

Urban Heritage Facility Management

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Urban Heritage Facility Management (UHFM) is an urban-scale function that integrates the management of all the supporting services to the people, place, processes, and technology necessary for the preservation of the significance, value, and authenticity of the urban heritage area leads to the creation of a strong, mutually supportive and non-exploitative community.

Keywords: facility management (FM) ; urban FM ; urban heritage ; conservation ; the HUL approach

1. Introduction

During the 20th century, over 30 normative manuals and guidelines for preserving and maintaining cultural heritage have been provided by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) ^[1]. Since the expansion of its spectrum, after simply concentrating on monuments and historic centers to a more cultural heritage orientation in the early 21st century, the horizon of cultural heritage was applied to urban areas and communities as living heritages ^{[1][2][3]}. Broadening the term “heritage” has contributed to a comprehensive qualitative view of urban heritage that incorporates the values of the urban landscape ^{[3][4]}. A landscape is being described as a living territory, a socio-cultural concept, and a subjective mental picture of the changing environment in space and time ^{[5][6][7][8]}, as cited in ^[1]. The historic urban landscape (HUL), which gives an extensive perspective of urban heritage, provides a framework for the implementation of an integrated value-based landscape strategy for cultural heritage management that is similar to the notion of community-based facility management, a predecessor to the urban facility management discipline ^{[1][9]}. Therefore, UNESCO’s latest approach to carefully managing urban heritage areas has finally married facility management (FM) and urban facility management (urban FM) principles to achieve sustainable development of historical sites ^[9]. The heritage authority should handle the maintenance of urban heritage facilities and infrastructure appropriately ^{[10][11]}. The implementation strategy must carefully consider what needs to be preserved, why, and how to implement it to maintain authenticity and the visual quality of the cultural heritage area ^[11]. The protection of historical areas can be viewed as a complex form of adaptation, maintenance, and conservation of cultural significance ^[12].

Currently, urban FM is expanding community-based facilities management by providing a forum for authorities, organizations, and businesses in new and creative environments to support local stakeholders ^[13]. The fundamental concept of urban FM is to improve the influence of FM on the urban environment and to ensure the implementation of sustainable development goals through a service-oriented perspective that supports livability requirements and social values, community inclusiveness, and well-being approaches ^[14] that are more than just the operation and management of the city infrastructures. The urban FM strategy tackles the issues by functioning as a bridge between various stakeholder interests in the urban areas and ensuring that social value is integrated with environmental and financial consideration ^[14]. Lindkvist et al. ^[15] highlighted the need for FM to develop further within urban areas. It is supported by Nielsen ^[16] who referred to urban development as being among the nine categories where sustainable facilities management (SFM) is considered. SFM is a growing concept within the FM discipline that intends to promote high building-performance and safety, minimal resource consumption, and reduced greenhouse gas emissions production, as well as other climate change adaptive responses which includes energy conservation, waste and recycling management, safety and health management, and minimalization of water and carbon footprints ^[17].

Furthermore, Salaj et al. ^[13] extended the prospects of the urban FM field in becoming a dynamic sponsor in enhancing sustainable living spaces, focusing on healthiness and well-being. FM could incorporate diverse mechanisms for managing heritage protection by resolving changes in utilization, changes in the environment, multiple participants, and overlapping requests for sustainable necessities ^[10]. Managing historic urban areas has evolved from a tangible method to a holistic one within almost the same period. In the urban context, the HUL approach supports this landscape-based approach ^{[3][18]}.

2. Urban Facility Management (Urban FM) and The Historic Urban Landscape (HUL) Approach

2.1. Urban FM

The main concept of urban FM is to increase the efficiency of the tangible infrastructure, build employment openings, and safeguard neighborhood inclusiveness in the operation of facilities of the city ^[14]. The deterioration of physical space is linked to the lack of local inhabitants' self-organization, leading to conflicts between social classes (among people) and between people and governments or between dwellers and other institutions ^[19]. Integrating FM with community facilities might solve the escalating operational costs and negligence from facilities services providers. Since non-technical elements, such as public participation, neighborhood self-organization, well-being, etc., are more disruptive in the built environment, projects that fulfilled technical criteria, such as building codes, heritage conservation codes, city planning and masterplanning etc., but did not meet livability requirements were more prevalent ^[20]. Therefore, Salaj ^[21] argued that engaging with communities using a value-driven strategy may result in a shared motivation to find solutions that fulfill the community's needs, as well as a link to long-term objectives and commercial possibilities. Although public-private-people partnership (PPPP) is still under-researched, it is a potential new business model that seeks comprehensive connections with all stakeholders ^[22] to enhance public-private partnership (PPP) approach. The discipline of FM is developing into a more complicated subject of urban FM by responding to communities' needs and creating a coordinating body between people, public, and private sectors. Urban FM provides integrated deliveries, e.g., customizable solutions, flexible and well-maintained structures, outdoor activities and services, and various socio-technical solutions ^[14]. The focus of urban FM is to increase well-being, especially looking at how to deal with an extensive array of challenges, such as environmental hazards ^[23], social safety ^[24], resilience ^[25], and health ^[26], particularly for women, older adults, and youth. From a design and accessibility point of view, spatial interventions are essential to improve citizens' health and well-being ^[27]. Still, the approaches primarily focus on a local level context, limiting their broader impact on society. In particular, exploring the possibilities of stimulating a healthy environment as an opportunity to mitigate the effects of people needing care through changing circumstances has been considered in the workplace context ^[28]. Through urban FM, it is possible for this learning to be transferred to the neighborhood level.

