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Quality Management (QM) Standard Issues in FM - Based on Guidance on quality in European FM Standard

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Abstract Importance of FM has rapidly increased because of its growing business. However, due to lack of clarity and identity of FM in professional areas, standardization of FM became to be imperative in such a rapidly changing global business environment. Facility services are defined as the provision of support the primary activities of an organization, delivered by an internal or external provider. Majority of FM activities are services related to 'space and infrastructure' and 'people and organization' (CEN, 2011). The purpose of this study is to investigate definitions and characteristics of FM from both globally and domestic environment, by comparison with international or national standards, to identify quality management in FM and service characteristics of FM, to investigate the differences in service level elaboration in FM, and to suggest standard issues of quality management in FM service quality. This study examines contents of the European Standards in FM, Part 3 'Guidance on quality in Facility Management, especially for the process of QM standardized by CEN (2011) and explores undefined issues such as service level, measurement metrics according to service characteristics of FM. The European FM Standard guides the common process of QM in terms of requirements specification, service level elaboration, measurement metrics development although it does not specifically address various service levels, specific performance metrics and indicators.

Keywords: Facility Management, Standards, Quality Management, Service Quality, Service Level

1. INTRODUCTION

The importance of Facility Management (FM) has rapidly grown although it is considered as a rather new field (Steenhuizen et al., 2014). Since FM involved on a daily basis with management of organizations and their facilities and services and various international associations began to promote the concept of FM, to develop professional activities and to exchange knowledge and practices (Drion, Melissen & Wood, 2012), companies confidently recognized the efficiency, productivity, competitive advantage and cost savings benefits of FM (Steenhuizen et al., 2014).

Facilities and real estate management activities fall into about 5-10 percent of the gross domestic product (GDP) of advanced industrialized countries and in the UK, the total value of FM is about to 8.2 percent of the UK GDP. In addition, facilities assets have significant impacts on larger economy (Ebinger & Madritsch, 2012).

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With growing recognition of FM, FM is accepted differently across countries. For instance, FM in the Netherlands focused on the provision of services, whereas FM in the UK, Germany, and Austria has more concerned property and building management (Steenhuizen et al., 2014) and FM in the US has an emphasis on knowledge based FM and strategic value of real property, facilities and core competencies (Ebinger & Madritsch, 2012).

Furthermore, there is a lack of clarity because of the nature, status and image and identity of FM within the organizational world (Drion, Melissen & Wood, 2012).

Since importance of FM has rapidly increased and lack of clarity and identity of FM in professional areas exists, standardization of FM became to be imperative in such a rapidly changing global business environment. ISO/TC (International Organization for Standardization/ Technical Committee) 267 has established to publish the International Standards for Facility Management since 2011. ISO/TC 267 is now actively developing 'Terms and definitions' by WG (Working Group) 1, 'Guidance on strategic sourcing and the development of agreements' by WG 2, 'Integrated management system - Requirements [w/ Guidance for Use]' by WG 3. Although Asia Countries including Korea, Japan, China, and Malaysia etc. are participating these enactment activities as P members, the situation still lacks of reflecting the status of the industry of Korea and other countries of Asia. Therefore, it is necessary to define FM in Korean context along with international standards.

FM standardization issues move to the next agenda, Quality Management, which can be perceived differently depending on countries and their FM industrial characteristics and climates.

Traditionally some European countries have emphasis on service aspects of FM and some more on technical aspects.

Therefore, the purpose of this study is to investigate definitions and characteristics of FM from both globally and domestic environment by comparison with international or national standards, to identify quality management in FM and service characteristics of FM, to investigate the differences in service level elaboration in FM, and to suggest standard issues of quality management in FM.

2. METHODS

For this study, literature review was conducted, focused on the definition of FM, and comparison of standards of FM or related areas. First, due to the difference of FM development across of nations, it is necessary to investigate various definitions in order to understand what kinds of backgrounds and contexts exist in FM development depending on countries and what common nature of work exist in FM industries. Second, in FM fields, it was explored that what kinds of standardization efforts were made and similarities and differences of those standards exist. Third, review of quality in FM was conducted, because interests in the roles of FM in organizations shifted from efficiency, cost reduction, and daily maintenance to added value and supporting organizational mission. Forth, review of service function of FM was conducted, since FM needs to provide quality in both physical environment (buildings and facilities) and services related to "space and infrastructure" and "people and organizations" (CEN, 2006, p.6; Coenen & Felten, 2014). Finally, review of methods to achieve quality in FM was conducted, because workplace settings in FM are various and their contexts by nations and markets vary.

