Innovative Technology Is a Key to Facility Management Survival

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The business environment is rapidly changing. Automation and information systems are eliminating stakeholders out of the supply chain at a dizzying speed. Facility managers (FM) must change to prevent extinction. The path to extinction is clear; outsourcing, followed by loss of benefits, followed by commoditization and abusive work hours and demands. Often a major method of survival is cutting costs which results in poor performance. FM accountability and performance decrease under these conditions. FMs must identify and utilize cutting-edge information system practices that simplify and minimize FMs’ workload and cost, while increasing value and impact. Technology developed at Arizona State University (ASU) over the last 25 years, and now in testing by government and private organizations, allows FMs to become information workers, expand their influence and responsibilities, and cut their costs by 90%. This new FM approach increases capability to lead and deliver all building systems with minimal experience.

Keywords: Best Value Approach, Facility Manager, Expertise, Outsource, Leadership, Information Worker.

Introduction

The business environment that facility managers (FM) work in is rapidly changing. The objective is lowering cost in the worldwide competitive marketplace. Automation and information systems are eliminating stakeholders [removing costs] out of the supply chain at a dizzying speed (Muro et al., 2019). FMs must change their role to prevent professional extinction. The path to that extinction is clear; it is outsourcing, followed by loss of benefits, commoditization and then abusive work hours and demands. A major method for survival is cost cutting which results in poor performance of the supply chain. FM professionalism, accountability and performance decrease under these conditions. The key to maintaining professionalism is the use of technology to improve value.

Outsourcing services are never a long-term solution. It often involves the reorganization of personnel and only works if the personnel do more work for less compensation. There are different ways to achieve this, often it is to sacrifice the level of service that is provided. A second method is to identify organizations and personnel who are doing similar tasks and combine the tasks. An example of this is real estate organizations moving into facility management.
Reality shows that it is a zero-sum game. When organizations create silos, as with outsourced services, they expect that it is not a zero-sum game. The silos often prevent organizations from seeing the zero-sum game. Organizations can be very inefficient; however, efficiency will not increase unless the structure or the individuals change. The challenge of the FM community is that technology is being used to change the structure and products, but the FMs are not able to change sufficiently to keep up.

**Problem: Zero-Sum Game**

There are a few observable examples of people not changing in the FM community. Experienced FMs are retiring. Older FMs who are not yet retired, are working as long as they can. The young FMs, that will replace them, do not have the experience of the older FMs (Gunnoe et al., 2018; Hightower & Highsmith, 2013; Sullivan et al., 2010a). The young FMs do not have the opportunity for more experience, or the knowledge, and they are working in a system in which they are attempting to manage, direct and control (MDC) vendors as if they are their experienced, knowledgeable predecessors (Kashiwagi et al., 2015a). The environment is complicated by an observable lack of experienced FM associate vendors who are delivering the services. A new structure is required for the new professional FMs to increase the performance of the delivered services (D. Kashiwagi, J. Kashiwagi, Child, & Sullivan, 2014; Rivera, Le, J. Kashiwagi, & D. Kashiwagi, 2016).

The other dominant observable example is that organizations are outsourcing their FM services (Kashiwagi et al., 2015b). The outsourced services utilize the same FM professionals. They are paid less, forced to work harder, and their resources are cut due to the client’s organization belief that the outsourcing of the services minimizes costs.

FMs must identify and utilize cutting-edge information system practices that simplify and minimize FM’s daily responsibilities and costs but increase value and impact. Technology developed at Arizona State University (ASU) over the last 25 years is now in testing by government and private organizations. It allows FMs to become information workers (IW), and expands their influence and responsibilities while cutting their activity by 90% and costs by 30% (D. Kashiwagi, J. Kashiwagi, Sullivan, & I. Kashiwagi, 2015; D. Kashiwagi, J. Kashiwagi, A. Kashiwagi, & Sullivan, 2012; Gastelum, 2017). Can traditional FMs accept new technology?

