

Diffusion of Facilities Management in an Emerging Market: Case of Sri Lanka

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Abstract

This research aims to identify the Facilities Management diffusion model in an emerging market taking Sri Lanka as a case. The purpose was to identify its diffusion model with special features that can advance the Diffusion of Innovation (DOI) theory. The research took a pragmatist paradigm and was conducted through a mixed-method approach. It took a quantitative approach from a positivist point of view for a deductive theoretical approach to finding the nature of FM diffusion in Sri Lanka based on current innovation diffusion theories. A qualitative approach was used in parallel for a deeper understanding of the unique context being studied. Facilities Management is being adopted in Sri Lanka in its generic definition with minimum re-invention. A higher education institute has played the role of principal change agent while being an education innovator. Theoretical change agents have had an insignificant role. Several unique features had contributed to diffusion efficiency. The diffusion model can be employed by both higher education institutes and authorities to introduce new professions or practices to a new market effectively. The study concludes with a unique innovation diffusion model that has shown its success. It shows how a higher education institute plays a key change agent role in the diffusion of a new professional. A similar innovation model has not previously been reported.

Keywords

Facilities Management, Diffusion, Diffusion of Innovation, Sri Lanka, and Emerging Market.

1. Introduction

International Facilities Management Association (IFMA) introduces “Facilities Management (FM) as a profession that encompasses multiple disciplines to ensure functionality, comfort, safety, and efficiency of the built environment by integrating people, place, process, and technology” (IFMA 2019). The International Organisation for Standardisation (ISO) complements this definition by identifying FM as the “organisational function which integrates people, place, and process within the built environment to improve the quality of life of people and the productivity of the core business” (ISO 2017). The term FM originated from the field experience during the late 1960s (Natukunda et al. 2013). FM discipline emerged in the United State of America (USA) in 1975 (Maas and Pleunis 2001). Maximum growth occurred in the 1980s in the USA and FM started to spread throughout the world (Linda and Chris 2011). It has evolved as a new industry from the property and construction sector in the latter part of the 1980s and early part of the 1990s (Varcoe 2000). Tracing its development trajectory, Meng (2015) notes that FM has undergone rapid development and became the fastest developing industry in the United Kingdom (UK). Moreover, Wood (2012) observes the rise of FM around 35 years ago from a European viewpoint. FM can promote solutions for social challenges such as adaptation to climate changes, optimum energy usage, green concept, and sustainability and also create positive influences in the organisations and society (Galamba 2016). Moreover, the role of FM is looked for in the pre-disaster risk reduction phase due to the flexibility it carries to

organisations in the current continuous climate changes (Dissanayake and Fernando 2012). Concentrating on the building's operation and management will generate quite more advances in the sustainability scope because the operation of a building is more critical than its construction and this is fuelled by the fact that environmental goals which arise into the organisational strategic goals are increasing (Silva H 2011). In this context, good FM becomes a key factor in delivering such environmental commitments. Moreover, the development of waste management and recycling strategies, energy efficiency requirements, and sustainability have also become driving factors for FM in organisations (Elmualim et al. 2010). Added to these benefits is the FM's focus on skills of managing occupancy and assets life cycle to confirm that the built environment is efficiently utilised (Nutt and McLennan 2000). It is obvious that efficient FM will stimulate effective working performance within the organisation, and can increase the value to the organisation through increased employee productivity. While having these many benefits, the slow rate of adaptation of FM in Sri Lanka became the research problem that inspired the study presented in this paper.

The problem can be positioned in the Diffusion of Innovation (DOI) Studies popularised by Rogers (2003). He emphasised that a new idea even with obvious advantages finds it difficult to diffuse and it requires a prolonged period of several years between the arrival of the newness to the adoption of it by the community. Rogers highlighted that the "common problem is how to speed up the rate of diffusion of an innovation" (Rogers 2003). The slow diffusion of FM in Sri Lanka, therefore, is not an exemption, and the question of interest becomes what has been driving the current diffusion.

