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THE IMPACT OF RELATIONSHIP MARKETING ON THE DEVELOPMENT OF OUTDOOR EDUCATION IN A COLLABORATIVE NETWORK BASED ON THE QUINTUPLE HELIX MODEL: A CASE STUDY FROM FINLAND

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This article integrates Relationship Marketing (RM) and the Quintuple Helix Model (Q5HM) to examine how relational practices support collaboration within multi-actor innovation systems in Finnish Outdoor Education (OE). RM provides a framework for understanding value co-creation, trust, empathy, communication, and responsiveness as mechanisms shaping long-term cooperation, while the Q5HM conceptualises innovation as an interdependent process involving academia, industry, government, civil society, and the environment.

The aim of the study was to examine the Finnish OE ecosystem through the complementary perspectives of Q5HM and RM, focusing on the organisation and interactions of key actors across the five helices and on the relational mechanisms supporting inter-organisational collaboration.

A qualitative case study design was applied, drawing on strategic documents, national policy frameworks, official organisational materials, expert interviews, and field observations involving key actors in Finnish OE. Reflexive thematic analysis was used to identify RM-based mechanisms that shape inter-helix collaboration.

The findings indicate that RM-related practices form an important relational dimension of the Q5HM, embedding trust, empathy, transparency, and shared learning into collaborative practices. These mechanisms support coordination across the five helices and contribute to both the continuity and further development of the OE network. The Finnish case demonstrates how a relational perspective can deepen the understanding of Q5HM-based collaboration in sustainability-oriented educational innovation.

Keywords: outdoor education, relationship marketing, educational innovation, collaborative network, quintuple helix model

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1. INTRODUCTION

The evolution of innovation models from linear frameworks towards interactive and systemic approaches reflects the growing complexity of contemporary societal and environmental challenges. Among the more comprehensive approaches is the Quintuple Helix Model (Q5HM), which extends the Triple and Quadruple Helix frameworks by incorporating the natural environment as a fifth dimension of innovation systems (Carayannis et al., 2012). The Q5HM conceptualises innovation as emerging from interactions among academia, industry, government, civil society, and the natural environment, making it particularly relevant to contexts where outdoor education (OE) and environmental awareness are connected with sustainable development. While research has examined interactivity and interdependence among sectors (Arnkil et al., 2010), less attention has been paid to the relational mechanisms through which these interactions are coordinated and sustained.

Relationship marketing (RM) offers a complementary perspective for addressing this gap. Traditionally rooted in business and service research, RM emphasises enduring, mutually beneficial relationships rather than short-term transactions (Berry, 1983; Morgan, Hunt, 1994). Its concepts – including trust, commitment, communication, cooperation, and value co-creation – can also illuminate collaboration among multiple stakeholders. In Finnish OE, RM is therefore used not as a mechanism determining the functioning of the Q5HM, but as a relational perspective for understanding how actors coordinate activities, exchange knowledge, build relationships, and sustain inter-organisational cooperation over time.

Finland provides a relevant context due to its internationally recognised education system, strong tradition of youth work, and commitment to environmental protection (SNK, 2026). The Finnish OE ecosystem involves diverse public, educational, civic, business, and environmental actors operating across organisational and institutional boundaries. Rather than focusing on a single organisation, this study examines the broader Finnish OE network, identifying the key actors involved in its development and examining their roles and interactions through the Q5HM framework.

The integration of Q5HM and RM is particularly relevant to OE, whose development and delivery depend on sustained collaboration among actors with different responsibilities, resources, expertise, and institutional interests. Q5HM identifies the key actors, their roles, and institutional domains within the ecosystem, while RM focuses on the practices and relational mechanisms through which these actors establish and maintain inter-organisational collaboration. Together, the frameworks enable analysis of both who participates in the Finnish OE network and how RM practices – including trust-building, communication, cooperation, and value co-creation – shape collaboration and contribute to its sustainability.

