

An essay on the new frontiers for facilities management: conceptual insights

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RESUMO

Objetivo – A Gestão de Facilities - GF, tem sido objeto de análises e pesquisas internacionais principalmente nas últimas cinco décadas, sob a perspectiva da sua contribuição às eficiências operacionais das organizações. Considerada como área-suporte às operações, é responsável pelas infraestruturas físicas prediais e, conseqüentemente, pela qualidade dos ambientes e seus usuários. Nota-se que nos últimos anos a área tem apresentado novas configurações dadas por externalidades discutidas ao longo do ensaio.

Desenho/Metodologia/Abordagem – O ensaio está ancorado na revisão de literatura dos textos seminais que apontam avanços e novas externalidades da disciplina no campo prático e teórico.

Resultados – Novas demandas exógenas moldam a GF tornando-a agente política e integradora da infraestrutura física privada com a pública através da introdução de conceitos do ESG - Environmental, Social and Governance, do urbanismo, das cidades inteligentes conectadas às infraestruturas prediais, da indústria 4.0 e suas aplicações, do desenvolvimento de normas ISO, do avanço das posições operacionais para níveis mais estratégicos e das reconfigurações dos espaços laborais provenientes do impacto de uma pandemia.

Pesquisa, Implicações Práticas e Sociais – O ensaio jogou luz sobre a necessidade de novas configurações da área no campo prático gerencial, bem como da necessidade de aprofundamentos de novos estudos no campo acadêmico sobre as demandas que impactam não apenas os indivíduos das empresas, como também as comunidades, sob uma perspectiva política.

Originalidade/Valor – Raros estudos, no campo das Operações, tratam GF como entidade política. Esse ensaio traz interdisciplinaridade e contemporaneidade às áreas do conhecimento.

Palavras-chave: Gestão Integrada de Facilities, Externalidades, Entidade Política, Competências Políticas.

ABSTRACT

Purpose – Facilities Management - FM, has been the subject of international analysis and research, mainly over the last five decades, from the perspective of its contribution to the operational efficiencies of organizations. Considered a support area for operations, it is responsible for the physical infrastructure of the building and, consequently, the quality of the environment for their users. Note that in recent years the area has changed given the externalities that are discussed throughout the essay.

Design/methodology/approach – The theoretical essay is based on a literature review of landmark studies that point out new externalities on the subject in the practical and theoretical field.

Findings – New exogenous demands shape FM, making it an integrating and political agent for private and public physical infrastructure through the introduction of the concepts of ESG - Environmental, Social and Governance, urbanism, smart cities connected to building infrastructures, industry 4.0 and its applications, the development of ISO standards, the advancement from operational positions to strategic levels and the reconfiguration of workspaces resulting from the impact of a pandemic.

Research, Practical & Social implications – The essay sheds light on the need for changes in the field of management, as well as the need for new and more in-depth studies in the academic field on the factors mentioned, which not only impact the individuals in a company, but also the community from a political perspective.

Originality/value – Few studies in the field of Operations deal with FM. This essay brings interdisciplinary and contemporary aspects to both areas of knowledge.

Keywords: Integrated Facility Management, Externalities, Political Entity, Political Competences.

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QUINELLO, R An essay on the new frontiers for facilities management: conceptual insights. **GEPROS. Gestão da Produção, Operações e Sistemas**, v.17, nº 3, p. 24 - 39, 2022.

DOI: <http://dx.doi.org/10.15675/gepros.v17i3.2895>

1. INTRODUCTION AND THEORETICAL CONTEXT OF FM

Facilities Management - FM, within organizations, aims to support Operations through the maintenance, operation, and conservation of their physical building infrastructures and, consequently, meet the quality, safety and comfort users or employee's needs in this environment. In Brazil, more precisely with the formation of ABRAFAC – *Associação Brasileira de Facility, Property and Workplace*, in 2004, the more formalized diffusion of the discipline in the market began. Until then little known in the academic field, given the lack of contributions or theoretical formulations in the country, it emerges mainly from the practical field coming from the multinational's subsidiaries present in the country that already had some history of FM from their headquarters. After almost two decades of this initial milestone, this essay aims to bring to light new contributions, starting with a historical review of the area, both globally and nationally to, subsequently, explore new fields of study. Given the absolute scarcity of national scientific journals in FM, there is an urgent need to introduce the concept, the purpose, the contributions, and the challenges of this discipline in Operations, expanding and instrumentalizing managers and academics in the construction of this new knowledge.