The diffusion of a new idea is a challenge, and many factors affect the adoption decision of organisations as well. FM is a new concept that arrived in Sri Lanka in the recent past. Adoption of it started at a slow rate in some organisations and sectors while some others are yet to adopt it. The context presented a unique opportunity to study the diffusion of FM as an innovation in an emerging market. Primarily, there must have been reasons why and why not FM has been adopted by different organisations. Identifying the diffusion model of FM in such a market with its special features can advance the Diffusion of Innovation (DOI) theory. Hence, this study aimed to identify the diffusion model of FM in an emerging market, taking Sri Lanka as a case.

The structure of this paper starts with a literature synthesis lining the key concepts of the study. Then it presents the method used in achieving the aim of the study and finally, it presents the discussion and conclusions based on research findings.

2. Literature Review

2.1 Definition of Facilities Management

Despite the plenty of definitions available in the existing literature for FM by specifying the scope and objectives, the definition and scope of FM remain a contentious issue (Tay and Ooi 2001). Moreover, the identity crisis (Price 2002; Yiu 2008) of FM definition is since it is a comparatively new discipline compared to other classical management disciplines (Noor and Pitt 2010). Atkin and Brooks (2005) noted that whatever definition is adopted, it must emphasise the significance of integrativeness and independence of the discipline whose overall aim is to support the core business of the organisation. The generalisation of universal FM definition is hard to define while FM is still in the evolving process (Noor & Pitt, 2010). Hence, a sample of definitions is elaborated as shown in Table I.

Table I: - Definitions of Facilities Management (FM)

<i>Source</i>	<i>Definition of Facilities Management (FM)</i>
<i>Amaratunga (2000)</i>	<i>The practice of coordinating the physical workplace with people and work of the organisation integrates the principles of business administration, architecture, and the behavioral and engineering sciences.</i>
<i>Linda and Joseph (2001)</i>	<i>The integrated management of the workplace enhances the performance of the organisation.</i>
<i>Barret and Baldry (2003)</i>	<i>An integrated approach to operating, maintaining, improving, and adapting the buildings and infrastructure of an organisation to create an environment that strongly supports the primary objectives of that organisation.</i>
<i>Nutt (2004)</i>	<i>The management of infrastructure resources and services to support and sustain the operational strategy of an organisation over time.</i>
<i>Chotipanich (2004)</i>	<i>The support function coordinating physical resources and workplace, and support services to user and process of works to support the core business of the organisation.</i>

<i>European Committee for Standardisation (2006)</i>	<i>Integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities at both strategic and tactical level.</i>
<i>Pitt and Tucker (2008)</i>	<i>The integration and alignment of the non-core services, including those relating to premises, are required to operate and maintain a business to fully support the core objectives of the organisation.</i>
<i>Noor and Pitt (2009)</i>	<i>Creating an environment that is cohesive to carry out an organisation's primary operations, taking an integrated view of the infrastructure services, and use it to give customer satisfaction and value for money through support for an enhancement of the core business.</i>
<i>RICS (2013)</i>	<i>The effective management of place and space, integrating an organisation's support infrastructure to deliver services to staff and customers at best value whilst enhancing organisational performance.</i>
<i>BIFM (2017)</i>	<i>Integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities.</i>
<i>IFMA (2019)</i>	<i>"A profession that encompasses multiple disciplines to ensure functionality, comfort, safety, and efficiency of the built environment by integrating people, place, process, and technology".</i>

Although the definitions may seem diverse and different in the way in which they are presented, having a closer consideration suggests that some concepts appear repeatedly across definitions. Some of such concepts are Workplace/ Environment (a place where any nature of work is carried out), Organisation (whatever the organisation is suitable without any differentiation due to occupying of space by them for their functions), Integration (the combination of the workplace, people, process and technology) and support the primary objectives and enhance the performance of the organisation. Hence by considering the above identified key concepts, a common definition of FM has been derived as "FM is the management of the working environment by integrating with people, process and technology to support the primary function to enhance the performance of the organisation".

