Paradigm

A Value Integrator Model in Sustainable Real Estate Management

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Abstract. *This article describes a tension frequently encountered in practice and in the literature: architects in Eastern Europe come with expectations that tend to far exceed the execution of plans, yet their formal responsibilities remain strictly defined. Starting from this tension, the authors reexamine recent works on post-socialist housing, Building Information Modeling (BIM), and real estate governance. The ESG orientation proposes an Architecture–Management–Sustainability (AMS) model to reconnect fragmented debates. The AMS model conceptualizes the architect as a value integrator who remains responsible for the building's performance throughout its entire life cycle, in close collaboration with managers and owners. The article introduces a complementary diagram that translates AMS into five phases clarifying how design decisions, management practices and sustainability outcomes should be linked in practice. An exploratory qualitative analysis of professional discourse from two online forums: Reddit and Archinect is used to confront the AMS framework with everyday perceptions of responsibility, risk and professional identity. The findings reveal symbolic erosion of the architect's title and deep operational fragmentation around BIM and lifecycle accountability, supporting the need for an integrative role, connecting design authority, facility management and ESG reporting. The article argues that the AMS model offers such a role for architects in post-communist housing, and outlines implications for education, contractual practice and future empirical research on lifecycle-based real estate governance.*

Keywords: sustainability, real estate management, sustainable architecture, facility management.

Introduction

The Romanian real estate sector has exploded in the post-communist period, as the right to property was not only proclaimed in the Constitution but also materialised through the restitution of buildings confiscated under communism. The dwelling has ceased to be only "home" and has gradually become a financial asset, bank collateral and a vehicle for capitalisation, which has turned the real estate market into a major macroeconomic benchmark for the design of the state's multi-annual budgets.

This paradigm shift has forced the legislature to rapidly close the historical gap and to create a normative framework through which immovable property can be transferred, contracted, mortgaged and used as security under conditions of legal certainty and economic predictability (Mashhadani et al., 2025). In parallel, property administration – especially that of collective housing, typical of the post-communist stock – has begun to be timidly regulated, through

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fragmented initiatives and only a few islands of good management practice that can be regarded as reference points in Eastern Europe.

In this still fluid context, in which ownership is massively atomised and old buildings concentrate structural, energy and social vulnerabilities, real estate management can no longer be reduced to minimal bookkeeping and routine maintenance. What is needed is a comprehensive approach that combines legal codification and regulation, participatory governance instruments (Pislaru et al., 2024), process digitalisation and professional administration capable of protecting both the asset value and the quality of life of the owner – the concrete individual who lives in the building, pays for it and assumes the real estate risk (Pislaru et al., 2019).

This work aims precisely at such an integrated approach to real estate management, starting from the specific features of the Romanian post-communist context and of the collective housing stock. The goal is to organize and test management models that integrate legal regulations, sustainability targets, and digital innovation into a cohesive approach. This model will be initially developed in Romania and can be adapted for implementation in other Eastern European countries that are in transition.

Thus, the authors describe the architect as a licensed design professional who conceives buildings and, at the same time, together with managers and other specialists, carries responsibility for long-term performance throughout the entire life cycle of constructions. Through the connections established between spatial design, governance mechanisms, and technical systems, architecture becomes an integrative practice and over time provides environmental, social, and economic value (Table 1).

Table 1. Architect and architecture ancient and contemporary meanings

Period / Source	Term	Core meaning (short)/Source	Implications for this article
Ancient Greek (arkhi + tektōn)	Architect	"Chief builder" – person who leads and coordinates construction, not just designs it. (*Roman Lattice - Institute of Classical Architecture & Art*, n.d.)	Early understanding already combines design, technical decisions and responsibility, close to the AMS idea of an integrative role.
Vitruvian tradition	Architecture	Art and science of building, balancing firmness, usefulness and beauty. (Maurya et al., 2019; Safin et al., 2010)	Architecture is intrinsically multi-dimensional (technical, functional, aesthetic), which supports a lifecycle and performance-oriented view.
Modern Romanian dictionary (DEX)	Arhitect / Arhitectură	"Specialist in designing and constructing buildings"; "science and art of designing and constructing buildings." https://dexonline.ro/definitie/arhitect https://dexonline.ro/definitie/arhitectură	Romanian usage keeps a strong link to real buildings and construction, relevant for post-communist housing and real estate management.
Contemporary English dictionaries (Oxford, Cambridge)	Architect	"A person whose job is designing buildings"; by extension: "a person who is responsible for planning or creating an idea or system."(Oxford University Press, 2019)	Shows the split between a regulated building profession and a generic metaphor for system design, echoed in Reddit debates.
Contemporary English dictionaries	Architecture	"The art and study of designing buildings"; also "the design or style of a building or buildings."(*NONPROFIT | English Meaning - Cambridge Dictionary*, n.d.)	Focus on design and style, with less emphasis on long-term operation or governance, leaving a gap that lifecycle models must fill.

