



Exploratory Study of Facility Management Education Opportunities at the University of Oklahoma

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Through traveling throughout the eastern part of Europe Juvenal developed a love and fascination with buildings, their construction and maintenance in particular. The intricacy of buildings and their operation has been a field that needs more development in relation to future prospective careers for graduating college students. This paper is geared for Facility Management professionals and students interested within this field of Construction Management. This paper explores the Facility Management career opportunities within the State of Oklahoma. Juvenal Graduate of the University of Oklahoma Construction Science in December two thousand eighteen and is currently employee by a mid-sized United States General Contractor.

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The Facility Management (FM) industry has traditionally attracted workers from the Architecture, Engineering, and Construction (AEC) industry. As the role and responsibilities for facility managers become more and more sophisticated, so will the need for advanced FM education. The FM industry is providing resources and support to many universities to increase FM education opportunities. Universities throughout the nation are developing successful programs to providing training in FM, from certifications to master degrees. The University of Oklahoma is located geographically within two hundred miles of three large metropolitan cities. Industry relations and support have been a large factor in the success of FM programs. The paper's objective is to perform an exploratory study of the FM educational opportunities at the University of Oklahoma. Using past research, a survey was created and circulated to local FM associations for data collection. The methodology presented provides direction for future regional studies related to the FM industry. Responses are used to identify area FM demographics, education requirements within FM, current and future talent needs, potential employment opportunities for students, and transparency with the local FM career path. The findings provide direction for the University of Oklahoma to address education opportunities valuable to the regional FM industry.

Key Words: Facility Management, Facility Management Education, Higher Education

Introduction

The facility management role has long been viewed as a maintenance-focused position with little entry-level requirements. However, the profession is beginning to be viewed more as a critical role within today's businesses [1]. The International Facility Management Association (IFMA) defines Facility Management (FM) as “A profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, places, processes, and technology” [2]. Facility managers have the responsibility of supervising financial investments in buildings, property, and assets. Businesses have realized the importance of having a productive and qualified facility manager [3]. A 2016 study estimated the FM market to be worth 1.12 trillion USD in the United States [4]. Therefore, it is critical to ensure the development of FM individuals in such a large and important industry.

An area that the FM industry has continued to struggle with is providing a clear career path for top FM positions in the industry, beginning with education and entrance into the industry [5]. The majority of facility managers come from industries that are closely related to building management, such as construction management, engineering, architecture, interior design, and more. A 2007 study of 4,600 facility managers found the average age was 48, with 24 percent of the workforce being 55 years or older [6]. As the gap grows between older generations leaving the industry and younger generations that are not aware of FM career opportunities, organizations like IFMA are dedicating resources to develop career awareness and education. To date, IFMA has 24 international accredited programs that provide degrees in FM [7]. Aware of the resources available, universities are investigating the potential of developing FM degree programs. Through the experience of developing an FM degree program in another university,

the author knows the importance of industry involvement in creating a program. Industry partners are critical to the development and sustainability of a University FM program. Universities will depend on local facility managers to assist with classes, provide mentoring, provide internships and hire FM graduates.

In 2016, the authors formed a student chapter associated with IFMA at the University of Oklahoma. During the first year, the student chapter provided an educational opportunity for students to learn more about the FM industry. Located in the College of Architecture at the University of Oklahoma, students from three different degree programs were invited to participate; these programs included Construction Science, Architecture, and Interior Design. The University of Oklahoma is located geographically within two hundred miles of three large metropolitan cities. The objective of this study is to explore the local FM industries employment needs in the state of Oklahoma and to measure the potential collaboration of the University of Oklahoma and the FM industry. The studies objective was to answer the following five questions (1) what is the education requirements for entering the FM industry in the Oklahoma area; (2) what is the current and future need for talent in the local FM industry; (3) what employment opportunities could be provided for University of Oklahoma FM student chapter members; (4) what bachelor's degree provided by the University of Oklahoma is best suited to enter the FM industry; and (5) is there a clear career path in the FM industry in Oklahoma.

Methodology

Using past research, a twenty-one-question survey was developed by the authors to address the five research questions. The survey is presented in the Appendix. Many of the survey questions used a five-point Likert scale. The researchers invited three Oklahoma FM association chapters to participate in the survey. The three chapters were the International Facility Management Association (IFMA); Building Owners and Managers Association International (BOMA); and Leadership in Educational Facilities (APPA). Qualtrics® an online survey tool was used to collect data. The researchers forwarded a link to the survey tool to chapter managers and requested their participation.

