

FM Education are we meeting industry needs

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Abstract

The alignment of degree courses offered by tertiary education institutions with the skills needed by the Facilities Management industry is essential to the future development of the profession. This research paper explores the match between competencies identified by UK, USA and Australian professional bodies and the university courses. The research reveals significant gaps, particularly in the area of key business skills, and suggests the need for course designers and industry to work more closely in the future in order to develop educational offerings which will support the development of the FM profession globally.

Key Words:

Facilities Management, Education, Professional Skills, UK and Australia.

Background

The FM industry has expanded rapidly over recent decades and facilities managers can now be found in most major corporations, undertaking a myriad of roles from operational maintenance to workplace design and strategic real estate management. With the expansion of the profession has come a need for people with the right skills set to fulfil those roles. Identifying the right skill set and how these may be acquired is the subject of this paper. There is an attempt to ascertain the core skills that the facilities management profession seeks of its employees and then match this skill set to the educational opportunities provided by universities.

The study focuses specifically on the educational offerings of the UK and Australian universities. It investigates whether the skill sets demanded by industry are aligned with the knowledge sets offered by educational institutions. It is envisaged that the outcomes of this study will yield indicative measures that can be utilised by the professions and universities to develop courses to meet the need of the FM profession in the future.

FM Education and Professionalism

The need to achieve more value from operational facilities has resulted in more contemporary and strategic approaches to managing facilities, held by both public and private organisations, over the last decade. Facilities management, defined as “*a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology*” (IFMA, 2004), is increasingly recognised by many large organisations as an enabling function that contributes to its performance.

While the importance of FM is being increasingly accepted, there has been some debate about the boundaries of the profession (Grimshaw, 2003; Varcoe, 2002; Lambert, et al. 1999). However, this has not impeded the growth in FM education, evidenced by the proliferation of courses in learning institutions globally. Often these courses arise due to market demands and are targeted at practitioners. Given that many are from diverse backgrounds, ranging from architects to business managers, there is a requirement for more specialised knowledge to perform the contemporary role of a facilities manager.

In addition, organisations including the International Facility Management Association (IFMA) of the USA, with several international chapters, the British Institute of Facilities Management (BIFM), the RICS FM Faculty, the Facility Management Association of Australia (FMAA) and Euro FM, a network comprising organisations from industry and educational sectors, have been instrumental in advancing and influencing the FM profession. Such organisations, in turn, perform a “middle man” role for the industry by accrediting the relevancy of knowledge and skills offered by the learning institutions.

Facilities Management Skills

The core skills of a facilities manager are wide ranging. Indeed, the profession has been referred to as a 'Jack of all Trades' (Tay and Ooi, 2001) in that it is not clear if FM is a management discipline and, if it is, whether or not practitioners need formal education in order to practice. There is some consensus, however, that FM exists at a differing levels, the operational and the managerial or professional level. This paper focuses on the management of facilities at strategic level at which practitioners might be considered as professionals. Payne (2000) listed four areas in which professionals are involved in FM:

- (1) Property and built environment require the professional skills of architects, legal services, space planners and quantity surveyors.
- (2) The way that people interact with the built environment has required the input of human resources professionals, building services and environmental engineers.
- (3) The technical expertise of maintenance staff.
- (4) The processes that take place within the buildings including inter alia catering, cleaning, security, mail room, reprographics, have required input and practical operational management from a range of specialist professional backgrounds.

It is also evident from the literature, that if FM is to continue to grow, it must do so by developing a clear knowledge base on which to differentiate itself from other related professions. Nutt and McLennan (2000) claim that facilities managers of the future will be knowledge workers, who are able to assimilate business and property knowledge in order to develop innovative facilities solutions. As Varcoe (2002) states:

“Somehow collective bodies of learning and information need to be established. Furthermore, the current preponderance throughout the ranks of the ‘profession’ of solid mid-tier generalists will have to be migrated over time in at least two directions. Firstly some will need to move higher, to become ‘macro-managers’ on a large scale. Secondly a whole new strata of experts will need to be developed, who together, integrated by new systems, workflows and information

platforms, will be able to control and manage the scale and complexity of the 'mega-enterprises' that will emerge".