Period / Source	Term	Core meaning (short)/Source	Implications for this article
Tech and management discourse (forums, job titles)	Architect (software / network / systems)	High-level system designer and coordinator of complexity, often without formal licensure or built-environment responsibility.Reedit_forum_Tech-people-using-the-term.docx+1	Appropriates the integrator idea but detaches it from legal and ethical accountability, illustrating the current semantic drift.
This article (proposed definition)	*Architect (AMS)*	*Licensed design professional who integrates spatial design, technical systems and governance, sharing responsibility for building performance over the whole life cycle.*	*Reconnects historical "chief builder" and contemporary "system integrator" within sustainable real estate management.*
This article (proposed definition)	*Architecture (AMS)*	*Integrative practice that links space, technology and governance to deliver environmental, social and economic value across the life cycle of buildings.*	*Provides the conceptual basis for the AMS model and for positioning architects as value integrators in post-communist housing.*

Source: author's own research and *original contribution.*

All the historical and contemporary meanings presented above show us the combination achieved by architecture through design, construction, and coordination, but we argue that current use often fragments and dilutes its integrative role. That is precisely why our AMS framework, based on this tradition, supports the repositioning of architects as value integrators within sustainable real estate management.

Literature review

In Eastern Europe, the role of the architect (from modernist reformer to orchestrator of sustainability) has not been strictly technical or purely aesthetic. In this chapter, we analyze its evolution. Architects act as social actors, from the beginning of the 20th century to the post-socialist transition, they are involved in ideological projects, economic transformations, and, more recently, in managing sustainability-related challenges. Figure 1 presents three critical moments in this evolution.

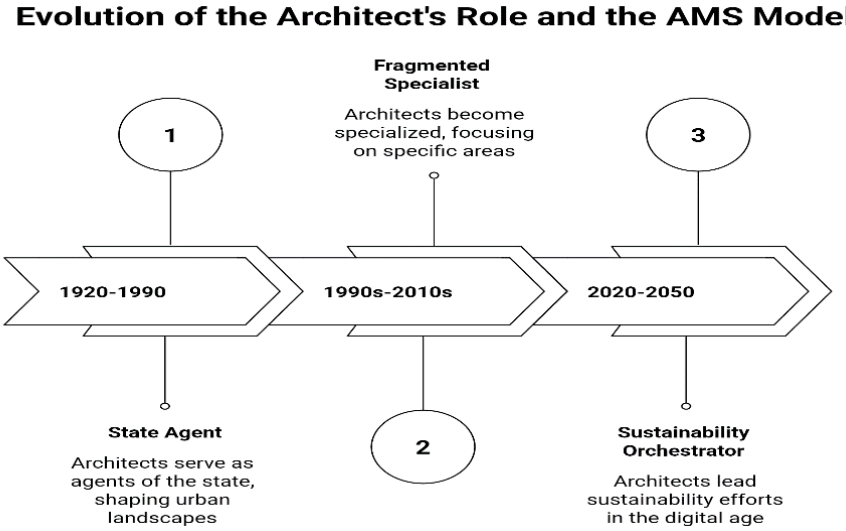


Figure 1. Architects as social actors and AMS

Source: Authors' original contribution.

The 1920s-1990s evolution

Eastern European architects function as intermediaries of modernity and go beyond serving as mere designers in the interwar and postwar periods. They respond to social needs and actively shape cities in state-promoted projects (Banciu et al., 2023). Kohlrausch and Bocharnikova (2020) show that modernist architects act as social experts, introducing new technologies. However, this modernisation has deep ideological roots, without being a matter of neutral design. Stanek (2020) demonstrates (for Romania specifically) that the architects were implementers of this social transformation, on the massive housing projects and industrial complexes.

As a key argument, we think that the architect's authority during this period was paradoxically both absolute and constrained. They controlled design and often execution, but within ideological and political frameworks dictated by the state. There was integration of responsibility, the architect who designed a housing block was expected to see its long-term social impact. This responsibility was framed through ideology, not performance metrics or sustainability concerns. We consider that this key argument has relevance to our current work. This historical moment establishes why fragmentation occurred: the collapse of the socialist state and the rapid transition to market economies in the 1990s severed the architect from this broader social mandate. Architects became specialists again, designers of forms, not orchestrators of social outcomes. This fragmentation is exactly what the AMS Model seeks to recover and reframe**.**

The 1990s-2010s and the rise of specialism

The real estate sector in Romania and across Eastern Europe experienced massive privatisation, after 1990. Kohlrausch (2019) shows that architects are losing their complex role due to the sudden transition to the neoliberal market, and a rupture occurs between design and management. There is no strategic coordination at the overall level, buildings are renovated in a fragmented manner, each actor works without assuming performance over the entire life cycle of the building. The administrator manages what the architect designs. During these 20 years, sustainability concepts also entered this sphere, but Feria and Amado (2019) show that Eastern Europe is incompletely recovering. The environmental dimension is not a structural criterion of design and is considered an addition to commercial projects. For Romania, Grama (2021) observes that both architects and administrators work according to the outdated logics of the 1990s, unconnected to long-term performance indicators.

The digital turn: BIM as a gateway to reintegration (2015-2025)

Arayici et al. (2011) and later Shahruddin et al. (2020) note in their work that the entire building life cycle is being rethought, due to the adoption of building information modeling (BIM). Administrators and architects model space usage scenarios and take into account energy consumption, maintenance demands, and life-cycle costs of buildings (Banciu & Cirnu, 2022). Mitera Kiełbasa and Zima (2024) show that, at the regional, institutional level, there is a lack of a coherent regulatory framework for professional culture that recognises the value of BIM. Leaders are Poland and the Czech Republic, while Bulgaria, Romania and Ukraine are significantly lagging behind. An absence of clear public policies, weak client demand and insufficient professional training of architects are the barriers highlighted by Leśniak et al. (2021) and Jasiński (2020). Mitera Kiełbasa and Zima (2024) and Mysak and Mysak (2024) outline the need for new skills in BIM-based architectural practice. Strategic planning, management, financial understanding and interdisciplinary collaboration skills are in demand. However, in Eastern Europe, these skills are underdeveloped in schools learning.

