

RISK ASSOCIATED WITH FACILITIES MANAGEMENT OUTSOURCING AND ITS IMPACT ON SERVICE PERFORMANCE

K.K.G.P. Somarathna* and Nayanthara De Silva

Department of Building Economics, University of Moratuwa, Sri Lanka

ABSTRACT

In Sri Lanka, Facilities Management (FM) outsourcing has shown steady growth in recent years. Although FM outsourcing has become popular, organizations do not aware about what risks are involved with outsourcing and its impact on service performance. Therefore, the purpose of this study is to develop the strategic framework to analyse risks associated with FM outsourcing and their impact on service performance. Firstly, a literature review was done to identify FM outsourcing risks and its impact on service performance. Further, management strategies were reviewed to overcome FM outsourcing risk with a view to improving performance. A quantitative research approach based on questionnaire was followed to achieve research aim. The initial literature survey findings and preliminary survey finding were included in the questionnaire. Subsequently, questionnaire survey was conducted among the professional experts in both FM service provider companies and client organisations. The results were analysed using descriptive and inferential statistical methods. Accordingly, 31 factors were identified among the analysed 32 FM outsourcing risk factors. The relationship between FM outsourcing risks with service performance attributes were identified by using correlation analysis and FM service provider related risks were rated at the high side of correlation. The factor analysis was also carried out and six management strategies were identified as the most efficient strategies. Finally, a framework to enhance the FM outsourcing practice was developed based on the research findings, in order to suggest appropriate solution to overcome FM outsourcing risk. Hence developed framework can be used to effectively manage FM outsourcing practice for FM practitioners.

Keywords: *Facilities Management; FM Outsourcing; Management Strategies; Risks.*

1. INTRODUCTION

The core business of any organization can be succeeded with effectively planned facilities and supporting services (Alexender, 2013). Therefore, facilities within the organization and other supporting services are considered as an essential business need that helps to achieve the corporate objectives of the organization (Chotipanich and Nut, 2008). The Facilities Management (FM) has thus become important in organizations to achieve their corporate objectives (Missingham and Kenly, 2010). As a result, FM has become an emerging profession to produce effective management of facilities (Kurdi *et al.*, 2011).

Over the past decade, there has been a new trend which concentrates on outsourcing non-core supportive functions in an organization (Ventovuori and Lehtonen, 2006). When considering different modes of managing facilities, outsourcing is identified as the most common strategy used in organizations for various benefits including better efficiency (Adeleye *et al.*, 2004). FM outsourcing means, transferring the operation and maintenance of facilities of an organization to an outside FM service provider company (Kurdi *et al.*, 2011). It is done under a contract in between client organization and FM services provider company (Atkin and Brooks, 2009).

Though FM outsourcing has become increasingly popular, risks factors associated with this were identified (Dorasamy *et al.*, 2010; Zsidisin and Ellram, 2003). Most of these risks are usually associated with adverse or negative impact on the performance of facilities (Ikediashi *et al.*, 2012). However, majority of organizations are outsourcing their functions without considering the risks involved (Adeleye *et al.*, 2004).

*Corresponding Author: E-mail - gpsomarathna@yahoo.com

However, outsourcing is used as a strategic choice to optimize cost, time and quality as performance aspects of facilities (Kurdi *et al.*, 2011). But results of the FM outsourcing cannot be confirmed without considering risk factors (Ikediashi *et al.*, 2012). Most of the researchers have identified importance of outsourcing as strategy for improving performance of organization. Lack of literature regarding impact of FM outsourcing risks on service performance is another problem. Therefore, both client and FM service provider company need to consider the risks associated with FM outsourcing and its impact on service performance and it should be assessed in a systematic manner.