3. DEFINITIONS OF FM

(1) Definitions of FM

There is lack of consensus regarding what facilities management actually is - "as a domain of coherent knowledge and as a set of skills and practice" due to the uneven view points and different tradition of practices. Even the terms, "facilities management" and "facility management" were adopted differently by nations (Drion, Melissen & Wood, 2012).

While the term, 'facilities management' was firstly suggested by Herman Miller Research Corporation in 1978 in the U.S., about 25 years ago, FM emerged in European countries. Grimshaw (2007, p. 411) addressed that "FM is service by global network of FM educational providers fully integrated with their relevant professional bodies and with an active academic community that has generated a wealth of challenging ideas that have illuminated its development". Drion et al. (2012) cited Howard (2002) notes as "Total facilities management … for those who wanted to persuade company accountants to outsource to them all their non-core business. All eggs are to be massed in one basket, from site security systems to the IT intranet, from catering to cleaning, not forgetting greening the working place environment and taking care of sick building syndrome"

Although the various definitions and viewpoints of FM were provided, the basics of FM, three pillars of FM are likely to be obvious; people, place and process (Steenhuisen et al., 2014). The comprehensive definitions are provided by CEN, IFMA, BIFM and ISO for the larger range of FM (see Table 1).

Table 1. Definition of FM

Organization	Definitions of FM	Reference
IFMA	Facility management is a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology.	Retrieved from http://www.ifma.org/about/what-is-facility-management. 2015-12-15
	The practice of coordinating the physical workplace with the people and work of the organization; integrates the principles of business administration, architecture and the behavioral and engineering sciences.	Retrieved from http://community.ifma.org/fmpedia/w/fmpedia/facility-management. 2015-12-15
	The 11 core competencies of facility management are defined: communication; emergency preparedness and business continuity; environmental stewardship and sustainability; finance and business; human factors; leadership and strategy; operations and maintenance; project management; quality; real estate and property management; and technology.	Global Job Task Analysis (GJTA), 2009
BIFM	Facilities management encompasses multi-disciplinary activities within the built environment and the management of their impact upon people and the workplace.	Retrieved from http://www.bifm.org.uk/bifm/about/facilities. 2015-12-15
CEN	Facility management is "the integration of processes within an organization to maintain and develop the agreed services which support and improve the effectiveness of its primary activities."	EN 15221-1: 2011 Facility Management - Part 1: Terms and definitions
	Facility services are to support provision to the primary activities of an organization, delivered by an internal or external provider. Facility services are services related to "space and infrastructure" and to "people and organization".	EN 15221-1: 2011 Facility Management - Part 1: Terms and definitions
ISO	Facility management is an organizational function which integrates people, place and process within the built environment with the purpose of improving the quality of life of people and the productivity of the core business.	ISO/DIS 18480-1 Facility Management - Part 1: Terms and definitions
	Facilities service is a support provision to the primary activities of an organization, delivered by an internal or external provider. Facility services are services related to Space & Infrastructure and to People & Organization.	ISO/DIS 18480-1 Facility Management - Part 1: Terms and definitions

(2) Hierarchical Relations of European FM Standards

The current enacted or proposed FM standards are as follows: (see Table 2). Some common contents among the standards are shown in Figure 1.

Steenhuisen et al. (2014) mentioned that the most important business model all FM associations, companies and organizations stick to and advocate is the EN 15221 standards. The standards by CEN aimed to provide a standardized framework in order that communication can be done using the same language.

On the one hand, ISO/TC 267 FM disclosed the first two international standards of FM to the public at the end of January 2016, and is about to conclude them soon. This committee has also been working on a "Management System Standard (MSS)" which can provide a measurable standard against which an effective facilities management organization and structure can be assessed. The committee has just started to prepare a new work item "Quality Management (QM) in FM" which can reduce costs and add value to the core business of the public or private sector client organization for continuous innovation and development.