Despite growing research on Q5HM and relational approaches to innovation and education ecosystems, an important gap remains. Existing Q5HM studies primarily address the coexistence and interaction of the five helices, while RM has

been applied predominantly in business and service contexts. Less is known about the relational mechanisms sustaining collaboration in multi-actor educational ecosystems involving public, civic, educational, economic, and environmental stakeholders. This study addresses this gap by using Q5HM and RM as complementary analytical frameworks: Q5HM identifies the institutional and societal actors involved in OE and their interactions, while RM provides a lens for examining how these actors coordinate, build trust, communicate, co-create value, and sustain cooperation.

The study contributes to management and quality sciences in three ways. Theoretically, it develops a relational interpretation of Q5HM by linking its multi-actor structure with RM concepts. Empirically, it identifies the key actors and relationship-based mechanisms operating within the Finnish OE ecosystem, providing evidence from a national multi-actor case. Practically, it highlights specific relational practices relevant to stakeholders seeking to strengthen cross-sectoral cooperation and the sustainable development of OE. Rather than positioning RM as a replacement for Q5HM, the study demonstrates the value of combining both perspectives to understand both the structure of the Finnish OE network and the relational mechanisms through which inter-organisational collaboration is sustained.

2. THE THEORETICAL ASPECTS OF RELATIONSHIP MARKETING, QUINTUPLE HELIX MODEL, OUTDOOR EDUCATION

2.1. Relationship Marketing (RM)

RM plays an important role in business, particularly in the service sector, as it focuses on developing and maintaining long-term relationships with customers (Gummerus et al., 2017). With globalization and technological advancements, competition and consumer demands have become increasingly complex, prompting firms to employ strategies that strengthen customer loyalty and trust and foster long-term relationships (Rosário, 2023).

RM emerged as a response to transactional marketing's short-term, sales-focused logic, reframing marketing as a process of building and maintaining long-term, value-creating relationships among stakeholders (Grönroos, 1994; Morgan, Hunt, 1994). RM's relevance extends beyond customer – provider interactions, serving as a governance mechanism in complex, multi-actor environments such as innovation networks and cross-sector partnerships (Payne, Frow, 2017).

In the context of OE, RM can be understood as both a management philosophy and a practical set of relational capabilities enabling organisations to sustain cooperation with diverse actors over time.

The literature identifies several key characteristics of RM, including shared values, value co-creation, active participation, mutual trust, commitment, empathy, effective communication, cooperation, satisfaction, and a long-term relational orientation. RM emphasises that customers and other stakeholders are not merely passive recipients of value but active participants in relational processes (Grönroos, 1994; Payne, Frow, 2017). Trust and commitment are particularly important, as they reduce uncertainty, support cooperation, and encourage actors to maintain relationships over time (Morgan, Hunt, 1994). At the same time, understanding individual needs and expectations, together with effective communication and co-operation, contributes to satisfaction and fosters lasting relationships (Berry, 1983; Grönroos, 1994).

The synthesis shows that RM has evolved from a customer-retention tool into a relational governance framework for managing interactions, building trust, and co-creating value among multiple stakeholders. Its focus on collaboration, personalisation, and long-term orientation makes it particularly relevant for service-driven contexts such as OE. Therefore, RM offers a conceptual foundation for understanding how actor networks cooperate and sustain collaboration.

It is also worth noting that contemporary RM practices increasingly incorporate social media and artificial intelligence (AI)-based tools, which facilitate personalised communication, stakeholder engagement, and the development and monitoring of relationships across digital environments (Cheng, Jiang, 2022).

2.2. Quintuple Helix Model (Q5HM)

The Q5HM conceptualizes innovation as an interaction between 5 institutional spheres: academia, industry, government, civil society, and the natural environment (Carayannis et al., 2012). The “helix” metaphor symbolizes intertwined and dynamic processes, reflecting how knowledge flows, cooperation, and co-creation mechanisms evolve through mutual interdependence (Etzkowitz, Leydesdorff, 2000). By integrating the environment as a fifth helix, the model emphasizes that innovation processes must consider ecological knowledge and environmental stewardship alongside technological and social development (Galvão et al., 2017).

