A Review of Customer Satisfaction Survey on Facilities Management Performance within Private Finance Initiatives (PFI) at Malaysia Public University

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ABSTRACT

The purpose of this paper is to provide an overview of the primary research undertaken to establish customer satisfaction survey (CSS) for the facilities management practices and performance at Malaysia private finance initiatives (PFI) university campus. The single case study approach is a research method used in this research to analyse a single case or phenomenon in depth. In this approach, a single unit of analysis, such as, a case study of PFI campus of a public university in Malaysia is studied in detail to gain a deep understanding of the case and its context. The findings of this paper revealed that the overall, FM Company 'A' CSS increased from 3.26 in 2014 to 3.94 in 2022, with some fluctuations over the years. It is a positive trend that indicates that the company has been improving its services over the years and meeting stakeholder expectations. This paper reached out to address the CSS for FM practices and performance under the Private Finance Initiatives (PFI) at Malaysia Public University after 9 years of its implementation. It gives a better understanding of PFI concept and FM practices in the country. The review also helps to identify practices and measures to the FM performance impact to the university operations.

Keywords: Customer Satisfaction Survey (CSS), Facilities management (FM), Facilities management performance, Private finance initiatives (PFI), University

INTRODUCTION

A customer satisfaction survey is a tool used by facilities management (FM) company to gather feedback from their customers about their services, and overall experience. The survey typically asks a series of questions to measure customer satisfaction levels, identify areas for improvement, and understand customer needs and preferences. The primary goal of a customer satisfaction survey in facilities management is to measure customer satisfaction levels, but it can also provide valuable insights into customer behaviour, and operation and maintenance trends.

The adopting of a strategic model that incorporates a balance of quantitative and qualitative methods to gain customer satisfaction of FM service provision, can enhance an FM organisation's existing processes of gaining customer satisfaction (Tucker & Pitt, 2010). Customer satisfaction surveys can be conducted through various methods, including online surveys, phone interviews, in-person interviews, and paper-based surveys. The questions can be open-ended, closed-ended, or a combination of both. The results of the survey can be used to improve customer service, facilities management strategies, and evaluate overall FM performance. It is important to ensure that the survey is designed to elicit accurate and actionable feedback, and that the results are properly analyzed and acted upon.

In Malaysia, studies on customer satisfaction survey in the university have been conducted in various aspects such as analysed on the factors of student satisfaction in facilities services (Sapri, Malaysia, Kaka, & Finch, 2009) including student satisfaction from both academic and non-academic aspects (Ibrahim, Ab Rahman, & Yasin, 2014) and studies on assessing the background and impact of student satisfaction on higher education in

Malaysia (Lai, Lau, Mohamad Yusof, & Chew, 2015). In addition, the studies on satisfaction level of building occupants in PFI project in UTHM Pagoh campus also was investigated by using different measurement factors in a structured questionnaire to measure the FM effectiveness (Rahmat, Awang, & Rahman, 2021). Therefore, this paper focused on the implementation of customer satisfaction survey for facilities management practices and analysed the performance of the FM Company within a Malaysian private finance initiatives (PFI) university campus.

OVERVIEW OF CUSTOMER SATISFACTION SURVEY FOR FACILITIES MANAGEMENT IN PRIVATE FINANCE INITIATIVES (PFI)

Private Finance Initiative (PFI) in Malaysia involves the design, building, finance and operation of the project, which are contracted out to a consortium of private firms for a long period of time, usually 20-25 years (Mohammad Ali et al., 2018). During this period, both private and public sectors must play their roles according to the long-term contractual agreement. The concessionaire company includes a construction company and facilities management company, and it is responsible for planning, design, development, construction, landscaping, equipping, installation, completion, testing and commissioning of the facilities and infrastructure and to carry out the maintenance works. The facilities management practices and initiatives in PFI projects are designed to ensure that public assets are properly maintained and operated over their life cycle, while delivering high-quality services to the public (Ali, Zaidi, Ismail, & Ariff, 2018; Hamid et al., 2023).

The FM approach is a comprehensive and integrated approach to managing the physical assets and operation of a university facilities. By aligning facilities management initiatives with the organization's long-term goals and objectives, facilities management can contribute to improved performance, efficiency, and sustainability (Hamid et al., 2023). There are two indicators used in measuring the performance of FM service in PFI project, which are availability and service failure (Hamid et al., 2023; Robinson & Scott, 2009). Therefore, the payment mechanism for FM service delivery in operational and maintenance stage of PFI project is closely linked with output specification and performance monitoring system. This system was developed to ensure whether the services provided by FM Company have met the required level and expectation (Ali et al., 2018).