Regarding QM, ISO Standards already existed. The ISO 9000 series deals with various aspects of quality management systems. The ISO 9000 family of quality management is related to general quality management in production and service areas. In addition, the ISO 14000 family of environmental management and the ISO 55000 family of asset management are closely related to FM. Details are as follows: (see Table 3).

The hierarchical relations of European FM standards are shown in Figure 1. ISO/TC 267 FM has a similar structure of Euro FM standards so far in 1) Terms and definitions, 2) Guidance on how to prepare Facility Management agreements.

Table 2. Status of FM Standards

Organization	Standard #	Standard Title	Year[1]
CEN	EN 15221-1	Terms and definitions	2006
	EN 15221-2	Guidance on how to prepare Facility Management agreements	2006
	EN 15221-3	Guidance on quality in Facility Management	2011
	EN 15221-4	Taxonomy, Classification and Structures in Facility Management	2011
	EN 15221-5	Guidance on Facility Management processes	2011
	EN 15221-6	Area and Space Measurement in Facility Management	2011
	EN 15221-7	Performance Benchmarking	2012
ISO	ISO/TC 267/WG 1	Terms and definitions	2016
	ISO/TC 267/WG 2	Guidance on strategic sourcing and the development of agreements	2016
	ISO/TC 267/WG 3	Integrated Management System - Requirements [w/ Guidance for Use]	-ing
BOMA	ANSI/BOMA Z65.1	Office Buildings: Standard Methods of Measurement	2010
	ANSI/BOMA Z65.2	Industrial Buildings: Standard Methods of Measurement	2012
	ANSI/BOMA Z65.3	Gross Areas of a Building: Standard Methods of Measurement	2009
	ANSI/BOMA Z65.4	Multi-Unit Residential Buildings: Standard Methods of Measurement	2010
	ANSI/BOMA Z65.5	Retail Buildings: Standard Methods of Measurement	2010
	ANSI/BOMA Z65.6	Mixed-Use Properties: Standard Methods of Measurement	2012

Table 3. ISO Standards related to FM

ISO Standard	Standard Code	Standard Title	Year[2]
ISO 9000 Series: Quality Management	ISO 9000	Quality management systems - Fundamentals and vocabulary	2015
	ISO 9001	Quality management systems - Requirements	2015
	ISO 9004	Quality management systems - How to make a QMS more efficient and effective	2009
	ISO 19011	Quality management systems - Guidance on internal and external audits of QMS	2011
ISO 14000 Series: Environmental Management	ISO 14001	Environmental management systems - Requirements with guidance for use	2015
	ISO 14063	Environmental management - Environmental communication - Guidelines and examples	2006
	ISO 14004	Environmental management systems - General guidelines on principles, systems and support techniques	2004
	ISO 14006	Environmental management systems - Guidelines for incorporating ecodesign	2011
	ISO 14064-1	Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals	2006
	ISO 14050	Environmental management – Vocabulary	2009
ISO 55000 Series: Asset Management	ISO 55000	Asset management -- Overview, principles and terminology	2014
	ISO 55001	Asset management -- Management systems -- Requirements	2014
	ISO 55002	Asset management -- Management systems -- Guidelines for the application of ISO 55001	2014

