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## Article

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## Article

# Adapting International Business Models for EU Projects: Macro- and Micro-Foundations of the Uppsala Model in Multinational Collaborations

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**Abstract:** This study examines the adaptation of the Uppsala Model to enhance the management of European Union (EU)-funded projects, particularly focusing on the macro- and micro-foundational elements of the model. The Uppsala Model, originally developed for firm-level internationalization, provides a valuable framework for addressing the complex challenges of EU project implementation, which include bureaucratic hurdles, diverse stakeholder management, and the intricacies of European integration. This paper highlights the persistent issues faced by project managers despite improved application processes and skilled beneficiaries. By applying the Uppsala Model, which emphasizes incremental knowledge development and resource commitment, this study aims to bridge the gap between fund acquisition and project delivery. The integration of both macro- (broad external factors) and micro- (individual and organizational behaviors) perspectives of the Uppsala Model offers a comprehensive approach to managing international, multi-stakeholder EU initiatives. This approach is exemplified through the SuMaNu project, which addresses nutrient recycling and sustainable manure management in the Baltic Sea Region. The findings suggest that the Uppsala Model's principles can be effectively applied to enhance the execution of complex EU projects by fostering better stakeholder relationships, incremental learning, and adaptive strategies. This study underscores the relevance of experiential learning and network perspectives in achieving successful project outcomes in the EU context.

**Keywords:** project management; international business; stakeholder management; sustainability; innovation



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## 1. Introduction

European Union (EU) research and development funding serves as a vital instrument for the socio-economic development of both urban and rural sectors, bolstering project-based growth in member nations [1,2]. However, as Muñoz-Fernández et al. [3] highlight in regions like Calabria, the complexities of fund absorption can sometimes overshadow broader developmental goals. While the fiscal impact of these funds is well documented in the literature, the intricacies of project implementation often receive less attention [4,5]. Despite the refinement of application processes and the improved proficiency of beneficiaries across successive programs, significant challenges persist during the implementation phase of these projects. Research consistently shows that project managers encounter recurring issues, many of which remain beyond their immediate control, underscoring the complexity of managing multi-stakeholder EU initiatives [6,7]. These challenges, deeply embedded in the dynamics of European integration, become particularly pronounced during the project implementation phase. Securing funds is often perceived as an endpoint, rather than the beginning of a complex journey. Notably, navigating complex bureaucracies, coordinating a diverse group of stakeholders, and managing effective communication across different

languages and cultures are major hurdles. These challenges underscore the necessity of more than just financial management but a holistic approach to project execution that integrates cross-cultural collaboration and adaptive governance.

Although EU-funded projects can vary greatly in scope, size, and purpose, depending on the financial framework and programs in research and innovation, they generally share key features that align them with EU priorities. These include economic growth, sustainable development, climate action, social inclusion, research and innovation, and regional cooperation. Apart from maintaining high-quality standards and being result-oriented, a hallmark of EU-funded projects is their transnational nature. They often require involvement of partners from multiple member states and engage a variety of stakeholders as beneficiaries. This cross-border cooperation is encouraged to facilitate the sharing of best practices and to ensure a broader European impact, engaging relevant stakeholders throughout the project's lifecycle. Engagements can include consultations, public awareness campaigns, or collaboration with pertinent organizations and institutions. Some EU projects, especially those in enlargement and neighborhood policies, aim at capacity building to ensure that beneficiaries possess the tools and knowledge needed to continue the project's mission post-conclusion. A dissemination plan is often a requirement, ensuring that the knowledge from the project is widely shared and benefits a broader audience.

As project managers navigate the intricate landscape of various EU funding instruments and programs, each with different objectives, requirements, and features, they encounter challenges ranging from institutional procedures to stakeholder coordination. Securing approval for an urban infrastructure enhancement project across several EU countries can involve navigating multiple bureaucratic layers, from regional to national authorities, each requiring separate compliance standards and causing project delays. In multi-national collaborations, such as environmental sustainability projects, managers must mediate between stakeholders from different countries with diverse expectations and working cultures, necessitating regular alignment activities. Similarly, a health research initiative spanning various EU member states required the development of a unified data protection protocol that complied with differing national medical regulations. Šostar et al. [8] demonstrate how applying successful fund absorption models can significantly mitigate these challenges and enhance sustainable regional development. Research has consistently shown that, while some challenges can be mitigated through skilled management and strategic foresight, others necessitate systemic interventions at the national level [5,9]. These challenges reveal consistent patterns where project managers frequently face issues that remain beyond their immediate control.

In this article, we propose that an adapted macro- and micro-foundational interpretation of the Uppsala Model's theoretical underpinnings can offer invaluable insights into many of these challenges of project implementation. By delving into the complexities of managing EU projects at a foundational level, this approach can enhance our understanding and potentially lead to more streamlined implementation processes.

**Research Question:** How can the macro- and micro-foundational principles of the Uppsala Model be adapted to manage complex EU-funded projects? Harmonizing the Uppsala Model, traditionally employed for firm-level internationalization, with the realm of EU project management offers a fresh strategy to address the inherent challenges of EU-funded projects. By integrating the principles of the Uppsala Model through a micro-foundational perspective, we aim to bridge the divide between fund allocation and project execution, unveiling potential solutions that enhance successful EU project implementation.

**Research Proposition:** Implementing the Uppsala Model's incremental learning and resource commitment principles can significantly mitigate common project management challenges in EU-funded projects.

### 1.1. Foundational Elements of the Uppsala Model

The Uppsala Model, first introduced by Johanson and Vahlne in their groundbreaking 1977 paper, sought to understand the patterns and processes by which firms internationalize [10–13]. Born from empirical observations of Swedish firms and their internationalization behaviors, the model presents a distinctive approach, contrasting sharply with traditional economic theories that dominated the literature of that era.

At the heart of the 1970s' theoretical underpinning of the Uppsala Model are four foundational elements, beginning with the notion that firms (i) internationalize incrementally. Companies often begin their internationalization journey in psychically proximate countries, in nations that are culturally, geographically, or linguistically close, before venturing into more distant markets. The importance of (ii) experiential knowledge has been emphasized, suggesting that as firms gather more experience in foreign markets, they develop a greater understanding, reducing perceived uncertainties and enabling further international commitments. The model suggests a direct relationship between a firm's market knowledge (particularly experiential knowledge) and its (iii) resource commitment to that market. As firms gain knowledge, they commit more resources, creating a cyclical relationship between knowledge and commitment. The Uppsala Model proposes a typical sequence of steps or an (iv) establishment chain that firms undertake in their internationalization journey: from no regular export activities to exporting via independent representatives, followed by establishing a sales subsidiary, and eventually leading to production/manufacturing in the foreign market.

### 1.2. Evolution of the Uppsala Model

The Uppsala Model has seen significant evolution over time. From the 1970s to the early 2000s, scholars started to interpret and employ the Uppsala Model elements in a paradigmatic manner. Consequently, the model incorporated broader concepts, acting as a foundational lens through which international business was understood. Research increasingly highlighted the importance of relationships in international business, recognizing that business and information exchanges often occur within the nexus of relationships among suppliers, customers, and other stakeholders. This shift paved the way for the International Marketing and Purchasing (IMP) group, emphasizing the pivotal role of networks in international business [14]. Mutual learning and commitment building within these networks became integral to understanding internationalization, with opportunities often identified and developed through relationships within these networks. Furthermore, Hilmersson et al. [15] categorized knowledge essential to the model into three types: business knowledge, institutional market knowledge, and internationalization knowledge. Relationship-specific knowledge was later added, emphasizing the importance of experiential learning.

The evolution of the Uppsala Model was influenced by various theoretical frameworks. The concept of absorptive capacity [16,17], for instance, deepened the understanding of learning's cumulative nature. The role of trust and social capital in this learning process was emphasized for the development and distribution of knowledge in organizations [18,19]. By the turn of the century, the methods companies employed to enter foreign markets also evolved, with acquisitions and joint ventures becoming increasingly common, reflecting the rising tide of globalization and the disruptive potential of digital advancements.

By 2009, a significant revision of the Uppsala Model was introduced by Johanson and Vahlne [12]. They posited that internationalization is not an isolated event but takes place within complex networks of relationships, significantly shaping a firm's international trajectory. This fresh perspective homed in on the importance of relationships and trust. They perceived foreign market entry as a process of integrating into new networks rather than just a series of steps based on experiential learning. Opportunities, they argued, are often identified and actualized through these networks, and the interplay between these opportunities and network relationships continually refines a firm's knowledge and subsequent activities.

In terms of applicability, the Uppsala Model has broadened its scope to include topics such as entrepreneurship, strategy, risk and uncertainty management, the dynamics between corporate headquarters and their subsidiaries, and the overarching theme of globalization. The processes integral to these applications have been central in the evolution of the model.

To align the Uppsala Model with contemporary realities, the authors of [20] championed the integration of both macro-contextual factors (like the expansive digital landscape) and micro-foundations (such as individual roles) to craft a holistic understanding of present-day internationalization. Digital advancements and social media platforms empower businesses to internationalize almost instantaneously, sometimes even unintentionally [21]. Individual entrepreneurs, innovators, and managers are at the forefront of this transformation, leveraging digital tools to redefine industries and set new trends in international business. The shift towards prioritizing human capital investment over physical assets underscores the role individuals play in shaping international business trajectories in this digital age.