Historically, helix models of innovation evolved from the Triple Helix, which explained collaboration between universities, industry, and government (Etzkowitz, Leydesdorff, 2000), to the Quadruple Helix, which added civil society and media-based democracy (Carayannis et al., 2012). The Q5HM further expands this framework by incorporating the environment as a central dimension of knowledge production and sustainable development (Carayannis et al., 2012). This progression reflects a growing recognition that innovation ecosystems are not only socio-economic but also ecological systems, where sustainability depends on balancing human and environmental interdependencies.

Several studies have explored how the Q5HM enables cross-sectoral cooperation in regional innovation systems (Galvão et al., 2017; Dziedzic, 2018). In Nordic countries, Arnkil et al. (2010) demonstrate how governance systems evolve through iterative, interactive partnerships that reflect multi-helix dynamics. While the majority of Q5HM research focuses on urban or technology-intensive ecosystems, emerging literature suggests its relevance in rural, nature-based, and non-formal education settings, where the environment is both a resource and a participant in learning processes.

Nevertheless, the Q5HM is not without conceptual and practical limitations. The literature points to difficulties in clearly defining and operationalising the relationships between the different helices in empirical research, while the application of the model may also be constrained by institutional and interdisciplinary barriers to cross-sectoral cooperation (Cai, Lattu, 2022; Łacka, 2020). These limitations do not negate the value of the Q5HM. They suggest that the model is most appropriately used as a heuristic framework for analysing complex innovation and sustainability processes, rather than as a deterministic model with directly testable causal relationships.

As noted in the Introduction, the integration of Q5HM and RM perspectives remains underexplored. Only a few studies, such as Ramírez-Montoya et al. (2021) examine how collaborative dynamics are sustained through trust, reciprocity, shared value creation, and strategic alignment. This study addresses this gap by analysing how relationship marketing operationalises the Q5HM in OE.

2.3. Outdoor Education (OE)

OE is broadly understood as experiential, place-based learning that utilizes natural and social environments as educational resources. It has attracted growing academic interest in the contexts of environmental literacy, well-being and sustainability (Beames et al., 2012).

OE is an interdisciplinary approach to learning that combines the principles of Outdoor Adventure Education (OAE) and Outdoor Environmental Education (OEE), offering participants the opportunity to learn through physical activity, social cooperation and direct engagement with the natural world. As Priest (1986) defines it, OE is “an experiential method of learning with the use of all senses, which takes place primarily – but not exclusively – outdoors and which involves a relationship between people and natural resources”.

Recent studies have linked OE to social innovation and community-based environmental engagement (D’Amato, Krasny, 2011). In Finland, OE is embedded within national youth policy frameworks that promote well-being, social equity and environmental responsibility (Salonen, Konkka, 2015). In Finland, OE services develop particularly in Finnish rural and peripheral areas (Smeds et al., 2011). Such areas offer diverse natural environments, including forests, which make up about

73.7% of Finland's land area (World Bank Open Data, 2026), lakes, rivers and fields, which support experiential learning for both local and urban youth, promoting knowledge of nature, environmental protection and adventure-based educational activities. These environments further provide a valuable opportunity for young generations to step away from the modern digital life, enabling them to reconnect with nature and strengthen interpersonal relationships through real-world experiences. OE inherently relies on the interaction between human systems and the natural environment.

3. METHODOLOGY

This study applies a qualitative case study design focusing on the Finnish collaborative network of actors involved in the development of OE in Finland. A multi-method qualitative approach was employed, combining semi-structured expert interviews, exploratory field observations, and documentary analysis of official documents, strategic plans, policy frameworks, organisational materials, and publicly available online sources. The data were analysed using reflexive thematic analysis, informed by the Q5HM framework and RM theory.

The study was guided by the following research questions (RQ):

- RQ1: Who are the key actors involved in the development of OE in Finland and how can their roles and interactions be understood through the Q5HM framework?
- RQ2: How do RM practices shape inter-organisational collaboration within the Finnish OE network, and which relational mechanisms contribute to its sustainability?

The research questions are grounded in the theoretical assumptions of RM (Grönroos, 1994; Morgan, Hunt, 1994) and contextualised within the multi-sector innovation logic of Q5HM (Carayannis et al., 2012).