The skills needed to grow this knowledge profession are many and a number of academic papers have, over the years, attempted to give some guidance on what abilities the emerging industry might value. A common theme through most papers is that, first and foremost, FM is a business management discipline and practitioners must be well versed in the generic business skills if FM is not to remain rooted to an operational and cost focussed stance (Price, 2004; Rogers, 2004). Among the range of skills identified, strategic management features highly. Lopes (1996) and Hinks (2001) both identify strategy and business knowledge as key skills which contemporary facilities managers must acquire. The importance of business and service management skills to the future of the profession are highlighted by Rogers, (2004). In his paper, it is contended that "high performance business units, using a smarter mixture and application of skill sets' will benefit the growth of the profession. The service management and business economics skills are similarly seen as the future direction of the profession, providing it with 'well grounded, reliable and valid techniques' (McLennan, 2004).

Human resource and people management skills are other areas which are recognised as growing in importance to successful FM (Price, 2004; McGregor 2000).

Performance measurement and procurement strategies, as core skills of the facilities manager of the future, are also seen as essential (PCA, 2000; Price and Akhlaghi 1999).

There are obviously numerous skills required to effectively perform the role of facilities manager within a modern corporation. It is possible to derive a list of the most frequently cited skills from the research papers already discussed and other academic papers. In evaluating the skills of future facilities managers, reference should be made to the current research agenda in order to gain an insight into the specific skills that might be required as the facilities management industry develops. This paper will ascertain the skills identified by industry. While these undoubtedly will incorporate many of the skills emerging in the academic literature, the industry associations, at the coalface, are the most likely to be able to identify the skills that practitioners currently need as they enter and progress through the profession.

Procedures

An exploratory desktop approach was used to generate the preliminary background information. This method is similar to a situation analysis that involves the informal gathering of background information in order to gain insights and appreciation into a situation (Zikmund, 1997). Using such an approach is a cost effective and efficient method of gathering data.

Industry skills

The first set of information to be gathered is the different skills needed by industry. A review of each of the major British, Australian and American professional bodies' membership and accreditation requirements was undertaken. Using the British Institute of Facilities Management (BIFM) competencies (BIFM, 1999), the RICS FM Faculty (RICS, 2001), the International Facilities Management Association (IFMA), and the Facilities Management Association of Australia (FMAA) competencies (FMAA, 2004), it is possible to derive a matrix of skill sets as shown in Appendix 1.

Educational Offerings

The next step in the research method was to identify those universities offering tertiary level courses to meet the educational and training needs of the facilities management industry. The review of universities was restricted to the UK and Australia as both countries have similar education systems. Those establishments offering either undergraduate or post graduate courses were identified from a number of sources, including BIFM and RICS course endorsements and listings of training opportunities, together with a systematic search of university web sites. From these sources, a comprehensive list of courses was developed.

Not all universities identified as providing facilities management courses are included within the results. Courses have been excluded for a variety of reasons. A number do not publicly provide any meaningful details of the course or of the units taught and therefore could not be analysed. Other courses appear to have been withdrawn or are not currently being offered, which could be an indication of student demand or perhaps industry recognition of graduates.

This second set of data looks at the knowledge set offered by the educational institutions across Australia and the UK. Information was gathered from the published course profiles obtained from university web sites pertaining to FM

courses, in particular, the program philosophy, the scope of the subjects taught and details of specific subject aims, objectives and content. The courses for which detailed guidance was available as to the subject units on offer and the material to be included in the course, provide a broad indication as to how the course will contribute to each of the skills areas. This is, by necessity, a reasonably qualitative evaluation based on a relatively limited amount of information. It does however, provide an indication of the fit of tertiary level courses with industry skills needs. A detailed and more rigorous follow up survey process of course evaluation is proposed. Based on university stated objectives, together with graduate and employer evaluations of the courses, this qualitative survey provides a valuable foundation upon which to build future research into the education of the next generation of facilities managers.