## **2. Literature Review: Integrating Project Management Theories with Uppsala Model Foundations**

Large and complex project management tasks, such as those of many EU-funded projects, often draw upon a diverse range of theories and methodologies. While the Uppsala Model is traditionally linked with firm-level internationalization, it offers interesting similarities and differences when juxtaposed with specific project management theories. In this section, we will delve into six primary project management theories and methodologies, contrasting them with the Uppsala Model, using both macro- and micro-foundational perspectives. These six theories and methodologies were selected based on their thematic resonance with the Uppsala Model's incremental, experiential, and systematic approach. The main purpose of the sections below is to illuminate the synergies between the macro- and micro-foundations of the Uppsala Model and various project management theories.

### *2.1. Systems Theory*

Systems Theory is a transdisciplinary approach that seeks to understand systems as a whole, focusing on the relationships and interactions between the components of a system rather than solely on its individual parts. This theory originated from the works of scholars on General Systems Theory, as outlined in the original 1954 bylaws for the foundation of the Society for General Systems Research (SGSR) [22–24]. The theory emphasizes the interconnectedness, interdependence, and holistic nature of systems. Systems can be as varied as biological entities, social networks, and organizational structures. They often exhibit emergent properties, where the whole is different from the sum of its parts. It has been applied to a wide range of disciplines, including biology and the understanding of ecosystems [25] and organism physiology and cellular interactions [26]. Kah et al., for example [27], illustrate the effectiveness of the CLLD framework in enhancing local engagement and integrating policy at multiple levels, which aligns with the holistic and interconnected approach of Systems Theory.

In intricate project management processes, especially in EU projects, the complexities are manifold. These projects involve a mix of multiple stakeholders, detailed processes, diverse cultures, political challenges, varied funding mechanisms, and complex administrative tasks. Systems Theory, with its emphasis on a holistic understanding of the interconnectedness and interdependence of system components, offers valuable insights for such intricate projects. It advocates for a comprehensive view, ensuring all components of an EU project—from stakeholders to administrative tasks—are seen as interconnected. Such a viewpoint aids in understanding the potential ripple effects of decisions and actions. A core aim of General Systems Theory is knowledge transfer across fields. In the context of EU projects, this means tapping into expertise and best practices from various disciplines, thereby enhancing efficiency. Moreover, Systems Theory fosters unity across disciplines,

which, in the context of EU projects, can lead to better communication among diverse project teams and stakeholders [22,28].

#### Aligning Systems Theory with the Uppsala Model Paradigm for EU Project Management

Both Systems Theory and the Uppsala Model emphasize adaptability. EU projects, inherently international in nature, are dynamic systems consisting of multiple stakeholder organizations. Individuals within these organizations need to iterate and adapt based on feedback and changing circumstances. From a macro perspective, the Uppsala Model, emphasizing the incremental and experience-based approach to internationalization, aligns with the systemic perspective of understanding the broader landscape of international operations. By applying the principles of the Uppsala Model, EU projects can be managed more efficiently by acknowledging the broader macro-environmental factors influencing project outcomes. The stages of internationalization can be equated with the stages of project development, where each stage gleans insights from the previous ones.

From a micro perspective, the Uppsala Model zeroes in on the roles of individuals—their experiences and relationships—in the internationalization process. In the context of EU projects, this translates to understanding the vital roles of project managers, stakeholders, and individual contributors. It highlights how the success of EU projects often relies on robust relationships between these entities and beneficiary communities. Similar to how firms in the Uppsala Model learn from their international market experiences, EU project teams should consistently learn from each project phase, documenting best practices and lessons. In essence, merging the holistic and interconnected viewpoints of Systems Theory with the experiential and relational aspects of the Uppsala Model provides a comprehensive framework for navigating EU project management intricacies.

#### 2.2. Agile Project Management

Agile Project Management (APM) is a modern approach to project management that emphasizes flexibility, collaboration, and customer satisfaction. It originated in the software development industry, where Agile methodologies champion iterative development. In this approach, requirements and solutions evolve through a collective effort of cross-functional teams [29]. Grounded in the Agile Manifesto, APM prioritizes the value of individuals and interactions, a functional product, customer collaboration, and adaptability to change over traditional metrics like exhaustive documentation, contract negotiations, and strict adherence to a set plan [30].

Given the rise of disruptive technologies and rapid market shifts, organizations are adopting an agile mindset. This mindset facilitates the swift development of groundbreaking technologies [31–33]. Notably, this is not defined by a lack of process but by the capacity to promptly adjust to new scenarios. This agile approach contrasts with Traditional Project Management (TPM), which follows a more linear path and demands fully fleshed-out requirements from the onset. It is argued that the evolving nature of business projects, with an increasing focus on high-uncertainty tasks, calls for a more agile stance in project management [34].

#### Aligning APM with the Uppsala Model Paradigm for EU Project Management

Both the Uppsala Model and APM champion an incremental strategy. Under the Uppsala Model, firms venture into international markets progressively, learning and adapting at each phase. This parallels the iterative cycles of APM, where modifications are actioned based on feedback. From a macro-foundation viewpoint, both models underscore the importance of market change responsiveness. As companies within the Uppsala Model extend their global reach, they hone their ability to adjust to shifts and uncertainties in foreign territories. Similarly, APM accentuates swift adaptability to alterations in project settings.

On a micro-foundation level, the Uppsala Model highlights experiential knowledge, usually garnered from individual engagements in overseas markets. APM, too, places great importance on individual contributions and their interactions. Just as the Uppsala Model cherishes ties with international associates and market networks, APM values customer cooperation over mere contract talks. Firms branching out into new territories (under the Uppsala paradigm) often find themselves revising their business strategies based on firsthand encounters. This reflects the agile method, wherein project groups adapt in response to continuous feedback, aiming for successful project conclusions.

Merging the principles of APM into the Uppsala Model suggests that firms could adopt a more cyclical approach to international growth, characterized by routine evaluations, amendments based on local market feedback, and a focus on nurturing robust relationships not only with collaborators but also with consumers. Conversely, international firms that incorporate APM can glean insights from the Uppsala Model. They will recognize that just as knowledge of markets and hands-on experience are essential for global expansion, a profound grasp of the project milieu and the dynamics of stakeholders is equally vital in Agile Project Management.

### *2.3. Theory of Constraints (TOC)*

The Theory of Constraints (TOC) is a management philosophy which posits that systems are limited in achieving their goals due to specific constraints [35,36] TOC argues that pinpointing and addressing these constraints is pivotal to enhance system performance. The management paradigm has found applications in the study of automated operations and production lines across diverse industries in manufacturing [34–36]. It has proven invaluable in understanding optimal operational strategies [35] and has even informed marketing strategies in tourism [37]. Broadly, TOC provides methodologies and strategies to optimize system performance by concentrating on the constraints within various operations and supply chains.

#### *Aligning TOC with the Uppsala Model Paradigm for EU Project Management*

The Uppsala Model proposes that firms should incrementally heighten their engagements in foreign markets, transitioning from low-commitment modes, such as exporting, to high-commitment modes like direct investment. From a macro perspective, both the Uppsala Model and TOC underline the significance of market commitment, which evolves based on experiential learning and available market opportunities. Making informed decisions is crucial for achieving strategic efficiency, whether the context is foreign market engagements or automated manufacturing processes. The Uppsala Model recognizes that companies might retract from international commitments or recalibrate them in response to market shifts. This adaptability mirrors TOC's agile replenishment principle, suggesting that firms should remain flexibility in allocating resources. When market conditions change, companies should quickly adjust their commitments to ensure resources are not squandered or unduly constrained.

From a micro perspective, both paradigms treat experiential knowledge as a cumulative asset. Firms and management can employ buffer management or modify their buffers—encompassing resources, investments, and market commitments—to make sure they are not stretching too thin or stifling their potential in overseas markets. The Uppsala Model underscores the importance of learning iteratively from both triumphs and setbacks, a sentiment echoed by TOC, which promotes a systematic assessment of the entire system to unearth constraints. By fusing the iterative learning ethos of the Uppsala Model with TOC, companies can perpetually sharpen their strategies, ensuring they adapt to emerging constraints.

When applied to managing EU projects, the complementarities from the TOC management paradigm and the Uppsala Model offer a comprehensive framework. The integrated paradigm not only facilitates experiential and step-by-step decision-making but also ascertains that projects perpetually adapt in relation to their constraints. This confluence offers a balanced blueprint, where the Uppsala Model's experiential insights steer strategy formation, while TOC equips entities with the tactical tools for efficient execution.

#### *2.4. Complexity Theory*

Rooted in the natural sciences, Complexity Theory delves into systems characterized by uncertainty and non-linearity. When applied to organizational studies, it provides a framework for understanding how organizations, viewed as dynamic networks of interactions, adapt to their environments, particularly in the face of uncertainty. A cornerstone of this theory is the concept of Complex Adaptive Systems (CASs) that display traits such as self-organization, emergence, and co-evolution [38,39]. In these systems, while rules do constrain the behavior of individual agents, these agents also modify the overarching system through their interactions. This co-evolution often operates at a balance between flexibility and stability that organizations strike in order to prosper [40].