Moreover, outsourcing FM in Sri Lanka has seen a steady growth over the recent years. At present, world recognized FM companies have been established in Sri Lanka. But still majority of organizations are outsourcing their operation and maintenance of facilities without considering the risk involvement. Therefore, this research expects to address the research gap of identifying the risk factors associated with FM outsourcing in Sri Lanka and identifying their impact on service performance of client organization. It may help to develop appropriate standards for a successful FM outsourcing procedure. Given the background above, the preliminary objectives of this research are to use data from Sri Lankan FM industry,

- To identify the critical risk factors associated with FM outsourcing and their impact on service performance attributes.
- To assess the impact of risk factors to services performance and management strategies
- To develop a strategic framework for analysing critical risks associated with FM outsourcing and its impact on service performance

2. FM OUTSOURCING RISKS

FM outsourcing is a strategic option to improve in the effective and efficient management of FM resources. However, over the past decades, the relationship between FM services provision and decision to outsource is becoming increasingly complex (Ikediashi and Mbamali, 2014). Mainly, it occurs due to risk associated with an organization's FM service through the process of outsourcing with a view to improving performance. Therefore, according to studies there are three major determinants as client related risk, FM service provider related risk, contract related risk. Table 1 shows the three latent variables, their respective risk factors and their sources identified from literature.

Table 1: Risk Associated with FM Outsourcing

Risk Sources	Risk Factors	Sources
Client related risks	Lack of communication	Harland <i>et al.</i> (2005); Kremic <i>et al.</i> (2006); Nakatu and Lacovou (2009); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)
	Inexperienced client	Kremic <i>et al.</i> (2006); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)
	Interruption to supply of services	Redding (2007); Atkin & Brooks (2009); Ikediashi <i>et al.</i> (2012)
	Unclear responsibility and target	Harland <i>et al.</i> (2005); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)
	High management overheads	Redding (2007); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)
	Excessive monitoring of performance	Atkin & Brooks (2009); Ikediashi <i>et al.</i> (2012)
	Financial failure of chosen FM service provider during contract period	Harland <i>et al.</i> (2005); Redding (2007); Atkin and Brooks (2009)
	Wrongly communicated	Nakatu and Lacovou (2009); Atkin and Brooks (2009)
	Failure to manage end-user expectation	Kremic <i>et al.</i> (2006); Atkin and Brooks (2009)

FM service provider related risks	Poor quality of services	Redding (2007); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	FM service provider underperformance	Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Critical service failure	Redding (2007); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Minimal FM service provider accountability	Redding (2007); Atkin and Brooks (2009); Ikediashi <i>et al.</i> , (2012)	
	Call out charges for labour	Redding (2007); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Risk of dependency on providers	Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Risk of opportunism by providers	Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Excessive high FM service provider rates	Redding (2007); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Lack of education and training in FM service provider	Redding (2007); Nakatu and Lacovou (2009); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Absence of shared owner outcomes	Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	In adequate staffing by service provider and FM service provider viability	Nakatu and Lacovou (2009); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
	Contract related risks	Absence of benchmark for quality	Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)
		Loss of strategic flexibility	Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)
Loss of core activities		Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
Inadequate definition of scope of services		Kremic <i>et al.</i> (2006); Redding (2007); Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
Inadequate planning of policies implementation		Atkin& Brooks (2009); Ikediashi <i>et al.</i> (2012)	
Lack of standard forms of FM contracts		Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
Fall in employee morale		Ikediashi <i>et al.</i> (2012)	
Unfavorable contract terms		Redding (2007); Atkin and Brooks (2009)	
Inappropriate allocation of risks and resource		Redding (2007); Atkin and Brooks (2009)	
Poor relationship between FM service provider & clients		Kremic <i>et al.</i> (2006); Redding (2007); Atkin and Brooks (2009)	
Absence or poor system for providing incentives for performance		Atkin and Brooks (2009); Ikediashi <i>et al.</i> (2012)	
Improper invoicing and billing practices		Redding (2007)	

2.1. IMPACT OF KEY RISK FACTORS ON SERVICE PERFORMANCE

Several studies have been conducted about outsourcing risks impact on service or organization performance. But, the impact of outsourcing risk on service performance has been largely unexplored. Most of the researchers have identified the importance of outsourcing as strategy for improving performance of organizations. Therefore, literature regarding impact of FM outsourcing risks on service performance is of very low level.

The scope of service performance indicators for FM services is depended on need of the client organization. Therefore, service performances are measurable subjective attribute of FM services. Most of the researches have focused on four main criteria as service performance attribute of time, quality, cost and user satisfaction (Swan and Khalfan, 2007). Other than that, most of the researches were concerned outsourcing were only cost effective method. But it affects more than that other service performance.