In addition, the FM practices and performance of PFI projects granted to the FM Company throughout the concession periods will subject to the following requirement as listed in the contract document as follows:

i) Asset Management: PFI projects typically require the development of an asset management plan, which outlines how the asset will be maintained and operated throughout its life cycle. This includes preventative maintenance schedules, condition assessments, and investment strategies that ensure the asset remains in good condition and delivers the required services over time.

ii) Maintenance Service Level: Throughout the maintenance period, the FM Company shall carry out the maintenance works according to the service description, frequency, parameter value and within the relevant periods set out in the Building Maintenance Manual. In the event the FM Company fails or neglects to carry out any maintenance work accordance with the maintenance service level the government will impose the relevant demerit value penalty and deduct such amount of maintenance charges.

iii) Reward and Penalty System: Payment to the privatized entities or FM Company will be linked to their performance and deductions will be made to penalize the entities that fail to meet the target. For facilities management companies, a system been implemented to encourage good performance, promote efficiency, and discourage poor performance or behaviour.

PFI contracts incorporate performance-based contracting, where the private sector partner is incentivized to meet or exceed certain performance targets related to the quality of service, availability, reliability, and safety of the asset. The involvement of the customer and the service provider in identifying and developing performance indicators is particularly important, to ensure that the indicators are relevant and robust. Performance indicators should be both qualitative and quantitative. All the privatized projects will have output specifications and Key Performance Indicators (KPIs) to set performance targets of the FM Company. In the event of the FM Company fails or neglect to carry out any maintenance work accordance with the maintenance

service level, the Government or the government representative will impose the relevant demerit value penalty and deduct such amount of maintenance charges. These indicators are essential metrics that can be used to measure the success of FM practices. Example of the KPIs set for FM practices within the PFI projects as follows:

i) KPI's for respond time and action time for service requests.
ii) KPI's for compliance rate that measures the degree to which a facility complies with relevant regulations and standards.
iii) KPI's for energy efficiency that measures the amount of energy consumed by a facility relative to its output or occupancy.
iv) KPI's for customer satisfaction that measures the satisfaction of facility occupants or tenants with the services provided by the facilities management team. It can be used to assess the effectiveness of service delivery and identify areas for improvement.
v) KPI's for safety incidents that measures the number and severity of safety incidents that occur within a premises.
vi) KPI's for asset utilization that measures the utilization of facility assets, such as equipment and space.

Customer satisfaction survey (CSS) has been implemented according to the requirements set out in the concessionaire's agreement under section Quality Management System (QMS) and KPIs set for FM practices. In general, CSS includes the following targeting groups namely academic staff, administrative staff, and student University. Customer satisfaction survey (CSS) was conducted to achieve the following goals:

i) To gauge the customer satisfaction level of management facilities service.
ii) Focus on improving facilities management practices.
iii) To identify opportunities for improvement.
iv) To meet the requirements of ISO 9001: 2008 for Quality Assurance of FM Company.

Despite the tremendous growth of the PFI projects implementation in Malaysia, the PFI arrangement have been constantly reviewed and revised by the Public Private Partnership Unit to improve the present practice of PFI implementation to ensure the achievement of the ultimate objective. The PFI project will only be considered if there is a need of the Government after taking account the benefits of the project considering socio-economic impacts, value for money and cost savings to the Government, quick delivery of the project and service enhancement. The increased level of accountability, efficiency and effectiveness of project delivery will also be considered (UKAS, 2009, Public-Private Partnership Unit (2009). Hence, this paper presents the study on the implementation of CSS by FM Company at one selected PFI project based on the above-mentioned criteria and the principles laid under the 9th Malaysia Plan for PFI Program.

RESEARCH METHODOLOGY

A case study is conducted in one PFI University in Malaysia to assess the customer satisfaction survey that measures the satisfaction of University A end users. Data is collected through documentation review and retrieval, archival records review, and direct observations. The single case study approach is a research method used in social science research to analyse a single case or phenomenon in depth (Yin, 2009). In this approach, a single unit of analysis, such as an individual, organization, or community, is studied in detail to gain a deep understanding of the case and its context. In this research, it involves several steps such as defining the case, selecting data sources, collecting data, analysing data, and drawing conclusions.

Case study background

The Private Funding Initiative (PFI) project for this Public University Campus was implemented through a concessionaire agreement between the Government of Malaysia which represent by the University management and the granted Concessionaire Company for design and construction and operation and maintenance. The project construction started in 2011 and was completed in 2014. The duration of concessionaire period for operation and maintenance is for 20 years and awarded to FM Company.