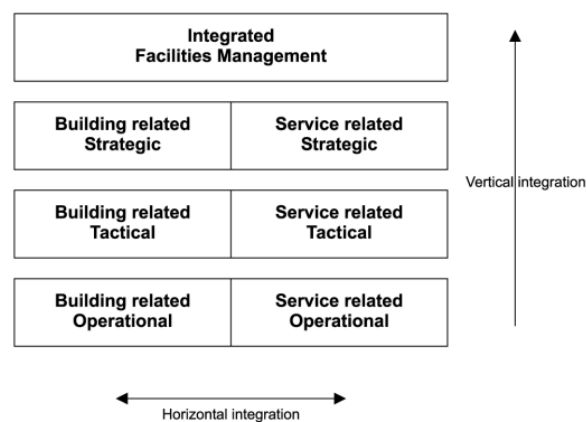
Although there is no theoretical consensus on the beginning of FM as a managerial practice, it is necessary to search, albeit preliminary, some documents or records as a starting point, such as the longitudinal study proposed by Jensen (2008; 2010) on the DR company (Danish Broadcasting Corporation) over 80-year history, which began in 1925, where it was already possible to detect formal services provided to internal building operations and to the customers who circulated there, but not fully integrated as the main studies of FM Total Integration would postulate decades later (ALEXANDER, 1992b; KINCAID, 1994; THEN, 1999; McLENNAN, 2004). At that time, the industrial context in which these seminal areas were inserted, demanded operational productivities required by the management of physical assets, such as machines, equipment, and systems. One can point to another seminal German work, by Rohrleger (1879), in its first edition entitled "*Zeitschrift für die Versorgung der Gebäude mit Licht und Wärme Wasser und Luft*" in free translation "magazine for supplying buildings with light, heat, water and air", as another example of the initial demands of these managers. In parallel, several associations were founded, still in the early 20th century, such

as APPA, BOMA and AFE¹, bringing together the precursors of the still machine-centered discipline.

With the advent of migration from manufacturing to urban work, throughout the 20th century, there would be a significant increase in the real estate sector for corporate spaces in large centers. This expansion would bring new technical-managerial contours, as physical spaces would become more complex, requiring new competencies and scopes. The concern would not only be with machines and systems, but also with people. This opens up the need for a new configuration.

One of the first articles to mention Facilities Management, dating back to the 1970's, was published in the journal *Computer World*, in which an explanatory note on a new type of service provision that emerged – facilities management, without a universal definition, to meet the new demands of corporate data processing buildings, a moment marked by the massive entry of the computer industry into workspaces, especially in the American banking sector. Furthermore, in the same article there is a preliminary mention of Total Facilities Management that would include all operations involving equipment and staff, activities later called hard services, those involved in the functioning of the building infrastructure at optimal levels and soft services, to meet the users' needs of these spaces. Together they would form the so-called IFM – Integrated Facilities Management.

FIGURE 1 – The Integrated Facilities Management



Source: Jensen, (2008).

¹ APPA - *Association of Physical Plant Administrators*, Chicago, U.S.A, 1914; BOMA - *Building Owners and Managers Association International*, U.S.A, 1917; and AFE - *Association for Facilities Engineering*, Boston, U.S.A, 1915.

The conceptual model of total integration, whether vertical - of the operational, tactical, and strategic levels - or horizontal - physical infrastructure and services, would emerge in the 1990s as in the work of Kincaid (1994), who defined IFM as one that would provide broad and effective support to organizations by means of certain characteristics: facility management would be a support activity, but linked operationally, tactically, and strategically to the primary activities of companies, for the creation of value through the integrated knowledge of managers about the equipment and facilities of that built space. It is worth emphasizing the integrated technological knowledge of these professionals, not only thinking of the infrastructures as isolated elements, but also as a complex and unique artifact, operated to help organizations obtain the best results for their business.