Complexity Theory carries significant implications for management, especially in project management. It suggests that traditional methods may not always meet today's challenges. Instead, the focus shifts to nurturing a culture of trust, which emphasizes openness and collaboration, as demonstrated in open knowledge networks harnessing artificial intelligence (AI) [41]. Consequently, managers informed by Complexity Theory are advised to move away from strict, top-down structures and instead foster adaptable, flat organizational designs responsive to environmental changes. Other applications of Complexity Theory span areas like global economic networks, stock markets [42], and diverse social structures such as political parties or terrorist networks [43].

#### *Aligning Complexity Theory with the Uppsala Model Paradigm for EU Project Management*

From a macro-foundation perspective, the Uppsala Model can relate to the overarching systems intricacies that Complexity Theory elucidates. EU projects encompass multiple stakeholders across European nations, and their management is swayed by a plethora of influences, encompassing political, economic, social, and technological domains. Given the unpredictable nature of complex systems, an evolutionary approach to decision-making can serve EU project management well. Instead of staunch planning, adaptability is key, rooted in feedback and experiential learning, echoing the Uppsala Model's step-by-step progression. Acknowledging the EU as a complex adaptive system, it is essential to recognize that outcomes might diverge from linear expectations. Preparedness for unexpected turns is vital, necessitating swift adaptive mechanisms. Given the stakeholder diversity in the EU, proactive engagement is indispensable. Drawing from the Uppsala Model, firms or project teams should progressively deepen their stakeholder engagement, refining strategies with each interaction.

On a micro-foundation level, the dynamism is evident among project managers, team members, and other stakeholders engaged in EU projects. Their collective decisions, shaped by individual knowledge, experiences, and perceptions, steer the project's trajectory. Here, the Uppsala Model's focus on learning from experiences finds resonance. As project members garner more expertise in managing EU projects, their accumulated knowledge guides subsequent decisions, mirroring firms' incremental commitments in the Uppsala Model. Both Complexity Theory and the Uppsala Model underscore the importance of adaptive learning. In the granular realm of EU project management, teams must remain agile, evolving their strategies in sync with feedback loops. Lessons from one project phase or a specific EU project become invaluable touchstones for future endeavors.

### 2.5. Soft Systems Methodology (SSM)

Soft Systems Methodology (SSM) is an approach to understand and address real-world complex problems. Unlike traditional systems thinking, which seeks objective solutions based on clearly defined objectives and system boundaries, SSM recognizes that human situations are characterized by different interpretations and worldviews. SSM uses conceptual models of human activity systems as devices to structure debate and facilitate understanding among stakeholders [44,45]. Because SSM considers human psychology and behavior as an influencing factor in systems, SSM has been applied to the study of ecology, fisheries management [46], agriculture, and agrotechnology [47], and it has been applied on machine learning to design more sustainable agriculture systems [48]. The core idea of SSM is to look at challenges from a systems perspective of interconnected parts, recognizing that there are multiple influences and interpretations. While traditional hard systems methodologies are goal-oriented and assume that systems can be engineered to meet predefined objectives, SSM considers real-world issues, especially in management, that often lack a clear consensus on goals and objectives. Such situations demand a methodology that encourages understanding, learning, and compromise among conflicting viewpoints.

#### Aligning SSM with the Uppsala Model Paradigm for EU Project Management

Both SSM and the Uppsala Model value the role of stakeholders. By combining SSM's emphasis on diverse worldviews with the Uppsala Model's incremental engagement, EU project managers can cultivate deeper stakeholder relationships, leading to more successful project outcomes. In this sense, the modern Uppsala Model possesses paradigmatic features in alignment with SSM. It considers experiential learning and firm growth as evolutionary in design, where companies gather knowledge about foreign markets and then incrementally commit more resources according to the business environment's circumstances.

At the macro-level, SSM can be integrated with the paradigmatic features of the Uppsala Model for conceptualizing and formulating EU project strategies. This integration becomes especially pertinent given the diverse set of countries, cultures, and regulations in the EU. SSM can help visualize the entire project ecosystem to identify potential bottlenecks and understand the varied perceptions of stakeholders. The insights from the Uppsala Model can then guide incremental decision-making that aligns with the experience and knowledge gathered over time, ensuring projects maintain an adaptive and strategic nature.

On a micro-level, SSM can assist project managers in delving deep into specific issues, while the Uppsala Model provides a framework to analyze individual project stages. For instance, if an EU project is being implemented in a new member country, the Uppsala Model's focus on experiential knowledge can guide project teams to start with low-commitment activities, gathering information and understanding local dynamics. Using SSM, project teams can construct rich scenarios of these dynamics, capturing key actors, relationships, and challenges. Such a depiction aids in communicating the complexities, interdependencies, and viewpoints, ensuring that teams are synchronized and informed. The Uppsala Model's emphasis on experiential learning can be bolstered by SSM's capability to frame and reframe problem definitions. As project teams accumulate more information, SSM facilitates the restructuring and representation of this knowledge. This iterative knowledge development, coupled with the Uppsala Model's focus on incremental commitment, ensures that EU projects are optimized based on both structured and tacit knowledge.

The integration of SSM with the Uppsala Model offers a robust framework for managing EU projects from both the macro and micro perspectives. While the Uppsala Model provides a lens to view international projects as incremental processes shaped by experiential learning, SSM offers tools to dissect, understand, and represent the complex soft problems that these projects invariably entail.

## 2.6. Integrated Project Delivery (IPD)

IPD was formulated in the early 2000s to address dissatisfaction with project results, particularly in the construction industry. This dissatisfaction emphasized the need for optimization of costs, schedules, and quality [49,50]. Key contributors to the development of the IPD principles and standards include the American Institute of Architects and the California Council [51]. At its core, IPD seeks to integrate individuals, systems, and business structures. This integration aims to collaboratively harness everyone's expertise, maximizing efficiency throughout the project lifecycle. The elements of IPD help counteract the limitations of traditional contracts, fostering innovation and efficiency [50,52]. For this reason, major international entities like the World Economic Forum and the Council on Tall Buildings and Urban Habitat (CTBUH) have endorsed and recognized IPD-like collaborative models [53]. These further underscore its importance and effectiveness for global projects, including those within the EU [54].

Versatile and adaptable, the application of IPD principles and associated methodologies, such as alliancing, have gained traction worldwide. In the past decade, studies have applied IPD methodology to the study of construction industries in countries like China [55]; the UK; Norway; Ireland; Finland; and even further, such as Malaysia, Australia, New Zealand, and Canada [56,57]. As a characteristic nature of EU projects is that it is regional, with multiple countries involved, the extensive adoption speaks to the adaptability and relevance of IPD for EU project management. Research into IPD's effectiveness indicates its potential to enhance project delivery, though conclusions on its efficacy vary amongst scholars [58,59]. However, given the distinct challenges and intricacies of EU projects, IPD can potentially provide a streamlined, integrated, and collaborative method. This approach addresses many standard challenges these projects encounter. Its shared risk–reward model encourages increased accountability and alignment with project results. This alignment not only bolsters project efficiency but also cultivates a spirit of collaboration and innovation, vital for the expansive, multinational projects typical in the EU.

### Aligning IPD with the Uppsala Model Paradigm for EU Project Management

Though IPD and the Uppsala Model hail from different spheres—construction and international business—they exhibit some conceptual overlaps. On a macro-foundation level, both methodologies advocate for an incremental workflow. For EU project management, the understanding that projects operate within broader market contexts (such as national/regional regulations, cultural disparities, and economic elements) and need to adapt is in line with the macro-foundation settings that dictate how projects are organized and managed.

On the micro-foundation front, both strategies stress the significance of stakeholders and the impact of their decisions on the outcomes of activities. IPD and the Uppsala Model both promote a phased, cooperative approach. In this framework, stakeholders are engaged from the inception of a project, and adjustments are made as the project unfolds. In the Uppsala Model, experiential learning and gradual exposure to new markets can result in further commitments to successful completion. The importance of adaptability is evident in both IPD and the Uppsala Model. For EU projects, modifying processes based on continuous feedback and teamwork is crucial for successful project execution.

To conclude this section, the macro- and micro-foundations of the Uppsala Model can provide a dual lens through which project management theories can be understood and applied. By integrating these perspectives, deeper insights can be attained on the broader and more intricate dynamics of internationalization and project management. When observed through a micro-foundational lens, the Uppsala Model holds significant intersections with the highlighted project management theories. These thematic alignments suggest that, while originating from the realm of international business, the Uppsala Model has promising applicability in the domain of project management, offering enriched insights into the dynamics of complex projects.

### 3. Methodology

This section outlines the research design, methods, data collection, and analysis techniques used to explore the adaptation of the Uppsala Model to the management of European Union (EU)-funded projects. This study aims to provide a comprehensive understanding of how the macro- and micro-foundations of the Uppsala Model can enhance the management of complex EU projects, with the SuMaNu project serving as the primary case study.

#### 3.1. Research Design

This research adopts a qualitative case study approach, which is particularly suited for examining complex phenomena in real-world contexts [60]. This methodological choice is crucial for comprehending how the principles of the Uppsala Model address specific challenges associated with the management of EU-funded projects. The SuMaNu project was selected as the primary case study, allowing for a thorough analysis of the practical application of the Uppsala Model's theoretical concepts, especially within the context of sustainable manure and nutrient management in the Baltic Sea Region.