Relevance to current work is that BIM creates the technical possibility for reintegration. An architect using BIM can simulate how a renovated Romanian apartment block will perform for 50 years. But BIM alone is not sufficient because there must also be governance structures and professional responsibility linking design to long-term management. We believe this is precisely what the AMS Model provides.

Sustainability and the architect as social facilitator: Romania's path (2020-present)

Oltean et al. (2024), Baibarac-Duignan & Medeșan (2023), Boca et al. (2025), Bungău et al. (2023), and Mihaescu (2020) collectively demonstrate that Romanian architects are increasingly engaging sustainability as social and environmental responsibility. Recent projects highlight that architects are facilitating the transition to sustainability through the following ways:

- ✓ Passive design integration and ecological materials;
- ✓ Community co-production of solutions (not top-down design);
- ✓ Vernacular architecture conservation (Oltean et al., 2024);
- ✓ Climate-responsive urban development (Boca et al., 2025);
- ✓ Educational interventions, architects as "sustainability educators" influencing future behaviours through school space design (Mihaescu, 2020).

Besides being a designer, the architect is a facilitator. Baibarac-Duignan & Medeșan (2023) document how architects in post-socialist neighbourhoods like Mănăștur, Cluj are engaging in "commoning", co-designing sustainable futures with residents, and doing that without imposing solutions. This represents a shift, so the architect moves from technical expert to social facilitator of sustainability transitions.

Considering the relevance to our current work, this emerging Romanian practice validates the core assumption of our research, means architects must be integrated into real estate management governance as facilitators of sustainable performance with communities, not as controllers. Oltean et al. (2024) and Baibarac-Duignan & Medeșan (2023) show this is already happening informally. We consider that our AMS Model formalizes it.

Future trajectories: Toward an integrated architecture of responsibility (2025-2050)

Synthesizing the literature (Table 2), an emerging consensus suggests the architect's future role is as an orchestrator, integrating: 1) Design excellence (traditional); 2) Performance guarantees (lifecycle cost, energy, comfort); 3) Digital stewardship (BIM, digital twins, AI-driven optimization); 4) Governance participation (collaborating with property managers and communities); 5) Social responsibility (equity, accessibility, resilience).

The figure of the all-powerful modernist architect, the one who controls everything, is not a proposition to which we should return. We argue that the role of the architect is to assume responsibilities within interdisciplinary teams, where action is taken through mechanisms of balancing and control, through data processing and through community participation.

Based on the specialized literature and the directions set out by the European package on the energy performance of buildings and the renovation wave, it can be estimated that:

- ✓ By 2030: The use of BIM is set to become a standard for major renovation projects in Eastern Europe (even though the degrees of mandatory use will vary between countries). This will force architectural competency expansion;
- ✓ By 2035-2040: The distinction between "architect" and "real estate manager" may begin to blur, and hybrid professional profiles (like architect-managers, manager-architects) will emerge;

- ✓ By 2050: Sustainability metrics (carbon, water, social impact) will be as foundational to architectural identity as aesthetics and function. "Unsustainable architecture" will become a professional failure.

We consider that our research is positioned at exactly the right moment. We are documenting and theorizing a transition that is already occurring empirically (Baibarac-Duignan & Medeșan, 2023; Oltean et al., 2024). The AMS Model provides the conceptual and governance framework for what practitioners are already attempting.

Table 2. Synthesis the arc of responsibility

Period	Architect's role	Primary authority	Integration level	Main challenge
1920-1990	State modernizer	Political/ideological	Total but constrained	Ideological distortion
1990-2015	Market specialist	Client/developer	Fragmented	Disconnection from long-term outcomes
2015-2025	Digital problem-solver	Data/performance	Emerging	Institutional gaps (governance, regulation)
2025-2050 (projected)	Sustainability orchestrator	Multistakeholder	Integrated but federated	Balancing authority and participation

Source: Authors' own research.

The architect's role in Eastern Europe has moved from totalizing modernist state agent (with integrated but ideologically constrained responsibility) through fragmented market specialist (disconnected from outcomes) toward emerging orchestrator of sustainability (integrating design, performance, governance, and social responsibility).

We think this evolution creates the need and also the possibility for our AMS Model. The literature (particularly recent work by Oltean, Baibarac-Duignan, Boca, and others) shows that Romanian architects are already experimenting with this integrative role. We think what is missing is a coherent theoretical framework and governance model that formalizes and scales these emerging practices. So, our contribution is providing a framework, grounded in the specific challenges of post-communist housing, digitalization, and atomized ownership.

Methodology

The study adopts an exploratory, mixed-method research design that combines a critical literature review with conceptual modelling and a planned qualitative analysis of online professional debates. The overarching aim is to clarify the evolving role of the architect in Eastern Europe and to propose the AMS Model as an integrated framework for sustainable real estate management in post-communist housing contexts (Monclús & Díez Medina, 2016; Tripathi et al., 2023).

The research is interpretive rather than strictly positivist. It focuses on understanding how architecture, real estate management and sustainability have been treated in separate scholarly and professional discourses, and on re-assembling these strands into a coherent model centred on lifecycle performance.