Between the 1970s and 1990s, the first professional and academic congresses more specific to the new discipline appeared, which would culminate with the formation of associations, notably the IFMA and the BIFM², formed in 1980 and 1994, respectively, and the emergence of the first universities offering regular courses, such as Cornell University and the GVSC - Grand Valley State Colleges (MARGULIS; VRANCKEN, 1986), in a phase called by Then, during CIB W70 2010, as integrated and people-centered. In an interview with Construction Dimensions, Professor Vrancken (1983, p. 11), then director of the Facilities Management program at Grand Valley State Colleges advocated: *“we’re coming into the computer age and more of the workforce is shifting to office environment . . . and you simply can’t treat people like machines”*.

It was also in the 1980s that the activity migrated from the USA to Europe, via the United Kingdom, according to Maliene, Alexander, and Lepkova (2008). In South America, Brazil, although we have no official records of FM's entry, we can highlight the formation of GAS and GRUPAS³, respectively in 1983 and 1984, bringing together service management professionals, founders in 2004 of ABRAFAC - Brazilian Association of Facility, Property and Workplace. We cannot rule out the possibility of American or European multinational subsidiaries, before the 1980s, having brought tacit knowledge to their subsidiaries, especially those with industrial plants which, as in the USA, had plant engineering areas. In any case, for Latin America, there is still a strong bias in academic works from Europe and the USA, from an ethnocentric perspective.

² IFMA – International Facility Management Association and BIFM - British Institute of Facilities Management

³ GAS – Grupo de Administradores de Serviços and GRUPAS – Grupo de Gestores de Facilities.

It is worth noting, still in the 1990s, the incorporation of the discipline of Real Estate, the responsible for real estate transactions, as a field of academic studies and its importance as a strategic value for companies, according to Danivska and Appel-Meulenbroek (2022). After the 1990s, with the advancement of environmental agendas, FM moved to a stage more focused on sustainability and digital innovation, mainly due to the high consumption of resources such as energy and water and the generation of waste and carbon produced by built spaces. The impact of these on the ecosystem has never been as charged as in recent times (PEARCE, 2017).

Importantly, the technical community has tried to produce a global document reflecting this reality, as can be seen in the ISO 41001 family. In its new 2019, p.7, version it describes:

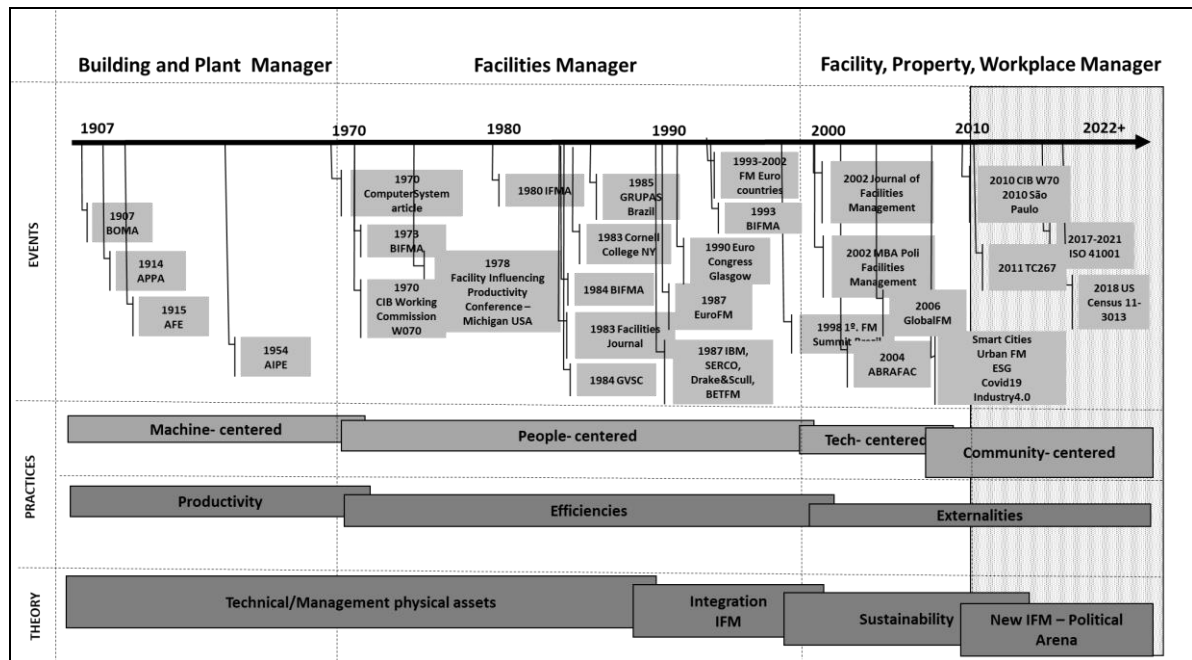
“Facility management (FM) integrates multiple disciplines in order to have an influence on the efficiency and productivity of economies of societies, communities, and organizations, as well as the manner in which individuals interact with the built environment. FM affects the safety, well-being, and quality of life of much of the world’s societies and population through the services it manages and delivers”.

