

## **Facilities Management Outsourcing Options: Evidence from Practices in Sri Lanka**

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### **Abstract**

Facilities Management (FM) can be identified as an emerging profession in Sri Lanka, where FM outsourcing has become a new and tactical business approach for carrying out a variety of FM services. It is a way of optimising core function of the organisation by transferring non-core functions to external parties. Generally, FM outsourcing options include managing agent, managing contractor, total FM, bundle service, single service and integrated service. Applicability of these methods depends on the current situation of the FM industry. Presently, these options are commonly used for FM outsourcing practices in Sri Lanka. However, all these methods are not perfectly applicable with the current condition of the Sri Lankan FM industry. This urges the need of identifying the most ideal FM outsourcing option(s) to deliver FM services in Sri Lanka. This paper, therefore, aimed to investigate the current FM outsourcing practices in Sri Lanka to identify the most ideal FM outsourcing options(s) by bridging the knowledge gap in prevailing literature.

The research aim was achieved through a qualitative approach with qualitative interview survey strategy. Semi structured interviews were conducted as the data collection technique with twelve experienced FM industry practitioners. The collected data was analysed using content analysis method. Research findings revealed that all FM outsourcing options are currently practiced in Sri Lanka and among them, single service option has become the most commonly used method to deliver FM services. However, it was proven through the findings that with the evolution of FM, organisations have to move from traditional methods to modern methods for FM outsourcing. As a result, even though single service option is the most commonly used method, integrated service option was identified as the most ideal and appropriate FM outsourcing option in Sri Lanka based on the benefits from clients' as well as

service providers' perspectives. The knowledge generated through this study can be used by the FM practitioners, clients and service providing organisations in order to practice most appropriate FM outsourcing option(s) in Sri Lanka by gaining the expected benefits from FM outsourcing.

**Keywords:** Facilities Management (FM), FM Outsourcing, FM Outsourcing Options

## **INTRODUCTION**

FM can be identified as a very broad and faster growing profession all around the world (Nor, Mohammed and Alias, 2014). As disclosed by Kurdi *et al.* (2011), FM includes all of the organisational non-core activities in favour of the core function, which can be categorised into two categories as soft FM and hard FM. Organisations always try to fulfil their core business needs in higher and standard level with the support of these non-core activities. In this context, FM outsourcing has become a new and tactical business approach to perform various FM services (Sridarran and Fernando, 2013). Kamarazaly (2007) identified FM outsourcing as contracting to procure services or products from external providers, rather than supplying them with internal resources. Nowadays, it has become a unique and exclusive part of many organisations because it adds a value to the core business of the organisation, as further emphasised by Kamarazaly (2007).

When it comes to Sri Lankan context, the situation is same. Although FM outsourcing is relatively new to Sri Lanka, it has become very common and emergent trend today (Weerasinghe, Dissanayake and Andaraweera, 2016). Further, they disclosed that number of business organisations are engaging in FM outsourcing practices by escaping from traditional FM in-house practices in Sri Lanka. As a result, fulfilling of different services has become more effective rather than past (Singh, 2016). As noted by Atkin and Brooks (2009), several methods are available for FM outsourcing such as managing agent, managing contractor, total facilities management, bundle service, single service and integrated services. All these methods are currently practicing in the Sri Lankan FM industry, as highlighted by Sridarran and Fernando (2013). Although it is, with the current condition of the Sri Lankan FM industry, all these methods may not be perfectly applicable to perform FM outsourcing. Thus, the significance of this study lies in its explication on identifying the most ideal FM outsourcing option into Sri Lankan context, which remains as a worthy researchable area yet. This paper, therefore intended to investigate the current FM outsourcing practices in Sri Lanka to identify the most ideal FM outsourcing option(s) for carrying out many FM services effectively, in order to bridge the existing knowledge gap.