[1] Latest revised year
[2] Latest revised year

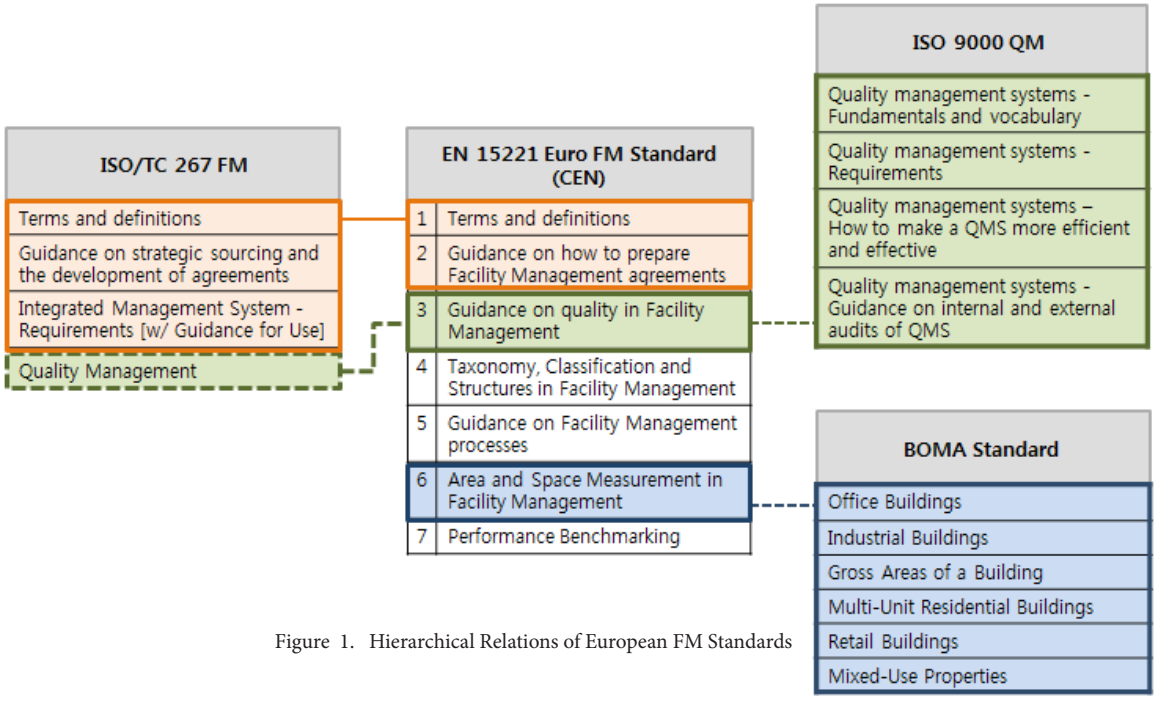

Figure 1. Hierarchical Relations of European FM Standards

Table 4. Comparison of FM Standards

Category	CEN	ISO	BOMA
Standard	EN 15221	ISO/TC 267 FM	ANSI/BOMA Z65
Secretariat	BSI	BSI	BOMA International
Creation date	2006	2011	1915[3]
Scope	Standardization in the field of facilities management in Europe	Standardization in the field of facilities management	Representation of the owners and managers of all commercial property types
Objectives	To integrate the processes within an organization to maintain and develop the agreed services which support and improve the effectiveness of its primary activities.	To integrates multiple functions to ensure a productive, livable and sustainable built environment, workplaces and further support services to improve our quality of life.	- To develop and implement global standards for measuring real property. - To advance a vibrant commercial real estate industry through advocacy, influence and knowledge.
Total number of published standards	7 - Terms and definitions - Guidance on how to prepare Facility Management agreements - Guidance on quality in Facility Management - Taxonomy, Classification and Structures in Facility Management - Guidance on Facility Management processes - Area and Space Measurement in Facility Management - Performance Benchmarking	0	6 - Office Buildings: Standard Methods of Measurement - Industrial Buildings: Standard Methods of Measurement - Gross Areas of a Building: Standard Methods of Measurement - Multi-Unit Residential Buildings: Standard Methods of Measurement - Retail Buildings: Standard Methods of Measurement - Mixed-Use Properties: Standard Methods of Measurement
Total number of working standards	0	3 - Terms and definitions - Guidance on strategic sourcing and the development of agreements - Integrated Management System - Requirements [w/ Guidance for Use]	0
Characteristics	- the first comprehensive and systematic standards in the FM field - represent the European countries only	- working on enactment activity now, based on Euro FM Standards since 2011 - represent various national standards in the FM field - established 3 WGs 'Terms & definitions', 'FM agreements', and 'MSS'	- the historical and commercial building standards - represent American industry and real property - show different standards according to various building types - are limited to measurement methods

[3] The first published year of Office buildings: Standard Methods of Measurement.

(3) Comparison of FM Standards

By reviewing the structure of standards by CEN, ISO, BOMA, some similarities exist in terms and definitions of FM. It seems that ISO/TC 267 FM advocate the EN 15221. However, the ISO FM standards need to be neutral among Europe, North American and other Asian parties. Since ISO/TC 267 FM is on a developing stage, the standards of ISO FM do not have prominent structures yet.