Parallel to this sustainable agenda, with the introduction of the internet, digitalization, and industry 4.0 (BRÖCHNER *et al.*, 2019, NOTA *et al.*, 2021), new technologies start to compose the already automated buildings, now called smart or green buildings, partially integrated into the so-called smart cities (ISO 37122:2019) through the concept of smart facilities management (CHEW *et al.*, 2020). At a later stage, the search for integration with urban neighborhoods (LINDKVIST *et al.*, 2021) and societies (CHOTIPANICH, 2004; JENSEN, 2011) begins, creating a possible single and integrated ecosystem, narrowing the gap between public space and the private. Alexander (2006) calls attention to a likely new paradigm, that of “community-based facilities management” and Jensen (2011) to the concept of value chain in facilities.

This broader concept, coupled with emerging technologies, would further accentuate the area's relationship with social, environmental, and economic dimensions crossing intra-organizational boundaries as new phenomena come into play, such as the Covid-19 pandemic (Gomez *et al.*, 2020). The pandemic resulted in new challenges, ratifying the strategic role of FM: the operationalization of new remote physical arrangements, the renegotiation of real estate spaces, the elaboration of new security protocols, the replanning of maintenance and cleaning of assets, and the geographic rethinking of employee mobility. Thus, the facilities

manager would be a possible integrator and political agent of the private physical infrastructure with the public one. Below is a brief history of FM in the last 100 years.

FIGURE 2 – FM Historical Context



Source: Prepared by author.

It is noted in Figure 2, an evolutionary process with overlapping stages over time, arising either from market demands or from theoretical debates, forming an institutionalized and dynamic framework of knowledge, referring to the isomorphism caused by the institutional forces of the market, academia, and associations (DiMAGGIO; POWELL, 1991). At first, largely due to manufacturing environment, the focus was centered on machines, productivity, and a highly technical management profile, moving to a second stage, given the massive entry of work in corporate buildings, a focus on people, to efficiencies and a managerial style merging technique and management.

In the third, more recent moment, external influences are intensified, dealt with later in the essay, reshaping the discipline to a model more focused on community, externalities and, therefore, requiring new competencies and political skills. Michell (2013) points out that the integration of a micro scale of action (private sector) with a macro scale (public sector) could benefit communities in a broad urban context, as one would be linked to the other. About this political context, Pfeffer (1981) was one of the first to use the term political skill in the study

of organizations. He suggested that political skill referred to the exercise of influence through persuasion, manipulation, and negotiation. For Ferris *et al.* (2007) political skill refers to competencies that are manifested in work-relevant situations and can be acquired through training, practice, and experience. There are four critical dimensions of political skill: social interaction, interpersonal influence and flexibility, networking, and integrity.

1. 2 Essay questions and objectives

The general goal of this essay is to propose a conceptual insight into FM, reflecting on the roles and responsibilities of the discipline in the face of new frontiers and organizational challenges reported in the introduction. The design and development of the final conceptual model will be governed by theoretical studies of models and current FM demands. The scope as well as the historical cut can be visualized in the hatched region of Figure 2, i.e., it seeks to broaden the discussions of the FM new roles and responsibilities for the coming years.

Alexander (1992a) and Kincaid (1994) brought the concept of Integrated Facilities Management, but in a more intra-organizational view, which in the preliminary and recent evaluation of scientific articles and technical events no longer meets the new realities of the market. Thus, the specific objectives of this essay are to reflect on:

INS1) What would be the determining drivers of FM facing the new global challenges and demands?