**Research Question**

How does the FM industry sustain the value and performance of FM professionals and associates when replacing retiring FMs with personnel with less experience, less knowledge and less stature within the C-Suite, but lower the cost and improve the professional value of FM personnel? Making the situation more complex is the impact of the worldwide competitive marketplace focusing on lower costs and the movement of the business environment toward automation and use of information systems that minimize the need for decision making and other human activities.
Proposal

By observation of the existing trends, the professional and associate FMs of the future must meet the following requirements (Rivera, D. Kashiwagi, J. Kashiwagi, & Doyle, 2016; Gunnoe, Kashiwagi, & Corea, 2018; Gunnoe & Krassa, 2019):

1. Minimize their workload along with their stress level.
2. Increase the breadth of their responsibility without increasing their workload.
3. Increase the FM performance by utilizing FM expert vendors.
4. Create an environment of transparency where the C-Suite can clearly identify the value and performance of the FM.
5. Make their profession one which is in demand.
6. Make the FM a leadership-oriented job.

These requirements are observable and logical. FMs are overworked, under-compensated and undervalued. International Facility Management Association (IFMA) chapters are now being led by IFMA associates, where 20 years ago, they were led by FM professionals. FM professionals are too busy to participate at the same levels. The general trend is that FM positions are being outsourced. Many FMs work in real estate or food service organizations.

Theoretical Concept Development

A technology has been researched and developed over the past 25 years that may help professional FMs improve their professionalism, value, and level of expertise in facility management services. Developed in the construction industry, the technology is called the Best Value Approach (BVA) and is intended to deliver the following characteristics (Kashiwagi, 2013; Krouwel, 2018; Natasja & Kashiwagi, 2017):

1. One professional FM can do the responsibility of 10.
2. The performance of the service is on time and on budget with 98% customer satisfaction (Krouwel, 2018).
3. The cost of the services can be reduced by 5 to 30% (Gajjar, Kashiwagi, Hurtado, & Sullivan, 2014; I. Kashiwagi, D. Kashiwagi, & Gambla, 2018).
4. The professional communicates in terms of performance metrics to FM vendor services and to the C-Suite. Easily understood metrics demonstrate value and minimize C-Suite decision making (Verway, I. Kashiwagi, Vries, & D. Kashiwagi, 2015).
5. The professional does not need technical knowledge but has the technology that can identify and utilize expert FM vendor expertise, increase performance and decrease cost while decreasing the need to manage and direct the FM vendor services.
6. The professional utilizes performance metrics that increases the breadth of their expertise to reduce cost.
Documented Results of New FM Model

A new model for the FM professional was created at Arizona State University (ASU) and tested extensively with very consistent results to increase the performance of the delivered services while cutting the cost by 5 to 30%. The research resulted in (Duren & Dorée; 2008; Kashiwagi, 2019; State of Hawaii PIPS Advisory Committee, 2002; Sullivan et al., 2010):

1. Research funding of $17.6M over 25 years, much of the funding from professional FMs and their purchasing counterparts.
2. 2,000+ tests delivering $6.5B of services.
3. 98% customer satisfaction.
4. Minimized vendor caused time and cost deviation to 1%.
5. Minimized professional efforts by 90%.
6. Most licensed intellectual property (IP) of any technology developed at Arizona State University [US News and World Report identified ASU as the most innovative university for the last four years] with 61 licenses in the last 15 years.
7. Documented with 350 books and refereed conference and journal papers.
8. Research results audited four times by the State of Hawaii [resulted in State Legislature official report with performance results], Western States Contracting Alliance [resulted in the sole source contract for WSCA members], Corp of Engineers [white paper stating approach met all legal requirements] and the Twente University [dissertation by PhD student].

The documentation and lessons learned from the research tests gives instructions to the FM industry to do the following:

1. Identify and utilize expert vendors who increase the value of FM services, provide performance metrics and reduce the cost (Kashiwagi, Rivera, & Taba, 2019).
2. Minimize the FM workload while increasing responsibilities (Claaasen, Roodhorst, & Kashiwagi, 2019).
3. Simplify explanation of FM responsibilities that the C-Suite will immediately understand.
4. Learn how to use the language of metrics to communicate with users that will increase the FM’s influence and value.
5. Increase the organization’s perception of the role and value of the FM professional (Kashiwagi, Zulanas, & Dhaval, 2016).
6. Expose the industry and FMs to a change in paradigm for the FM Professional and Associate (Smithwick, Schultz, Sullivan, & Kashiwagi, 2013).