2.2. HUL Approach

The latest UNESCO guideline on the HUL approach ^{[18][29]} promotes a landscape-based strategy at the international level. National and local governments must enact, disseminate, promote, and track its implementations. Authorities are urged to redevelop instruments and tools responsive to local principles and needs related to the HUL critical steps which are (1) mapping resources; (2) reaching consensus; (3) assessing the vulnerabilities; (4) integrating urban heritage values and vulnerabilities, (5) prioritizing actions, and (6) establishing partnership and local management frameworks ^[12]. The new philosophy on managing heritage areas describes urban heritage management as "managing the thoughtful transition", thus it proposes a holistic strategy to managing historic sites ^{[12][30][31]}. The concept of heritage management has developed from a tangible method towards a more holistic framework that incorporates intangible values, attributes, and sustainable urban gentrifications, followed by a more critical analysis of urban historic social and economic roles. The strategy is referred to as the urban landscape method ^[11]. There are also four supporting tools for the HUL approach, which are (1) civic engagement tools; (2) financial tools; (3) regulatory systems, and (4) knowledge and planning tools ^[12]. For every critical step of the HUL approach, these four tools are involved in various forms to support it in diverse proportions according to each specific case.

2.3. Interaction between Urban FM and the HUL Approach

The role of FM in historical urban development is infrequently studied, and its contribution to sustaining the operation of heritage buildings is sometimes problematic. Most studies stated that FM was mainly related to supporting core activities within a single-owned building(s) ^{[9][32][33][34][35][36][37][38][39]}. In fact, FM could be understood from a broader perspective ^[40], for example, understanding FM from urban scale viewpoints. FM is a branch of the management discipline that addresses the tools and services that support the functionality, safety, and sustainability of buildings, grounds, infrastructures, and real estate ^[41]. The International Facility Management Association (IFMA) also proposes a new definition of FM: "Facility Management is a profession/discipline that encompasses multiple disciplines to ensure the functionality of the built environment, by integrating people, place, process, and technology". This new definition allowed urban FM to legitimately become an expansion of the FM discipline since urban FM is a manifestation of an urban scale facility management. This study pinpointed the prospect of urban FM to perform in a more expansive setting, especially urban heritage, as argued by Salaj ^[13] in terms of extending the possibility of the role of urban FM to develop itself as an involving collaborator in promoting living areas and emphasizing health and well-being.

In terms of cultural heritage management, FM is known to be a discipline focusing on property. FM can be described to have originated from the convergence of three key fields of practice, including land management, property maintenance, and office administration ^[42]. This notion should be applied to a broader viewpoint, both tangible and intangible, following the 2011 HUL Recommendation by UNESCO in managing urban heritage sites ^[10].

Similar to the HUL approach, Salaj et al. ^[20] explained that through establishing solid relationships with residents, urban FM would be able to develop inclusive governing, efficiency, co-financing, co-ownership, and co-creation of urban public spaces to enhance people's participation, engagement, confidence, equality, and cohesion. Enhancement of citizens' participation in governing and development processes is important for the higher achievement of SDGs ^[43]. From that perspective, co-financing is in line with the public-private-people-partnership (PPPP) model ^[22], co-owning with the personal perception of responsibility and attachment to the public domain ^{[44][45]}, and co-creation with the collaborative governance approach resulting in the creation of quality public spaces that contribute to people's well-being ^[46]. Urban FM stayed as an under-studied FM feature due to the multiple overlapping elements, including urban planning, urban gentrification, urban management, and urban sustainability ^{[9][13][41][47]}.