## **LITERATURE REVIEW**

### **The Concept of FM**

FM can be identified as an emerging profession all over the world, which involves in integrating and alignment of non-core activities in order to perform the core function of any organisation (Nutt, 2000). With the elapsing of time, it has become wider and a complex area, which plays an integral

role within many business organisations. It was further elaborated in a study by Elyna (2014) stating that success of any organisation mainly based on the effectiveness of the provision of FM services. According to Myeda (2013), FM can be categorised into two main categories as hard FM and soft FM. As further emphasised by the author, hard FM refers to physical and systemic services, where soft FM refers to human-sourced services. Air-conditioning system, plumbing system, electrical system, security system can be identified as some examples for hard FM services, while cleaning, catering, health and safety, security can be identified as some examples for soft FM services, as per Caryl (2019). To date, most of the organisations have tend to practice outsourcing rather than using in-house practices to fulfil these FM services, as discussed in below section.

### **FM Outsourcing**

According to Mat, Elyna and Baharum (2015), aforementioned FM services can be performed or successfully delivered either by an in-house or outsource approach. As further depicted by the study, in-house approach provides FM services directly using the resources of the client organisation, while the outsourcing approach is fulfilling the service needs by using external resources. However, as mentioned before, presently, FM outsourcing has become a very common business approach to carry out FM services over performing traditional in-house practices in organisations (Weerasinghe, Dissanayake and Andaraweera, 2016). This situation mainly occur due to the benefits, which can be gained from FM outsourcing over in-house practices, as identified by Kurdi *et al.* (2011). These benefits include superior quality of the services, cost reduction, ability to compatible with market changes and more focus on the core function, which encourage the business operations in the organization.

When it comes to Sri Lankan context, the same situation can be observed regarding FM outsourcing. Weerasinghe, Dissanayake and Andaraweera (2016) indicated that a strong dynamic force is given for the field of FM practices by FM outsourcing market, even though it is at its nascent stage in Sri Lanka. They further highlight that many FM services are delegated to external service providers by most of the business organisations today in Sri Lanka for an efficient delivery of the core function of those organisations. As disclosed by Singh (2016), traditional in-house practices for delivering FM services has predominantly shifted to a more strategic level through FM outsourcing in Sri Lanka, where the true value of quality and benefits of the services can be extracted. However, FM outsourcing still has a growing popularity in Sri Lanka to fulfill the growing demand.

### FM Outsourcing Options

The methods of FM outsourcing can be selected in different ways based on the requirements of the organisations, market condition and the evolution of the FM outsourcing (Jensen, 2011). As disclosed by Sridarran and Fernando (2013), different methods are currently practicing for FM outsourcing to deliver FM services in Sri Lanka. These methods can be briefly discussed according to the views of the many researchers as shown in Table 1.

Table 35: FM outsourcing options practiced in Sri Lanka

FM outsourcing option	Description	References
Single service	Separate contract for each service with a specialised service provider	(Cigolini, 2014)
Bundle service	A service provider manages two or more services for the client	(Atkin and Brooks, 2009; Musa, 2011)
Integrated service	Many services are provided or outsourced by managing subcontractors by a single organisation	(Musa, 2011)
Managing agent	An expert acts as an agent on behalf of the client under a contract to manage the provision of the service	(Atkin and Brooks, 2009; Sridarran and Fernando, 2013)
Managing contractor	An organisation is assigned as a part of the client organisation to coordinate all service providers	(Atkin, 2003; Sridarran and Fernando, 2013)
Total Facilities Management	Under a single contract, the entire service delivery process is outsourced to a single supplier who can subcontract or supply all or part of the services	(Atkin and Brooks, 2009)

According to Table 1, single service option can be identified as the initial stage of outsourcing, where each service is provided by separate service providers, as noted by Cigolini (2014). With the expansion of the FM market all over the world, FM outsourcing is moving towards the combining and managing multiple services in order to enhance the effectiveness and quality of the services, where the options like integrated service option, total FM has emerged, as per Kurdi *et al.* (2011). As further mentioned by that study, the appropriate method for FM outsourcing among those methods needs to be selected by the organisations based on the nature of the organisation, cost efficiency and the effectiveness of providing services to strengthen the core business of the organisation.