For the sake of confidentiality, the University will be referred to as University A and the FM Company as FM Company A. The project uses the concept Design, Build, Operate and Transfer (DBOT) whereby the university campus is designed, financed, and constructed by the Concessionaire Company and operated and maintained by FM Company A. The University campus will expect to transfer the ownership to the university management in the year 2034. The development and facilities provided within the campus included administrative blocks, academic blocks, library, student accommodations, laboratories, lecture hall, Islamic center, sports and recreational facilities and major infrastructures and infostructures.

Scope of work covered under this concessionaire's agreement includes Building services management, waste management, campus health and safety management, warranty management for asset, equipment, and furniture, traffic and parking management including signage and street furniture and parking space, security management, asset, and inventory management, building inspection and audit management, customer relation management and Information, Communication and Technology (ICT) management.

Methodology for Customer Satisfaction Survey (CSS)

The Customer Satisfaction Survey (CSS) covers six main scopes and services of measurement with 18 indicators such as general, customer service, technical services (mechanical), technical services (electrical), technical services (civil) and surveillance service (custodial). Table 1 shows the six main scopes and services of measurement area and its indicators.

Table 1: CSS main scope and services of measurement and indicators

No	Scope and services	Indicators
1	General	1. Condition of overall area in campus. 2. FM company expertise and skills in performing tasks. 3. Time of action taken by team. 4. Positive attitude of FM company staff when doing their task 5. FM company staff neatness and appearance at workplace
2	Customer service	6. Services from Helpdesk (phone assistance line) 7. Assistance, politeness, responsibility, and proactive attitude of FM company staff 8. Convenience of customer to contact and communicate with FM company
3	Technical services (mechanical)	9. Comfort of the air conditioning / ventilation system at workplace / common area 10. Effectiveness of elevator system, water supply etc.
4	Technical services (electrical)	11. Lighting at workplace and common areas 12. Continuous supply of electricity at workplace and public area
5	Technical services (civil)	13. Exterior conditions of buildings (roads, drainage & sewerage) 14. Interior conditions of buildings (water piping systems, building structures & accessories)
6	Surveillance service	15. Cleanliness of workplace / lecture hall / classroom and public

(custodial)	environment
	16. Landscape maintenance, services & production
	17. Pest control & destruction
	18. Services in toilet area

Source: Customer Satisfaction Survey (CSS) report – University A (2014-2022)

The CSS adopted a balance of quantitative and qualitative methods to gain customer satisfaction of FM service provision at University A. The CSS survey conducted through distribution of hard copy form and online survey. The tabulation of CSS score is based on category of respondents such as from academic staff, administrative staff, and student.

The sample size is based on 10% from the overall population of University A. Table 2 shows an example of CSS sample size and data of questionnaires form for year 2015 to 2020.

Table 2: Example of CSS sample size (2015-2020)

Description	2015	2016	2017	2018	2019	2020
Total population (nos.)	3500	3500	3500	5000	5000	5000
10% from total population (nos.)	350	350	350	500	500	500
Number of CSS form issued (nos.)	300	300	300	500	500	500
Number of CSS form returned (nos.)	37	148	227	307	191	107
Percentage of returned CSS form (%)	12.33%	49.33%	75.66%	61.4%	38.20%	21.40%

Source: Customer Satisfaction Survey (CSS) report – University A (2015-2020)

These figures suggest that the response rate for the CSS surveys varied significantly from year to year. The response rate was low in 2015 but increased dramatically in 2016 and peaked in 2017. However, the response rate decreased in the following years, with 2020 showing the lowest response rate. The sample size was large enough in all years to provide a reliable estimate of the overall customer satisfaction level, but the decreasing response rates in recent years may indicate that the surveys' effectiveness needs to be reevaluated.

DISCUSSION OF FINDINGS

The discussion of findings focused on the data of customer satisfaction survey (CSS) conducted within 9 years at University A.

Overall Customer Satisfaction Survey (2014-2022)

Table 3 provides information on the overall CSS results at University A over a nine-year period, from 2014 to 2022.

Table 3: Overall Customer satisfaction survey results for facilities management performance (2014-2022)

Year	Customer satisfaction survey results	Percentage Satisfaction (%)
2014	3.26	65.20
2015	3.17	63.40

2016	3.66	73.20
2017	3.88	77.60
2018	3.33	70.40
2019	3.68	85.87
2020	3.33	81.30
2021	3.80	86.62
2022	3.94	93.98
Average	**3.56**	**77.50**

Sources: Annual Report of Facilities Management Performance, Facilities Management Department, University A.