EN 15221 by CEN covered comprehensive FM areas while BOMA standards mainly focused building management and area measurements. Areas and space measurement in FM by CEN is similar to the contents of BOMA standards. However, BOMA standards have more specific area measurements for a variety of building structure and building type for lease and property management issues in North America region.

The more information of comparison of FM Standards is analyzed in Table 4.

3. QM IN FACILITIES MANAGEMENT

In FM, traditionally built environment has been considered as a critical factor to increase efficiency and reduce cost (Connen & Felten, 2014). However, recently it has been recognized that FM plays an important role in creating and adding value (Jensen, 2010).

In addition, since FM deals with business support services, aligning FM service to the organizations and their business becomes more important. Service innovations in FM help organizations to stay in business, exceed customer expectations, and add value to core business of the organizations (Sillanpää & Junnonen, 2012).

Euro FM associations have already been enacted FM Standard for QM, emphasizing service quality while ISO FM has not yet prepared. Therefore, this study examines contents of the European Standards in FM, Part 3 'Guidance on quality in FM', especially for the process of QM standardized by CEN(2011) and explores undefined issues such as service level, measurement metrics according to service characteristics of FM.

(1) Definitions of QM

ISO generally defines "quality" is a degree to which a set of inherent characteristics fulfills requirements, and "quality management (QM)" is a set of international standards for quality management and quality assurance. The standards provide guidance and tools for companies and organizations who want to ensure that their products and services consistently meet customer's requirements, and that quality is consistently improved. EN 15221-1 and EN 15221-3 establish a meaning of "service level (SL)" as a complete description of requirements of a product, process or system with their characteristics, and "service level agreement (SLA)" as an agreement between the client or customer and the service provider on performance, measurement and conditions of services delivery.

Parasurman, Zeithaml and Berry (1985) have provided three statements for "service quality": 1) Given the prospective of the customer, it's much more difficult to evaluate service quality than product quality. 2) The cognition of service quality derives from the comparison of consumer expectation and actual service performance. 3) The evaluation of service quality aims not only the outcome of service but also the transmission process of service.

Parasurman, Zeithaml and Berry (1991) further indicate that the customer service quality level can be assessed by customer's expectation (importance) of the service items and the actual service experience (satisfaction).

Excellent service quality and high customer satisfaction are the major concerns and challenges in the service industry (Lambert & Sharma, 1990; Hung, Huang and Chen, 2003). It is necessary to measure customer satisfaction and customer expectation in order to evaluate service quality performance for important service elements. Service quality performances are clarified using the service quality performance matrix. The evaluation results provide adequate information for companies to take improvement actions to achieve high customer satisfaction.

(2) Elements and Influences to Quality in FM

Kenneth, H. R. (2005) has mentioned that QM ensures an organization, product or service consistent. QM has four main components: quality planning, quality control, quality assurance and quality improvement.

QM focuses not only on product and service quality, but also on the means to deliver it. QM, therefore, uses the quality assurance and controls all processes of products in order to deliver more consistent quality. In the context of FM, quality means the degree in which a set of characteristics fulfills requirements (EN 15221-3: 2011). In the process of defining these characteristics of the product in the SL/SLA, the following aspects for an organization should be thoroughly considered: (see Figure 2)

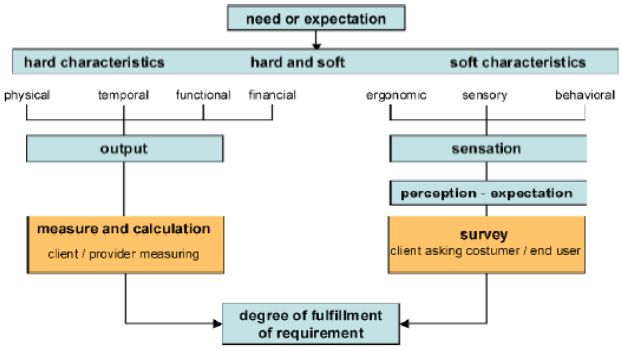

Figure 2. Elements and Influences to Quality in FM
(Source: EN 15221-3:2011 Facility Management - Part 3: Guidance on Quality in Facility Management, p14)

Quality in FM emphasized service delivery which includes various degrees of hard/soft characteristics from physical to behavioral aspects.