The empirical component comprised 20 semi-structured expert interviews conducted between August 2025 and June 2026 with stakeholders involved in Finnish OE development. The interviews lasted approximately 30 minutes, were audio-recorded with participants' consent, and subsequently transcribed for qualitative analysis. Participants were selected purposively based on their professional involvement in the development, coordination, provision, governance, or support of OE in Finland. The sample comprised 4 representatives from 4 Finnish OE Centres, 2 senior representatives of the SNK and LYKE networks, 2 representatives of Nature Schools belonging to the LYKE network, 2 representatives of Finnish higher education institutions, 5 representatives of companies cooperating with OE Centres and providing OE services, 1 representative of the Finnish Ministry, 2 senior representatives of local government, and 2 representatives of National Parks and the Finnish state forestry sector. This purposive and diverse sample enabled the study to capture

perspectives from different institutional and organisational positions within the Q5HM and to examine relational practices across organisational boundaries.

Data analysis followed two complementary analytical levels corresponding to the research questions. Firstly, actor-level coding identified key actors and institutional arrangements through the interviews, field observations, and documentary materials and classified them according to their predominant position within the Q5HM helices: academia, industry, government, civil society, and the natural environment. The natural environment was not treated as an autonomous organisational actor; instead, environmental relationships were examined through the institutions, organisations, and practices responsible for environmental stewardship and the use of natural resources in OE. This level of analysis addressed RQ1 by examining how key actors were organised within the collaborative network, including their roles and interactions across the five Q5HM helices. Secondly, practice-level coding addressed RQ2 by identifying RM mechanisms and relational practices shaping inter-organisational collaboration, including trust, commitment, communication, empathy, cooperation, participation, and value co-creation. Reflexive thematic analysis was conducted iteratively: initial codes were informed by Q5HM and RM concepts, while close engagement with the empirical material allowed categories and relationships to be refined. Findings from the two analytical levels were subsequently compared to examine how RM practices operated across the different Q5HM helices.

To strengthen the credibility and interpretive rigour of the analysis, emerging findings and

interpretations were discussed with two researchers. These discussions provided an opportunity to critically examine coding decisions, challenge emerging interpretations, and consider alternative explanations. Triangulation was achieved by systematically comparing evidence from expert interviews, field observations, official documents, organisational materials, strategic plans, and publicly available online sources. The convergence between sources was used to corroborate actor identification, institutional roles, and the presence of specific relational practices, while discrepancies were treated as prompts for further interpretation rather than automatically resolved in favour of one source. This multi-method approach strengthened the credibility and contextual depth of the findings and reduced the risk of interpreting the Finnish OE ecosystem solely through the perspective of individual organisations or documentary sources.

4. RESEARCH RESULTS

This section presents the findings in relation to the two research questions. RQ1 addresses the key actors and their roles and interactions within the Finnish OE network through the Q5HM framework, while RQ2 examines RM practices and relational mechanisms supporting inter-organisational collaboration.

**4.1. Key actors, roles and interactions in the Finnish OE network:
a Q5HM perspective**

The analysis of the 20 semi-structured expert interviews, documentary materials, and field observations identified the main actors involved in the Finnish OE ecosystem. These actors were subsequently mapped according to the five helices of the Quintuple Helix Model (Q5HM). Table 1 presents the key actors identified within each helix and their main roles in the development of OE in Finland.

Table 1. Main actors involved in OE development in Finland and their roles in OE ecosystem

● ACADEMIA – universities, research institutions
1. Humak University of Applied Sciences (Humak UAS) is a major provider of OE in Finland and offers a degree programme in OAE, where the students learn to plan and carry out safe adventure educational processes for different target groups and evaluate and develop adventure educational activities (SNK, 2026). Through education and applied RDI activities, it contributes to professional competence development, knowledge production, and innovation in the field (Lindblad, Kiuru, 2021; HUMAK, 2026). 2. Humak Research & Development services (RDI) contribute to applied research and the development of intangible services, educational products, social innovations, and tourism-related products (HUMAK, 2026). 3. Other universities contribute to the development of OE through research, professional networking, and knowledge exchange. For example, Oulu UAS and the University of Tampere serve as contact points for the OE Researchers Network (ULOS–UT–OUT, 2026; SNK, 2026).