As presented in Table 1, different methods are currently using less and mostly for FM outsourcing activities in most of the organisations in Sri Lanka. Although it is, all of these methods may not perfectly applicable for FM outsourcing market in Sri Lanka with the slow growth of the field of FM, which is still at its infancy. This urges the need of identifying most ideal FM outsourcing option in

Sri Lanka. So far, no studies have been conducted on this perspective. Hence, having identified the research gap, research method was adopted accordingly to fill the research gap and it is detailed next.

## METHODOLOGY

This study aimed to investigate the current FM outsourcing practices in Sri Lanka to identify the most ideal FM outsourcing option(s) for carrying out FM services effectively. Accordingly, research question can be developed as,

*RQ: “What is the most ideal FM outsourcing option(s) for carrying out FM services effectively in Sri Lanka?”.*

Initially, an extensive review of literature was carried out in order to familiarise with the research area. Qualitative researches are carried out through in-depth investigations with the use of views, attitudes, experiences and beliefs of set of people and it is most prefer for researches on emerging conceptions (Flick, 2013). FM outsourcing approach has been emerging over past few decades and the study requires an in-depth investigation into views, experiences and beliefs of specific set of people in a real life setting. Therefore, taking these facts into account, qualitative approach was undertaken in this study. Further, with the requirement of obtaining detailed information to answer the research question, qualitative interview survey strategy was selected as the research strategy. Semi structured interviews were conducted with five industry practitioners to collect data. The experts were selected based on the knowledge and experience on FM outsourcing practices in Sri Lanka. The number of respondents was limited to 10 respondents since the experts in Facilities Management field are lacking. The profile of the respondents was presented in Table 2. When moving to data analysis, Flick (2013) identified content analysis as the most preferable, flexible and commonly used method to analyse textual data. Therefore, collected data was analysed using content analysis method in this study.

*Table 36: Profile of the Respondents*

<b>Respondent</b>	<b>Designation</b>	<b>Role within the organization</b>	<b>Industry Experience</b>
R1	Facilities Management Consultant	FM consultant for the client about choosing a service provider, forming a contract, etc. FM consultant for service providers about awarding the contract, managing clients, etc.	07 years
R2	Facilities Manager & Deputy Head of Corporate Services	Leading the corporate service unit and managing the FM services	07 years
R3	Facilities Manager	Managing all the FM in-house and outsourced services	08 years

R4	Operation and Facilities Manager	Leading the operational work of the organisation and managing all FM services	05 years
R5	Facilities Executive	Managing all FM services	04 years
R6	Facilities Engineer	Managing all the in-house and outsourced building services	06 years
R7	Facilities Manager	Managing all FM services	05 years
R8	Property Manager	Maintaining property rentals and other services	07 years
R9	Facilities and Maintenance Manager	Managing all building services and monitoring maintenance activities related to building services	05 years
R10	Facilities Manager	Managing all FM services	04 years
R11	Facilities/ Maintenance Engineer	Managing all FM services and their maintenance activities	06 years
R12	Facilities Executive	Managing all FM services within the building	02 years

**RESEARCH FINDINGS AND ANALYSIS**

Presently, different types of methods are used in FM outsourcing activities in Sri Lankan business organisations. All the respondents explained current practices of FM outsourcing based on their knowledge and experiences gained. However, all of them argued that all these methods are not perfectly applicable for Sri Lankan field of FM. Thus, the need of identifying the most ideal option for FM outsourcing was highlighted and the findings regarding these areas will be the basis for following discussion.