#### 3.2. Case Study Selection

SuMaNu, a 30-month platform initiative under the EU Interreg Baltic Sea Region (BSR) program, was chosen as the primary case study due to its embodiment of the challenges and complexities associated with EU-funded projects. These challenges include managing multiple stakeholders across various countries, each with differing regulatory and cultural contexts. The project's focus on reducing nutrient loss through sustainable manure and nutrient management in the Baltic Sea Region provides an ideal context for applying the Uppsala Model's macro- and micro-foundational elements, offering rich insights into the project's operational and strategic dimensions.

#### 3.3. Data Collection Methods

This study utilized both primary and secondary data collection methods to ensure a comprehensive understanding of the SuMaNu project.

**Secondary Data Analysis:** The research involved a thorough examination of existing project reports, official documents, policy briefs, and academic articles related to the SuMaNu project and the broader EU funding framework. This analysis provided essential insights into the project's objectives, implementation strategies, stakeholder involvement, and outcomes, forming a solid foundation for understanding the broader context of the study.

Primary data were gathered through the involvement of the Lead Coordinating Team, where one of the authors serves as the Lead Scientist. The authors participated in focus group discussions, SuMaNu meetings, and conferences where partners exchanged ideas, shared knowledge, and presented findings in their respective working groups. This active involvement enabled the researchers to observe firsthand the dynamics and interactions among participants, facilitating real-time observation of decision-making processes, stakeholder negotiations, and the implementation of adaptive strategies within the project.

#### 3.4. Data Analysis Methods

Data collected through these methods were analyzed using a thematic analysis approach [61,62]. This method involved identifying, analyzing, and reporting patterns (themes) within the data, with a focus on how the Uppsala Model's principles were reflected in the project management practices observed in the SuMaNu project.

**Coding:** Interview transcripts, observation notes, and documents were systematically coded to identify recurring themes related to the macro- and micro-foundations of the Uppsala Model. Coding categories included themes such as "incremental knowledge development", "stakeholder relationship management", "resource commitment", and "adaptive strategies".

*Pattern Matching:* The identified themes were then matched against the theoretical framework of the Uppsala Model. This involved comparing the empirical findings from the SuMaNu project with the model's core principles, such as experiential learning and network building, to assess their applicability and effectiveness in the context of EU project management.

### 3.5. Research Validity and Reliability

To ensure the validity and reliability of the research findings, several strategies were employed:

*Triangulation:* This study utilized triangulation by incorporating multiple data sources—documents, case studies, observations, and insights from focus group discussions. Validity was strengthened by cross-verifying the findings across these diverse sources. Additionally, triangulation was applied through methodological triangulation, combining different data collection methods such as participant observation and document analysis to provide a more robust understanding of the SuMaNu project.

*Audit Trail:* A comprehensive audit trail was maintained throughout the research process, meticulously documenting all steps of data collection, coding, and analysis. This detailed record enhances the transparency and reproducibility of the study, allowing other researchers to follow the decision-making process and the evolution of the research findings.

*Member Checking:* To further ensure the reliability of the data, member checking was conducted. Key participants in the SuMaNu project were asked to review the findings and interpretations to confirm the accuracy and resonance of the researchers' conclusions. This process helped to validate the findings by ensuring they accurately reflect the perspectives of those involved in the project.

*Reflexivity:* The authors engaged in reflexivity by regularly reflecting on their own potential biases and the influence of their roles within the research process. This reflective practice was documented in research memos and incorporated into the analysis, helping to maintain objectivity and transparency throughout the study.

*Thick Description:* To enhance the transferability of the findings, this study provides a rich and detailed description to SuMaNu's research context, participants, and interactions. This thick description allows readers to determine the extent to which the findings might be applicable to other contexts.

### 3.6. Ethical Considerations

This study was conducted in full compliance with the highest ethical standards, including rigorous adherence to the EU's General Data Protection Regulation (GDPR). All participant information was carefully managed to ensure privacy and confidentiality throughout the research process. Specifically, any personal data collected during focus group discussions, SuMaNu meetings, or conferences were anonymized and stored securely, preventing any unauthorized access or disclosure.

In addition to anonymization, the research team implemented data minimization practices, collecting only the information necessary for the study's objectives. Participants were informed about the purpose of data collection, how their data would be used, and their rights under GDPR, including the right to access, correct, or request the deletion of their personal data. Consent was obtained from all participants, ensuring that they were fully aware of their involvement in the study and the confidentiality measures in place.

Moreover, the study did not involve the collection of any sensitive or confidential information from EU institutions, further safeguarding the integrity of the research. All data were processed and stored in accordance with GDPR guidelines, with strict protocols in place to ensure data security and compliance with ethical standards.

The research team also engaged in continuous ethical reflection, assessing the potential impact of the study on participants and taking steps to mitigate any risks.

### 3.7. Methodological Limitations

While the qualitative case study approach offers valuable and in-depth insights into the application of the Uppsala Model within the SuMaNu project, it is important to recognize several inherent limitations that may affect the broader applicability and interpretation of the findings.

Firstly, the specificity of the SuMaNu project, with its unique focus on sustainable manure and nutrient management in the Baltic Sea Region, may limit the generalizability of the results to other EU-funded projects with different objectives, geographical settings, or stakeholder compositions. The contextual factors—such as regional environmental priorities, the distinct regulatory frameworks of the Baltic Sea countries, and the particular dynamics of the agricultural sector—are deeply intertwined with the project's outcomes, potentially restricting the transferability of these findings to other contexts.

Secondly, the study's reliance on secondary data sources, including project reports, official documents, and academic articles, while providing a robust foundation for analysis, may introduce limitations related to the accuracy, completeness, and recency of the data. Secondary data might not fully capture the latest developments or nuanced changes in project implementation, and there is a risk that the available documents reflect only the most prominent aspects of the project, overlooking subtler or less documented challenges and successes.

Additionally, participant observation, a key component of the primary data collection, brings its own set of limitations. While this method allows for real-time insights into stakeholder interactions and decision-making processes, it is inherently subjective. The presence and role of the authors in meetings and discussions may influence the behavior of participants, introducing observer bias. Moreover, the observations are filtered through the researcher's perspective, which may affect the interpretation of events and interactions.

This study's design also does not include a longitudinal element, which could provide a more comprehensive understanding of how the Uppsala Model's application evolves over time within the project. The absence of a temporal dimension means that the findings are based on a snapshot in time, potentially missing the long-term impacts and adaptations of the project.

Acknowledging these limitations, the authors suggest that future studies could enhance the validity and applicability of the findings by incorporating multiple case studies across different EU project contexts. This broader approach would allow for comparative analysis, helping to identify common patterns and unique deviations in the application of the Uppsala Model. Additionally, integrating longitudinal research could offer deeper insights into the dynamic processes at play over the course of EU-funded projects, thereby providing a more holistic view of the model's effectiveness.

## 4. Application of the Uppsala Model to EU Project Management

The previous section demonstrated how the paradigmatic principles of the Uppsala Model, viewed from both macro- and micro-foundation perspectives, align with various systems-based and integrated project management theories and approaches. In this section, we apply the macro- and micro-foundation perspectives of the Uppsala Model to the project management processes of the SuMaNu project. This example is drawn from the EU Interreg Baltic Sea Region (BSR) platform project SuMaNu (<https://balticsumanu.eu/> (accessed on 1 June 2024)).

#### 4.1. SuMaNu Project Synopsis

SuMaNu (Sustainable Manure and Nutrient Management for Reduction of Nutrient Loss in the Baltic Sea Region), was a 30-month-long platform project in the EU Interreg Baltic Sea Region (BSR) program. The platform project concept was designed to capitalize on the results of recently finished projects by creating network platforms that facilitate the synthesis of best practices and sharing of knowledge to promote change. SuMaNu commenced on 1 October 2018 and concluded on 31 March 2021 and was based primarily on four previous projects: Manure Standards, Baltic Slurry Acidification, GreenAgri, and PROMISE. However, it incorporated the results from many more projects. The primary objective of SuMaNu was to mitigate the eutrophication of the Baltic Sea by reducing nutrient loss from agriculture.

Livestock production in the BSR is often geographically concentrated in specific areas. This concentration results in greater livestock density, leading to the generation of significant amounts of manure within local regions. Improper manure management can cause nutrient loss to the air via gaseous emissions and to water through leaching and runoff. These nutrient losses have considerable negative impacts on the environment, climate, and society. Over the past decades, several BSR projects have addressed sustainable manure use. While most have centered on specific facets like reducing ammonia emissions, tackling leaching and runoff issues, or amplifying nutrient use efficiency from manure, others have pinpointed specific technologies or leaned more towards management practices for enhanced sustainability [63,64].

A key objective of SuMaNu was to collate relevant results and recommendations from past BSR projects, aiming to offer a comprehensive list of recommendations to boost manure use sustainability in the BSR. This objective was set within the frame of the diverse sustainability aspects tackled in prior projects and in terms of where along the manure handling chain these measures should be employed [65]. Sustainability facets addressed included decreasing ammonia and greenhouse gas emissions, curbing runoff and leaching; amplifying on-farm nutrient use and regional nutrient recycling; and confronting challenges such as odors, pathogens, heavy metals, and other risks [66]. Measures proposed in prior projects for enhancing these sustainability dimensions were summarized and synthesized according to their intended point of implementation in the manure handling chain. The outcomes were displayed in a matrix highlighting the best practices and techniques for sustainable manure nutrient utilization in the BSR. Economic aspects of manure handling and usage, and the potential of various governance actions to champion these best practices were also examined.