The primary objectives are to: (1) trace the evolution of the architect's role in Eastern Europe from modernist state agent to sustainability and digitalisation orchestrator[1]; (2) identify gaps and contradictions in the existing literature on BIM, governance and post-socialist housing;

[1] https://futurearchitectureplatform.org/projects/a187ee65-ac15-488f-a964-71e437c18c26/

and (3) formulate and preliminarily operationalise the AMS Model as a value integrator across architecture, management and ESG dimensions (PwC, 2024).

The core of the study is a qualitative, critical literature review. We identified books, academic articles and of course reports in open access databases, also in Scopus and Web of Science, by querying with the following keywords: *post-socialist housing*, *role of the architect*, *BIM and facilities management*, *sustainable architecture in Eastern Europe* and *ESG real estate*. The response targeted three thematic areas significant for our topic: modernist architects and post-socialist legacies; the transition to sustainability in architecture and digitalization through BIM, IoT and artificial intelligence (Monclús & Díez Medina, 2016; Tripathi et al., 2023).

The resulting material was then thematically synthesized. Through our analysis, we aimed to reconstruct an arc of professional evolution, highlighting the tensions between design, management and governance practices, all within a context of ownership and highly atomized ownership structures. The AMS Model will thus be developed as a conceptual framework for actively redefining the architect as a value integrator. The AMS Model diagram (figure 2 in the next chapter) represents the visual synthesis of our conceptual approach (Bouaru, 2023).

We complemented the qualitative analysis with a quantitative element, with a limited dimension, as follows: we mapped the publications by year (2011-2025), on broad themes. We thus illustrated the shift towards sustainability studies, focused on BIM. The bibliometric image did not require advanced statistical software and was obtained by exporting the data to Excel. We believe that this methodological option shows the main focus of the study, the conceptual construction of the AMS Model, and not an extensive scientometric analysis (PwC, 2024).

We have compiled a glossary of key concepts, which is used directly in the article. We consider this glossary to be an important methodological tool, establishing and guiding the reader through its working definitions, in reading the literature and in interpretation. (Table 3). By stabilising the meaning of contested terms, it creates a shared vocabulary across architects, property managers and sustainability specialists, which is a precondition for any integrated model such as AMS.

Table 3. Glossary of key concept

Ranks	Term (English)	Abbreviation	Definition
1	Building Information Modelling	BIM	Collaborative working methodology creating a 3D digital representation of the building with technical, economic, and performance information. Enables energy simulations and lifecycle cost predictions.
2	Digital Platform / Real Estate Software	DP/RES	Integrated system providing financial transparency, owner-administrator communication, e-voting, and monitoring.
3	Energy Efficiency	EE	Energy consumption reduction for same function through insulation, modern heating/cooling systems, and digital optimization.
4	Energy Retrofit	ER	Modernization interventions (insulation, windows, heating systems) improving energy performance of old buildings.
5	Environmental Sustainability	ES	Minimizing ecosystem impact through emission reduction, water and waste consumption reduction.
6	Environmental, Social, Governance	ESG	Evaluation framework integrating environmental performance (energy, water, waste), social (comfort, accessibility, participation), and governance (transparency, control, ethics).
7	Fragmented Ownership	FO	Situation where building has hundreds of co-owners with equal decision-making power, complicating major modifications.

Ranks	Term (English)	Abbreviation	Definition
8	Internet of Things	IoT	Network of sensors and connected devices monitoring energy consumption, temperature, humidity, leak detection in real-time.
9	Leadership in Energy and Environmental Design	LEED	Most widespread sustainability certification globally evaluating energy performance, water, materials, and indoor quality.
10	Life Cycle Management / LCA	LCM/LCA	Analysis of building impact throughout its entire lifespan (50-100 years), from material production to demolition and recycling.
11	National Renovation Plan	NRP	Long-term strategy (2020-2050) for energy modernization of existing buildings, co-financed by EU.
12	Post-Communist Real Estate Market	PCRM	Economic and social context in Eastern Europe after 1990, characterized by massive housing privatization and incomplete legal transitions.
13	Predictive Maintenance	PM	Maintenance strategy based on data and sensors to prevent failures and optimize interventions.
14	Preventive Maintenance	PM	Regular inspection and repair program preventing equipment failure.
15	Property Management	PM	Daily coordination of services, maintenance, and relationships between owners and administrators. Includes operational and financial management of collective real estate.
16	Real Estate Asset Management	REAM	Strategic management of real estate assets to maximize long-term value, including renovation investments and operational optimization.
17	Real Estate Governance	REG	Set of rules, procedures, and institutions through which decisions are made and resources managed in homeowners' associations.
18	Real Estate Management	REM	Integrated approach combining operational administration, investment strategy, sustainability, and governance.
19	Sustainability Audit	SA	Independent evaluation of environmental and social performance of a building or homeowners' association.
20	Sustainable Architecture	SA	Design that minimizes environmental impact throughout the building's lifecycle, combining energy performance with space quality and context integration.

Source: Authors' own research.