**FM Outsourcing Practices in Sri Lanka**

As per the views of all the respondents, all the methods, which were identified through the literature review named managing agent, managing contractor, total FM, single service, bundled service and integrated service are currently practiced in Sri Lankan FM outsourcing industry. When further investigated the opinions of the respondents, it was witnessed that the commonly used FM outsourcing methods can be differed with the type of the organisation. As an example, R6 stressed that commonly used FM outsourcing method in residential organisations may not be the same in commercial organisations. According to R6 and R9, managing agent option is practiced most commonly in condominium facilities. As further declared by R1, one qualified person or an organisation is expected to manage services of their condominiums on behalf of client organisation. Thus, managing agent option has become more popular for outsourcing FM services in the condominium facilities rather than the other facilities. When it comes to the other outsourcing options, all the respondents disclosed that all other methods such as managing contractor, total FM, single service, bundled service and integrated service are mainly practiced in commercial facilities. R8 and R11 mentioned that as most of the business organisations in Sri Lanka are trying to adapt to

new trends in local and global market, they tend to practice different outsourcing methods in order to effectively deliver the FM services. This was similar to the ideas of R1 and R3, where they stated that organisations are trying to move with the new trends time to time and seek most ideal options for their organisations from the evolving FM outsourcing market. Mostly, selection of the FM outsourcing option for these organisations based on their organisational requirements, as mentioned by R3. Accordingly, it is witnessed that all the identified FM outsourcing options are currently practicing in Sri Lanka less and mostly in order to deliver FM services in an efficient and effective manner.

Although all these methods are currently used in FM outsourcing, a most commonly used method was identified by the respondents based on their experiences in the field of FM. As per the views of the all respondents, single service option can be identified as the most commonly used FM outsourcing method in Sri Lanka due to many reasons. Single service option refers to providing each service by a specialised service provider under a separate contract. As pinpointed by all the respondents, lack of awareness regarding FM outsourcing options has become a major reason for the clients and service providers to use single service option to deliver FM services. R7 disclosed that clients as well as service providers in Sri Lanka have poor knowledge and understanding about new trends in FM outsourcing. As elaborated by R5, multi-national FM service providing organisations, who initiated the business in Sri Lanka are aware about the novel trends in FM outsourcing as they are practicing in global market as well. However, as strongly disclosed by R8, when it comes to local business organisations, the situation is completely different as they are lacking with knowledge and understanding regarding FM outsourcing options. They only aware about contracting specialised personnel separately to carry out each required service, which is the basics of outsourcing, as further clarified by R8. They are at the market level, which is need to be diversified and expanded. In this context, it is witnessed that majority of the organisations tend to practice single service option due to the lack of awareness on new trends in FM outsourcing.

In line with this situation, another factor was captured by R3 as well as R11, which is about the high demand of clients for single service option. As previously discussed, majority of the organisations have been using single service option to deliver the FM services within the organisation and it has a high demand within FM outsourcing market. Hence, single service option has involuntarily become the most commonly used option for FM outsourcing, as highlighted by R3 and his view was also supported by R4. Moreover, based on the service providers' perspective, majority of them have used to practice single service option, which is more convenient to practice in current context because providing a single service for the client requires lack of resources and finance. As stated by R9, most

of these service providers are unaware about the option(s), which is more appropriate and convenient rather than single service option due to the poor understanding. This was further supported by R12 as well. Accordingly, it is proven that not only the clients, service providers also tend to practice single service option most commonly to deliver FM services.

When considering the nature of the organisation, many reasons were further identified by the respondents, which affect for the common use of single service option for FM outsourcing. As mentioned by R4 and R9, current availability of the building services in organisation can be identified as a main factor, which encourages the use of single service option than other options. What the respondent elaborates through this factor is, when there are no many building services within the organisation, it is better to practice single service option for each service rather than the other options. Further, another factor was highlighted by R2 through an example, which states that when the organisation contract for bundle service option to deliver services and when any service is not included in the service bundle they provide, it creates a disadvantaged situation for the organisation. In such situation, organisations obviously tend to use single service option for the available services within the organisation. Moreover, sometimes, restrictions from the organisations can make an influence on the selection of outsourcing method, as disclosed by R7 and R5. Accordingly, based on the rules and regulations of the organisations, majority of the local organisations contracts separate service providers for each service based on the requirements of the organisations. Although the facilities managers or other respective personnel are aware about any other options, they may not get the chance to involve in decisions of the top management due to the available rules and regulations. Hence, they have to use single service option for the outsourcing purpose.