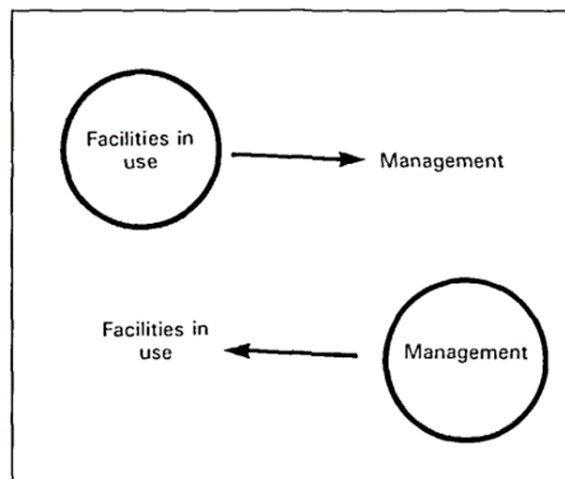
INS2) What are the impacts of this new model for the corporate and academic world?

1. 3 Academic background for new insights

The first academic works published in FM began in the 1990s, such as those by Alexander (1992a) in the then recent scientific journal *Facilities*. At that time, according to the author, research should describe and establish links between organizations, people, physical spaces, and economic aspects for the delivery of quality operating environment and services. There would be two perspectives - the business perspective and the user perspective. McLennan and Nut (1992) and Nutt (1999) understood research in the field as resulting from collaborative opportunities between managerial practices and theories, given the dichotomous nature of the discipline - physical artifacts in use and their management.

“New strategic directions: exploring the changing priorities, potential scope, future functions and impact of FM, in providing strategic support to serve the dynamic objectives and needs of business and public organizations towards 2020”. (NUTT, 1999, p. 17)

FIGURE 3 - Dimension of studies in Facilities.



Source: McLennan and Nut, (1992).

It is important to emphasize the importance of using corporate storytelling (LEUNG; FONG, 2011) in the development of the theoretical framework built over time in FM. Much of what has been proposed, academically, came from informal stories and discourses through observation, exchanges between professionals, benchmarking, technical events, and interviews published in non-scientific journals, creating corporate narratives and, later, new knowledge. Therefore, rescuing these contemporary narratives would help to improve and consolidate the established framework. Junghans and Olsson (2014) also point out the importance of institutional manifestation that would allow more academic approaches in a universe so marked by practical experiences. The authors indicate that the FM has these characteristics given by the numerous professional associations and universities founded in recent decades, that is, there is legitimacy.

As described in the previous paragraphs, much has been advanced in the academic debate around the FM universe, but not enough. For Ventovuori *et al.* (2007, p.225) in an extensive review of scientific research conducted between 1996 and 2005:

“...Simultaneously, the discipline requires the introduction of conceptual and theoretical frameworks... The lack of these is perhaps in part the reason why FM remains misunderstood particularly in the general business sector...”

Following this scientific trajectory that began in the 1990s and bringing to light the contemporaneity of Facilities Management become the academic justifications for this research.

2. METHODOLOGICAL PROCEDURES

The elaboration of this essay takes as reference Meneghetti’s definition (2011, p.4):

“...the essay does not require a specific system or model, as its principle lies in the reflections in relation to the systems or models themselves. It allows the search for new approaches and permanent interaction with the very principles of form... Subjectivity is one of the permanent and important elements in the way the essay advances as a knowledge process”.

About the methods used in the studies of the area, analyzing the review work of the methodologies used in 586 scientific articles in FM, between the years 1996 and 2005, Ventovuori *et al.* (2007) noted that they were mostly empirical, compared to normative or literature review. The preferred methods used were the case study, followed by the survey type. In other words, few authors have produced essays in the field of FM, except for some pioneering works, such as those by Keith Alexander, still in the 1990s, as in the classic article “An Agenda for Facilities Management Research”, when little literature theory was found. In this work he advocated that the results of future research would include new knowledge, better quality information, clearer understanding, reassessment of the environment and service criteria and the development of more effective systems, expanding the field of action of the FM area and professional.