This table presents the overall customer satisfaction survey results for facilities management performance from 2014 to 2022. The survey results are expressed as a score ranging from 1 to 5, with 5 being the highest satisfaction score. The table also shows the percentage satisfaction score for each year. According to the table, the customer satisfaction scores have varied over the years, with the highest score of 3.94 (93.98% satisfaction) being recorded in 2022, and the lowest score of 3.17 (63.40% satisfaction) being recorded in 2015. The average customer satisfaction score over the 9-year period is 3.56 (77.50% satisfaction), which indicates a generally positive level of satisfaction with the facilities management performance of FM Company A. Notably, there have been some significant improvements in customer satisfaction over the years, with a notable increase in the percentage satisfaction score from 2014 (65.20%) to 2022 (93.98%). However, there have also been some fluctuations in the scores from year to year, which could be due to changes in the quality of service or other factors affecting customer satisfaction. Overall, the table suggests that there is a positive trend in customer satisfaction with facilities management performance, and it is important for facilities managers to continue striving to improve their services to maintain or exceed this level of satisfaction.

Tabulation of Customer Satisfaction Survey for Scope and Services of FM Company A

Table 4 provides an analysis of CSS for scope and services of FM Company 'A' over a period of nine years, from 2014 to 2022.

Table 4: CSS for scope and services of Facilities Management Company 'A' Performance (2014-2022)

No	Scope and services	2014	2015	2016	2017	2018	2019	2020	2021	2022
1	General	3.22	3.12	3.67	3.87	3.34	3.68	3.28	3.81	3.90
2	Customer service	3.56	3.33	3.71	3.86	3.32	3.69	3.42	3.86	3.86
3	Technical services (mechanical)	3.26	3.01	3.60	3.91	3.38	3.73	3.30	3.72	3.99
4	Technical services (electrical)	3.55	3.53	3.81	3.98	3.45	3.76	3.40	3.76	4.02
5	Technical services (civil)	3.11	3.19	3.60	3.84	3.20	3.58	3.29	3.88	3.91
6	Surveillance service (custodial)	2.85	2.86	3.58	3.82	3.26	3.66	3.31	3.75	4.02
	Overall CSS	**3.26**	**3.17**	**3.66**	**3.88**	**3.33**	**3.68**	**3.33**	**3.80**	**3.94**

Sources: Annual Report of Facilities Management Performance, Facilities Management Department, University A.

This table shows the CSS (Customer Satisfaction Score) for various scope and services of Facilities Management Company 'A' from 2014 to 2022. The overall CSS for each year is also provided and reported as below:

i) General: The CSS for the general scope of services provided by the company was 3.22 in 2014 and increased to 3.90 in 2022, with some fluctuations over the years.
ii) Customer service: The CSS for customer service started at 3.56 in 2014, had some fluctuations, and remained steady at 3.86 from 2017 to 2022.
iii) Technical services (mechanical): The CSS for mechanical technical services started at 3.26 in 2014, increased to 3.99 in 2022, with some fluctuations over the years.
iv) Technical services (electrical): The CSS for electrical technical services started at 3.55 in 2014, increased to 4.02 in 2022, with some fluctuations over the years.
v) Technical services (civil): The CSS for civil technical services started at 3.11 in 2014, increased to 3.91 in 2022, with some fluctuations over the years.
vi) Surveillance service (custodial): The CSS for custodial surveillance service started at 2.85 in 2014, increased to 4.02 in 2022, with some fluctuations over the years.

Overall, the company's CSS increased from 3.26 in 2014 to 3.94 in 2022, with some fluctuations over the years. It is a positive trend that indicates that the company has been improving its services over the years and meeting customers' expectations. The customer satisfaction is also link to the achievement of the key performance indicators (KPI's) of Company A as shows in Table 5.

Table 5: Analysis of FM Company 'A' Performance (2014-2022)

Year	Average Key Performance indicators (%)
2014	98.15
2015	96.98
2016	97.31
2017	98.62
2018	98.27
2019	99.45
2020	98.22
2021	99.26
2022	99.81
Total	**98.45**

Sources: Annual Report of Facilities Management Performance, Facilities Management Department, University A.

The table provides the average KPIs for that year, expressed as a percentage. The KPIs included measures of customer satisfaction, response time, completion rates, and other relevant performance indicators. According to the table, the company's performance was generally strong during the period, with an average KPI of 98.45%.

CONCLUSION AND RECOMMENDATION

In a conclusion, the implementation of customer satisfaction survey (CSS) for facilities management practices and analysed the performance of the FM Company within a Malaysian private finance initiatives (PFI) university campus were meets the government expectation. However, the FM Company still need to improvise their services provision. Based on the CSS conducted, there is a positive trend in customer satisfaction with

facilities management performance, and it is important for facilities managers to continue striving to improve their services to maintain or exceed this level of satisfaction. In the future, it is recommended for future researchers to measure and analyse the customer satisfaction of the FM service within other PFI project and measure the service quality of the facilities management provider.

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