● **INDUSTRY** – business, business-like organisations

1. Finnish Youth Centres – OE Centres (OECs)

are classified under the Industry helix because, despite their public funding and statutory youth-work functions, they also provide organised educational, recreational and service activities and cooperate with external service providers and businesses. There are 8 OECs located across Finland (fig. 1). This geographical distribution of OECs enables the SNK network to disseminate its activities and impact across the entire territory of Finland.



Fig. 1. Youth Centres in Finland (National Youth Centre, 2026)

Each OEC functions as a regional hub for cooperation among municipalities, schools, NGOs, youth workers, tourism enterprises, and environmental organisations. The centres provide nature and environmental education, school camps, youth work, and international activities, while also co-creating OE and tourism services with local businesses, such as rafting, climbing, forest-based activities, and visits to nature-related attractions (Oivanki, 2026; OKM, 2026). Most Finnish OECs operate through a hybrid model, combining public funding with income generated from service provision.

2. Local business partners of OECs

cooperate with OECs in co-creating outdoor, tourism, and youth services, as reflected in the centres' official programme offers (Oivanki, 2026).

● **GOVERNMENT – national and local authorities**

1. Ministry of Education and Culture (fin. OKM)

provides the main policy, regulatory, and funding framework for Finnish Youth Centres (OECs) under the Youth Act 1285/2016 (Finlex, 2016). It is responsible for coordinating and developing youth policy and for providing funding and grants to youth-work organisations, including the national youth centres. The Ministry also supports the LYKE Network through general grant funding (OKM, 2026; LYKE, 2026).

2. Local authorities

contribute to OE development through local youth policies, funding, services, facilities, and regulatory frameworks. They also create conditions for youth participation and local youth-work activities (European Commission, 2021).

● **CIVIL SOCIETY – NGOs, youth associations, community organisations**

1. SNK Network – the Finnish Youth Centre Association

coordinates the cooperation, services, and development of the national youth centres under the Youth Act and acts as an intermediary between the OKM, the youth centres, and the wider adventure education network (Nuorten Helsinki, 2023; SNK, 2026). Its main activities include the development of youth work, coordination of the Adventure Education Network, and facilitation of cooperation among relevant stakeholders (SNK, 2026). The OKM subsidises the national youth centres and supports their network activities (Eischer, 2023).

2. The National Adventure Education Network

is an open, informal network (founded in 2007) bringing together professionals, researchers, students, and other actors involved in OAE and therapy in Finland. It provides a platform for information exchange and networking among practitioners and stakeholders in related fields (SNK, 2026). It connects actors from different regions and professional backgrounds and operates through several professional and regional subnetworks, including the Adventure Therapy Network, Researchers Network, and Early Childhood Education Network, with 6 regional networks across Finland (SNK, 2026).

The Network is administratively coordinated by SNK, with financial support from the OKM. The development working group consists of 11 members + SNK employees (youth work expert and executive director) (SNK, 2026).

3. LYKE Network

is a Finnish Association for Nature and Environmental Schools – a national non-profit network established in 2007 and supported by the OKM. It connects more than 50 Nature and Environmental Schools and OECs across Finland, operated by municipalities, governmental organisations, enterprises, and associations (LYKE, 2026). Its mission is to promote OEE and strengthen children's and young people's connection with nature as part of a sustainable lifestyle. LYKE also develops quality standards for its member centres and provides environmental education, outdoor learning activities, and teacher training (Saari-Vesterinen, 2024). In addition, it maintains MAPPA.fi, a national platform for educational resources, and organises professional training and national events such as ULOS–UT–OUT (ULOS–UT–OUT, 2026; MAPPA.fi, 2026).

4. Other Finnish associations

contribute to the development of OE. For example, the Outward Bound Finland Association promotes adventure and experiential pedagogy and supports the professional development and well-being of children and young people (Outward Bound Finland, 2026).

- **NATURAL ENVIRONMENT** – represented by organisations ensuring sustainable use of natural resources

1. Metsähallitus (and National Parks)

is a state-owned enterprise operating under the Ministry of Agriculture and Forestry, with the Ministry of the Environment also steering its public administration services within its remit.