SuMaNu was an integral component of the Interreg Baltic Sea Region Agri Project Platform. The Interreg Baltic Sea Region is a European Territorial Cooperation program designed to support projects that foster integrated territorial development and cooperation across the Baltic Sea Region. The SuMaNu project was allocated a total budget of EUR 997,958.45. From this sum, the program provided co-funding of EUR 768,110.02, with the remaining EUR 229,848.43 sourced from partners' own contributions. Table 1 offers project information from a factsheet on SuMaNu.

**Table 1.** SuMaNu project information (Internet resource at [https://www.ri.se/sites/default/files/2024-08/SuMaNu\\_FACT\\_SHEET.pdf](https://www.ri.se/sites/default/files/2024-08/SuMaNu_FACT_SHEET.pdf) (accessed on 1 June 2024)) [67].

Category	Details
Project Name	SuMaNu—Sustainable Manure and Nutrient Management for Reduction of Nutrient Loss in the Baltic Sea Region.
Project Type	EU Interreg Baltic Sea Region Agri Project Platform.
Objective	To gather, analyze, and synthesize best practices from four projects to create comprehensive joint policy recommendations.

Table 1. Cont.

Category	Details
Sub-projects	1. Manure Standards— <a href="https://projects.luke.fi/manurestandards/">https://projects.luke.fi/manurestandards/</a> (accessed on 15 September 2024)
	2. Baltic Slurry Acidification— <a href="https://interreg-baltic.eu/project/baltic-slurry-acid/">https://interreg-baltic.eu/project/baltic-slurry-acid/</a> (accessed on 15 September 2024)
	3. GreenAgri— <a href="https://epkk.ee/en/green-agri/">https://epkk.ee/en/green-agri/</a> (accessed on 15 September 2024)
	4. BONUS PROMISE— <a href="https://www.bonusportal.org/">https://www.bonusportal.org/</a> (accessed on 15 September 2024)
Work Packages (WPs)	WP1: Project Management and Administration
	WP2: Synthesis of best manure practices in BSR countries
	WP3: Policy recommendations for nutrient management and recycling
	WP4: Communication
Key Partners	1. LUKE—Natural Resources Institute Finland (Lead Partner, WP1 Leader)
	2. RISE—Research Institutes of Sweden (WP2 Leader)
	3. HELCOM—Baltic Marine Environment Protection Commission (WP3 Leader)
	4. BSAG—Baltic Sea Action Group, Finland (WP4 Leader)
	5. ECRI—Estonian Crop Research Institute
	6. ZSA—Union Farmers Parliament, Latvia
	7. CDR—Agricultural Advisory Center, Poland
	8. Organe Institute ApS, Denmark
Associated Organizations	1. KJI—Julius Kühn-Institut, Germany
	2. EUBSR Policy Area Bioeconomy, Ministry of Agriculture and Forestry, Finland
	3. EUBSR Policy Area Nutri Coordinator, Ministry of Environment, Finland
	4. CBSS—Council of Baltic Sea States Secretariat
	5. ESPP—European Sustainable Phosphorus Platform
	6. IEEP—Federal Scientific Agroengineering Center, Russia
Project Timeline	Duration: 30 months (1 October 2018–31 March 2021)
	Phase 1: 1 October 2018–31 March 2019
	Phase 2: 1 April 2019–30 September 2019
	Phase 3: 1 October 2019–31 March 2020
	Phase 4: 1 April 2020–30 September 2020
	Phase 5: 1 October 2020–31 March 2021
Total Budget	Total: €997,958.45
	Programme Co-funding: €768,110.02
	Partners' Own Funding: €229,848.43

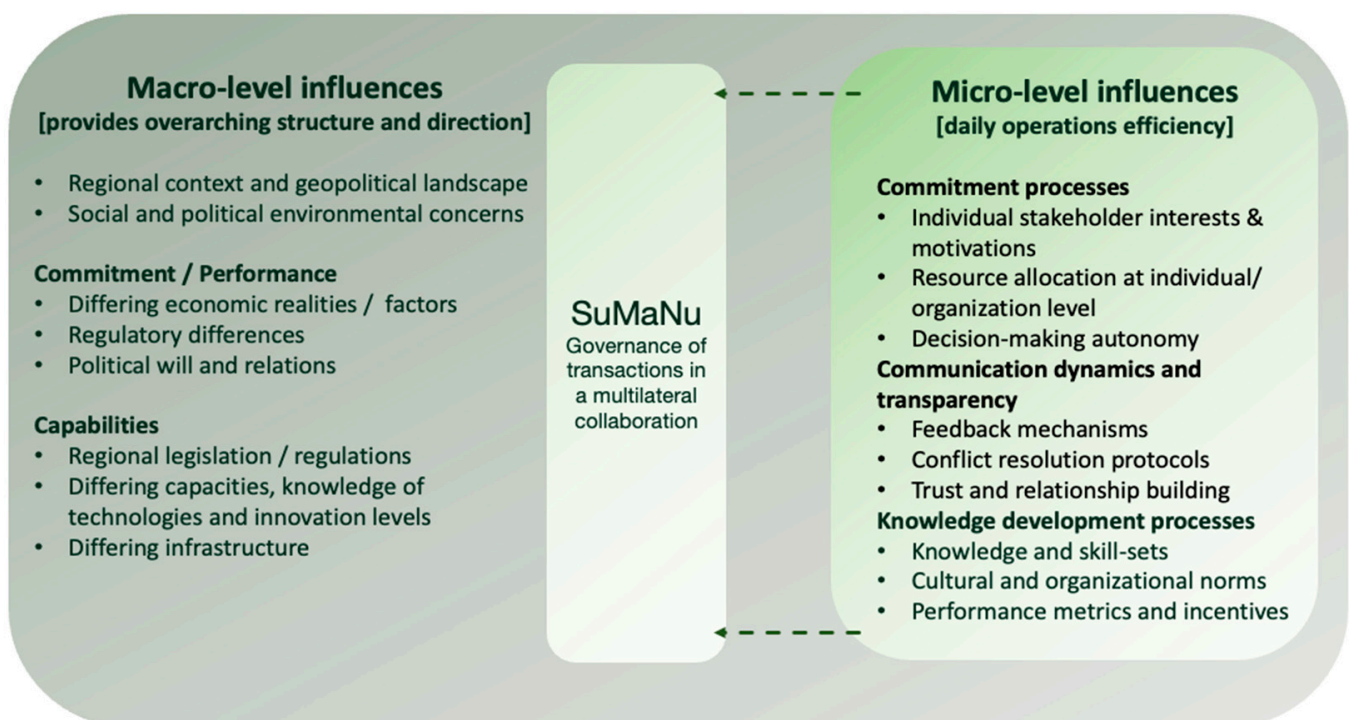
The SuMaNu project conducted 9 stakeholder events, produced 10 open-access knowledge dissemination videos spanning diverse project themes and 8 reports and journal articles, and delivered 6 informed policy recommendations published in four languages (English, German, Ukrainian, and Russian).

#### 4.2. SuMaNu Macro- and Micro-Foundations Analysis

The Uppsala Model's macro-foundational elements can help us understand how broader external factors influence SuMaNu's overarching structure and direction. At its core, SuMaNu's project addresses the environmental challenge of nutrient pollution in

the Baltic Sea. This macro-level challenge necessitates a comprehensive approach, directly influencing SuMaNu's strategies and collaborations. SuMaNu operates within the BSR, encompassing multiple countries. The geopolitical relationships, diverse legislations, and regulations across these nations potentially shape how SuMaNu collaborates with various stakeholders to achieve successful project outcomes. In contexts where manure processing profitability aligns with the biogas production business model, economic realities—like the financial valuation of nutrient recycling versus energy production—vary across regions, influencing SuMaNu's strategic direction and focus. For example, regulatory constraints that limit the direct use of manure as a fertilizer may coerce farms to opt for larger scale manure processing. As such, there existed a need for enhancing policy coherence, backed by the sentiment that legislation should support, not hinder, nutrient recycling [68].

The varied regulatory climates across BSR countries underscore the need for SuMaNu's unified approach to effectively reach its goals. At the project's inception, raising awareness among consumers, particularly regarding the use of recycled fertilizers in the food sector, was crucial. Farmers for example, should be encouraged to meet regulatory requirements and to have appropriate environmental permits in accordance to local and national regulations and at the EU level. Societal perceptions, knowledge levels, and awareness significantly influenced SuMaNu's outreach programs, communication target audiences, and educational strategies. Figure 1 illustrates the macro- and micro-foundational elements from the Uppsala Model applied in study of the governance processes of SuMaNu.



**Figure 1.** The macro- and micro-foundational elements from the Uppsala Model applied in the study of the governance processes of SuMaNu.

SuMaNu complements numerous other past and ongoing EU-funded projects. Committed to addressing nutrient losses and promoting sustainable agricultural practices within the BSR, a primary purpose of SuMaNu has been to collate knowledge from resources and competencies amassed over the past decade. This synthesis aims to inform and guide better regional policy recommendations.

