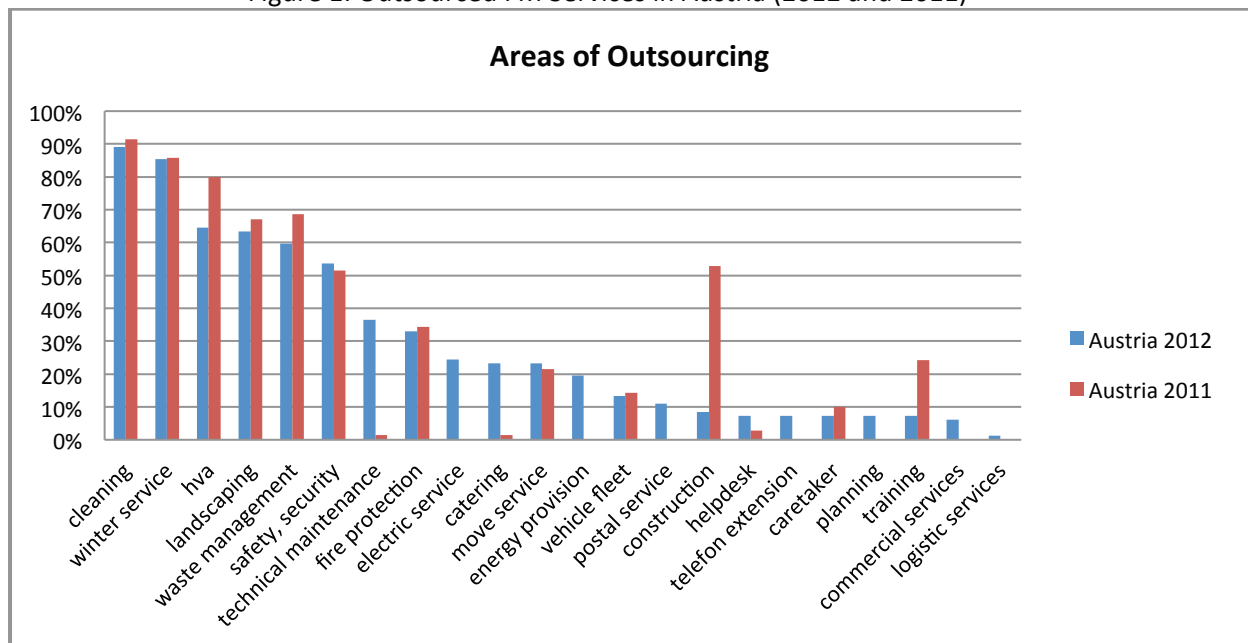
The authors already started to define statistical models to prove if there is an (significant) correlation between different variables/parameters. Regression analyses were used to make quantitative estimates of economic relationships between different variables/parameters to specify that a dependent variable is a function of one or more independent variables (Studenmund, 2006). Regression analysis is a technique to study and measure the relation between two or more variables. The goal is to estimate the value of one variable as a function of one or more other variables. The estimated variable is called the dependent variable and is commonly denoted by Y. The variables that explain the variation in Y are called independent variables. They are normally denoted by X. When Y depends on only one X it is called simple regression analysis, but when Y depends on more than one independent variable it is called multiple regression analysis. If the relation between the dependent and the independent variables is linear, it is a linear regression analysis. Regression analysis seeks as well to establish the reliability of estimates and consequently the reliability of the obtained predictions. Regression analysis allows furthermore examining whether the results are statistically significant and if the relation between the variables is real or only apparent (Dodge, 2008). This paper presents some first results of the quantitative part of the surveys in Austria for the years 2012, 2011 and 2010 especially Outsourcing and Cost Savings/Value Added.