Skills versus Courses Matrix

To record and analyse the skill set and knowledge data, a competencies matrix was designed (see Table 1). The matrix is used to match the perceived level to which the course outline of FM courses fits with the industry skills. It divides the skills sets into seven broad headings and correlates the program details from each of the educational institutions. Through the matrix, the extent to which the skills are addressed by each university delivering FM courses is reflected through the vertical column. Notwithstanding that not all the sub-skills listed under the seven broad headings can be covered within the confines of an FM course, any subject that incorporates a sub-skill within a heading would indicate that the skills heading has been addressed. It is also inevitable that the level of engagement will vary across different courses and, that this level is, therefore, only an approximation of the extent to which these skills are developed within a particular course.

Table 1 Skills - Course Matrix

		Universities Offerings			Unit of emphasis on each industry identified skills
		Uni 1	Uni 2	Uni...N	
Seven broad headings with 30 individual sub- skill under different headings	Heading 1				
	-----	Subject			N
	-----		Subject		N
	Heading 2				
	-----		Subject		N
	-----		Subject		N
	-----	Subject			N

	Heading 7				
	-----		Subject		N

The horizontal rows, when aggregated, provide a value for each specific sub-skill listed within a heading across the different FM courses. As some subjects within a course may appear under several headings, the specific sub-skill is given a proportionate value dependent on the number of broad headings it has been allocated. Hence, by aggregating the proportionate value across the institutions the resulting value suggest the level of emphasis on each respective skill.

Results

Industry skills

It is evident from Table 2, which shows the listing of required skills for membership or recognition by the institutes, that considerable commonality exists between the organisations. This is not a surprising finding given the size of the facilities management industry, the close links between the organisations and the members of those organisations. The close alignment of skills identified in the UK, USA and Australia enables the list of skills to be collated. It comprises 30 individual skills arranged under 7 broad headings. The headings were taken from the BIFM documentation but can equally be identified within the broad headings of other institutions.

Table 2 Skills Evaluation

Professional Institution	Skill Set
	LEADERSHIP
IFMA	Leadership & Management
FMA	Manage change
RICS	Professional Practice
RICS	Law
	UNDERSTANDING BUSINESS ORGANISATION
BIFM	Understanding the Structure and Behaviour of Organisations
BIFM & RICS	Understanding Business and Organisational Strategy
BIFM & FMA & RICS	Developing FM Strategy
	MANAGING PEOPLE
BIFM, FMA & RICS	People Management
BIFM, FMA & IFMA	Communication
BIFM & RICS	Working with Suppliers and Specialists
FMA	Manage workplace relationships
	MANAGING PREMISES
BIFM, FMA & IFMA & RICS	Property Portfolio Management
BIFM	Understanding Building Design
BIFM, FMA & RICS	Building Fabric Maintenance
FMA	Improve facility performance
RICS	Development Briefs
	MANAGING SERVICES
BIFM, RICS	Managing Building Services
BIFM	Managing Support Services
BIFM, RICS	Managing Customer Service
IFMA & BIFM, FMA, RICS	Planning & Project Management
IFMA	Operations & Maintenance
	MANAGING THE WORKING ENVIRONMENT
BIFM & IFMA	Environmental Issues
BIFM	Space Management
	MANAGING RESOURCES
BIFM & FMA & RICS	Procurement
BIFM & FMA	Risk Management
BIFM, FMA & IFMA & RICS	Financial Management
BIFM & IFMA	Quality Management
BIFM, IFMA & RICS	Information Management

The seven broad headings encompass the key areas of practice. The leadership skills category encompasses elements of business and organisational behaviour, motivation, change management and professional practice/ethics and, in many respects, is a catchall category, of generic business skills. While this is a broad category, there is commonality among the institutions in the range of skills identified.