Accordingly, as depicted through the views of the all respondents, it is witnessed that single service option has become the most commonly used method for FM outsourcing in Sri Lanka due to many reasons.

### **Most Ideal FM Outsourcing Option in Sri Lanka**

As discussed in previous section, although the single service option is the most commonly used option for FM outsourcing, it may not be the most applicable and ideal option for Sri Lankan FM industry with the current condition of it. As per the views of all the respondents, working with multiple service providers is a time consuming task and it can quickly become inefficient. Further, although the novel trends in FM outsourcing have not been widely considered in Sri Lankan field of FM, they have to move from traditional methods to new trends step by step with the growth of current FM market. Hence, it can be argued that single service option will not be the most ideal FM outsourcing option in current Sri Lankan FM industry.

According to the arguments brought forward by R2 and R5, both integrated service and total FM options were identified as applicable options for FM outsourcing market in Sri Lanka. Although it is, they were in doubt about the most applicable option among those two options. When considering about total FM, it refers to contracting a separate organisation in order to oversee and manage all the required FM services for the client organisation, while integrated service option refers to providing many services or outsourcing them through subcontractors by single service provider. In this context, it is proven that total FM expands in a broader area rather than integrated option. Hence, it can be quite challenging to perform such broader area with the current condition of the industry. This situation was proven through the statement by R10, which states that although generally larger FM companies have managed and operated total FM option, it cannot be properly observed yet within the Sri Lankan FM industry since the service providers are lacking of capability to perform such broader practice to deliver services. As a result, the demand for total FM is also less in the current FM industry, as discovered by R4 and R12. Based on the all aforementioned factors, it cannot be satisfied with total FM option to identify as the most appropriate FM outsourcing option in Sri Lanka.

With this situation, the attention of the respondents moved to integrated option, which is more convenient and practical to perform in current context than total FM. As disclosed by R10, within the integrated service option, strategic level support is provided for the client by the service provider, who has the responsibility of all the supporting services. By justifying this factor, R2 disclosed that this integrated service option gives rise to economic benefits and cost efficiencies for the organisation due to multi-tasking of service providers and total focusing on core business function. Further, R1 and R4 in the view of that integrated service providers in current industry are capable for providing such strategic level support for the client organisations rather than involving in total FM option. Consequently, it is witnessed that integrated service option is the most appropriate and ideal FM outsourcing option with the evolving FM market in Sri Lanka.

## **DISCUSSION**

FM outsourcing has become a novel business approach in current FM market in Sri Lanka, which is still growing in the industry, as disclosed by Sridarran and Fernando (2013). This was further endorsed by all the respondents, where they stated that FM outsourcing can be identified as a new trend of performing FM services by external parties. According to the views of the respondents, since FM outsourcing is an emerging concept, it has not been widely considered by many business organisations, especially local organisations in Sri Lanka. This is in line with the argument brought forward by Weerasinghe, Dissanayake and Andaraweera (2016), where they found that FM

outsourcing is still at its initial stage in Sri Lanka, which is not being practiced in an appropriate way. However, it is currently practicing in the Sri Lankan FM industry up to some extent in order to deliver variety of FM services. When mapping with literature findings, different methods, which are currently using for FM outsourcing were clearly identified in a study by Atkin and Brooks (2009). Those methods include managing agent, managing contractor, total facilities management, bundle service, single service and integrated services. Although these findings were in general, they can be applied into Sri Lankan context as well, as per the opinions of the respondents. They agreed that all these methods are currently practicing less and mostly for FM outsourcing in many business organisations in Sri Lanka. Among them, single service option was identified as the most commonly used method for FM outsourcing in Sri Lanka, as elaborated by the respondents. Although it is, they argued that this method cannot be the most ideal option for FM outsourcing in Sri Lanka with the current condition of it. Single service option is the initial stage of FM outsourcing, which contracts separate service providers for each service, as noted by Cigolini (2014).