2.2 Need for FM in Sri Lanka

There are increasing challenges in the built environment such as natural disasters, sustainability, and maintainability. Sri Lanka is affected by various vulnerabilities, for example, cyclones, monsoonal rain, subsequent flooding and landslides, drought, and tsunami (Ministry of Disaster Management 2019; Assenova 2018). The occurrences of natural disasters are increasing globally, because of that, the need to focus on natural disasters is one of the major risk management strategies of all organisation. FM is responsible for the proper functioning of a built environment, thus the responsibility of recovering the building from a disaster is also under the responsibility of FM. Hence, the pre-disaster risk reduction activities are to be done by the FM. However, the involvement of FM in pre-disaster risk reduction is minimal in Sri Lanka (Dissanayake and Fernando 2012) and the identification of such need was not evident.

Achieving sustainability goals is also one of the FM functions which becomes a key concern to support the organisation's core business activities. However, FM approaches used for sustainability are also limited in the Sri Lankan context (Manjula et al. 2015). Currently, the high-rise buildings such as shopping complexes, condominiums, office complexes are ever-increasing in Sri Lanka. Consequently, with the lack of FM inputs at the development phase of these high-rise buildings, there were many maintainability problems noted as there is no established mechanism in Sri Lanka to haul out the advantages from enlisting the facilities managers at the development phase to minimise long term maintainability problems of buildings (Silva N. 2011). Moreover, integrated FM means collectively performs the functions of FM of two or more built environments and it is a type of solution to enhance the performance of FM and this is more suitable for the same business nature and ownership and proximity firms. Although this is a creditable concept, it has no attention still in Sri Lanka (Weerasinghe and Sandanayake 2013).

According to the evidence presented above, it is questionable if the need for full-fledged FM is to be expected in Sri Lanka. There is also an argument if the need for or the knowledge of innovation comes first. Nevertheless, the need also is important in adoption (Rogers 2003).

2.3 FM Adoption and Diffusion in Sri Lanka

The diffusion of FM in Sri Lanka was observed to be at its early stage, and awareness and practice of FM have not been significant in the country (Shahani 2014). FM is a fairly new concept, and its strategies are not broadly practiced in Sri Lanka (Muthugala 2010). Additionally, this profession has not spread widely all over the country (Perera J. 2010). A smaller number of organisations in Sri Lanka have already employed FM professionals (Ranathunga 2010). Even though Sri Lanka as a developing economy, recognises its commercial sector as the engine of growth and FM is being increasingly accepted in these commercial organisations at present (Perera, et al. 2016), it was also found that FM involvement in the property development sector is in poor stage (Pillai 2010). In many of the private sector organisations, most of the FM responsibilities are carried out by an outsourced team which is mostly supervised by a maintenance specialist (Silva N. 2011). However, it was evident that the FM sector was gaining recognition among other sectors in managing the building facilities (Weerasiri 2015). In general, FM involvement is applicable for the entire life cycle of a building from the planning of site and project to designing and construction, operation and maintenance, renovation, and eventual demolition as applicable. However, in Sri Lanka, FM participation is mainly in the operational phase of a building, and it is also limited to a few functions in the operational stage (Manjula et al. 2015). The majority of FM employment is found at public sector organisations and only a few are found at public sector organisations (Silva N. 2011). There are no specific national standards or practices for FM strategies in Sri Lanka (Muthugala 2010), and there is no clear acknowledgment for FM from the government end. Accordingly, as per current evidence, there could not be a centralised diffusion system for FM in Sri Lanka.