“In an administration where the imperative of objectivity dominates the production of knowledge, the essay is an important resource to expand interdisciplinarity and promote the construction of knowledge through the intersubjective relationship” (MENEGHETTI, 2011, p.12).

Nevertheless, for the elaboration of the conceptual insight, a theoretical literature review was necessary to deepen knowledge, seeking historical links over the decades, as shown in Figure 2. The selected articles were mostly taken from international journals in the area, highlighting the following journals and their respective H-index, according to the SRJ, are

included: Facilities (46) and Journal of Facilities Management (32), in addition to other journals dealing with related topics.

3. RESULTS AND DISCUSSION: FM AS A POLITICAL LINK

In response to the initial essay questions:

INS1) What would be the determining drivers of FM in the face of new global challenges and demands? The literature has pointed out that the current challenges in the area are not only limited to internal issues of companies, as noted during the 20th century. Environmental, social and governance demands put pressure on all organizations, but mainly on FM, responsible for management utilities (energy sources), waste, third parties, real estate transactions, permissions, transport, food, and workspaces layouts, among others. In this sense, Dasandara *et al.* (2021) report the need for FM managers to expose facilities practices on an urban scale, moving from a micro level (buildings) to a macro level (cities). In these lines, ratifying this essay, Michell (2013) recalls the interrelation and mutual dependence between private infrastructures (companies) and public ones (social equipment's, schools, hospitals, museums, parks etc.) social, cultural, and political dimensions (author's emphasis) in the generation of sustainable cities.

These demands became even more emergent during the advent of the pandemic, forcing FM to deal with the physical and technological remodeling and adaptation of their employees' work environment, either by hybrid or remote work, generating urban impacts completely different from the usual ones. It was during this critical event that a reconfiguration of the use of these spaces took place, generated by the emptying of large urban centers and, consequently, causing a high vacancy rate. This hybrid reconfiguration of workspaces changed, albeit temporarily, the urban space and pushed even further the technological advancement for the digital transformation of companies. Part of this task has fallen to numerous facilities professionals, demonstrating that their action directly interferes with the social fabric.

In short, the drivers that before came mostly from the inherent economic needs of organizations, in an endogenous movement, now blend strongly with external pressures, in an exogenous movement.

INS2) What are the impacts of this new model for the corporate and academic world?

For the corporate world, new competencies and skills must be reflected in organizational structures, not only tactical-operational, but strategic and informational, after all, the professional who will be the link between the internal and external borders of the companies becomes more political. This is reflected in their training, because schools will have to adapt to these demands tracks apparently distant from FM, such as politics, urbanism, technologies, anthropology, psychology, and data science. In this trajectory, Pierce (2017) points out that a large-scale sustainable urban modernization will depend on the recognition by FM professionals that their facilities are nodes that are part of a large urban network. And for this new look there is a need to mature and improve. Currently, the area is mostly formed by managers and engineers, but interdisciplinarity will be welcome as advances in the fields of new knowledge foster the theory and practice of facilities.

From the literature review it is clear that FM, in the coming years, as it expands beyond the boundaries of organizations, will become a political link between them and the community - an articulating political entity that will require social interaction, interpersonal influence and flexibility, networking and integrity. These are competences rarely discussed within FM, which were usually linked to the areas of government affairs or government relations. However, FM is present in companies of all sizes and segments, operating in complex markets. Ferris *et al.* (2007) point out some political competences that could reinforce the reflections contained in the essay:

- a) Social interaction – the ability to observe and interpret the internal and external environment, anticipating needs of employees or other stakeholders.
- b) Interpersonal influence and flexibility – the competence, by understanding the environment, to adapt it and influence it according to the context to achieve objectives and goals.
- c) Networking capacity – in building relationships, negotiations, alliances, and coalitions for the resolution of management conflicts.
- d) Integrity – competence to inspire and generate trust among players so that their actions are not interpreted as coercive or manipulative.