The second category is less generic in nature. It focuses on the business management and organisational behaviour aspects and includes the use of business strategy and corporate real estate skills in the delivery of property solutions. This category includes many of the skills identified in the literature as representing the future direction of facilities management at the high end of business decision-making. The third business related heading is that of People Management, where the focus is on human resource management and interpersonal skills to address the need for facilities managers to be able to succinctly communicate with a range of stakeholders at all levels of business.

The remaining four groupings of facilities management skills are more specific to the property sector. They incorporate managing premises, which ranges from building design and operational issues through to high level, portfolio management. This is a very wide field into which practitioners will slot at a variety of levels, but in which the literature indicates a growing need for strategic level thinking for business solutions (Lambert, Poteete and Kagan, 1999; Joroff, et al, 1993). The remaining categories of managing services, work environments and resources have a more operational focus and include the essential asset management skills to successfully manage properties hands-on. An area of particular note would be in relation to risk management which has been identified by a number of researchers as a developing area of interest and expertise.

Educational Offerings

Very few universities conduct FM education at the undergraduate level within either Australia or the UK. Indeed, there is none which award bachelor degrees related to FM in Australia. Given the low number of universities offering FM degree at the undergraduate level, it was decided that this study will focus at the postgraduate level. The result concurs with the common perception that FM education is often undertaken at the post-graduate level as a specialisation following a generic property or

construction first degree. Table 3 reveals that a larger number of universities awarded PG Cert, PG Diploma and Master, MSc and even MBA degrees than undergraduate degrees.

Table 3 Courses in Australia and UK

	Aus	UK
No of university offering Certificate in FM	1	1
No of university offering Diploma in FM	1	2
No of university offering Undergraduate Degree in FM	0	3
No of university offering PG Certificate in FM	6	3
No of university offering PG Diploma in FM	5	5
No of university offering Master / MBA/ MSc in FM	6	9

Number of Skills Headings Engaged

The results for the proxy to approximate the extent of skills provision across different area of competencies are encouraging. The value for the proxy is derived by identifying the number of headings engaged by a course and then averaging it across the number of universities. A proxy value of seven will mean that the skill headings engaged is wide, while lower values suggest a narrower coverage. Table 4 reveals that they average 5.9 and 6.1 out of 7 at the PG Diploma and Masters degree levels respectively. Moreover, the individual score for each university reveals a proxy value of 4 and above (See Appendix 1). This suggests that the universities providing FM courses endeavour to engage and cover, as comprehensively as possible, across the different skills headings identified by industry. One reason for this is that universities have collaborated and already aligned the FM courses to meet industry expectations. It also suggests that the accreditation process of professional bodies may have some influence on the subjects covered. It should be noted here, however, that, no FM course in Australia is currently accredited by the FMA.

Table 4 Average number of skill headings engaged

	Average nos. of skill headings engaged	AUS	UK
PG Diploma	5.9	5.8	6
Master/MSc	6.1	6	6.2

Individual Skills

In considering each individual skill, certain knowledge sets offered by the universities appear to be more highly emphasised (see Table 5). These sets of knowledge are extracted, based on their aggregate score positions, according to their unit of emphasis (See Appendix 3). Therefore, these are, the more common knowledge sets provided by the different universities. The results suggest that courses attempt to deliver knowledge at both the operational and managerial level. Similar to the nature of FM, the knowledge sets are diverse ranging from providing knowledge in property and facilities to environmental issues, from financial to information management through to project management, risk management, people management and space management. In addition, comparing the knowledge provided between the post-graduate diploma level and master level reveals a high similarity in the knowledge areas.