Redevelopment in the built environment, particularly the urban historical area, is frequently concentrated on technical elements compared to its non-technical features ^[48]. Gentrification in urban areas must be closely monitored to grasp sustainable growth because of numerous social advancements. Strengthening people's awareness and demands of the environment is critical to increasing their desire for technological possibilities ^{[14][48]}, an important component of FM.

3. Conclusions

Urban FM established an interactive, effective, collaborative governance that enabled co-creation, co-finance, and co-ownership within urban public spaces to increase people's trust, attachment, commitment, inclusion, and integration. Therefore, it enhanced massive public participation in the urban heritage conservation process through urban collaborative decisions using evaluation-based techniques ^{[32][49][50]} by putting persons and organizations at the center of urban planning and revitalization through a variety of creative techniques, optimizing social and natural capital, and creating more fair and enjoyable places through community facilities ^{[51][52]}.

Urban FM can be implemented to provide an integrated array of services supporting the operation, fruition, and valorization of urban goods by optimizing BIMs and enhancing information management for urban FM as a critical enabler for a more sustainable built environment ^{[53][54]}. In the service of cultural heritage protection, social media gave new information on regular contacts with the historic urban landscape and heritage locations. On the other hand, assets management provided a holistic way to combine data from many approaches to support particular applications and assist decision-making ^[55].

Herein indicated that the urban heritage conservation field is closely related to urban FM. Urban heritage conservation and urban FM are required to conduct similar technical tasks such as urban infrastructures, facilities, and scheduled maintenance. The latest landscape-based approach in managing the historical area, the HUL approach, recommended by UNESCO in 2011, also gave special attention to the people as an essential component, comparable with FM and urban FM, which are people-oriented disciplines. Implementation of FM in urban heritage areas was considered unique in a manner that it is supposed to be conducted accordingly to the international, national, and regional heritage codes and laws. With the exception of urban FM implementation in non-heritage regions, which focuses on improving people's well-being, efficiency, and effectiveness, the UHFM is obligated to make every effort to preserve the district's authenticity and historical significance, regardless of cost. The key was finding the balance between efficiency, people's well-being, and preserving authenticity.

References

1. Ginzarly, M.; Houbart, C.; Teller, J. The historic urban landscape approach to urban management: A systematic review. *Int. J. Herit. Stud.* 2019, 25, 999–1019.
2. Taylor, T.; Landorf, C. Subject-object perceptions of heritage: A framework for the study of contrasting railway heritage regeneration strategies. *Int. J. Herit. Stud.* 2015, 21, 1050–1067.
3. Bandarin, F.; van Oers, R. *The Historic Urban Landscape: Managing Heritage in an Urban Century*; Wiley: Hoboken, NJ, USA, 2012; ISBN 9780470655740.