The SuMaNu project involved developing the capacity for knowledge transfer from various agri-environmental initiatives, ensuring engagement with relevant governmental stakeholders across BSR countries. For example, the status of available recyclable nutrients has been estimated in collaboration with the Natural Resources Institute Finland (Luke) and the Finnish Environment Institute (SYKE) as an outcome of several regional manure-related projects. A recognized need for more precise manure data emerged in Finland, which led to the development of a national calculation tool known as the Finnish Normative Manure System [68]. The system, at the time of its launch, offered data on national and regional manure quantities and nutrient contents for various animal categories and manure types. Since 2018, a subsequent calculation tool designed for regional nutrient recycling was built by the same organizations. This nutrient calculation tool currently facilitates the calculation of quantities and nutrient contents of manure, alongside other nutrient-rich biomasses such as municipal sewage sludge, biowaste, industrial wastes and sidestreams, straw, and grass biomasses, spanning national, regional, and municipal levels. Additionally, the tool supports scenario creation involving different processing choices. It determines the required fertilization based on current crop production, soil characteristics, and three alternative fertilization thresholds. It also juxtaposes the availability of the resultant fertilizer products against the fertilization demand [68].

While macro-foundation elements provide the overarching structure and direction for the SuMaNu project management processes, the micro-foundation elements are fundamental for its day-to-day operational efficiency and effectiveness. These elements include a non-exhaustive list of individual stakeholder interests and motivations, knowledge and skill sets, resource allocation at the grassroots level, decision-making autonomy, communication dynamics, and more.

Taking a combination of micro-foundation elements as, for example, the emphasis on nutrient recycling and sustainable agriculture paves the way for incentivizing farmers towards environmentally friendly nutrient use practices. Achieving SuMaNu's overarching goal of mitigating nutrient pollution in the Baltic Sea Region becomes more feasible when farmers' practices align with the national environmental objectives. As such, encouraging localized initiatives are crucial in this endeavor, where in SuMaNu, the main target group was national authorities. A primary micro-level strategy that SuMaNu adopted was to promote amongst farmers the more efficient use of animal manure, which is a significant source of environmentally friendly nutrients. Manure can be processed into recycled fertilizer products using different technologies. Renewable energy can be simultaneously produced, depending on the technology used.

In terms of technology advancement, knowledge, and skill set, the aim was to enhance farm-level nutrient use or to reallocate nutrients regionally from regions with surplus to those in deficit. The targeted purpose also determined the level of processing where simpler technologies could be applied at the farm scale, while a greater number of nutrient-recycled products can be manufactured in large processing plants where the processing chains may include several technology steps. As such, choosing the right processing technology, tailored to specific regional requirements and outcomes could refine the process of adoption of nutrient-recycled products by farmers.

Policy recommendations from SuMaNu emphasized the need for enhanced knowledge transfer from research to practical actions in agriculture, focusing on improving nutrient recycling and sustainable manure management at the regional, national, and international levels. It proposed forming National Manure Committees to advise on legislation, facilitate knowledge exchange, and suggest research topics, thereby harmonizing policies and sharing successful strategies across countries. The establishment of National Manure Knowledge Transfer Systems was recommended to support effective implementation of manure management techniques. These systems would outline necessary knowledge, quality standards, target groups, and financing, promoting a holistic integration of sustainable practices across different stakeholder groups and ensuring clarity and effectiveness in communication. Additionally, supporting the development of digital systems would

improve the use and scope of nutrient management data, integrating various agricultural data sources, providing analytical tools for better resource management, and facilitating direct data exchange with authorities, thus enhancing efficiency and reducing bureaucratic overheads [69].

To foster a robust market ecosystem, it was essential that these manure-based fertilizer products catered to farmers' needs. Through targeted policy recommendations, the approach highlights the environmental benefits and potential long-term cost savings, which can serve as compelling incentives for stakeholders. This dual focus on practical utility and economic advantage was crucial in promoting the adoption of sustainable agricultural practices and supporting the transition towards a more efficient and environmentally friendly farming sector.

## 5. Discussion: Applying Paradigmatic Features of the Uppsala Model to SuMaNu

The Uppsala Model is a theoretical framework that focuses on how firms gradually intensify their activities in international markets. It particularly stresses the role of experiential knowledge and incremental commitments in foreign market entry decisions. While originally developed to understand the internationalization processes of firms, its core concepts, particularly at the macro- and micro-foundation levels, can be applied to understand the project management processes in international, multistakeholder projects like SuMaNu.

### 5.1. Incremental Commitments

While the Uppsala Model's emphasis on gradual incremental commitments provides a solid foundation, it might not always align with the agile and fast-paced nature of project-based goals and objectives. The persistent challenges in EU-funded project execution, such as managing stakeholder expectations and navigating complex regulatory landscapes, underscore the importance of adaptive management strategies. Project managers may need to incorporate more flexible, agile methods to respond effectively to unforeseen issues that arise during project implementation. At a broad scale, on the macro-foundation level, the timeline-adapted incremental commitments in SuMaNu can be observed in how the project is rolled out across various countries, including Finland, Sweden, Germany, and Poland, within the Baltic Sea Region [65,66,68]. Given the geopolitical diversities, varied legislations, and multiple stakeholders across these countries, it becomes crucial to intensify commitments progressively based on accumulating experiences. Rather than taking a broad, all-encompassing approach from the outset, SuMaNu began with pilot roundtables at the national level with authorities and key stakeholder groups, scaling up and expanding as the project gained traction and insight.

On a more granular scale, incremental commitments involved initially engaging with specific agricultural sectors and stakeholders, progressively integrating more stakeholders as the project develops, towards informed regional policy recommendations. For instance, focusing first on farmers who are already oriented towards sustainable practices before reaching out to those less informed via educational communication channels is an example of an incremental approach.

### 5.2. Knowledge Development

Knowledge development at the macro-foundation level involved understanding regional policies, economic contexts, cultural differences, and environmental challenges and then incorporating this knowledge to guide SuMaNu's objectives and strategies. As SuMaNu progressed, the collective experiential knowledge from previous EU-funded projects, together with all stakeholders from the BSR countries onboard the consortium, helped refine the project's approach.

At the micro-foundation level, SuMaNu acknowledged that knowledge development could take place at a local farm level. Understanding the specific challenges faced by farmers in a particular region, the local agricultural practices, and the nuances of nutrient recycling within a given context are essential. Over time, as SuMaNu interacts more with local communities, this experiential knowledge will become invaluable in tailoring approaches that resonate with the grassroots level.

### *5.3. Network Perspective*

A network perspective at the macro-foundation level for SuMaNu involved the understanding and managing of the web of relationships among countries, regulatory bodies, and overarching stakeholders in the BSR. It was about fostering collaborative relationships and synergies to ensure the project's success. At the micro-foundation scale, a network view pertains to relationships with individual farmers, local communities, agricultural bodies, and even businesses related to farming. Building, nurturing, and leveraging these relationships are crucial for SuMaNu's ground-level effectiveness.

### *5.4. Further Applications*

This discussion further integrates the Uppsala Model into SuMaNu's project management framework by explicitly linking its theoretical underpinnings with practical project execution strategies. Future research might explore how these adapted model features could be systematically integrated into the planning and implementation phases of similar multi-country, multi-stakeholder projects. Additionally, investigating the role of digital tools in supporting these adapted strategies could offer insights into more effective project management practices in the digital era, especially pertinent given the model's recent considerations of digitalization and its impact on business internationalization [20].

## **6. Conclusions**

While the Uppsala Model, originally developed for understanding firms' internationalization, offers valuable insights when adapted to manage complex, international multistakeholder projects like SuMaNu, this adaptation provides a structured lens through which to analyze and enhance the management processes of such projects, emphasizing the importance of experiential knowledge and incremental commitments. By applying the Uppsala Model to the SuMaNu project, this study demonstrates the model's relevance to EU-funded projects, which often involve diverse regulatory environments and multiple stakeholders across different countries.

The key findings from this study underscore the model's utility in managing diverse stakeholder expectations and regulatory landscapes. Incremental commitments, a core principle of the Uppsala Model, helped tailor strategies to local contexts and evolving project needs, enhancing the project's operational effectiveness. Additionally, the integration of experiential knowledge from various stages of the project lifecycle was pivotal in refining strategic decisions. The emphasis on network relationships facilitated crucial information and resource exchanges, proving essential for overcoming project challenges and achieving objectives.

The successful application of the Uppsala Model provides a practical framework for future EU-funded initiatives, illustrating how international business theories can guide project management in diverse settings. This adaptation not only helps manage international collaborations more effectively but also highlights the importance of tailored strategies and continuous learning. Future research should include comparative studies to assess the Uppsala Model's effectiveness across various EU-funded projects, which could help refine its applicability and identify optimal conditions. Exploring the adaptation of other business theories for project management could also uncover new strategies for managing international collaborations.