Therefore, this research were used time performance, quality performance and user satisfaction as indicators for measuring service performance.

3. MANAGEMENT STRATEGIES TO OVERCOME FM OUTSOURCING RISKS

Client organization considers FM outsourcing as a cost saving solution and transfer full responsibility to service provider (Kurdi *et al.*, 2011). However, this process may also have unique risks when it comes to service delivery (Redding, 2007). But, the correct management strategies can overcome risk associated with FM outsourcing. Table 2 shows management strategy to overcome FM outsourcing risks.

Table 2: Management Strategy to Overcome FM Outsourcing Risks

Sources	Management strategies	Sources
Client related risk	Information sharing	Redding (2007); Kurdi <i>et al.</i> (2011)
	Documenting a baseline from the financial Identified Critical Services	
	Full Commitment of Client	
	Identify the critical service level	
	Documenting of all information regarding FM outsourcing	
FM service provider related risk	Evaluating competence, knowledge in Selection phase	Redding (2007); Kurdi <i>et al.</i> (2011); Lee <i>et al.</i> (2012)
	Evaluating specific technological capabilities in Selection phase	
	Evaluating successful partnership with the Client in Selection phase	
	Information sharing	
	Evaluating financially stable over the life of the agreement in Selection phase	
	The details of the implementation plan, all activities	
	Details about proposed staffing, processes and technology	
Secure client organization's confidential data as well as customer's confidential data		
Contract related risk	Negotiate with relevant parties	Redding (2007); Kurdi <i>et al.</i> (2011); Lee <i>et al.</i> (2012)
	Provider requires a clear definition of each management team's role	
	The details of the implementation plan, all activities and milestones identified	
	Both parties take ownership for creation of a successful solution	
	The pricing structure must align the FM service Provider's profit with the clients success	

4. RESEARCH METHODOLOGY

The specific purpose of this research is to identify the risk associated with FM outsourcing and its impact on service performance. Therefore, in order to achieve the aim of this study, it is required to select suitable risk factors from literature according to the Sri Lankan context and also need to identify the impact of those risk factors on service performance. In addition, management strategies are considered to overcome the risks relating to FM outsourcing. Hence, research requires dealing with statistical way. Therefore, the quantitative research approach based on questionnaire was followed to achieve research aim. In order to capture data related to the research problem, the questionnaire was prepared by using comprehensive literature review. It consisted following aspects,

- Identify the risk factors associated with FM outsourcing
- Identify the service performance aspect which is impacted by risk factors
- Identify the management strategies to overcome identified risk factors

Preliminary and detailed questionnaire survey used to gather the opinion of respondents by using 5 point likert scale where “5” and “1” denote the two extremes of extremely positive and extremely negative impact respectively.

The main objective of the preliminary survey was to validate the literature findings relating to Sri Lankan FM context and make the way to achieve the best outcome from detail survey. Therefore, the structured interviews were carried out among two professionals from both client organization and FM service Provider Company. These professionals were selected mainly based on their experience, rank and responsibilities within FM industry. All respondents have experience of more than 10 years. Based on the information of questionnaire, the several modifications were done to understand anybody and some factors were improved in simple manner. Final results of preliminary survey were provided satisfactory picture for the entire questionnaire.

According to Sri Lankan context, main FM service provides and client who are in the building which are maintained by FM service provider were considered as population for this research. As per the information were collected from experts in the FM industry, there were nearly 06 FM service providers which carry out their business in Sri Lanka. Exact number of FM service provider in Sri Lanka could not be mentioned properly, since they were not registered in recognized resource. Therefore, the experts who represent client and FM service provider company were varying from building to building. Therefore, exact value for population could not be presented for this research.

Without knowing population sample method cannot be used effectively. Therefore, non-probability convention sampling method was adopted to collect the data for this research. This method obtained readily available lists is a convenience sample and all respondents were selected to take more than 2 years of experience. In order to ensure the reliability of data, target respondents were considered based on their senior position (Facility managers, Operation managers, Property managers, Maintenance engineers and Facilities executive). Therefore, the questionnaires were distributed among 50 number of experts who represent FM service providing company and client who were in the buildings which are maintained by FM service provider. But only 43 questionnaires were received for the analysis.