Findings and Discussion

A total of 26 valid responses were collected, Demographics of the survey participants can be seen in Table 1. Eighty-eight percent of the survey participants were men. Previous research has pointed to the disproportionately amount of male to female facility managers in the industry [1]. Although 46 percent of the group was older than 50 years old, 65 percent of the survey participants had ten years or less of FM experience. All 26 of the survey participants were members of the OKC IFMA chapter. No members from the BOMA or APPA chapters participated with the survey. The authors believe the local IFMA chapter had more involvement with the study due to the level of relationship between the researchers and the association. Although the chapter members from BOMA and APPA agreed to invite members to participate in the study, there were no respondents from either association. Future research can focus on creating greater collaboration between other FM associations.

Table 1. Demographics of Survey Participants

Gender	N	%
Male	23	88%
Female	3	12%
Age	N	%
29 or younger	1	4%
30-39	5	19%
40-49	8	31%
50-59	6	23%
60-older	6	23%
FM Experience (in years)	N	%
Less than 5 years	10	38%
5-10 years	7	27%
15-20 years	1	4%
More than 20 years	7	27%
No Response	1	4%
Industry Type	N	%
Education	1	4%
Government	3	12%
Healthcare	3	12%
Lodging	0	0%
Mercantile	1	4%
Office	7	27%
Other	10	38%
No response	1	4%

Research Question One - Education Requirements

A large majority (62 percent) of the companies do not require a bachelor's degree when hiring a facility manager and the other 30% of the participants stated that their company require a bachelor's degree, see Table 2. Forty-two percent of the companies represented only require a high school degree for FM positions. A slight majority (58 percent) of the participants foresaw that their requirements for hiring within their companies would not change in the future. Looking at the 16 companies that do not require a bachelor's degree, 9 (56%) of the respondents didn't think the education requirements will change in the future, 7 (44%) of the respondents did think the education requirements will change, however none of the respondents specified that a bachelor's degree would soon be required in the future. A large number of the participants stated that more education with today's technologies is needed in the region, additionally advanced business acumen, leadership skills, and operation knowledge. When asked what degree would serve the local FM industry, fifty-eight percent of the participants selected an FM certification as being beneficial for the industry. Classes currently provided at the University of Oklahoma could potentially provide the region with a certification that focused on the needs identified, such as Building Information Modeling (BIM), Building Automation Software (BAS), sustainability

practices, leadership, design, and project management. The participants showed interest in the main product of the University with a Bachelor or Master degrees in FM. However, only 27 percent of the companies surveyed currently require a bachelor’s degree. This percentage is far lower than the researchers hypothesized at the beginning of the research.

Table 2. FM Education Requirements Within Company

Education Requirements for New Facility Manager	N	%
High School/GED	5	19%
Some College	6	23%
Technical Degree	5	19%
Associate's Degree	0	0%
Bachelor's Degree	7	27%
Master's Degree	0	0%
No Response	3	12%
Perceived Changes to Education Requirements in Future	N	%
Yes	10	38%
No	14	54%
No Response	2	8%
The University of Oklahoma could better serve the local FM industry by providing.	N	%
FM Certification	15	58%
FM Bachelor’s Degree	12	46%
FM Master’s Degree	3	12%
No Response	2	8%

Research Question Two – Current and Future Talent Needs

Only 29 percent of the survey participants responded positively that they would likely be hiring an FM manager in the next five years. The same percentage (29%) found it unlikely that they would be hiring an FM manager in the near future. This represents a stable workforce with no critical workforce development needs or concerns. Even local internship opportunities seemed to be unlikely with 43 percent of the respondents saying they would unlikely hire an intern compared to 39 percent that said they would at least be somewhat likely to hire an intern, see Table 3.

Table 3. Future FM Employment Needs

#	Question	Extremely Likely	Somewhat Likely	Neither Likely nor Unlikely	Somewhat Unlikely	Extremely Unlikely
Q10	Recruit an FM manager in Oklahoma during the next five years	0%	29%	42%	21%	8%

Q11	Hiring an FM intern in Oklahoma during the next five years	13%	26%	17%	30%	13%
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Although many of the respondents do not foresee future hiring, the study found that the current state of hiring an FM is somewhat difficult. Thirty-nine percent of the respondents stated that it is at least somewhat difficult to find a qualified FM manager in Oklahoma, see Table 4. Thirty-eight percent of the respondents think that it will become more difficult to recruit qualified FM managers in the near future.