Longitudinal studies would be beneficial to examine how relationships and commitments develop over a project's lifecycle and their impact on outcomes. Additionally, assessing the integration of digital technologies with the Uppsala Model could enhance project management practices, particularly in a digitalizing world. As EU-funded projects evolve into impactful networks, drawing on temporary resources toward unified program goals, further research on how the Uppsala Model compares to other models when applied to similar multi-country, multi-stakeholder initiatives could provide insightful findings. Understanding how network relationships evolve, especially as stakeholders change, and exploring experiential learning in projects with tight timelines are vital areas for future investigation. These aspects are crucial since the contributions of consortium partners significantly affect project deliverables and performance outcomes

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**Informed Consent Statement:** This study is a qualitative case study using secondary, open access data. The study adhered to the European Union General Data Protection Regulation (GDPR) to ensure the protection of personal data and privacy in all aspects of data collection and management.

**Data Availability Statement:** All data used in this study has been given via its online Internet weblinks.

**Conflicts of Interest:** The authors declare no conflicts of interest.

## References

1. European Commission. *EU Budget for the Future*; European Commission: Brussels, Belgium, 2019.
2. European Commission. *EU Budget for the Future: Technical Briefing on EU's Next Long-Term Budget*. 2019. Available online: [https://commission.europa.eu/system/files/2019-11/2019-11-05\\_eu\\_budget\\_technical\\_briefing\\_-\\_with\\_covers.pdf](https://commission.europa.eu/system/files/2019-11/2019-11-05_eu_budget_technical_briefing_-_with_covers.pdf) (accessed on 7 August 2024).
3. Muñoz-Fernández, G.A.; Bertucci, A.; Ramos-Ruiz, J.E.; Garo, M.L. The Dynamics of Fund Absorption: Evaluating the Efficacy of EU Structural Funds in Mitigating Regional Inequalities—Calabrian Case. *Economies* **2024**, *12*, 10. [CrossRef]
4. Jordan, J.; Maccarrone, V.; Erne, R. Towards a Socialization of the EU's New Economic Governance Regime? EU Labour Policy Interventions in Germany, Ireland, Italy and Romania (2009–2019). *Br. J. Ind. Relat.* **2021**, *59*, 191–213. [CrossRef]
5. Šostar, M.; Marukić, A. Challenges of public procurement in EU funded projects. *Management* **2017**, *22*, 99–114. [CrossRef]
6. Begg, I. One Instrument, Many Goals: Some Delicate Challenges Facing the EU's Recovery Fund | Publications | CESifo. Munich, 2021. Available online: <https://www.cesifo.org/en/publications/2021/article-journal/one-instrument-many-goals-some-delicate-challenges-facing-eus> (accessed on 7 August 2024).
7. Scholten, M. Shared Tasks, but Separated Controls: Building the System of Control for Shared Administration in an EU Multi-Jurisdictional Setting. *Eur. J. Risk Regul.* **2019**, *10*, 538–553. [CrossRef]
8. Šostar, M.; Ristanović, V.; de Alwis, C. Application of Successful EU Funds Absorption Models to Sustainable Regional Development. *Economies* **2023**, *11*, 220. [CrossRef]
9. Šostar, M.; Čevapović, I. Difficulties and Challenges in Implementation Process of EU Projects in Croatia. In Proceedings of the 5th Eurasian Multidisciplinary Forum, EMF 2016, Tbilisi, Georgia, 27–28 October 2016.
10. Johanson, J.; Vahlne, J.-E. The Internationalization Process of the Firm—A Model of Knowledge Development and Increasing Foreign Market Commitments. *J. Int. Bus. Stud.* **1977**, *8*, 23–32. [CrossRef]

11. Vahlne, J.-E.; Schweizer, R.; Johanson, J. Overcoming the Liability of Outsidership-The Challenge of HQ of the Global Firm. *J. Int. Manag.* **2012**, *18*, 224–232. [CrossRef]
12. Johanson, J.; Vahlne, J.-E. The Uppsala internationalization process model revisited: From liability of Foreignness to Liability of Outsidershi. *J. Int. Bus. Stud.* **2009**, *40*, 1411–1431. [CrossRef]
13. Vahlne, J.-E.; Johanson, J. From internationalization to evolution: The Uppsala model at 40 years. *J. Int. Bus. Stud.* **2017**, *48*, 1087–1102. [CrossRef]
14. Alajoutsijärvi, K.; Eriksson, P.; Tikkanen, H. Dominant metaphors in the IMP network discourse: ‘The network as a marriage’ and ‘the network as a business system. *Int. Bus. Rev.* **2001**, *10*, 91–107. [CrossRef]
15. Hilmersson, M. Experiential knowledge types and profiles of internationalising small and medium-sized enterprises. *Int. Small Bus. J. Res. Entrep.* **2014**, *32*, 802–817. [CrossRef]
16. Cohen, W.M.; Levinthal, D.A. Absorptive Capacity: A New Perspective on Learning and Innovation. *Adm. Sci. Q.* **1990**, *35*, 128. [CrossRef]
17. Kurniawan, P.; Hartati, W.; Qodriah, S.L.; Badawi, B. From knowledge sharing to quality performance: The role of absorptive capacity, ambidexterity and innovation capability in creative industry. *Manag. Sci. Lett.* **2020**, *10*, 433–442. [CrossRef]
18. Nahapiet, J.; Ghoshal, S. Social capital, intellectual capital, and the organizational advantage. *Acad. Manag. Rev.* **1998**, *23*, 242–266. [CrossRef]
19. Morgan, R.M.; Hunt, S.D. The Commitment-Trust Theory of Relationship Marketing. *J. Mark.* **1994**, *58*, 20. [CrossRef]
20. Coviello, N.; Kano, L.; Liesch, P.W. Adapting the Uppsala model to a modern world: Macro-context and microfoundations. *J. Int. Bus. Stud.* **2017**, *48*, 1151–1164. [CrossRef]
21. Monaghan, S.; Tippmann, E.; Coviello, N. Born digitals: Thoughts on their internationalization and a research agenda. *J. Int. Bus. Stud.* **2019**, *51*, 11–22. [CrossRef]
22. Hammond, D. Exploring the genealogy of systems thinking. *Syst. Res. Behav. Sci.* **2002**, *19*, 429–439. [CrossRef]
23. Berlinski, D. Catastrophe theory and its applications: A critical review. *Behav. Sci.* **1978**, *23*, 402–416. [CrossRef]
24. von Bertalanffy, L. *General System Theory: Foundations, Development, Applications*; Braziller: New York, NY, USA, 1968.
25. Eason, T.; Garmestani, A.S.; Stow, C.A.; Rojo, C.; Alvarez-Cobelas, M.; Cabezas, H. Managing for resilience: An information theory-based approach to assessing ecosystems. *J. Appl. Ecol.* **2016**, *53*, 656–665. [CrossRef]
26. Ewald, J.; Sieber, P.; Garde, R.; Lang, S.N.; Schuster, S.; Ibrahim, B. Trends in mathematical modeling of host–pathogen interactions. *Cell. Mol. Life Sci.* **2020**, *77*, 467–480. [CrossRef] [PubMed]
27. Kah, S.; Martinos, H.; Budzich-Tabor, U. CLLD in the 2014–2020 EU Programming Period: An Innovative Framework for Local Development. *World* **2023**, *4*, 122–139. [CrossRef]
28. Checkland, P. *Systems Thinking, Systems Practice*; John Wiley & Sons: Hoboken, NJ, USA, 1999. Available online: <https://www.wiley.com/en-al/Systems+Thinking,+Systems+Practice:+Includes+a+30+Year+Retrospective-p-9780471986065> (accessed on 25 October 2021).
29. Bentley, C. *Adaptable Project Management—A combination of Agile and Project Management for All (PM4A)*; JSTOR: New York, NY, USA, 2020. [CrossRef]
30. Nazir, S.; Price, B.; Surendra, N.C.; Ko, K. Adapting agile development practices for hyper-agile environments: Lessons learned from a COVID-19 emergency response research project. *Inf. Technol. Manag.* **2022**, *23*, 193–211. [CrossRef]
31. Roblek, V.; Dimovski, V.; Oblak, K.J.; Meško, M.; Peterlin, J. Leadership and Managerial Challenges to Ensure Agile Management as a Method to Enable Business Success: A Delphi Study of the Slovenian Health Organisations. 13 May 2024. Available online: <https://papers.ssrn.com/abstract=4826576> (accessed on 7 August 2024).
32. Khan, R.A.; Abrar, M.F.; Baseer, S.; Majeed, M.F.; Usman, M.; Rahman, S.U.; Cho, Y.-Z. Practices of Motivators in Adopting Agile Software Development at Large Scale Development Team from Management Perspective. *Electronics* **2021**, *10*, 2341. [CrossRef]
33. Taylor, K.J. Adopting Agile software development: The project manager experience. *Inf. Technol. People* **2016**, *29*, 670–687. [CrossRef]
34. Tsoy, M.; Staples, D.S. What Are the Critical Success Factors for Agile Analytics Projects? *Inf. Syst. Manag.* **2021**, *38*, 324–341. [CrossRef]
35. Pacheco, D.A.d.J.; Antunes, J.A.V., Jr.; de Matos, C.A. The constraints of theory: What is the impact of the Theory of Constraints on Operations Strategy? *Int. J. Prod. Econ.* **2021**, *235*, 107955. [CrossRef]
36. Chen, P.S. A Critical Chain Project Management/Theory of Constraints Novel—Get it Done on Time. *Apress*. January 2016. Available online: [https://www.academia.edu/39100760/A\\_Critical\\_Chain\\_Project\\_Management\\_Theory\\_of\\_Constraints\\_Novel\\_Get\\_it\\_Done\\_On\\_Time](https://www.academia.edu/39100760/A_Critical_Chain_Project_Management_Theory_of_Constraints_Novel_Get_it_Done_On_Time) (accessed on 7 August 2024).
37. Zhao, X.; Hou, J. Applying the Theory of Constraints Principles to Tourism Supply Chain Management. *J. Hosp. Tour. Res.* **2021**, *46*, 400–411. [CrossRef]
38. Chandler, J. The Paradox of Intervening in Complex Adaptive Systems; Comment on ‘Using Complexity and Network Concepts to Inform Healthcare Knowledge Translation. *Int. J. Health Policy Manag.* **2018**, *7*, 569–571. [CrossRef]
39. Schneider, M.; Somers, M. Organizations as complex adaptive systems: Implications of Complexity Theory for leadership research. *Leadersh. Q.* **2006**, *17*, 351–365. [CrossRef]