5. DATA ANALYSIS AND FINDINGS

The results were analysed by using descriptive and inferential statistical method. When collecting data through questionnaire survey, it was consisted with questions that were not consistent to the research problem or received data may have lot of variance within the respondents. Therefore, Cronbach’s alpha was used as reliability analysis for the data set of questionnaire. Reliability coefficient 0.7 or higher is considered “acceptable” in most social science researches (Parrant, 2010). According to results, all data set was between 0.7 and 0.8. As well as, it indicated large alpha value. Therefore, it could be assumed that data sets are reliable for analysis.

One-sample t-test was used to identify significant level (p value) of tested variable. It was used to identify whether the mean of a population significantly differs from a specific value. In hypothesis testing, these hypotheses were tested using t-values (one-tailed) at 5 per cent significant level. Therefore, the critical t-value at the approved degree of freedom and value was compared with calculated t value.

Further a null hypothesis is rejected for p-value of less than 0.05 and accepted for p-value is equal or greater than 0.05 (Field, 2005). One of the important points to be considered is sample mean of risk factors were compared with assigned value 3. Through the literature survey and preliminary survey most of the identified risk factors have some impact on the service performance. Therefore, opinions of most of the respondents were equal or greater than 3. Therefore, mean value of most of the FM outsourcing risk factors were higher than three. Based on above reason value 3 was assigned only for this analysis. One sample t-test was conducted by using MINITAB in order to identify the most significant risk factors for each separate risk category with following hypothesis,

Null Hypothesis:

H₀: Mean level of concern with risk factors associated with FM outsourcing < 3

Alternative Hypothesis:

H₁: Mean level of concern with risk factors associated with FM outsourcing ≥ 3

By considering to critical t-value and significant level of 0.05 except the factor “Call out charge for labour”, all other 31 factors were able to reject null hypothesis. According to that decision, there was an opportunity to accept alternative hypothesis highlighting significant factors over mean value. Table 4.7 shows finalized risk factors impact on service performance

Table 3: Significant Risk Factors Impact on Service Performance

1	Client related risk factor	Lack of communication
2		Failure to manage end-user expectation
3		Wrong Communicated
4		Interruption to supply of services
5		Financial failure of chosen FM service provider during contract period
6		High management overheads
7		Inexperienced Client
8		Excessive monitoring of performance
9		Unclear responsibility and target
1	FM service provider related risk	FM service provider underperformance
2		Poor quality of services
3		Critical services failure
4		Inadequate staffing by service provider & service provider viability
5		Lack of education & training in FM service provider
6		Minimal FM Service provider accountability
7		Risk of opportunism by provider
8		Absence of shared owner outcomes
9		Risk of dependency on provider
10		Excessive high FM service provider rates
1	Contract related risk	Inadequate definition of scope of services
2		Lack of standard forms of contract
3		Unfavorable contracts terms
4		Improper invoicing & billing practices
5		Absence or poor system for providing incentives for performance
6		Inadequate planning of policies implementation
7		Poor relation between FM service provider & client
8		Loss of strategic flexibility
9		Fall in employee moral
10		Loss of core activity
11		Absence of benchmark for quality
12		Inappropriate allocation of risk & resource

Once significant risk factors were identified, the correlation analysis was performed to establish relationships among risk factors with service performance attributes (time, service quality, user satisfaction). Table 4 indicates correlation analysis for FM outsourcing risk with service performance attributes.

Table 4: Correlation Analysis for FM Outsourcing Risk with Service Performance

Correlated Variable	Pearson Correlation value		
	Client related risks	FM service provider related risks	Contract related risks
Time (Ability to achieve on-time schedule)	0.398	0.596	0.468
Service Quality (Ability to achieve improved consistency with laid down quality standard)	0.513	0.596	0.468
User Satisfaction (Ability to achieve user requirement perfectly)	0.430	0.666	0.360

Since each risk indicate a positive correlation value, change in one risk was directly correlated with changes in service performance attributes. FM service provider related risks were rated at the high side of correlation in each service performance attributes. It could be presumed that, FM services can be delivered on time with quality standard and ability to achieve user requirement perfectly, by which FM service provider related risks are properly managed. Therefore, management strategies need to consider to FM outsourcing risks. However, other risks also have some certain relationship with service performance attributes. Therefore, the service performance can be improved by managing the each FM outsourcing risks.