Major Challenges to Overcome

The major challenge is not organizational C-Suites, traditional procurement organizations or a lack of resources and budgets. The major challenge comes from within the industry from traditionalist FMs who are concentrating on surviving in their own positions and not the furthering industry’s future.
Traditional professional FMs in positions of leadership in the FM community are still expecting technical education for FM professionals. These traditional FMs became leaders due to their experience and technical knowledge. They are working many hours just to maintain and proliferate that position. They do not have the time or energy to consider the obvious, observable present (Kashiwagi et al., 2015a; Rivera & Kashiwagi, 2016a, 2016b):

1. The FM professional is being outsourced.
2. FM professionals are being tasked to work harder with fewer benefits in outsourced services.
3. FM professionals find themselves reporting to individuals who do not have FM knowledge or expertise.
4. There is more of an emphasis of low-cost FM service providers.
5. Cutting costs has become more important than utilizing expertise to lower cost.
6. FM professionals are required to know everything about FM services.
7. The levels of expertise in both the FM professional and the FM associate services are decreasing.
8. FM associate expert vendors are being directed to do things that they know are not optimal.
9. The FM education and certification structure has been setup as a technical management path modeled financially to proliferate itself in an environment that is moving in a different direction and requires a different structure.

The major challenge to the future professionalism of the FM community [both professionals and associates] is being sustained by the FM community itself. They do not:

1. Know how to create significant change for themselves.
2. Know what to do in their organizations.
3. Know how to transition from the traditional model to an FM model that will sustain itself in an age of increased competition and use of information and automation.
4. Know how to have a doable strategic plan.
5. Know how to optimize the resources they have by using meaningful performance and value metrics to bring change.
6. Know how to do “real” research that allows the FM industry to change into a sustainable, value-added industry.

Their actions are reactionary, short-term and cannot bring change. They are driven by competition, low price, and win-lose relationships. Resources are spent, and no change occurs.

Strategic Vision to Make the FM Professional and Associate Sustainable

The strategic vision of the industry must be realistic. Drastic changes are not acceptable. They create fear, opposition and result in no changes and the extinction of the visionaries. The requirement of organization C-Suites are easy to observe:

1. Minimize the number of employees.
2. Minimize the functions of non-essential services.
3. Minimize cost and increase capability and stakeholder satisfaction at the same time.
The requirement of the FM professional is simple:

1. Get into the C-Suite.
2. Have the same objectives and results as the C-Suite.
3. Ensure that the C-Suite understands their contribution: lower cost and higher capability.

The IFMA organization and the industry must maintain its organizational fiscal position and not make drastic changes. It must make the right changes that gives a hopeful vision of the future to its organization and industry, while minimizing the impact on its members and fiscal operations. Some suggested changes recommended from this to the IFMA organization are:

1. Encourage the FM associates to become more active on education and certification. They are the future experts in the FM community.
2. Educate the FM associates on how to identify and utilize their own expertise.
3. Educate the FM associates [who cause 90% of project cost and time deviations] on how to minimize the risk of the FM professionals.
4. Create a course that educates on a Future FM model [using information systems and minimizing management and control by identifying and utilizing expertise]. Identify FM professional visionaries who have proven experience in creating and testing FM models for the Future. Give the visionaries a structure to recruit a small class of FM professionals and associates of the Future. The requirement to ensure the capability to be visionary [observant, logical, think of the industry before themselves and has common sense] should be utilized for both students and instructors. The course should include logic, industry and organizational structure, information systems and automation, implementation, and how to measure and document test results.
5. Expose the FM industry to a new entry model which identifies and utilizes potential FM professionals and associates of the Future [high school level] that minimizes investment and can track success rates. One such model has been created by FM visionaries, entirely self-funded with assistance from the local Greater Phoenix IFMA chapter, with amazing results.

**Conclusion**

The time is now for identifying how to change the FM industry. The irony is the change must minimize the need for the FM industry to change. The answer is automation. Automation must minimize the technical knowledge and time needed for FMs to think and make decisions. The answer lies in minimizing the need to use someone’s own experience. The FM model of the Future has already been tested. It must now be exposed to the industry. It must cut costs, improve performance, demonstrate the value of the FM professional and associate, minimize the physical efforts and stress of the FM professionals while delivering recognizable results. The proposals and recommendations contained here were developed and are offered toward strengthening the future of the FM profession and the IFMA Organization.
Recommendations

Expose FM visionaries to the following:

1. The FM professional of the Future is as an “Information Worker” [does not require technical FM experience], who minimizes effort while delivering a significant increase in performance and capability.
2. The FM associate of the Future is the technical expert of the future, but needs education to learn how to identify, utilize and leverage their expertise in their organization.
3. A new approach/entry point for the FM industry, using updated technology to attract future FM professionals and associate vendor personnel.
4. Successful approach to establishing FM college education programs.

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