Although this article focuses primarily on the conceptual and bibliographic layers, the methodology deliberately opens towards an empirical qualitative strand that will be developed in subsequent work. The intention is to confront the assumptions of the AMS Model with everyday professional debates as they appear in online forums. Two platforms are selected for this exploratory phase: 1) Reddit (professional subreddits such as r/architecture), chosen for the volume and diversity of question–answer threads, which often include self-identified architects, BIM managers and facility managers, and for the openness of discussions on responsibility, building performance and sustainability[2]; 2) Archinect Forums, chosen because they gather mainly practitioners, with threads explicitly dedicated to BIM, post-occupancy evaluation, fees, risk allocation and changing professional boundaries.

[2] https://www.skytechmobile.com/blog/how-ai-mi-reshaping-homeowner-associations-in-the-coming-decade-of-real-estate

Threads will be identified through open questions related to the research focus (e.g., "Does sustainability start at design or operation?", "Who owns building performance after handover?", "How does BIM change responsibilities between architect and facility manager?"). We used the following criteria for inclusion: a) at least five promising responses; b) publications between 2018 and 2025; and c) respondents' contributions explicitly positioned as practitioners (architects, design managers, facility/facilities managers, BIM managers, sustainability consultants). Targeting corpus is 10 to 15 threads per platform, generating between 80 to 120 individual responses for analysis[3].

The textual data will be subjected to manual thematic coding using a small set of categories derived from the AMS Model: perceived responsibility for building performance; roles of architect and manager; digital tools as technical aid versus governance change; barriers in post-occupancy collaboration; and proposed solutions (e.g. contracts, POE, green leases, digital platforms). The objective is not statistical generalisation, but the identification of recurring patterns that either support or challenge the conceptual assumptions of AMS and, in particular, the idea of the architect as value integrator. Other platforms such as Quora, RIBA/AIA knowledge communities, LinkedIn discussions and specialised green building forums have been identified as potential data sources, but are reserved for future research phases due to space and scope constraints of the present article.

From a methodological point of view, the study is consistent with recent mixed methods work, which combines critical theory, digitalization and post-socialist housing analysis, but differs from most BIM research, placing leadership and professional roles at the centre instead of technology adoption alone. It also expanded the emerging Eastern European research on sustainable renovations by explicitly linking the decision-making of architectural design to long-term management, ESG reporting and the resident experience through a single integrated model (Tripathi et al., 2023). In this sense, the methodology is deliberately incremental: first, by reviewing literature and constructing glossaries, it consolidates concepts and terminological foundations, then it draws up AMS frameworks, and finally, by an analysis of the forums and future interviews, it develops a qualitative empirical pathway that validates, improves or disputes proposed models.

Results and discussions

While public professional discourse emphasizes the symbolic erosion of the architect's identity, specialized forums reveal a deeper operational crisis rooted in fragmented responsibilities, BIM-driven risk shifts, and the lack of lifecycle governance. Together, these findings support the AMS model's (figure 2) central claim: sustainable real estate management requires the architect's reintegration as a value integrator, supported by BIM-enabled governance and ESG-aligned performance metrics (figure 3).

The analysis draws on two distinct professional online communities: a large-scale public forum (Reddit) capturing symbolic and identity-based debates, and a specialized architectural forum (Archinect) focused on operational, contractual, and technological challenges. Reddit analysis shows WHY the role is contested, and Archinect analysis HOW the role breaks down in practice[4].

The findings from the two forums and the conceptual work around the AMS framework point in the same direction: the architect's role is simultaneously contested symbolically and fragmented operationally, and lifecycle governance is the missing link that AMS seeks to reconstruct.

[3] https://www.skytechmobile.com/blog/how-ai-mi-reshaping-homeowner-associations-in-the-coming-decade-of-real-estate

[4] https://forums.feedspot.com/architecture_forums/

The AMS Model as value integrator. Conceptual framework and operational logic

The AMS Model emerges as a response to the fragmentation identified in the literature review and the current challenges of post-communist housing management. The model does not consider architecture, real estate management, and sustainability to be separate professional areas, but to represent architects as value integrators and professionals orchestrating in three interdependent areas throughout the life cycle of buildings. The core view is that architectural decisions (material choice, orientation, system design, adaptation) have a direct impact on operational management efficiency and the outcomes of long-term sustainability. We believe that management feedback, namely occupancy patterns, maintenance costs and performance data, are indispensable for architectural evolution and future design interventions. In post-communist contexts this cyclical relationship is missing. As we mentioned throughout our paper, architects would leave the premises after the construction was handed over, and managers (administrators) operated reactively, without any design intelligence.