The factor analysis was also carried out and six management strategies were identified as the most efficient strategies. The factors were identified based on the principle component method the factor solutions eigen value greater than or equal to one. And also the variables which are greater than 0.45 are regarded as most efficient factors (Ikedishi and Mbamali, 2014). Finally, a framework to enhance the FM outsourcing practice was developed based on the research findings, in order to suggest appropriate solution to overcome FM outsourcing risk. Hence developed framework can be used to effectively manage FM outsourcing practice for FM practitioners.

6. DISCUSSION OF FINDINGS

When considering the developed strategic framework, it consists with significant risks associated with FM outsourcing and its impact on service performance attribute and suggestions to enhance the FM outsourcing practice.

Significant risk factors were identified based on main sources which are involved in FM outsourcing practice with the view of service performance. The identified main sources were client related risks, FM service provider related risks and contract related risks. t- Test was conducted to identify most significant FM outsourcing risk. According findings of this analysis, 31 risk factors out of 32 risk factors were significantly impacted on service performance. Further, finding reveal that “call out charge for labours” has not much effect on the service performance. Since each risk indicate a positive correlation value, change in one risk was directly correlated with changes in service performance attributes. In addition to that, among these risk sources, FM service provider related risks were the most relative risk sources with each service performance attribute. Therefore, FM service provider related risks mainly impact on service performance than other risk sources. Then, suggestions were given considering client related risk, FM outsourcing risk and contract related risk. Furthermore, six strategies under above risk category were identified as the most efficient strategies. Each category consists with two suitable strategies. Since there are lot of risk factors which directly affect to FM outsourcing practice, necessary strategies were given to mitigate these factors also.