FM is a novel profession, or an innovation, in the Sri Lankan context, which means FM has started to diffuse but not on a high scale. Especially, in the case of education, seven postgraduate FM courses were available in the UK before 2000 (Nutt 1999) but the first-ever degree programme in FM to start in Sri Lanka was in 2005 (University of Moratuwa 2014). Moreover, there were no professional associations or institutions for FM in Sri Lanka until the first association of the FM profession was started in March 2013 known as the FM Group. The foundation for an Institute for FM professionals in Sri Lanka was laid in 2015 and the status “Sri Lanka” was obtained in May 2016 (IFMSL 2019). The national-level acceptance is indicative that FM should have reached its Early Adopters.

In the case of diffusion of innovation, Innovators are the first to adopt it. They are venturesome and cosmopolite. They usually are the first to bring in new ideas and to take the risk of implementing them. Inevitably, many of such implementations would lead to failure, yet they play an important role in the diffusion of innovations by introducing them to the local industry. However, they do not gain high respect or opinion leadership in the industry. On the other hand, Early Adopters are generally respected and have significant opinion leadership and help trigger the critical mass when they adopt an innovation (Rogers, 2003). Failure of implementing FM has not been reported, and incremental growth in FM adoption has been observed in the recent past (Perera, et al. 2016; Weerasinghe and Disanayake 2016). Jones Lang LaSalle (JLL), an international FM outsourcing company established its local branch in 2012 with the expectation of gaining the first entry advantage. Ranatunga (2017) wrote that their decision was based on research on political conditions, economic trends, and the construction industry development of Sri Lanka. JLL’s FM expertise blended with their commercial interests makes them a key potential change agent for the Sri Lankan context.

Additionally, Silva (2011) found that the reasons for non-adaption of FM in Sri Lanka were lack of awareness about FM in the local industry, not enough support from the government, no cadre placement for FM in most of the public sector buildings, maintainability of the built environment is not turned out to be a heavy burden till now due to building and infrastructure of Sri Lanka started to develop after 2009, and most FM responsibilities of private facilities being carried out by outsourced firms who are maintenance and housekeeping teams.

The concept of FM, the needs for FM in Sri Lanka, FM adoption and diffusion in Sri Lanka were achieved through literature review. It is required to have a primary data collection to gather data on the nature of FM diffusion in Sri Lanka and the FM diffusion network in Sri Lanka to accomplish the aim of the research study.

3. Research Methodology

This research aims to identify the diffusion model and its special features on FM diffusion in an emerging market, taking Sri Lanka as a case. According to the nature of this research which was identified through the background study and the literature survey, and by comparing it with other similar research, the research was designed as a mixed-method study. This stemmed from the deductive theoretical approach taken to find the nature of FM diffusion

in Sri Lanka based on current innovation diffusion theories. Given the challenge that relevant data is widely dispersed across the industry, data had to be collected using remote acquisition. Data was collected from the total target population. An online questionnaire with primarily close-ended questions was prepared. Multiple-choice questions were used where possible. For questions seeking opinions and specific facts and experiences, both Likert and dichotomous scales were used. A few open-ended questions were also used to collect some rich qualitative data where deeper exploration was required. Accordingly, the questionnaire supported both the statistical analysis of categorical, ranked, or dichotomous responses and qualitative analysis of the diversity of responses. Consequently, the research took a pragmatist paradigm. Content analysis is one of the preferred methods for analysing text data and provides a subjective interpretation of texts through systematic coding and patterns (Hsieh 2005). Therefore, the collected data through close-ended questions of the questionnaire survey was analysed using descriptive statistics, graphical techniques, and binomial descriptions to achieve the research aim. Besides, the manual content analysis method was utilised to analyse the data collected through open-ended questions of the questionnaire survey. Further, no specific criterion is available for the validation of qualitative researches (Sousa 2014). For statistical analysis, 95% confidence interval testing was used. Accordingly, the research followed a mixed-method research design.