It manages and protects state-owned land and water areas and is responsible for balancing environmental, social, and economic objectives related to their use (Metsähallitus, 2026).

Its Parks & Wildlife Finland unit, including National Parks Finland, manages protected and recreational areas, with responsibilities including nature conservation, recreation, and environmental education (Metsähallitus, 2026). These public administration activities are largely financed through the national government budget, while nature-based tourism and recreation also contribute to regional economies (LUONTOON, 2026).

2. Other environmental associations

contribute to the development of OE. For example, the Finnish Society for Nature and Environment (FSNE) promotes nature conservation and environmental interests in cooperation with the Finnish Association for Nature Conservation (FANC) and other NGOs (Natur och Miljö, 2026).

Source: own elaboration based on the empirical material and documentary analysis.

The analysis also indicates that some actors perform bridging or hybrid functions across the five helices. The OKM provides policy and funding conditions, while organisations such as SNK and LYKE connect actors across educational, governmental, professional, and civil-society contexts. OE centres function as regional hubs linking public authorities, schools, NGOs, businesses, and environmental organisations. Academic institutions contribute research, professional education, and knowledge exchange, while organisations responsible for natural environments, including Metsähallitus and National Parks, connect environmental stewardship with educational and recreational activities.

The distribution of actors presented in table 1 suggests that the boundaries between the five helices are permeable. The development of OE therefore appears to depend not on the activities of a single sector, but on interactions between different institutional and organisational actors. This structural configuration provides the basis for examining, in the following section, how these actors maintain collaboration through relationship-oriented practices.

4.2. The role of RM practices in OE development

In response to RQ2, this subsection examines how RM practices shape inter-organisational collaboration and which relational mechanisms contribute to the sustainability of the Finnish OE network. The reflexive thematic analysis revealed that RM-related mechanisms are embedded in the collaborative practices of the Finnish OE ecosystem, as reflected in strategic documents, organisational activities, and observed modes of cooperation among key actors. These mechanisms support

relationships among governmental, civic, academic, business, and environmental actors and contribute to the network's capacity for cooperation, adaptation, and innovation. The identified examples of activities and interrelations among the main actors involved in the development of OE in Finland (tab. 2) were mapped against the 4 key features and roles of RM (see 2.1).

Table 2. RM features and interrelations among actors of OE ecosystem in Finland

RM features	Interrelations of the main actors involved in OE development
Sharing values, value co-creation and active participation	The National Adventure Education Network's Advisory Board brings together educators, researchers and practitioners to identify sectoral needs and develop joint strategies, fostering shared commitment to OE's educational and sustainability goals.
Commitment and mutual trust	Trust is built through recurring collaborations and transparency. The SNK Network describes itself as an "inspiring and flexible collaborative entity" (SNK Annual Report, 2024, 2025), coordinating national and international development initiatives. ULOS-UT-OUT, co-organized by LYKE, SNK, OKM, Metsähallitus' Pilke Science Centre strengthens long-term relationships through cross-sector knowledge exchange and collective learning.
Empathy and understanding partners' needs and goals	SNK's Adventure Education Network Development Working Group represents diverse professional fields, including education, therapy, rehabilitation and environmental education. It identifies development needs and defines strategic priorities for adventure education in Finland. The group has existed since 2007 and is appointed annually (SNK, 2026).
Communication, cooperation, long-term relations and satisfaction	SNK supports cohesion through strategic communication, regular remote meetings and annual development days. It also coordinates joint projects exceeding €1 million annually, supporting long-term collaboration among OECs (SNK, 2026). The annual National Adventure Education Conference strengthens the professional community, while the commitment to carbon neutrality by 2030 reflects shared environmental goals.

Source: own elaboration based on the information from: SNK Documents (SNK 2024, 2025, 2026), online materials from OECs.