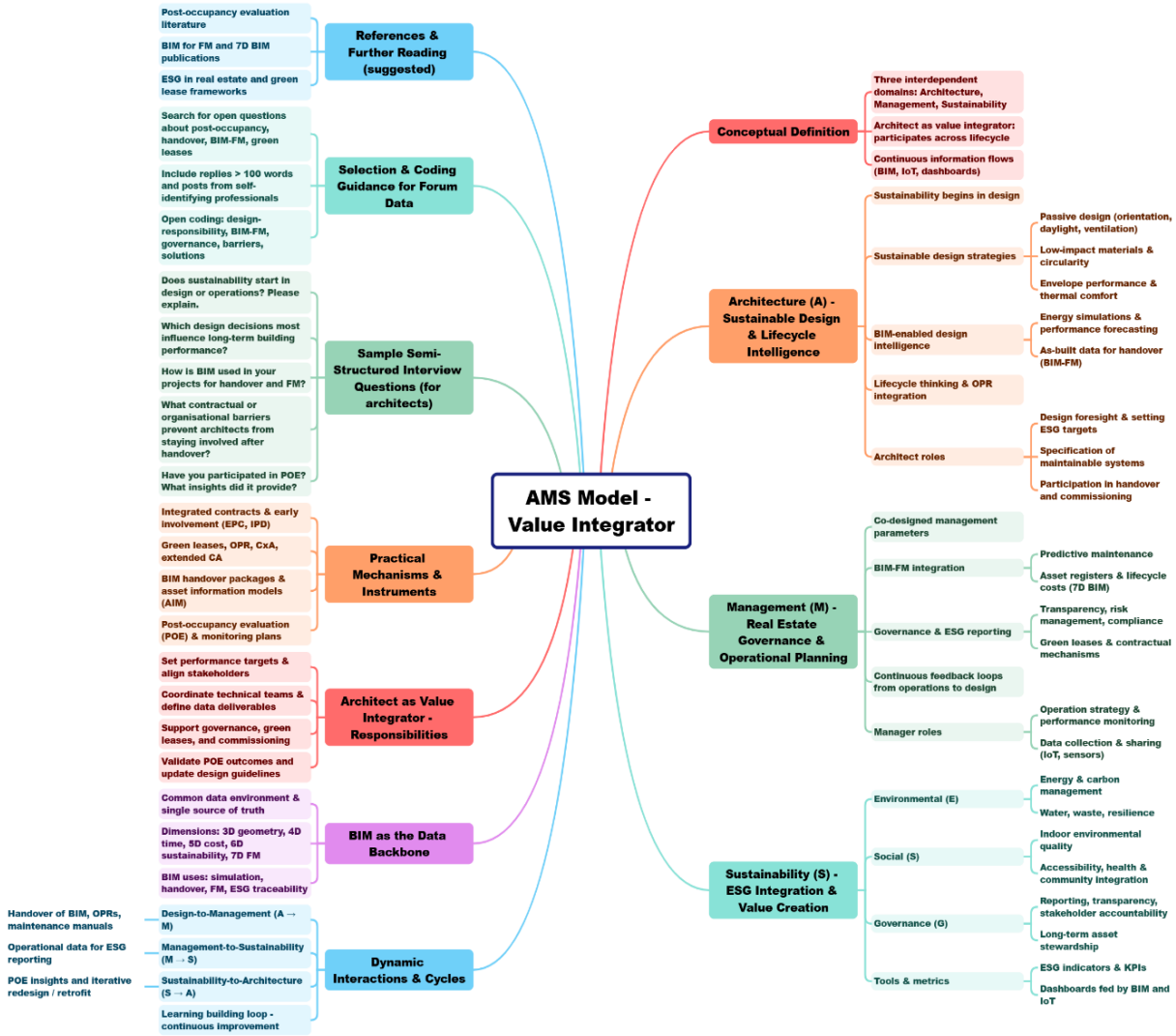


Figure 2. AMS framework

Source: Authors' original contribution.

The three interdependent domains

(1) Architecture (A) – Sustainable design & lifecycle intelligence

The architect's responsibility extends beyond initial design to encompass lifecycle thinking. This includes passive design strategies, BIM-enabled performance forecasting, material selection for durability and circularity, energy and envelope performance optimization, and crucially, as-built documentation with handover intelligence (POE-ready specifications, maintenance manuals, design rationale). The architect sets the foundation for future management and sustainability performance.

(2) Management (M) – Real estate governance & operational planning

Real estate management, by collecting operational information, energy consumption, operating modes and occupancy patterns, is required to provide continuous improvement operational feedback to design teams. The interests of owners, managers and tenants are thus reconciled through performance-based contracts. Decisions in governance structures are enabled based on evidence, maintenance plans (with IoT and sensor data), as real estate management includes BIM-FM integration (a continuous flow of data, from design to operation).

(3) Sustainability (S) – ESG integration & value creation

Environmental, social and governance components are deliberately brought together in our model, in a clear logic of analysis and action. Regarding sustainability, we believe that it goes beyond simple compliance with environmental regulations, because they are treated as measurable parameters: key performance indicators, scorecards, ESG reporting standards, parameters that are directly integrated into the design and execution process. Thus, management decisions and the architectural design plan are directly influenced.