3.1 Details of Respondents

Top managers who involve in the decision to implement FM had the required data as part of their experience and perceptions. However, a sampling space for such individuals was not readily available. The IFMSL members' database was therefore selected as the sample space for the data collection of this research study. The logic was that IFMSL members are at organisations where FM is adopted. There were 87 members in the IFMSL members' database, all of their top management was selected to be the respondents of this study. The link to the online questionnaire was sent to all of their top management via emails after getting permission over the telephone from 52 members and without getting permission from 35 members because of non-availability (08) and invalidity (27) of their phone numbers. Moreover, out of 87 members, 61 (70.11%) responded however 27 of them replied that they were unable to fill the questionnaire for the reason that, they had changed their field from the FM field or not working in Sri Lanka. Hence, only 34 respondents (39.08%) filled the questionnaire. The summarisation of the nature of the respondents' organisations and the results of the survey shows that 23%, 12%, and 9% of the respondents were respectively from the commercial, factory, and construction sectors. Moreover, 6% of the respondents were from the residential, hospital, and hotel sectors. Further, 38% of the respondents were from other types of organisations other than the ones mentioned above. When summarising the ownership of respondents' organisations, the majority, 76% percentage of the respondents are from private limited companies and 12% are semi-government organisations. Additionally, public limited, partnership, proprietorship, and government-owned organisations constituted only 3%.

4. Findings and Discussion

This section discusses the finding of this study under two sub-sections namely the Nature of FM diffusion in Sri Lanka and the FM Diffusion network in Sri Lanka. Analysis based on proportions was primarily used for categorical data.

4.1 Nature of FM Diffusion in Sri Lanka

A large majority of the respondents did not agree that FM is well diffused in Sri Lanka. Among all respondents, 41% was with the opinion that "FM diffusion in Sri Lanka is at a low rate" and an almost equal level of respondents (38%) stated "FM has started to diffuse in Sri Lanka". accordingly, it could be observed that FM has started to diffuse in Sri Lanka but still at a slow rate. The observation is consistent with Figure 1 which indicates the years taken to adopt FM in organisations from the day they first got to know about FM. The average years taken was approximately 4 years. The majority's experience was that the adoption of FM did not require critical changes in organisations. While this does not confirm that no changes are required, it shows that majority did not feel the change or are comfortable with it. There is no doubt that the introduction of FM requires some change. Given that 65% of them were with this opinion, it can be concluded at 95% confidence, the majority of early adopters will embrace FM with ease (Binomial test statistics = 0.032). Wang et al. (2020) have shown that diffusion models vary with adopter categories, hence the behaviour of later adopters cannot be predicted with current evidence. However, following Robertson's (1967) S curve, it is the early adopters who create the momentum; thus, the finding is significant.