The findings indicate that the SNK Network plays a central role in embedding and sustaining relational practices within the Finnish OE ecosystem. Its coordinating activities connect OECs with public agencies, NGOs, academic institutions, National Parks, and other stakeholders. The network's principles of transparency, information sharing, communality, lifelong learning, sustainable development, and diversity correspond closely with the identified RM mechanisms of trust, mutual understanding, participation, and shared learning (SNK, 2026). Cooperation between

SNK and LYKE Networks, including joint initiatives such as ULOS–UT–OUT, further illustrates how trust, value co-creation, communication, and continuity are enacted across organisational boundaries. The SNK's Adventure Education Network Development Working Group similarly demonstrates responsiveness to different professional and regional needs. Regular meetings, development activities, joint projects, and professional events contribute to maintaining long-term relationships and knowledge exchange across the network.

Together, these findings indicate that RM practices are embedded in the Finnish OE ecosystem and contribute to the sustainability of inter-organisational collaboration through trust, communication, participation, and value co-creation.

5. CONCLUSIONS

This study examined the development of OE in Finland through the complementary perspectives of Q5HM and RM. In response to RQ1, the findings indicate that the Finnish OE ecosystem is organised as a multi-actor collaborative network involving actors associated with all five Q5HM helices: academia, industry, government, civil society, and the natural environment. The boundaries between these helices are not rigid, as several organisations perform bridging and hybrid roles across institutional and sectoral domains. Q5HM therefore provides a useful heuristic framework for identifying actors involved in OE development and understanding the structural context of cross-sectoral collaboration (Carayannis et al., 2012).

In response to RQ2, the findings reveal that RM practices are embedded in the collaborative processes through which actors maintain and develop relationships across the Finnish OE network. Trust, empathy, value co-creation, communication, participation, and mutual commitment emerged as interconnected relational mechanisms supporting coordination, knowledge sharing, continuity of cooperation, and joint learning. Rather than treating RM as a purely business-oriented approach, the findings suggest that its relational principles can also be applied to complex educational and multi-actor ecosystems where public, civic, academic, business, and environmental interests intersect (Grönroos, 1994; Morgan, Hunt, 1994; Gummeson, 2017).

The central theoretical contribution lies in bringing together Q5HM and RM as complementary analytical perspectives. Q5HM identifies who participates in the ecosystem and how actors are positioned within a multi-helix structure, whereas RM explains how these actors establish, maintain, and develop relationships that enable collaboration over time. RM therefore provides a relational interpretation of Q5HM rather than replacing or redefining it. The findings suggest that the effectiveness and continuity of a multi-actor ecosystem depend not only on the presence of different institutional actors but also on the quality of the relationships connecting them. This contributes to the Q5HM literature by highlighting the mechanisms

through which cross-sectoral interaction is sustained, and to the RM literature by extending its application beyond conventional firm–customer relationships towards collaborative educational and societal ecosystems.

The findings are consistent with previous research on collaborative and multi-actor innovation systems. They are in line with the evolution of helix-based approaches discussed by Galvão et al. (2017) and support the Q5HM perspective developed by Carayannis et al. (2012) and further discussed by Carayannis and Campbell (2021), while extending these perspectives to OE. They also complement Finnish research on rural outdoor learning and sustainability education (Smeds et al., 2011; Salonen, Konkka, 2015) by showing how relational mechanisms contribute to the continuity of cross-sectoral collaboration. Although Finland provides a favourable context for trust-based collaboration, the Q5HM–RM perspective may be adapted to other national contexts, including Poland, while taking local institutional and cultural conditions into account (Łacka, 2020).

The Finnish case further illustrates how relational principles can become embedded in organisational and network structures. The activities of the SNK and LYKE networks demonstrate how transparency, communication, knowledge sharing, lifelong learning, diversity, sustainable development, and participation can support stakeholder coordination without relying exclusively on hierarchical control. Such practices are consistent with network coordination, in which actors coordinate knowledge, resources, and activities across organisational boundaries (Dhanaraj, Parkhe, 2006). The findings therefore suggest that RM can support coordination across the five Q5HM helices, particularly where collaboration depends on trust, continuity, shared values, and collective learning.

More broadly, OE can be understood as an educational space in which participation, relational collaboration, and engagement with the natural environment contribute to social inclusion, community cohesion, environmental responsibility, and sustainability objectives (Nussbaum, 2011). The Finnish experience therefore indicates that OE may serve not only educational and recreational purposes but also provide a context for developing cooperation and connections between different parts of society.