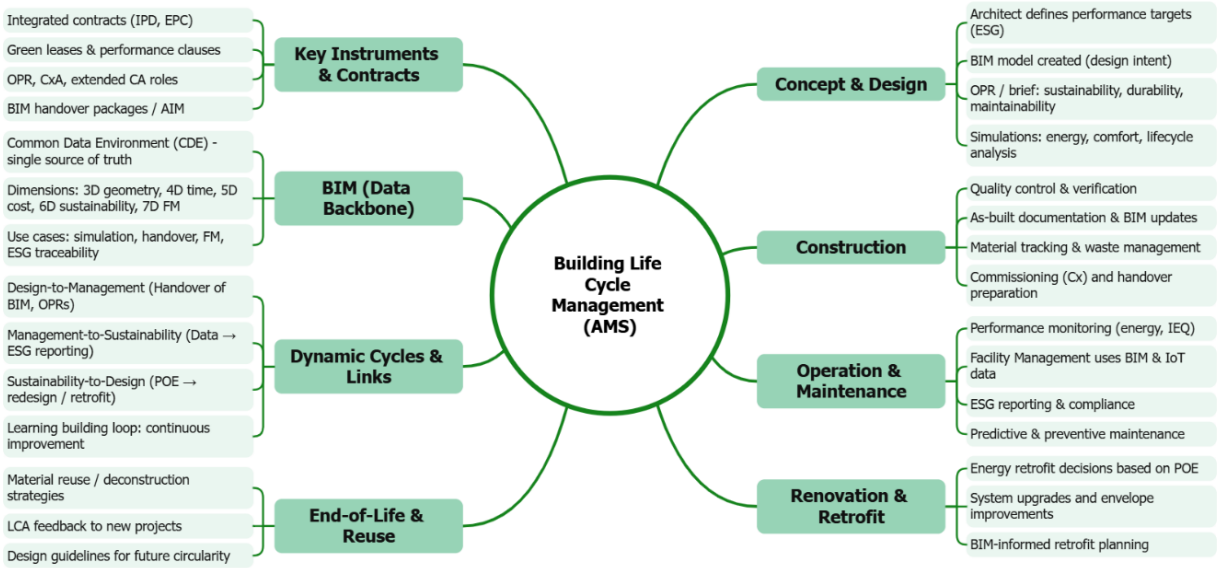


Figure 3. The AMS framework

Source: Authors' original contribution.

Perspectives from the literature are brought together by the value integrator – our AMS Model. It interconnects architecture, management and sustainability in a model where the architect operates simultaneously and actively in these domains, with the support of BIM as a common mediator of data and ESG metrics, explicitly on performance criteria. Continuous information flows throughout the life cycle of the building/construction/property, design decisions,

management practices and sustainability outcomes are the primary elements of this model and are treated as interdependent. Figure 3 summarizes this logic, in its phases.

Reddit: symbolic contestation of "architect"

Table 4 analyzes the Reddit discussion, which focuses on the use of the term architect in technology posts. Intense disputes are exposed regarding the meaning of this term. It is argued that it should continue to be a title linked to licensing, legal liability, ethical responsibility, professionally protected. It is brought to light that unrestricted use in IT roles dilutes this profession. Others point out that the parallels between software and construction, requiring superior coordination as complex systems with high-level standards (*software architect*).

This debate reveals a double tension that is central for AMS. On one hand, the insistence on licensure confirms that architecture is fundamentally about long term responsibility, not only creativity, which legitimises the AMS proposal to involve architects more deeply in management and ESG governance rather than limiting them to design. On the other hand, the system integration metaphor used in tech, although often based on a superficial understanding of building practice, resonates with the AMS view of the architect as orchestrator of complex interactions between design intent, technical systems and operational standards. The Reddit discourse thus exposes why the architect's identity is unstable and why a clearer, lifecycle oriented definition such as that offered by AMS is needed.

Table 4. The Reddit thread analysed

Theme (T)	Core Codes	Interpretive Focus	BIM Link	ESG Dimension	AMS Relevance
T1. Professional Boundary & Legitimacy	protected title; licensure; legal responsibility; misuse of title; professional erosion	Architecture is framed as a regulated profession grounded in accountability and public responsibility	BIM enables traceability of decisions, responsibilities, and design intent across the lifecycle	Governance (G): transparency, accountability, compliance	Justifies extending the architect's role beyond design into governance and lifecycle oversight
T2. Architect as System Integrator (Implicit)	system design; coordination; blueprint analogy; standards; complexity management	The architect is intuitively associated with orchestrating complex systems rather than aesthetic authorship	BIM operationalizes system integration through a shared data environment	Environmental (E) & Governance (G): interoperability, efficiency	Supports the concept of the architect as *value integrator* within AMS
T3. Design–Operation Disconnect	handover problem; loss of design intent; lack of feedback; operational consequences	Early design decisions generate long-term operational impacts without feedback loops	BIM-FM bridges design intent and operational performance through lifecycle data	Environmental (E) & Social (S): energy performance, user comfort	Demonstrates why sustainability cannot be reconstructed post-occupancy; supports lifecycle integration
T4. Title Inflation & Managerial Drift	corporate titles; prestige signaling; abstraction of responsibility; managerial authority	The term "architect" is diluted into a symbolic managerial label disconnected from responsibility	BIM re-anchors authority in verifiable data rather than symbolic titles	Governance (G): role clarity, decision accountability	AMS reframes architectural authority as performance-based rather than symbolic

Theme (T)	Core Codes	Interpretive Focus	BIM Link	ESG Dimension	AMS Relevance
T5. Sustainability as an Emergent, Not Add-on, Property	long-term impact; unintended consequences; lifecycle costs; performance gap	Sustainability is perceived as cumulative and dependent on early-stage decisions	BIM enables simulation, POE feedback, and performance validation	Environmental (E) & Social (S): lifecycle value creation	Core justification for the AMS model's cyclic, non-linear structure

Source: Authors' own research.

Archinect: operational fragmentation and BIM governance

The Archinect discussions (Table 5) shift from symbolic disputes to practical concerns about roles, BIM, contracts and working conditions, offering a picture of how fragmentation plays out in everyday practice.