(3) QM Process in FM

EN 15221-3 defines that the QM process is a process within an FM organization (FM performance and quality management process). The processes are interrelated and interdependent strongly, so they have an impact on the efficiency and productivity of activities. The process consists of activities at the 3 levels of the

organization: 1) Strategic level, 2) Tactical level, and 3) Operational level.

The following figure shows the application of quality management of PDCA (Plan, Do, Check, Act) cycles within the FM processes. Needs and demands are turned to requirements; Requirements lead to Service Level; the inside cycle shows QM processes in FM; the outside cycle shows the FM service delivery process. The whole process of QM in FM is on iteration interactively (See Figure 3).

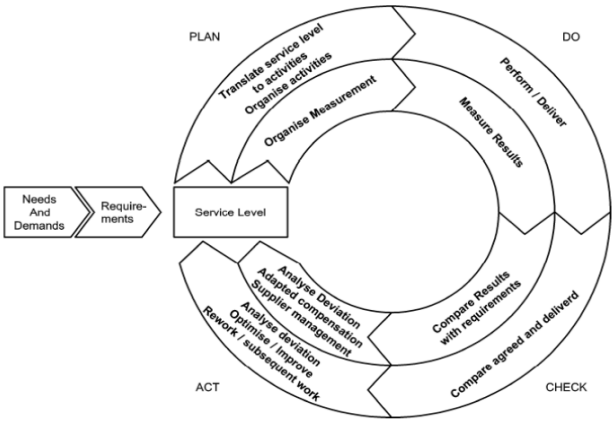

Figure 3. Quality Management Cycle within FM Processes
(Source: EN 15221-3:2011 Facility Management - Part 3: Guidance on Quality in Facility Management, p18)

In QM, ISO estabilised ISO 9001 which is a process-based QMS, primarily consists of general information, terms and definitions, and a process of QMS. This standard promotes the adoption of a process approach to enhance customer satisfaction by meeting customer requirements.

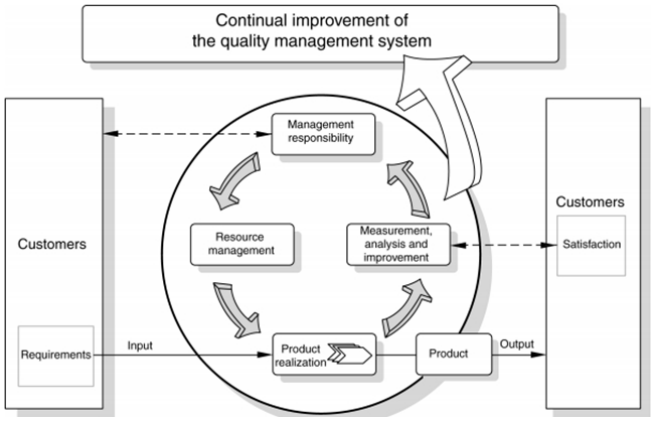

Figure 4. Model of a process-based quality management system
(Source: ISO 9001: 2008 Quality management systems- Requirements, p6)

The model of a process-based QMS (see Figure 4) shows the linkage between the individual processes within the system of processes. PDCA (Plan, Do, Check, Act) cycle can be applied to all processes to this individual processes.

Both standards, QM of ISO 9001 and QM (EN 15221-3, FM) employ PDCA cycle emphasizing quality management process (See Figure 3, 4). However the major contents are different. Euro FM standards emphasize FM service and service level, while ISO 9001 QM include management responsibility, resource management, product realization, measurement, analysis and improvement.

Specifically, Euro FM standards and ISO FM standards[4] emphasized service level. Both standards included service level agreements in the second part of their standards.

(4) Comparison of QM Standards in FM

By reviewing the standards of EN 15221-3 and ISO 9001, some similarities exist in the basic structure. (see Table 5). However, Euro FM standard consists of basic concepts of QM/QMS in FM, terms and definitions, type of characteristics, the requirements of SL/SLA, and QM process, especially dealt with an elevorate service level. On the other hands, ISO 9001 is an application of a system of processes, so the structure is a process itself. ISO 9001 consists of general information of QMS and details of each phases of QM process.

The more information of comparison of QM Standards in FM is analyzed in Table 5.