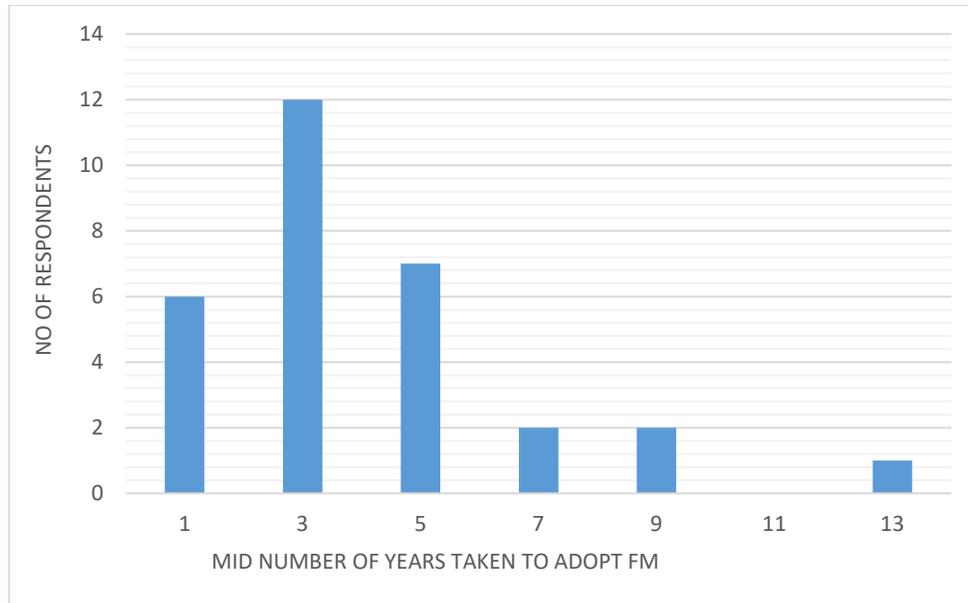


Figure 1: -Years took to adopt FM from known year

Interestingly, 6% (i.e., two participants) had specified to make changes by increasing the technical knowledge on Mechanical Electrical and Plumbing of the FMs by providing training, the addition of marketing and consultancy functions with FM functions, and combining some of the human resource functions (Example: labour relations) with FM. The balance 29% of them believed to have had changes in their organisations to adopt FM. Moreover, 94% of organisations had not made any changes to FM during its adoption. Accordingly, at 95% confidence, at least 86% of organisations in the market will adopt FM without any significant change at the current phase. This showed that re-invention is minimum in FM diffusion in Sri Lanka.

Respondents did not have negative comments on FM adoption, that they believed the adoption either fully or mostly fulfilled the organisation expectation. Positive feedback of early adopters is important given the opinion leadership they usually possess (Rogers, 2003). Moreover, summarised data shows that FM participation is at the highest (82%) in the building operation stage, and the finding was more interesting that there were FM not getting involved in the building operation stage. FM involvement was found to be at 44% in the construction stage and 32% in the design stage. The new finding now refutes previous findings by Manjula et al. (2015) and there is an expansion of the FM role towards its full scope.

Figure 2 presents the main functions carried out by FM in each organisation. Waste management and maintenance management had the highest occurrence and were closely followed by energy management, and occupational health and safety. The involvement of FM in real estate management and project management was quite low. Moreover, the combinations of these functions were different from organisation to organisation, indicating that there was no standardised innovation packaging. Paradoxically, a large majority had not recognised specialisation within FM. They reported all FM in their organisations to perform similar functions.