4 RESULTS

In 2012 most of the surveyed companies (63%) had between 3 to 10 external service providers and only 31% more than 10 service providers under contract. While in the year 2011 the share of companies commissioning more than 10 service providers was 26% and 68% had between 3 and 10 external service providers. In the year 2010 the share of companies commissioning between 3 to 10 external service providers was 41% and 47% had more than 10 external service providers under contract. Over the last years most of the surveyed companies had between 3 to 10 external service providers. This reduction since the year 2010 in the number of commissioned service providers shows the tendency to engage external service providers with integrative service offer. The less external service providers a company has to commission, the less complex is the internal administration and coordination of contracts in connection with external service providers. On the other side the share of companies with

only 1 to 2 external service providers under contract remains on a low level. In 2010 the share of companies with only 1 to 2 external service providers under contract was 12%. This share of companies under contract decreased in 2011 and 2012 to 6%. Although (according to different studies and articles) the less external service provider a company has to commission, the less complex is the administration and coordination of contracts, there is no trend towards only one external service provider with integrative service offer. One problem is that, if important functions are being outsourced, an organization is mightily dependent on the external service provider. Risks such as bankruptcy and financial loss cannot be controlled. Outsourced facility services/areas are illustrated in Figure 1.

Figure 1: Outsourced FM Services in Austria (2012 and 2011)



The first three positions are cleaning (2012: 89%, 2011: 91%), winter service (2012: 85%, 2011: 86%) and heating/ventilation/air conditioning (2012: 65%, 2011: 80%). Whereas some years ago the main purpose of FM was cost savings, nowadays purposes and demands of FM have changed. Aspects like the improvement of the market position became more and more important. Moreover, qualitative aspects like higher satisfaction of the employees which result in higher motivation and productivity are also consequences of the introduction of FM. It is still not possible to quantify all benefit effects. While the cost savings and the productivity improvement can be calculated, the strategic competitive advantage is only decidable (Hauk, 2007). In our studies value added of FM includes cost savings and increase in productivity on the one side and on the other side cost drivers. Cost drivers require differentiated cost planning and cost control. They are measures of cost causation and resource use and output (Leidig, 2004). In the questionnaire/survey productivity was defined as: Increase in productivity = More output with the same input e.g. staff; respectively increase of output per unit of input. The biggest cost driver in 2012 was energy, which was mentioned by 27% of the answering Facility Managers. This cost driver was followed by more "labour-intensive" areas such as safety (13%), maintenance/repair (12%) and cleaning (12%). The most relevant areas of cost savings in 2012 (number of mentions/frequencies to total respondents in %) were energy (51%), cleaning (44%) and personnel (21%). The area administration (18%) was the most

named area in which an increase in productivity could be observed (answers in % to total respondents). This area was followed by maintenance/repair (17%) and personnel (16%).

The theoretical background underlines the assumption that organizations who outsource their Facility Management respectively their Facility Services, gain more added value than organizations that provide their Facility Services in-house. That is why in the research organizations are asked how they control their Facility Management functions and which percentage they source out (Smit, 2008). To see if the degree in outsourcing of Facility Services has an effect on the added value of an organization, the degree in outsourcing is compared with the parameter annual savings. The Regression analysis was used to make quantitative estimates of the relationship between these two variables/parameters. The dependent variable are the annual savings (in %). The independent variable is the degree of outsourcing. The results are presented in Table 1.

Table 1: Regression Analysis (degree of outsourcing – annual savings)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,095 ^a	,009	-,022	8,196

a. Predictors: (Constant), degree of outsourcing

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig. F
1 Regression	19,471	1	19,471	,290	,594 ^b
1 Residual	2149,588	32	67,175		
Total	2169,059	33			

a. Dependent Variable: annual savings (%)

b. Predictors: (Constant), degree of outsourcing

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig. t
	B	Std. Error	Beta		
1 (Constant)	9,702	3,274		2,963	,006
1 degree of outsourcing	,026	,048	,095	,538	,594

a. Dependent Variable: annual savings (%)