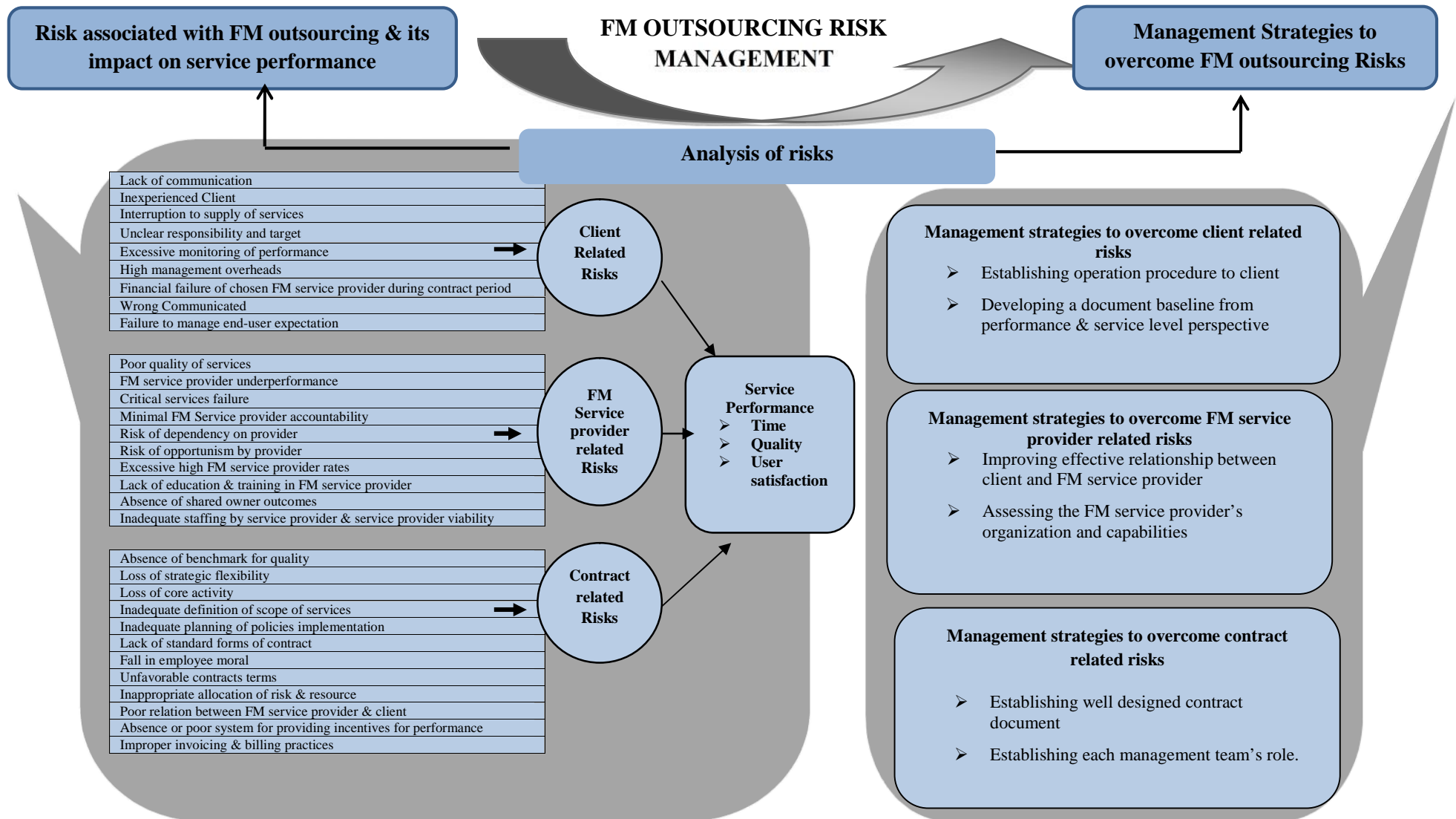


Figure 1: Framework

7. SUMMARY

Most of researchers have investigated importance of FM outsourcing as strategy for improving performance of organization. But, impact of FM outsourcing risks on service performance has been largely unexplored. This research addresses the risk associated with FM outsourcing and its impact on services performance. In addition, management strategies were introduced to overcome FM outsourcing risk with a view of improving service performance.

According to findings of several research studies, identified FM outsourcing risks were divided into three determinants such as client related risk, FM service provider related risk and contract related risk and this research used time performance, quality performance and user satisfaction as indicators for measuring service performance. In addition, management strategies were identified from literature.

In order to capture data related to the research problem, the questionnaire was prepared by using compressive literature review. It was consisted with 32 risk factors regarding client, FM service provider and contract and as per the information was collected from expertise in the FM industry. There are nearly 06 FM service providers which carry out their business in Sri Lanka. But, exact number of FM service provider in Sri Lanka could not be mentioned properly. Since FM service providers were not registered in recognized resource. Therefore, the expertise that was representing client and FM service provider company are varying from building to building. Therefore, exact value for population could not present for this research.

According to findings of statistical significant analysis, identified FM outsourcing risk factors were highly impacted on service performance. Further, statistical analysis finding reveal that “Call out charge for labours” was not much effect on the service performance. Therefore, it was not regarded by respondent as the critical factors while considering FM outsourcing as a procurement option. Each other factors were rated according to the identified alternative hypothesis. Therefore, it indicated that, each factors are significantly impact on service performance. Correlation analysis indicated that, FM service provider related risk was rated at the high side of correlation in each aspect of service performance. It could be presumed that, service performance can be highly improved; the FM related risks are properly managed. Then Factor analysis was conducted in order to identify most efficient strategies, there were six strategies under client related risks, FM outsourcing risks and contract related risks were identified as the most efficient strategies.

Suggestions were given considering client related risk, FM outsourcing risk and contract related risk. Furthermore, six strategies under above risk category were identified as the most efficient strategies. Each category was consisted with two suitable strategies. Since lot of risk factors which directly affect to FM outsourcing practice. Therefore, necessary strategies are given to mitigate these factors also.

The final outcome of the research developed a strategic framework to enhance the FM outsourcing practice. It provides the suggestion to mitigate identified risk factors under client related risk, FM service provider related risk and contract related risk.

Developed framework would direct for FM practitioners, stakeholders in the FM profession understanding FM outsourcing risk impact on service performance. It could impact on entire business of both client organization and FM service provider company. Therefore, management team of these organization can be used this developed framework as a FM outsourcing risk management tool.

This framework was developed based each FM practice facilities in Sri Lanka. As well as, developed framework can also be expanded to different facility. Depending on the circumstance, FM practitioners could customize framework according to their preference.

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