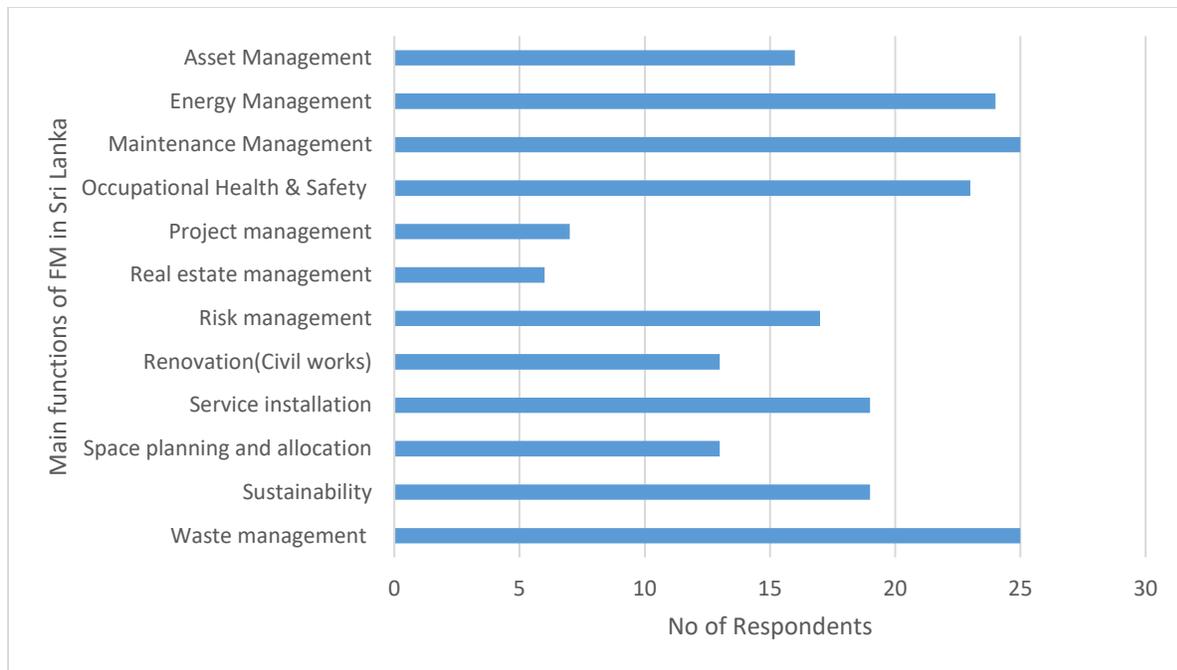


Figure 2: -The main functions covered under FM professionals in the Sri Lankan organisations

4.2 FM Diffusion Network in Sri Lanka

Networks in the community “shape how people communicate, and how they form and change their opinions over time, and adoption of an innovation depends on collective opinions about its value, and these opinions emerge from social interaction and social influence” (Assenova 2018). To explore the nature of the FM diffusion network, an open question “*How did you come to know about the FM profession?*” was asked. The answers could be summarized as (University of Moratuwa) UOM intern, UOM undergraduates, UOM graduates, Sri Lankan professionals and firms, foreign countries, online articles, and FM outsourcing firms. Based on the survey results, UOM collectively accounted for more than half the percentage (54%) of the first source of information in the FM diffusion network in Sri Lanka. The undergraduates communicate with the organisations for their academic requirements such as assignments, research, and academic site visits. FM undergraduates go on 32 weeks internship programs in the organisations (University of Moratuwa, 2017). This offered an opportunity for the organisations to make a trail of FM in their organisations. Trialability is a critical factor influencing innovation adoption decisions (Rogers 2003). Some organisations had learned about FM when graduates attended job interviews. While this shows total unawareness of FM there had been, it also shows how influential graduates had been in generating the awareness to escalate later into adoption decisions. Figure 3 shows FM awareness occurred in Sri Lanka between the 2006-2009 period and FM has started to initiate between the 2010-2013 period, this coincides with the start of FM degree at UOM in 2006 and its first cohort graduating in another four years (University of Moratuwa 2017). Even though findings establish the key role of UOM in the diffusion network, it does not point it to have opinion leadership in it. UOM was not positioned as an adopter of FM as a profession. Thus, its role has primarily been the change agent. Nevertheless, UOM becomes an innovator to implement FM education and training, taking the risk that its graduates find employment. It is interesting to find some of the measure taken to minimise this risk has made them become the leading change agent in diffusing FM profession.