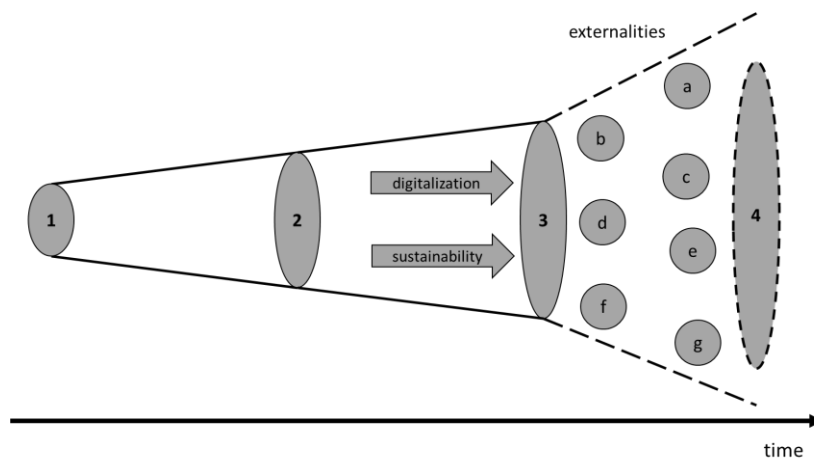
The above competencies could complement the formatting of future facilities professionals in the face of the challenges pointed out throughout the essay, bringing a new approach to the area within organizations and urban spaces, that is, in society.

4. CONCLUDING REMARKS

Currently, the Facilities industry, already consolidated, presents significant numbers both in number of professionals and in the volume of resources allocated. According to the McKinsey’s 2018 report, between 2018 and 2024, the sector will have a global turnover of around 1.9 trillion dollars, with an annual growth rate of 6.2%. In the USA, where there is official registration and statistics of this occupation, there are more than 118,000 professionals working in the area (DATA USA, 2021). In Brazil, due to the lack of an occupation code, there is no official data. In any case, it is concluded that the management models adopted in this universe have a high social, economic, and political impact.

Mordor Intelligence, in a recent report – Europe Facility Management Market – Growth, Trends, Covid-19 Impact, and Forecasts (2021-2026), points out that an integrated facilities management model is the one that will have the greatest growth in the near future, corroborating the academic studies that point to an extrapolation of the endogeneity of the discipline given the externalities already described in the aforementioned sections. Thus, the main contribution of the essay is to present a new conceptual insight into FM that contemplates integration and externalities. Figure 4 presents, still preliminarily, a new look at the evolution of the discipline.

FIGURE 4 – Evolutionary cycles of FM: insights



Source: Prepared by author.

Although there are few studies or academic research demonstrating, in a long-term historical perspective, the cycles of evolution of FM within the ecosystem - markets, academies and associations, there is no doubt that from time to time there is a need to address and deepen the conceptualization of a management model that reflects the current historical context. These evolutionary cycles (Figure 4), according to the literature review, started with more technical-centered configurations (step 1), moving to integration proposals of technological demands and sustainability of built spaces (steps 2 and 3), but always addressed mainly to the endogenous issues of the organizations and passives approaches. Now, in an evolution of these stages, it is proposed to reflect on the new practices and knowledge boundaries of this dynamic and complex discipline in the contemporary world. In step 4 - empowered by concepts and practices of (a) urban facilities, (b) smart cities, (c) industry 4.0, (d) ISO, (e) strategic level, (f) pandemics and (g) ESG, the discipline would gain a new contour – the political, since the role of managers would tend to expand beyond the internal borders of organizations, making them an active political interlocutor or agent of this link (author's emphasis). The relationship with external agents, including public agencies and communities, becomes more intense as the pressures mentioned in Figure 4 directly affect the managers roles and responsibilities and the organizations results. In this new political arena, especially in highly regulated countries such as Brazil, for example, obtaining licenses, permits, local codes, standards, laws, and technical decrees can generate unique competitive advantages for local facility managers.

It is worth mentioning that this essay was of a theoretical and reflective nature, therefore, in the future, others qualitative and quantitative research would be appropriate to corroborate the guidelines pointed out throughout this work. Following the paths of the theoretical precursors of Facilities, such as Alexander Keith, who have always been attentive in thinking and reflecting about new FM trajectories, the essay aimed to generate reflection in both academic and corporate spaces and, borrowing the terms used by the institutionalist school, the challenges of habitualization, objectification and sedimentation of this possible new conceptual model, since new competencies that are not only technical are urgently needed in this new scenario.

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