Since the Sri Lankan FM market is emerging in the industry, FM outsourcing also need to be grown with the time by escaping from traditional methods to novel trends, as argued by the respondents. In this context, integrated service option and total FM were get into account as applicable outsourcing methods for Sri Lanka rather than single service option. This is in line with the research findings by Kurdi *et al.* (2011), which implied that presently, FM outsourcing has moved towards the combining and managing multiple services to enhance the quality of provided services. However, respondents were in a doubt whether such a broader area like total FM can perform successfully with the current condition of FM outsourcing market in Sri Lanka. In this context, the respondents came up with the idea that integrated service option is the most ideal FM outsourcing option in Sri Lanka to deliver FM services as it provides a strategic level support for the client than total FM. Further, the capacity of the today service providers in Sri Lanka is at an adequate level to perform integrated service option though it is not adequate in performing total FM.

In fact, business organisations should involve in practicing the most ideal and appropriate option for FM outsourcing over the traditional methods with the evolvement of the FM outsourcing market in order to perceive the best out of it.

## **CONCLUSIONS**

FM can be identified as an emerging profession in Sri Lanka and FM outsourcing is a novel and tactical business approach within it. Both local and multinational business organisations in Sri Lanka tend to practice FM outsourcing concept in order to deliver FM services. Although, different methods can be used for FM outsourcing, all these methods are not widely considered by many business

organisations in Sri Lanka, especially local organisations as FM outsourcing is at its nascent stage in Sri Lanka. Altogether, 06 FM outsourcing options were identified through this study namely, managing agent, managing contractor, total facilities management, bundle service, single service and integrated services. Empirical findings confirmed that all these methods are currently practicing in Sri Lankan FM industry less and mostly where the single service option has become most commonly used method. It can be identified as the initial stage of FM outsourcing, which involves in contracting separated service providers for each service within the organisation. Although it is the commonly used method, it may not be the most ideal method for FM outsourcing. It is mainly because as the field of FM is currently evolving in the market with the time, organisations have to seek more efficient and advanced methods for outsourcing. In fact, it was investigated that integrated service option is the most ideal and applicable FM outsourcing option to practice in current FM market in Sri Lanka. Therefore, current business organisations need to perform integrated service for FM outsourcing rather than involving in single service option in order to gain best out of it within the today FM market.

Although research and literature on FM outsourcing are in abundance, literature on the most ideal options for FM outsourcing in Sri Lanka is scarce. In this context, this study provides a contribution to the literature on investigating most ideal and appropriate FM outsourcing options in Sri Lanka in a broader view. The knowledge generated through this study can be assisted by the industry professionals and further research directions are available based on it.

## REFERENCES

- Atkin, B. (2003) 'Contracting out or Managing Services In-house', *Nordic Journal of Surveying and Real Estate Research*, 1, pp. 18–33. Available at: <https://journal.fi/njs/article/view/41490>.
- Atkin, B. and Brooks, A. (2009) *Total Facilities Management*. 3rd edn. Wiley-Blackwell. Available at: <https://www.amazon.com/Total-Facilities-Management-Brian-Atkin/dp/1405186593>.
- Caryl, C. (2019) *The difference between hard and soft service in Facility Management*. Available at: <https://smartsfm.com/the-difference-between-hard-and-soft-services-in-facility-management/>.
- Cigolini, R. (2014) 'Facilities management outsourcing', in *Recent Advances in Maintenance & Infrastructure*. 1st edn. Springer-Verlag London. doi: 10.1007/978-1-84882-489-8.
- Elyna, M. N. (2014) 'Facilities management: The business enabler', *Journal of Facilities Management*, 12(4). doi: [doi.org/10.1108/JFM-07-2014-0022](https://doi.org/10.1108/JFM-07-2014-0022).
- Flick, U. (2013) *Qualitative Data Analysis*. SAGE Publication Ltd. Available at: [https://www.ewi-psy.fu-berlin.de/einrichtungen/arbeitsbereiche/qualitative\\_sozial-](https://www.ewi-psy.fu-berlin.de/einrichtungen/arbeitsbereiche/qualitative_sozial-)