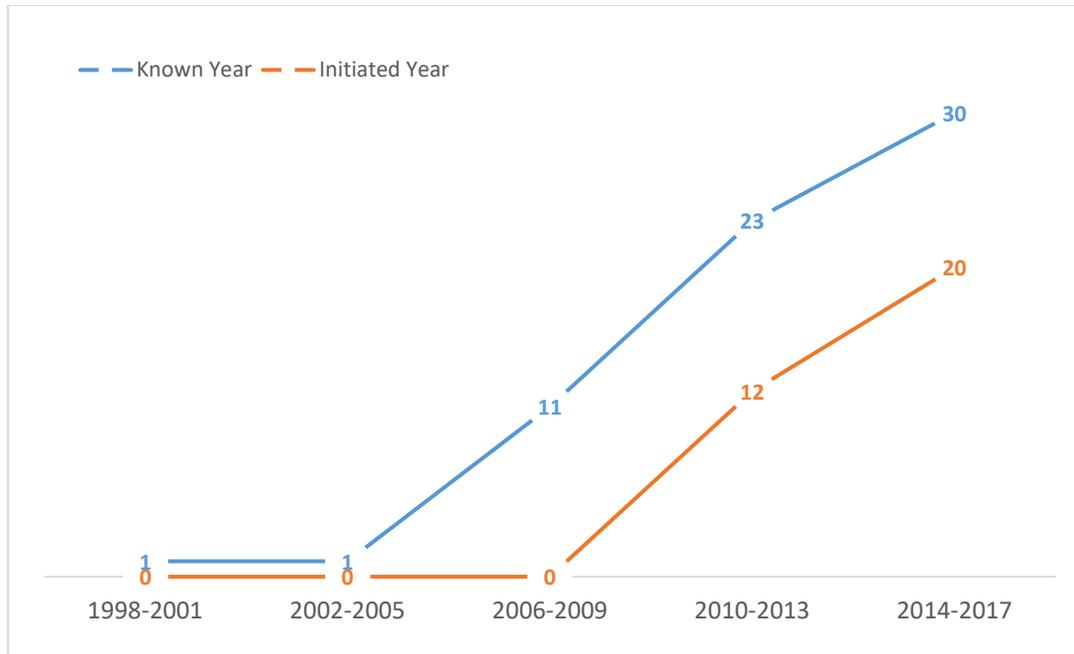


Figure 3: -The gap between came to know about FM and FM initiated in their organisations

Next on the list were Sri Lanka firms and professionals with a 19% portion. These firms can be competitive firms of the organisations or friendly/neighbouring organisations. By observing FM adoption at these firms and/or through communications from related professionals, other organisations have got to know about FM, especially the benefits and challenges of such adoptions. In addition to that, nearly 47% of respondents had already recommended FM to other organisations to adopt FM. This is evidence that early adopters play the role of opinion leaders at the current FM diffusion network in Sri Lanka. Surprisingly, FM outsourcing firms have had a less significant role with only 8% overall influence to promote FM.

5. Conclusions

Innovation diffusion studies are about how new ideas spread in communities or markets. FM is relatively new to Sri Lanka and not many organisations have adopted it. This makes it an ideal innovation to understand the diffusion model and its special features at the early stage of its diffusion. A study with a mixed-method research design was conducted with an online questionnaire among practicing top management of Facilities Managers in Sri Lanka.

The study showed that FM in Sri Lanka is in its Early Adopter phase and has already started to diffuse in Sri Lanka but still at a slow rate. Feedback of current adopters was positive, and a majority of early adopters will embrace FM with ease creating momentum for sustainable adoption. Re-invention of FM as innovation will be minimum, a large majority will adopt FM in its current definition. Engagement of FM in its full scope is emerging, involvement during all stages of buildings from design to demolition is observed. All main functions of FM are performed, though at varying degrees. No standardisation was identified in the innovation packaging of FM delivery, and Facilities Managers are supposed to have all-round competencies. The University of Moratuwa has offered both awareness and trialability of FM and has played the role of principal change agent while been an education innovator.

Interestingly, theoretical change agents have had an insignificant role in FM diffusion in Sri Lanka.

The study concludes with a unique innovation diffusion model that has shown its success. It is a case that a higher education institute playing a key change agent role in the diffusion of a new professional. The inherent characteristic of a profession-oriented study programme that requires student interaction with the industry creates initial awareness, and industry internships offer trialability of innovation. Challenge for the graduate to find employment further disseminates awareness. Theorized competencies offered in the profession-oriented degree make relatively homogeneous adoption of the new profession with minimum re-invention at early stages that minimises the chances of failure. While the model is in line with current innovation diffusion theories, it presents a unique model for the

diffusion of a new profession in a market. The model can be used as guidance in other markets to introduce new professions.

Key limitations to the application of this conclusion arise from the study context. National universities, including the University of Moratuwa, offer higher education for free. Entry is based on academic merits at Advance Level exams and is highly competitive. Demand for a new degree programme could vary when self-funded. Further to this, the methodology adopted does not offer an in-depth analysis of the diffusion network. A deeper understanding could offer higher customisation for the future adoption of the diffusion model.

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