4. Roders, A.P.; Bandarin, F. *Reshaping Urban Conservation: The Historic Urban Landscape Approach in Action*; Springer: Berlin/Heidelberg, Germany, 2019; Volume 2, ISBN 981108887X.
5. Stephenson, J. The cultural values model: An integrated approach to values in landscapes. *Landsc. Urban Plan.* 2008, 84, 127–139.
6. Thompson, C.W. Landscape perception and environmental psychology. In *The Routledge Companion to Landscape Studies*; Routledge: Milton Park, UK, 2018; pp. 19–38. ISBN 1315195062.
7. Gobster, P.H.; Nassauer, J.I.; Daniel, T.C.; Fry, G. The shared landscape: What does aesthetics have to do with ecology? *Landsc. Ecol.* 2007, 22, 959–972.
8. Tress, B.; Tress, G. Capitalising on multiplicity: A transdisciplinary systems approach to landscape research. *Landsc. Urban Plan.* 2001, 57, 143–157.
9. Hou, H.; Wu, H. A case study of facilities management for heritage building revitalisation. *Facilities* 2020, 38, 201–217.
10. Roders, A.P.; Van Oers, R. World Heritage cities management. *Facilities* 2011, 29, 276–285.
11. Veldpaus, L.; Roders, A.P. Historic urban landscapes: An assessment framework part II. In *Proceedings of the 29th Conference of Sustainable Architecture for a Renewable Future (PLEA 2013)*, Munich, Germany, 10–12 September 2013; pp. 1–5.
12. Veldpaus, L. *Historic Urban Landscapes: Framing the Integration of Urban and Heritage Planning in Multilevel Governance*; Technische Universiteit Eindhoven: Eindhoven, The Netherlands, 2015.
13. Salaj, A.T.; Bjørberg, S.; Støre-Valen, M.; Lindkvist, C. Urban facility management role. In *Proceedings of the 5th International Academic Conference Places and Technologies*, Belgrade, Serbia, 26–27 April 2018; pp. 24–27.
14. Salaj, A.T.; Lindkvist, C.M. Urban facility management. *Facilities* 2020, 39, 525–537.
15. Lindkvist, C.; Temeljotov-Salaj, A.; Collins, D.; Bjorberg, S. Defining a niche for facilities management in smart cities. In *Proceedings of the 1st Nordic Conference on Zero Emission and Plus Energy Buildings*, Trondheim, Norway, 6–7 November 2019; Volume 352.
16. Nielsen, S.B.; Sarasoja, A.L.; Galamba, K.R. Sustainability in facilities management: An overview of current research. *Facilities* 2016, 34, 535–563.
17. Aceves-Avila, C.D.; Berger-García, M.A. Sustainable facilities management in higher education institutions. *Encycl. Sustain. High. Educ.* 2019, 1802–1809.
18. UNESCO. *Recommendation on the Historic Urban Landscape*; UNESCO: Paris, France, 2011.
19. Kuijlenburg, R. Teaching urban facility management, global citizenship and livability. *Facilities* 2020, 38, 849–857.
20. Salaj, A.T.; Lindkvist, C.; Jowkar, M. Social needs for sustainable refurbishment in Trondheim. In *Proceedings of the 19th EuroFM Research Symposium (EFMIC 2020)*, Online Conference, 3–4 June 2020; pp. 51–61.
21. Salaj, A.T.; Bjoerberg, S.; Boge, K.; Larssen, A.K. Increasing attractiveness by LCC facility management orientation. *IFAC-PapersOnLine* 2015, 48, 149–154.
22. Xue, Y.; Temeljotov-Salaj, A.; Engebø, A.; Lohne, J. Multi-sector partnerships in the urban development context: A scoping review. *J. Clean. Prod.* 2020, 268, 122291.
23. Depietri, Y.; McPhearson, T. Integrating the grey, green, and blue in cities: Nature-based solutions for climate change adaptation and risk reduction. In *Nature-Based Solutions to Climate Change Adaptation in Urban Areas*; Springer: Cham, Switzerland, 2017; pp. 91–109.
24. Haase, D.; Kabisch, S.; Haase, A.; Andersson, E.; Banzhaf, E.; Baró, F.; Brenck, M.; Fischer, L.K.; Frantzeskaki, N.; Kabisch, N. Greening cities—To be socially inclusive? About the alleged paradox of society and ecology in cities. *Habitat Int.* 2017, 64, 41–48.
25. Kardan, O.; Gozdyra, P.; Misic, B.; Moola, F.; Palmer, L.J.; Paus, T.; Berman, M.G. Neighborhood greenspace and health in a large urban center. *Sci. Rep.* 2015, 5, 1–14.
26. Jennings, V.; Gaither, C.J. Approaching environmental health disparities and green spaces: An ecosystem services perspective. *Int. J. Environ. Res. Public Health* 2015, 12, 1952.
27. Nijkamp, J.E.; Mobach, M.P. Developing healthy cities with urban facility management. *Facilities* 2020, 38, 819–833.
28. Avčin, B.A.; Šarotar, B.N.; Salaj, A.T. More proactive facility management role for resilience at the workplace. In *Proceedings of the Joint CIB W099 and TG59 International Safety, Health, and People in Construction Conference*, Salvador, Brazil, 1–3 August 2018; p. 130.