Table 5. Archinect → BIM – ESG - AMS

Theme	Core Insight	BIM Role	ESG Dimension	AMS Contribution
A1 Role Fragmentation	Architectural responsibility is diluted across specialized roles	BIM requires integrative oversight	Governance (G)	Architect as value integrator
A2 BIM & Liability	BIM shifts risk without redefining roles	BIM as governance infrastructure	Governance (G)	Formalized lifecycle accountability
A3 Design–Operation Gap	Early coordination is demanded but unpaid	BIM-FM continuity missing	Environmental (E)	Lifecycle-based sustainability
A4 Sustainability Rhetoric	Sustainability lacks operational metrics	BIM enables measurable performance	Environmental (E), Social (S)	Data-driven sustainability
A5 Professional Exit	Architects leave due to structural misalignment	BIM opens managerial pathways	Social (S)	AMS as professional evolution model

Source: Authors' own research.

First theme is about proliferation of specialised roles, which divides responsibility across micro functions and makes it unclear who owns overall building performance. Career boundaries and role conflicts are described by participants. Technological or management positions, which are detached from the project authority, are derived by BIM experts. We believe that the AMS argument that the integrative role element is missing, namely the positioning of architects to coordinate, rather than be replaced by these specializations, is justified.

The debaters also bring up BIM as an organizational power and legal risk. They focus on BIM contracts and model ownership. This includes unpaid additional work, unclear expectations or coordination tasks that are normally handled by contractors. The perception of BIM is as an infrastructure for redistributing responsibility and risk, but most often without corresponding fees and without explicit governance structures. This reinforces the need for BIM to be treated in accordance with life cycle governance. Clarification is needed on responsibilities for the creation, maintenance and use of data in design, construction and operation.

A third theme is the misalignment between design, production and operation. Posts describe "front loading" of coordination, contractor driven BIM requirements and expectations that architects deliver highly detailed models without adequate compensation or long term involvement

in facility management. Participants worry that handing over complete BIM models may shift liability without giving architects any say in how buildings are operated or retrofitted. This misalignment directly contradicts the lifecycle continuity depicted in Figure Y and illustrates why AMS emphasises explicit feedback loops, contractual instruments (e.g. IPD, green leases) and structured handover packages linking BIM to facility management and ESG reporting.

In summary, Archinect's discussions emphasize professional exhaustion and seeking exit strategies, architects seeking alternatives to their careers (including management) in order to escape insurmountable workloads and weak negotiation positions. This indicates that the current system of roles and responsibilities is inefficient and socially unsustainable, thus affecting the ability of the profession to support the long-term management of the building environment. AMS proposes another, different trajectory, as professionals can evolve as hybrid architect managers, working and operating at a significant intersection between design, governance and digital infrastructure.

AMS synthesized with the two forums

The complementary dimensions of the same problem are those highlighted by the debates of these two forums. The title and identity of the architect, which are contested (symbolically) in all industries (Reddit), are captured and the disassembling of responsibilities is revealed (Archinect). In both forums the debates lead to highlighting the absence of a coherent framework of the life cycle, the connection between operational responsibility, value creation and design authority.

The integration deficit is addressed by the lifecycle diagram and the AMS model. The architect is the value integrator in the A-M-S triad, based and supported by data flows and metrics, data that are in turn aligned with the ESG framework. Architectural practice is redefined through its role as ongoing stewardship. We believe that the analysis of the forum debates provides the empirical basis for the AMS and its central assumptions. This alignment between conceptual framework and discursive evidence strengthens the case for applying AMS to the specific challenges of post-communist housing and for further empirical work on lifecycle-based governance in real-estate management.

Conclusion, limitations and future work

We argued that the contemporary crisis of the architect's role in Eastern Europe is (besides symbolic) structurally linked to fragmented responsibilities across design, construction, management and sustainability governance. By synthesising historical and recent literature, the AMS framework repositions the architect as a value integrator within an Architecture–Management–Sustainability triad, supported by BIM-based data flows and ESG-oriented performance targets, and translates this role into a concrete building life cycle logic. The qualitative analysis of Reddit and Archinect discussions has shown, on the one hand, how the title "architect" is contested and diluted in wider professional discourse, and, on the other hand, how BIM, contracts and specialisation redistribute risk and work in ways that undermine lifecycle accountability. We sum up to these findings, who are suggesting that sustainable real estate management in post-communist housing requires a renewed, explicitly lifecycle-based understanding of architectural responsibility, as well as contractual and educational reforms that enable architects to operate as integrators rather than isolated designers.

This study has several limitations that also open avenues for further research. First, the empirical component is intentionally exploratory and relies on a limited number of online forum threads from Reddit and Archinect, which provide rich discursive material but do not constitute a representative sample of architects or real estate professionals in Eastern Europe. Future work

should therefore complement this analysis with targeted interviews and case studies of specific renovation or management projects in post-communist housing estates, in order to test how the AMS framework performs in concrete organisational settings. Second, the article focuses on professional discourse and conceptual modelling, without implementing or evaluating the AMS model in a real-life governance experiment such as a homeowners' association, a public–private renovation programme or a university campus retrofit. The following research could take AMS into account through a pilot project that combines BIM-based common data environments, green leasing, and post-occupation evaluation protocols and measures their impact on energy performance, maintenance costs, and resident satisfaction over time. Thirdly, the analysis is anchored mainly in Romania and the wider context of Eastern Europe, where post-Socialist inheritance, fragmentation of ownership and legal uncertainty in particular form the problem space. Comparative research with cases in Western Europe or other countries, where ownership structures, regulatory frameworks and professional cultures differ, will help to clarify which components of AMS are context-dependent and can be generalized as a broader model of sustainable real estate management based on the life cycle.

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