- \_bildungsforschung/Medien/58869\_Flick\_\_The\_SAGE\_HB\_of\_Qualitative\_Data\_Analysis\_Chapter1\_mapping-the-field.pdf.
- Jensen, P. A. (2011) 'Organisation of facilities management in relation to core business', *Journal of Facilities Management*, 9(2), pp. 78–95. doi: 10.1108/14725961111128443.
- Kamarazaly, M. A. (2007) *Outsourcing versus in-house facilities management: Framework for value adding selection*. Massey University at Wellington. Available at: <https://mro.massey.ac.nz/bitstream/handle/10179/616/02whole.pdf>.
- Kurdi, M. K., Abdul-Tharim, A. H., Jaffar, N., Azli, M. S., Shuib, M. N., & Ab-Wahid, A. M. (2011) 'Outsourcing in facilities management- A literature review', in *The 2nd International Building Control Conference Outsourcing*. Elsevier Ltd, pp. 445–457. doi: 10.1016/j.proeng.2011.11.187.
- Mat, N., Elyna, M. N. and Baharum, R. M. (2015) *Strategic Facilities Management*. Available at: [https://umexpert.um.edu.my/file/publication/00009877\\_114963.pdf](https://umexpert.um.edu.my/file/publication/00009877_114963.pdf).
- Musa, Z. N. (2011) *Determining the best options for facilities management (FM) service delivery in UK shopping centres*. Liverpool John Moores University. Available at: <http://researchonline.ljmu.ac.uk/id/eprint/6117/1/570699.pdf>.
- Myeda, N. E. (2013) *Enhancing the Facilities Management (FM) Service Delivery in Malaysia*. London. Available at: [http://discovery.ucl.ac.uk/1396248/1/Nik\\_Elyna\\_Myeda\\_final\\_thesis\\_redacted.pdf](http://discovery.ucl.ac.uk/1396248/1/Nik_Elyna_Myeda_final_thesis_redacted.pdf).
- Nor, N. A. M., Mohammed, A. H. and Alias, B. (2014) 'Facility management history and evolution', *International Journal of Facility Management*, 5(1).
- Nutt, B. (2000) 'Four competing futures for facility management', *Facilities*, 18(3/4), pp. 124–132. doi: <http://dx.doi.org/10.1108/02632770010315670> Downloaded.
- Singh, G. (2016) *Outsourcing of Facilities & Property Management*. Available at: <http://www.ft.lk/other-sectors/outsourcing-of-facilities-property-management/57-535706>.
- Sridarran, P. and Fernando, N. G. (2013) 'Influence of change management for effective outsourcing of facilities management services', in *World Construction Symposium*. Colombo. Available at: [https://www.irbnet.de/daten/iconda/CIB\\_DC26724.pdf](https://www.irbnet.de/daten/iconda/CIB_DC26724.pdf).
- Weerasinghe, R. P. N. P., Dissanayake, P. and Andaraweera, A. K. (2016) 'Industry attractiveness of outsourced facilities management services in Sri Lanka', in *The 5th World Construction Symposium*. Colombo, pp. 273–283.

## **Reasons for the deviation in the Final Pre-Production Completion in Apparel Industry: Case Study**

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