The R square value identifies the proportion of variance in annual savings accounted for by the degree of outsourcing. In this case .9% of the variance in annual savings is explained by the outsourcing degree. R square is an accurate value for the sample drawn but is considered an optimistic estimate for the population value. The Adjusted R Square is considered a better population estimate. It corrects the bias and therefore has a lower value. The effect size as estimated by Adjusted R square is .022 (2.2%). This is basically a medium effect (effect size < 1-10% = medium effect). The standard error of the estimate is the standard deviation of the expected values for the dependent variable annual savings. The table/regression ANOVA

tests for a linear relationship between the variables. The F statistics is the ratio of the mean square for regression to the residual mean square. The F and associated p-values (Sig. F, Sig. t) reflect the strength of the overall relationship between the independent variable (degree of outsourcing) and the dependent variable annual savings (F, Sig. F) and between each individual independent variable and annual savings (t, Sig. t). The value of F in the ANOVA Table is not significant (Sig. = .594). It is above the .05 level. A statistical test is said to show significance if the p-value is less than the significance level ($p < .05$). The Table Coefficients presents the kernel of the regression analysis, the regression equation. The values of the regression coefficient and constant are given in column B of the table. The t statistics tests the regression coefficient for significance and Sig. t is the p-value of t. Here .594 means $> .05$, i.e. t is not significant beyond the .05 level for the variable degree of outsourcing (Kinnear and Gray, 2008; George and Mallery, 2008).

Table 2: Means (degree of outsourcing – annual savings)

Degree of outsourcing (classified)	Annual Savings (%)					
	Mean	N	Std. Deviation	Median	Minimum	Maximum
0-4%	-	0	-	-	-	-
5-24%	10,00	5	7,211	10,00	0	20
25-49%	12,40	5	7,162	10,00	5	20
50-74%	8,33	9	5,852	10,00	1	20
75-100%	13,13	15	9,775	13,00	0	30
Total	11,29	34	8,107	10,00	0	30

If the degree of outsourcing influences the degree in added value (in this case: the degree in perceived annual savings), the degree in added value should be higher when the degree of outsourcing increases. The results in Table 1 and Table 2 can confirm this only partially. Table 2 shows that an increasing outsourcing degree leads to a slight increase in annual savings. But as can be seen in Table 1 there is no statistical significant correlation between the degree of outsourcing and the annual savings, i.e. the degree of outsourcing has only a weak effect on the annual cost savings. Only .9% of the variance in annual savings is explained by the outsourcing degree. It can be concluded, that there is no significant relation between the degree of outsourcing of an organization and the way respondents perceive the added value of their Facility Management organization.

As mentioned before many facility services such as cleaning, safety, winter service and catering are outsourced (see Figure 1). So outsourcing is still an important strategy for companies. Over the last years most of the surveyed companies had between 3 to 10 external service providers who perform these facility services. Table 3 illustrates the number of external service providers under contract and the annual savings. Also the Regression analysis was used. The dependent variable are the annual savings (in %). The independent variable is the number of external service providers.

Table 3: Regression Analysis (number of external service providers – annual savings)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,191 ^a	,036	,011	8,047

a. Predictors: (Constant), number of external service providers

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig. F
1 Regression	93,161	1	93,161	1,439	,238 ^b
1 Residual	2460,614	38	64,753		
Total	2553,775	39			

a. Dependent Variable: annual savings (%)

b. Predictors: (Constant), number of external service providers

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig. t
	B	Std. Error	Beta		
1 (Constant)	10,326	1,339		7,714	,000
1 Number of external service providers	,016	,013	,191	1,199	,238

a. Dependent Variable: annual savings (%)

R square has a value of 3.6%. Only 3.6% of the variance in annual savings is explained by the number of external service providers. The value of F is not significant (Sig. = .238). It is above the .05 level. The p-value of t (Sig. t) has a value of .238, i.e. t is not significant beyond the .05 level for the variable number of external service providers. There is no statistical significant correlation between the number of external service providers and the annual savings, i.e. the number of external service providers only has a weak effect on the annual cost savings. The results of the year 2011 are similar to the year 2012. R square has a value of .7%. The value of F is not significant (Sig. = .726). The p-value of t (Sig. t) has a value of .726, i.e. t is not significant beyond the .05 level for the variable number of external service providers.

Table 4 shows that the mean and median of the annual savings for companies with 3 to 10 external service providers are highest and decrease with an increasing number of external service providers. An increasing or high number of external service providers do not automatically generate more cost savings (annual savings).