Table 4. Facility Managers Recruitment and Hiring Difficulty

#	Question	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
Q14	It is currently difficult to find a qualified FM manager in Oklahoma.	4%	35%	48%	9%	4%
Q15	It will become more difficult to find a qualified FM manager in Oklahoma in the near future.	4%	33%	42%	17%	4%

Research Question Three – FM Student Chapter Member Opportunities

Nearly half of the respondents stated that they would be interested in recruiting and hiring student chapter members at the University of Oklahoma, see Table 5. Thirteen percent said that they would be extremely likely to hire a student as an FM manager and 17 percent said they would be extremely likely to hire a student chapter member as an intern. The question for the University becomes how often would it be expected that the FM employers would be looking to hire students, according to the previous section it would seldom be.

Table 5. Potential Employment Opportunities for FM Student Chapter Members

#	Question	Extremely Likely	Somewhat Likely	Neither Likely nor Unlikely	Somewhat Unlikely	Extremely Unlikely
Q16	Hire FM Student Chapter members as full time facility managers	13%	33%	38%	17%	0%
Q17	Hire FM Student Chapter members as facility manager interns	17%	30%	35%	13%	4%

Research Question Three – Best Suited Bachelor’s Degree

Question 18 asked the participants “*In the near future, how likely would your company hire a student as an FM manager with the following Bachelor’s Degree*”, the study then presented a list of Bachelor’s degree related to the FM focuses, see Table 6. The top three likely degrees were (1) Construction Science/Construction Management (74% likely); (2) Mechanical Degree (59% likely); (3) Business Management (50% likely). The bottom three likely degrees were (1) Interior Design (19% likely); (2) Architecture (29% likely); (3) Architecture Engineering (29% likely). The top three degrees are located in three different colleges at the University of Oklahoma, which adds complexity to maintaining a student chapter tailored to the needs of the industry.

Table 6. Bachelor’s Degree Most Suited for the FM Industry

#	Bachelor’s Degree	Extremely Likely	Somewhat Likely	Neither Likely nor Unlikely	Somewhat Unlikely	Extremely Unlikely
Q18.A	Architecture	0%	29%	14%	43%	14%
Q18.B	Architecture Engineering	0%	29%	38%	19%	14%
Q18.C	Business Management	9%	41%	18%	23%	9%
Q18.D	Construction Management	17%	57%	13%	13%	0%
Q18.E	Civil Engineering	10%	29%	19%	29%	14%
Q18.F	Interior Design	0%	19%	29%	33%	19%
Q18.G	Electrical Engineering	5%	41%	23%	23%	9%
Q18.H	Mechanical Engineering	5%	55%	14%	18%	9%

Research Question Three – Career Path

Table 7 indicates that only one participant plans on retiring in the next five years and seven (27%) will be retiring within 5 to 10 years. With nearly half (46%) of the survey participants being fifty years or older, and six (23%) facility managers being older than sixty, it appears that there will be several participants working past the age of 65. It does appear that the majority of the group has a plan for succession when the facility managers depart (see Table 7). Sixty-two percent of facility managers have succession plans, which supports that the local companies are working proactively to retain FM talent and knowledge.

Table 7. FM Succession Planning

Years Until Retirement	N	%
Less than 5 years	1	4%
5-10 years	7	27%
11 to 15 years	5	19%
Over 15 years	13	50%

Succession Plan Exists for Facility Manager	N	%
Yes	16	62%
No	9	35%
No Response	1	4%

As mentioned earlier, providing a clear career path has been an issue for recruiting new talent into the FM industry. Fifty-four percent of the participants agreed that their companies provided clear career paths for facility managers in the area, see Table 9. Only eight percent of the participants somewhat disagreed that their employer did not provide a clear career path. Additionally, Table 9 shows that the large majority (67%) of the companies plan on hiring the next top manager internally. These are positive signs that companies in the area are providing FM employees with clear career paths and tend to develop their top facility manager internally.