Table 5 More common skill sets

PG Diploma	Master/MSc
Developing FM Strategy	Developing FM Strategy
Environmental Issues	Environmental Issues
Financial Management	Financial Management
Information Management	Information Management
Manage Facilities	Managing Building Services
People Management	People Management
Planning & Project Management	Planning & Project Management
Procurement	Procurement
Property Portfolio Management	Property Portfolio Management
Risk Management	Space Management

Despite anecdotal evidence indicating that the future direction of FM is related to having knowledge in business management and organisational behaviour, it appears that these knowledge sets are not common among the university courses. This highlights the difficulties of targeting and achieving the right knowledge set, which is perhaps understandable given the diverse and rapidly developing nature of FM.

Conclusions

This skills analysis of the facilities management profession provides a valuable insight into the developing profession. It clearly shows that in markets as diverse as Australia, the UK and USA, the skills identified by the leading professional institutions show considerable commonality. This bodes well for the continuing growth of the profession globally as a single discipline and for its recognition as a valuable contributor to organisation's profitability. The skills also reveal the very broad basis of facilities management practice, emphasising the need for practitioners to obtain specific qualifications to enhance their knowledge and ability to perform in this competitive business discipline. It is also evident from the skills set that existing university programs in property and construction related disciplines, while providing a sound grounding, do not provide the depth of knowledge needed to be a successful facilities manager.

The research does, however, clearly show that most facilities management courses have been established at the post graduate level. It also shows that to acquire the full compliment of skills that participants will need to complete courses at the masters level. It reinforces the observation that undergraduate property, or similar courses provide a sound grounding upon which the more specialised facilities management skills can be built. Reviewing course offerings, is, by necessity, a very qualitative measure and does not in any way evaluate the quality of the course materials or competency of the graduates. What has been identified, however, is the extent to which the stated objectives of the courses on offer fit with the industry's expectations of skilled and educated facilities management practitioners. The results of this study show that, by and large, university courses are providing a sound level of skills base, though there are some significant gaps evident in a number of courses on offer. Particularly of concern is the lack of business skills within many of the courses. If graduates from these courses lack the core business skills, they are more likely to be

viewed as technicians and not meet the aspirations of the profession to fulfil a role at boardroom level that is aimed at setting strategic direction for corporate resources.

It is hoped that this research will enable those academics involved in the development and delivery of facilities management courses to confidently identify the skills recognised by industry as essential to competent delivery of services and to tailor their courses to meet these demands. It may also serve to illustrate the need for a balanced delivery of skills across the broad range rather than a tendency to specialise in the perceived higher order strategic skills at the expense of a sound grounding in all aspects of the profession.

While this study is based on a qualitative evaluation of professional skills and university course competencies, it does identify the need for a more in depth study to address the future needs of the industry. It further provides a basis for ongoing dialogue between industry, the professional associations and the tertiary education sector to ensure the next generation of facilities managers enter the workforce well equipped for the challenges ahead.

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Appendix 1 Skills Evaluation

<u>PROFESSIONAL INSTITUTION</u>	<u>SKILLS SET</u>
	LEADERSHIP
IFMA	Leadership & Management
FMA	Manage change
RICS	Professional Practice
RICS	Law
	UNDERSTANDING BUSINESS ORGANISATION
BIFM	Understanding the Structure and Behaviour of Organisations
BIFM & RICS	Understanding Business and Organisational Strategy
BIFM & FMA & RICS	Developing FM Strategy
	MANAGING PEOPLE
BIFM, FMA & RICS	People Management
BIFM, FMA & IFMA	Communication
BIFM & RICS	Working with Suppliers and Specialists
FMA	Manage workplace relationships
	MANAGING PREMISES
BIFM, FMA & IFMA & RICS	Property Portfolio Management
BIFM	Understanding Building Design
BIFM, FMA & RICS	Building Fabric Maintenance
FMA	Improve facility performance
RICS	Development Briefs
	MANAGING SERVICES
BIFM, RICS	Managing Building Services
BIFM	Managing Support Services
BIFM, RICS	Managing Customer Service
IFMA & BIFM, FMA, RICS	Planning & Project Management
IFMA	Operations & Maintenance
	MANAGING THE WORKING ENVIRONMENT
BIFM & IFMA	Environmental Issues
BIFM	Space Management
	MANAGING RESOURCES
BIFM & FMA & RICS	Procurement
BIFM & FMA	Risk Management
BIFM, FMA & IFMA & RICS	Financial Management
BIFM & IFMA	Quality Management
BIFM, IFMA & RICS	Information Management