4. SERVICE LEVEL AGREEMENT (SLA)

(1) Definitions of SLA

ISO 9000 defines that SLA is a complete description of requirements of a product, process or system with their characteristics. ISO/TC 267 FM defines SLA as document which has been agreed between the demand organization and a service provider on performance, measurement and conditions of service delivery.

EN 15221-3 provides that SL is reserved by the client in case of future use. It may be a single party description, or can be a described without having another party or through interaction with service providers, and also defines an FM agreement between the client/customer and the service provider on performance and conditions of facility service or facility product delivery.

Pratt (2003) has stated that SLA is a statement of various service level options from which one will be selected by the customer or client which specifies timing, frequency, cost, etc. to match the business need.

Service Level life cycle consists of 4 phases: First, Preparation phase, second, Start-up phase, third, Continuous improvement and Optimization phase, and finally, Changes phase.

The structure of a SLA is as follows; 1) General description, 2) Common organization processes, 3) General conditions, 4) Structure and communication, 5) Definition and clarification, 6) Obligations and requirements, 7) Price, payment and accounting, and 8) Appendices.

[4] ISO/TC 267 FM standards are on a developing stage. (Part 1 and Part 2 have just disclosed to the public, Part 3 are under reviews)

Table 5. Comparison of QM Standards in FM

Standard	Euro Standard (CEN)	International Standard (ISO)
Code	EN 15221-3: 2011	ISO 9001: 2008
Title	Part 3: Guidance on quality in Facility Management	Quality management systems - Requirements
Contents	0. Introduction to Guidance on quality in FM 1. Scope 2. Normative references 3. Terms and definitions 4. Basics of quality management 5. Process of quality management Annex A (informative) GAP-Model Annex B (informative) Additional information and recommendation for measurement metrics B.1 Recommendation for designing a metric system B.2 Attributes of indicators B.3 Indicators selection criteria B.4 Required properties of indicators B.5 Data gathering techniques: B.6 Domains and categories on indicators Bibliography	0. Introduction 1. Scope 2. Normative references 3. Terms and definitions 4. Quality management system 5. Management responsibility 6. Resource management 7. Product realization 8. Measurement, analysis and improvement Annex A (informative) . Correspondence between ISO 9001:2008 and ISO 14001:2004 Annex B (informative). Changes between ISO 9001:2000 and ISO 9001:2008 Bibliography

(2) SLA in FM

Pratt (2003) introduced a service level culture in FM. Even though rigid and narrow procedure in the business climate, it has to be adapted and developed for more flexible and user friendly procedure in FM. Service level agreements widely replaced the traditional task-based agreements because service providers can execute more efficient resource planning (Heimbürger & Dietrich, 2012).

However, SLA approach needs collaborative relationship between service provider and customer. Customer and service provider might perceive service level differently and service providers have risks putting more efforts to achieve high quality of service, thus pay higher cost and lead inefficiencies (Heimbürger, 2009). For SLA approach, since development of customer relationship is important, SLA requires continuous planning resource management and innovative approaches (Heimbürger & Dietrich, 2012).

The process of SLAs is a continuing one and requires commitment at the highest level.

FM mission is to provide cost-effective and timely services for the core business. It is necessary to perform the following steps to achieve it: 1) Clarify about the purpose, 2) Identify key targets, 3) Establish constraints, 4) Determine measures of success, and 5) Best practices.

Since service always need to adapt the changes for customers in changing physical and business environments (Heimbürger & Dietrich, 2012), SLA approaches could be widely accepted in FM service due to rapidly changing business environment.

ISO FM standards and Euro FM Standards have identical structures of SLA clauses in FM agreements; both standards suggest the process of SLA dealing with the scope of service, conditions, service level, performance metrics, quality assurance, etc. ISO FM employs KPI (Key Performance Indicator) while Euro FM standard adopts performance measurement and control process.

However, considering that Euro standards suggest SLA and KPI for acquiring service quality in FM, adopting both is expected for quality assurance in FM.

(3) Comparison of SLA clauses in FM Standards

By reviewing the standards of SLA clauses of FM agreement of EN 15221-2 and ISO 18480-2, some differences exist in contents. While EN 15221-2 deals with SLAs as an element linked to the general clauses within the FM agreements, ISO deals with SLAs independently and in detail (see Table 6).