Table 8. Clear Career Paths in Facility Management

#	Question	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree
Q13	Company has a clear path for career advancement for FM employees	8%	46%	38%	8%	0%

Table 9. FM Career Path

#	Question	Extremely Likely	Somewhat Likely	Neither Likely nor Unlikely	Somewhat Unlikely	Extremely Unlikely
Q12	Top manager of facilities will be hired internally within your company	38%	29%	33%	0%	0%

Limitations

This study had clear limitations with a focus on the local facility managers perception of the industry needs; it does not account for the national and international FM need. Associations such as IFMA, BOMA, and APPA are proactively working towards attracting the next generations of FM. The study timeline limited survey participants with IFMA members, future research should collect survey data from additional associations to better represent the Oklahoma population.

Conclusion

The nation's Facility Management (FM) market has been estimated at an annual worth of over 1.1 trillion dollars. Such a large market should provide opportunities for educators. The researchers examined five topic areas with the local (FM) industry to identify opportunities for collaboration with the University of Oklahoma. Twenty-six facility managers in the state of Oklahoma participated in a structured online survey. The findings provide a better understanding of the Oklahoma FM industry.

The study found that the majority of local companies do not require a college degree for facility managers and this will unlikely change in the future. Additionally, the local industry seems to currently have a low demand for new facility managers and have low needs for hiring college graduates as interns or full-time employees. However, the participants identified the need for additional education opportunities, particularly with today's technologies related to managing building life-cycles. The best education opportunity at the University of Oklahoma for serving the local FM industry was found to be an FM certification. Further research can provide a feasibility study with an FM certification for the local FM industry.

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Appendix

OU Facility Management Survey Questions

1. What is your gender?
 - Male
 - Female
2. How long have you been in Facility Management (FM)?
 - Less than 5 years
 - 5-10 years
 - 15-20 years
 - More than 20 years
3. What age range do you fall into?
 - 29 or younger
 - 30-34
 - 35-39
 - 40-44
 - 45-49
 - 50-54
 - 55-59
 - 60-64
 - 65-older
4. What industry does your company fall under?
 - Education
 - Government
 - Healthcare
 - Lodging
 - Mercantile
 - Office
 - Other _____
5. How many years until you (specifically) retire?
 - Less than 5 years
 - 5-10 years
 - 11 to 15 years
 - Over 15 years
6. Within your company what is the current level of education requirement for hiring a FM manager?
 - High School/GED
 - Some College
 - Technical Degree
 - Associate's Degree
 - Bachelor's Degree
 - Master's Degree
7. Do you foresee the requirements for hiring Facility Managers to change in the future in terms of educational requirements?
 - Yes
 - No
8. If answered Yes to previous question, how will the hiring requirements change?

- _____

9. Does your company have a succession plan for FM Leadership?
- Yes
 - No
10. How likely will your company be recruiting a FM manager in Oklahoma during the next five years?
- Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
11. How likely will your company hire a FM intern in Oklahoma during the next five years?
- Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
12. How likely will the top manager of facilities be hired internally within your company?
- Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
13. Your company has a clear path for career advancement for FM employees?
- Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
14. It is currently difficult to find a qualified FM manager in Oklahoma?
- Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
15. It will become more difficult to find a qualified FM manager in Oklahoma in the near future?
- Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
16. How likely would you use the University of Oklahoma FM Student Chapter as a source for recruiting future FM managers?

- Extremely Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Extremely Unlikely

17. How likely would you use the University of Oklahoma FM Student Chapter as a source for recruiting future FM interns?

- Extremely Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Extremely Unlikely

18. In the near future, how likely would your company hire a student as a FM manager with the following Bachelor's Degree:

a. Architecture

- Extremely Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Extremely Unlikely

b. Architecture Engineering

- Extremely Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Extremely Unlikely

c. Business Management

- Extremely Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Extremely Unlikely

d. Construction Science/Construction Management

- Extremely Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Extremely Unlikely

e. Civil Engineering

- Extremely Likely
- Somewhat Likely
- Neither Likely nor Unlikely
- Somewhat Unlikely
- Extremely Unlikely

f. Interior Design

- Extremely Likely

- Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
 - g. Electrical Engineering
 - Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
 - h. Mechanical Engineering
 - Extremely Likely
 - Somewhat Likely
 - Neither Likely nor Unlikely
 - Somewhat Unlikely
 - Extremely Unlikely
- 19. How could the University of Oklahoma better serve workforce development in the FM industry in Oklahoma?
 - Provide a certification in Facility Management
 - Provide a Bachelor's degree in Facility Management
 - Provide a Master's degree in Facility Management
 - Other.
- 20. If answered "Other" to the previous question, please describe?
- 21. Through what association did you receive notification of this survey?
 - IFMA
 - BOMA
 - APPA