Table 4: Means (number of external service providers – annual savings)

Number of external service providers (classified)	Annual Savings (%)					
	Mean	N	Std. Deviation	Median	Minimum	Maximum
1-2	10,00	2	,000	10,00	10	10
3-10	11,16	25	7,739	10,00	0	30
>10	10,31	13	9,612	8,00	0	30
Total	10,83	40	8,092	10,00	0	30

The less external service providers a company has to commission, the less complex is the internal administration and coordination of contracts in connection with external service providers. Indirect costs may include contract monitoring and oversight, contract generation and procurement, intangibles and transition costs. These costs may increase with an increasing number of external service providers and reduce the annual savings. Another view is that external service providers with integrative service offer cannot provide the full-range of services required of companies that outsource. They offer a range of disparate services and fail to do anything well (Drion et al., 2012). If important functions are being outsourced, an organization is mightily dependent on the external service provider. Risks such as bankruptcy and financial loss cannot be controlled. These risks increase with a decreasing number of external service providers. This may also reduce the annual savings of the demanders. Companies have to find a trade-off between the costs for complex administration and coordination of contracts according to a high number of external service providers and the dependence on the external service provider.

5 PRACTICAL IMPLICATIONS

Outsourcing is an important strategic solution to the provision of a range of facility services (Usher, 2004). Organizations may expect to achieve many different benefits through successful outsourcing, although there are significant risks that may be realised if outsourcing is not successful. Much of the literature identifies the desire to save costs as an explanation why outsourcing occurs. Although organizations may outsource for cost related reasons, there are no guarantees that expected savings will be realized. A high or increasingly number of external service providers does not automatically lead to more cost savings. There is increasing evidence that cost savings have been overestimated and costs are sometimes higher after outsourcing. There are also some additional indirect and social costs (e.g. low morale, lower productivity) that may be incurred. Indirect costs may include contract monitoring and oversight, contract generation and procurement, intangibles and transition costs. These costs increase with an increasing number of external service providers and therefore reduce the (annual) savings. Literature also indicates that in industries with complex technologies and systems, internal synergies may be lost when some functions are outsourced. This could result in less productivity or efficiency among the remaining functions. There are also potential pitfalls when outsourcing for strategic reasons. Organisations may “give away their crown jewels” if they outsource the wrong functions (Kremic et al., 2006). Therefore, outsourcing outcomes are not automatically assured, unless the risks are either properly identified and assessed before commencement of outsourcing transaction or effectively managed during the execution stage (Ikediashi et al., 2012). Each decision regarding to Outsourcing must be care-

fully reviewed from a risk and benefit perspective (Downey, 1995). Facility Managers have to decide which and how many facility services are carried out to external service providers. It is important to specify which work has to be outsourced and to communicate expectations of how it will be provided (Kleeman, 1994). Service level agreements (SLA) and/or key performance indicators (KPI) can be used to ensure performance and conditions of service delivery and also measure the performance of facility services.

6 CONCLUSION

Even though FM does not equal outsourcing, it is still an important method within FM. The most outsourced facility services are cleaning, winter service, heating/ventilation/air condition and outdoor area. Most of the companies had between 3 to 10 external service providers. The mean and median of the annual savings for companies with 3 to 10 external service providers are highest. But between the number of external service providers and the degree of outsourcing and the annual savings is only a weak correlation. Although organizations may outsource for cost related reasons, there are no guarantees that expected savings will be realized. The literature also warns that there is an initial tendency to overstate benefits through outsourcing and that suppliers are likely to perform better in the beginning of a contract to make good first impressions. If outsourcing is to be fully integrated as a valid and respectable management tool, it must be pursued with a clear sense of where, when and why it leads to enhanced value respectively cost savings (Alexander and Young, 1996). The effects of outsourcing on an organisation's cost are not yet fully understood and perhaps the variables and their relationships are more complex than expected. More detailed analyses of different industries and/or countries are possible to gather more information and an expansion of the data within this research field.

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