The overall structures of SLA clauses of FM agreements are exactly same in both standards. However, some terms are differently used in each standard; for example, ISO uses 'service' instead of CEN's 'facility service', 'demand organization' instead of 'client'. Key attributes of SLAs of ISO 18480-2 include the establishment of the level of service and performance measurement.

5. CONCLUSION

Due to the growing FM service in public and private industry sectors, ISO/TC 267 working groups have developed ISO standards in FM. In spite of lack of clarity and identity of FM, there is need for a more unified facilities management model. Standardization of FM becomes to be imperative in such a rapidly changing global business environment.

In 2015, the International Organization for Standardization, ISO/TC 267 FM, set to conclude the first two international standards. ISO/TC 267 FM has similar features of Euro FM Standard in terms of terms and definitions. As of 2015, only EN 15221 by

Table 6. Comparison of SLA clauses in FM Standards

Standard	Euro Standard (CEN)	International Standard (ISO)
Code	EN 15221-2: 2011	ISO/DIS 18480-2: 2016
Title	Facility Management Part 2: Guidance on how to prepare Facility Management agreements (8.2 SLA structure and content, p15-41)	Facilities Management Part 2: Guidance on strategic sourcing and the development of agreements (Annex D. Service Level Agreements, p54-64)
Contents Related to SLA clauses	Necessary components of the FM agreement - Term of the Facility Management agreement - Exclusivity - Management of client procured facility services - Sub-contracting - Allocation of management responsibility - Information responsibilities - Communication - Regulations - Client's standards - Preparation for ending the FM agreement	Key attributes of SLAs - define the scope of the services to be provided; - define the boundary conditions and important parameters; - establish the level of service and/or quality of the output; - establish the way in which the services are provided; - provide performance measurement criteria and targets; - define acceptable delivery times and possibly cost of delivery; - establish conflict or gap resolution processes; - describe how to deal with non-compliance with agreed procedures and results.
Structure of an Agreement - SLA clauses	1. General description 2. Common organization processes 3. General conditions 4. Structure and communication 5. Definition and clarification 6. Obligations and requirements 7. Price, payment and accounting 8. Appendixes	1. General description 2. Common organization processes 3. General conditions 4. Structure and communication 5. Definition and clarification 6. Obligations and requirements 7. Price, payment and accounting 8. Appendices

CEN covered comprehensive FM areas. Especially, Guideance on quality in FM includes 1) General, 2) Normative references, 3) Terms and definition in FM, 4) Basics of qulaity management, 5) Process of quality management and 6) Appendix, Gap model and Measurement matrix.

Quality managements in ISO 9000 dealt with general quality issues and methods including product while Euro FM Standards differs in focus of FM service. Since quality of FM includes a wide degree of hard and soft characteristics such as physical facilities and behavioral aspects of people, QM in ISO/TC 267 FM is expected to focus process of FM service quality although it has not yet developed.

Especially FM delivered a diverse range of services, service quality issues have become more important in international FM standards as well as Euro FM Standards.

Comparing the definition of FM by IFMA to that of Euro FM, Euro FM highlighted service aspects, service level agreements. Although SLA is earlier introduced in European countries, due to rapidly changing business environment, more flexible and value creation in FM becomes more important and SLA is an appropriate initiative for providing quality of service in FM.

Considering a variety of FM services and organization, FM standards are more likely to suggest QM process and methodology to achieve FM quality such as KPI and performance measurement. It is not feasible to define representative key performance indicators or establish a unified performance measurement system. Instead, FM standards need to establish a series of process which can be applicable to various organizations and global markets. ISO standards need to be incorporate fundamental FM service aspects and general quality management process. Methods of quality assurance in service delivery and effective measures in Asian countries including Korea need to be further explored. Since physical (hard characteristics) aspects and characteristics of facilities of Asian countries including Korean are unique, specification of service regarding physical (hard) characteristics need to be elaborated. For instance, because of highly populated characteristics and high rise structure of buildings, safety issues and quality assurance in safety could be more important issues in Korea. Furthermore, methods and procedures of service quality measurement and key performance indicators in the provision of facility services need to be explored.

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