Appendix 2 University Courses

	University / Award**	No of divisions engaged	Index	Accredited
	<i>PgDip</i>			
1	AUNI3	4	57	No
2	AUNI4	5	71	No
3	AUNI5	7	100	No
4	AUNI6	7	100	No
5	AUNI7	6	86	No
6	UKUNI1	7	100	BIFM, RICS
7	UKUNI2	7	100	BIFM,RICS
8	UKUNI6	5	71	BIFM
9	UKUNI7	6	86	BIFM
10	UKUNI8	5	71	BIFM,RICS
	<i>Master/MBA</i>			
11	AUNI3	5	71	No
12	AUNI4	5	71	No
13	AUNI5	7	100	No
14	AUNI6	7	100	No
15	AUNI7	6	86	No
16	AUNI7*	5	71	No
17	AUNI8	7	100	RICS
18	UKUNI1	7	100	BIFM
19	UKUNI2	7	100	BIFM,RICS
20	UKUNI3	5	71	BIFM
21	UKUNI4	7	100	RICS
22	UKUNI5	7	100	No
23	UKUNI6	5	71	RICS
24	UKUNI7	6	86	BIFM
25	UKUNI8	5	71	BIFM, RICS
26	UKUNI9	7	100	No

** *The universities have been numbered to maintain anonymity*

Appendix 3 Course Skills

<i>PgDip</i>	
LEADERSHIP	Units of emphasis
Leadership & Management	29
Manage change	21
Professional Practice	0
Law	10
Planning & Project Management	78
Mapping	0
UNDERSTANDING BUSINESS ORGANISATION	
Understanding Business and Organisational Strategy	8
Understanding the Structure and Behaviour of Organisations	19
Developing FM Strategy	41
MANAGING PEOPLE	
People Management	34
Communication	8
Working with Suppliers and Specialists	5
MANAGING PREMISES	
Property Portfolio Management	95
Manage Facilities	53
Understanding Building Design	0
Building Fabric Maintenance	13
Improve facility performance	29
Construction Technology	0
Development Briefs	20
MANAGING SERVICES	
Managing Building Services	30
Managing Customer Service	0
Managing Support Services	20
Operations & Maintenance	3
MANAGING THE WORKING ENVIRONMENT	
Environmental Issues	95
Space Management	25

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	Units of emphasis
MANAGING RESOURCES	
Procurement	45
Risk Management	33
Financial Management	70
Quality Management	32
Information Management	53

<i>Master/MBA</i>	Units of emphasis
LEADERSHIP	
Leadership & Management	21
Manage change	21
Professional Practice	0
Law	13
Planning & Project Management	55
Mapping	0
UNDERSTANDING BUSINESS ORGANISATION	
Understanding Business and Organisational Strategy	22
Understanding the Structure and Behaviour of Organisations	20
Developing FM Strategy	47
MANAGING PEOPLE	
People Management	46
Communication	5
Working with Suppliers and Specialists	3
MANAGING PREMISES	
Property Portfolio Management	88
Manage Facilities	37
Understanding Building Design	0
Building Fabric Maintenance	15
Improve facility performance	29
Construction Technology	6
Development Briefs	13
MANAGING SERVICES	
Managing Building Services	56
Managing Customer Service	0
Managing Support Services	19
Operations & Maintenance	11
MANAGING THE WORKING ENVIRONMENT	
Environmental Issues	97
Space Management	47

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MANAGING RESOURCES	Units of emphasis
Procurement	41
Risk Management	27
Financial Management	72
Quality Management	24
Information Management	58