The study has several limitations. Firstly, the single national case study limits the generalisability of the results, as the findings reflect the specific institutional, cultural, and organisational conditions of the Finnish OE ecosystem. Secondly, although the study included 20 semi-structured expert interviews with stakeholders from diverse institutional and organisational positions, documentary and online material also formed an important part of the empirical basis and was used to contextualise and triangulate the interview data. While such sources provide valuable information on formal structures, strategies, and organisational activities, they may present a more formalised or idealised picture of collaboration and may not fully capture tensions, disagreements, power asymmetries, or conflicts. While triangulation across interviews, field observations, and documentary sources reduced

this risk, it cannot eliminate it entirely. Thirdly, field observations were exploratory rather than systematic and therefore provide contextual insights rather than comprehensive evidence of relationships across the entire OE network. Finally, the study was not designed as a longitudinal investigation and cannot systematically capture how relationships and collaboration change over time. Future research should therefore employ longitudinal triangulation and comparative research involving OE systems in other countries to identify which elements of the Q5HM–RM perspective are context-specific, and which may have relevance across different institutional and cultural settings.

To summarise, combining Q5HM and RM provides a useful framework for understanding how complex OE ecosystems are structured and sustained. Q5HM highlights actor diversity and interdependence, while RM focuses on the relational mechanisms connecting them and supporting cross-organisational coordination beyond hierarchical control.

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WPLYW MARKETINGU RELACJI NA ROZWÓJ EDUKACJI OUTDOOROWEJ W SIECI WSPÓŁPRACY OPARTEJ NA MODELU PIĘCIOKROTNEJ HELISY: STUDIUM PRZYPADKU Z FINLANDII

Streszczenie

Niniejszy artykuł integruje koncepcję marketingu relacji (relationship marketing, RM) oraz model pięciokrotnej helisy (quintuple helix model, Q5HM) w celu zbadania, w jaki sposób praktyki relacyjne wspierają współpracę w ramach wielopodmiotowych systemów innowacji w fińskiej edukacji outdoorowej (outdoor education, OE). RM stanowi ramy pozwalające zrozumieć współtworzenie wartości, zaufanie, empatię, komunikację i odpowiedzialność jako mechanizmy kształtujące długoterminową współpracę, podczas gdy Q5HM konceptualizuje innowacje jako współzależny proces obejmujący środowisko akademickie, przemysł, administrację publiczną, społeczeństwo obywatelskie oraz środowisko naturalne.



Celem badania było przeanalizowanie fińskiego ekosystemu edukacji outdoorowej z wykorzystaniem komplementarnych perspektyw Q5HM i RM, ze szczególnym uwzględnieniem organizacji i wzajemnych interakcji kluczowych podmiotów w ramach pięciu helis oraz mechanizmów relacyjnych wspierających współpracę międzyorganizacyjną.

Zastosowano jakościowy projekt badania przypadku, opierając się na dokumentach strategicznych, krajowych ramach polityki publicznej, oficjalnych materiałach organizacyjnych, wywiadach eksperckich oraz obserwacjach terenowych z udziałem kluczowych podmiotów fińskiej edukacji outdoorowej. W celu identyfikacji mechanizmów opartych na marketingu relacji, które kształtują współpracę między poszczególnymi helisami, zastosowano refleksyjną analizę tematyczną.

Wyniki wskazują, że praktyki związane z marketingiem relacji tworzą istotny wymiar relacyjny modelu pięciokrotnej helisy, włączając zaufanie, empatię, przejrzystość oraz wspólne uczenie się w praktyki współpracy. Mechanizmy te wspierają koordynację działań między pięcioma helisami oraz przyczyniają się do trwałości i rozwoju sieci edukacji outdoorowej. Przypadek fiński pokazuje, w jaki sposób perspektywa relacyjna może pogłębić rozumienie współpracy opartej na modelu pięciokrotnej helisy w kontekście innowacji edukacyjnych ukierunkowanych na zrównoważony rozwój.

Słowa kluczowe: marketing relacji, edukacja outdoorowa, innowacje edukacyjne, model pięciokrotnej helisy, sieć współpracy