29. UNESCO. Operational Guidelines for the Implementation of the World Heritage Convention; UNESCO: Paris, France, 2019; pp. 1–177.
30. Prabowo, B.N.; Pramesti, P.U.; Ramandhika, M.; Sukawi, S. Historic urban landscape (HUL) approach in Kota Lama Semarang: Mapping the layer of physical development through the chronological history. In Proceedings of the 3rd International Conference on Sustainability in Architectural Design and Urbanism, Surakarta, Indonesia, 29–30 August 2019; Volume 402, p. 12020.
31. Rey-Pérez, J.; Roders, A.P. Historic urban landscape: A systematic review, eight years after the adoption of the HUL approach. *J. Cult. Herit. Manag. Sustain. Dev.* 2020, 10, 233–258.
32. Aigwi, I.E.; Ingham, J.; Phipps, R.; Filippova, O. Identifying parameters for a performance-based framework: Towards prioritising underutilised historical buildings for adaptive reuse in New Zealand. *Cities* 2020, 102, 102756.
33. Biagini, C.; Capone, P.; Donato, V.; Facchini, N. Towards the BIM implementation for historical building restoration sites. *Autom. Constr.* 2016, 71, 74–86.
34. Bruno, S.; De Fino, M.; Fatiguso, F. Historic building information modelling: Performance assessment for diagnosis-aided information modelling and management. *Autom. Constr.* 2018, 86, 256–276.
35. Ciocia, C.; Napolitano, T.; Viola, S. Diagnostic monitoring for historic urban landscape case study: Building in Via Caracciolo Napoli. *Eur. Sci. J.* 2013, 9, 1857–7881.
36. Charlton, J.; Kelly, K.; Greenwood, D. The complexities of managing historic buildings with BIM. *Eng. Constr. Archit. Manag.* 2020, 28, 570–583.
37. Devetaković, M.; Radojević, M. Application of BIM technology in the processes of documenting heritage buildings. In Proceedings of the 5th international Academic Conference on Places and Technologies, Belgrade, Serbia, 26–27 April 2018.
38. Ewart, I.J.; Zuecco, V. Heritage building information modelling (HBIM): A review of published case studies. In Proceedings of the 35th CIB W78 2018 International Conference: IT in Design, Construction, and Management, Chicago, IL, USA, 1–3 October 2018; Springer International Publishing: New York, NY, USA, 2019; pp. 35–41.
39. Gao, X.; Pishdad-Bozorgi, P. BIM-enabled facilities operation and maintenance: A review. *Adv. Eng. Inform.* 2019, 39, 227–247.
40. Alexander, K. Facilities management: A strategic framework. *Facil. Manag. Theory Pract.* 2013, 1–13.
41. Atkin, B.; Brooks, A. Total Facility Management; John Wiley & Sons: Hoboken, NJ, USA, 2021; ISBN 1118655389.
42. Li, Y.; Zhang, Y.; Wei, J.; Han, Y. Status quo and future directions of facility management: A bibliometric-qualitative analysis. *Int. J. Strateg. Prop. Manag.* 2019, 23, 354–365.
43. Senior, C.; Jowkar, M.; Temeljotov-Salaj, A.; Johansen, A. Empowering citizens in a smart city project one step at a time: A Norwegian case study. In Proceedings of the 2021 IEEE European Technology and Engineering Management Summit (E-TEMS), Dortmund, Germany, 18–20 March 2021; IEEE: Manhattan, NY, USA, 2021; pp. 10–15.
44. Grum, D.K. Interactions between human behaviour and the built environment in terms of facility management. *Facilities* 2018, 36, 2–12.
45. Hauge, Å.L.; Hanssen, G.S.; Flyen, C. Multilevel networks for climate change adaptation—what works? *Int. J. Clim. Chang. Strateg. Manag.* 2019, 11, 215–234.
46. Gohari, S.; Larssæther, S. Sustainable energy planning as a co-creative governance challenge. Lessons from the Zero Village Bergen. *Int. J. Sustain. Energy Plan. Manag.* 2019, 24, 147–154.
47. Michell, K. FM as a social enterprise. In *Managing Organizational Ecologies*; Routledge: Milton Park, UK, 2013; pp. 167–177.
48. Bröchner, J.; Haugen, T.; Lindkvist, C. Shaping tomorrow's facilities management. *Facilities* 2019, 37, 366–380.
49. Salaj, A.; Gohari, S.; Senior, C.; Xue, Y.; Lindkvist, C. An interactive tool for citizens' involvement in the sustainable regeneration. *Facilities* 2020, 38, 859–870.
50. Ho, D.; Hou, H. Enabling sustainable built heritage revitalisation from a social and technical perspective: A case study. *Facilities* 2019, 37, 704–722.
51. Tobi, S.U.M.; Amaratunga, D.; Noor, N.M. Social enterprise applications in an urban facilities management setting. *Facilities* 2013, 31, 238–254.
52. Vukmirovic, M.; Gavrilović, S. Placemaking as an approach of sustainable urban facilities management. *Facilities* 2020.
53. García, E.S.; García-Valdecabres, J.; Blasco, M.J.V. The use of HBIM models as a tool for dissemination and public use management of historical architecture: A review. *Int. J. Sustain. Dev. Plan.* 2018, 13, 96–107.

54. Maltese, S.; Fradegrada, G.; Moretti, N.; Dejacó, M.C.; Re Cecconi, F. GIS application in urban district maintenance. In Proceedings of the 41st IAHS World Congress on Housing, Sustainability and Innovation for the Future, Albufeira, Portugal, 13–16 September 2016.
55. Ginzarly, M.; Teller, J. Eliciting cultural heritage values: Landscape preferences vs representative images of the city. *J. Cult. Herit. Manag. Sustain. Dev.* 2018, 8, 257–275.

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