40. Karst, R.V.; Gaffney, N.; Johnson, A. Bounded Entanglement: The Asymmetric Co-evolution of Institutions and Internationalization Research and Practice. *Int. Trade J.* **2023**, *37*, 115–134. [CrossRef]
41. Baranzini, S.E.; Börner, K.; Morris, J.; Nelson, C.A.; Soman, K.; Schleimer, E.; Keiser, M.; Musen, M.; Pearce, R.; Reza, T.; et al. A biomedical open knowledge network harnesses the power of AI to understand deep human biology. *AI Mag.* **2022**, *43*, 46–58. [CrossRef] [PubMed]
42. Xiao, D.; Wang, J. Dynamic complexity and causality of crude oil and major stock markets. *Energy* **2020**, *193*, 116791. [CrossRef]
43. Piccardi, C.; Tajoli, L. Complexity, centralization, and fragility in economic networks. *PLoS ONE* **2018**, *13*, e0208265. [CrossRef]
44. Checkland, P.B.; Haynes, M.G. Varieties of systems thinking: The case of soft systems methodology. *Syst. Dyn. Rev.* **1994**, *10*, 189–197. [CrossRef]
45. Checkland, P. Soft systems methodology: A thirty year retrospective. *Syst. Res. Behav. Sci.* **2000**, *13*, S11–S58. [CrossRef]
46. Hertati, R.; Zakaria, I.J.; Dahelmi, D.; Novarino, W. Conceptual Model of Integrated Capture Fisheries Management on Conservation Area (WKPP2) in. Vol. 16. 2023. Available online: <http://www.bioflux.com.ro/aal> (accessed on 7 August 2024).
47. Sofiyessi, E.; Marimin; Eriyatno; Sutrisno. The shallot agro-industrial cluster based on regional characteristic with soft system methodology approach: A conceptual design. *IOP Conf. Ser. Earth Environ. Sci.* **2020**, *443*, 012058. [CrossRef]
48. Cadenas, J.M.; Garrido, M.C.; Martínez-España, R. A Methodology Based on Machine Learning and Soft Computing to Design More Sustainable Agriculture Systems. *Sensors* **2023**, *23*, 3038. [CrossRef]
49. Ebekozien, A.; Aigbavboa, C.O.; Aigbedion, M.; Ogbaini, I.F.; Aginah, I.L. Integrated project delivery in the Nigerian construction sector: An unexplored approach from the stakeholders' perspective. *Eng. Constr. Archit. Manag.* **2023**, *30*, 1519–1535. [CrossRef]
50. Ashcraft, H. Transforming project delivery: Integrated project delivery. *Oxf. Rev. Econ. Policy* **2022**, *38*, 369–384. [CrossRef]
51. AIA Nation/AIA California Council the American Institute of Architects. Integrated Project Delivery: A Guide California Council National. *AIA National*. 2007. Available online: [https://info.aia.org/SiteObjects/files/IPD\\_Guide\\_2007.pdf](https://info.aia.org/SiteObjects/files/IPD_Guide_2007.pdf) (accessed on 7 August 2024).
52. Rodrigues, M.R.; Lindhard, S.M. Benefits and challenges to applying IPD: Experiences from a Norwegian mega-project. *Constr. Innov.* **2023**, *23*, 287–305. [CrossRef]
53. WEF World Economic forum. Shaping the Future of Construction an Action Plan to Accelerate Building Information Modeling (BIM) Adoption. 2018. Available online: [www.weforum.org](http://www.weforum.org) (accessed on 7 August 2024).
54. Lapidus, A.; Topchiy, D.; Kuzmina, T.; Shevchenko, I. A New Direction of Professional Activity of Consulting Engineers in the Construction Industry. *Buildings* **2023**, *13*, 1674. [CrossRef]
55. Mei, T.; Wang, Q.; Xiao, Y.; Yang, M. Rent-seeking behavior of BIM-and IPD-based construction project in China. *Eng. Constr. Arch. Manag.* **2017**, *24*, 514–536. [CrossRef]
56. Durdyev, S.; Hosseini, M.R.; Martek, I.; Ismail, S.; Arashpour, M. Barriers to the use of integrated project delivery (IPD): A quantified model for Malaysia. *Eng. Constr. Arch. Manag.* **2020**, *27*, 186–204. [CrossRef]
57. Moradi, S.; Kähkönen, K.; Klakegg, O.J.; Aaltonen, K. A Competency Model for the Selection and Performance Improvement of Project Managers in Collaborative Construction Projects: Behavioral Studies in Norway and Finland. *Buildings* **2020**, *11*, 4. [CrossRef]
58. Engebø, A.; Lædre, O.; Young, B.; Larssen, P.F.; Lohne, J.; Klakegg, O.J. Collaborative project delivery methods: A scoping review. *J. Civ. Eng. Manag.* **2020**, *26*, 278–303. [CrossRef]
59. Viana, M.L.; Hadikusumo, B.H.W.; Mohammad, M.Z.; Kahvandi, Z. Integrated Project Delivery (IPD): An Updated Review and Analysis Case Study Project and Production Management. *J. Eng. Proj. Prod. Manag.* **2020**, *2020*, 147–161. [CrossRef]
60. Baxter, P.; Jack, S. Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *Qual. Rep.* **2008**, *13*, 544–559. [CrossRef]
61. Clarke, V.; Braun, V. Thematic analysis. *J. Posit. Psychol.* **2017**, *12*, 297–298. [CrossRef]
62. Braun, V.; Clarke, V. Thematic analysis. In *APA Handbook of Research Methods in Psychology, Vol 2: Research Designs: Quantitative, Qualitative, Neuropsychological, and Biological*; Cooper, H., Camic, P.M., Long, D.L., Panter, A.T., Rindskopf, D., Sher, K.J., Eds.; American Psychological Association: Washington, DC, USA, 2012; pp. 57–71. [CrossRef]
63. Brady, M.V.; Andersen, M.S.; Andersson, A.; Kilis, E.; Saarela, S.R.; Thorsøe, M.H. Strengthening the policy framework to resolve lax implementation of the Baltic Sea Action Plan for agriculture. *AMBIO* **2022**, *51*, 69–83. [CrossRef]
64. Jansson, T.; Andersen, H.E.; Hasler, B.; Höglind, L.; Gustafsson, B.G. Can investments in manure technology reduce nutrient leakage to the Baltic Sea? *AMBIO* **2019**, *48*, 1264–1277. [CrossRef]
65. Sindhøj, E.; Tamm, K.; Bryukhanov, A.; Casimir, J.; Uvarov, R.; Oblomkova, N. Slurry Acidification as a Tool to Reduce Ammonia Emissions. *Sel'skohozjajstvennye Mashiny i Tehnologii (Online)* **2019**, *13*, 4–10. [CrossRef]
66. Sindhøj, E.; Kryštofowski, M.; Kuka, K.; Luostarinen, S.; Melnalksne, Z.; Mjöfors, K.; Riiko, K.; Tamm, K.; Ylivainio, K.; Sarvi, M. *Technologies and Management Practices for Sustainable Manure Use in the Baltic Sea Region*; DiVA: Uppsala, Sweden, 2020.
67. FACT SHEET SuMaNu-Sustainable Manure and Nutrient Management for Reduction of Nutrient Loss in the Baltic Sea Region. 2018. Available online: [https://www.ri.se/sites/default/files/2024-08/SuMaNu\\_FACT\\_SHEET.pdf](https://www.ri.se/sites/default/files/2024-08/SuMaNu_FACT_SHEET.pdf) (accessed on 7 August 2024).

68. Sari, L.; Elina, T.; Johanna, L.; Minna, S.; Kari, Y.; Kaisa, R.; Katrin, K.; Elke, B.; Erik, S. Manure Processing as a Pathway to Enhanced Nutrient Recycling Report of SuMaNu Platform. Available online: <http://urn.fi/URN:ISBN:978-952-380-037-3> (accessed on 7 August 2024).
69. Sindhøj, E.; Luostarinen, S.; Kaasinen, S.; Sarvi, M.; Riiko, K.; Kuka, K. Policy Recommendations for Sustainable Manure and Nutrient Management in the Baltic Sea Region: SuMaNu Platform Project Policy Recommendations. 2021. Available online: <https://urn.kb.se/resolve?urn=urn:nbn:se:ri:diva-74613> (accessed on 7 August 2024).

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