



CHALMERS
UNIVERSITY OF TECHNOLOGY



Balancing Exploration and Exploitation Through Revolutionary Technological Change

**The Case of SVT's Transition to Software-Based
Production**

Master's Thesis in Management and Economics of Innovation

**HUGO DAHLGREN
CARL MAGNUS LAGERROTH**

**DEPARTMENT OF TECHNOLOGY MANAGEMENT AND ECONOMICS
DIVISION OF ENTREPREURSHIP AND STRATEGY**

CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2026
www.chalmers.se

Balancing Exploration and Exploitation Through Revolutionary Technological Change

The Case of SVT's Transition to Software-Based
Production

HUGO DAHLGREN
CARL MAGNUS LAGERROTH

Department of Technology Management and Economics
Division of Entrepreneurship and Strategy
CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden 2026

Balancing Exploration and Exploitation Through Revolutionary Technological Change
The Case of SVT's Transition to Software-Based Production
HUGO DAHLGREN
CARL MAGNUS LAGERROTH

© HUGO DAHLGREN, 2026

© CARL MAGNUS LAGERROTH, 2026

Department of Technology Management and Economics
Chalmers University of Technology
SE-412 96 Gothenburg
Sweden
Telephone + 46 (0)31-772 1000

Gothenburg, Sweden 2026

Balancing Exploration and Exploitation Through Revolutionary Technological Change

HUGO DAHLGREN

CARL MAGNUS LAGERROTH

Department of Technology Management and Economics
Chalmers University of Technology

SUMMARY

Public service broadcasting organizations fulfill an important societal mission in supporting democratic, cultural, and social objectives. However, public service broadcasters are increasingly subject to discontinuous environmental change. To avoid obsolescence and continue fulfilling their public service mission, they must balance exploitation of current operations with exploration of new capabilities and technologies.

The purpose of this study is to develop a deeper understanding of how antecedents specific to public service broadcasting create and influence tensions between exploitation and exploration, and how different balancing approaches may be employed to manage these tensions. To address this purpose, the study examines Sveriges Television's (SVT) development and implementation of the software-based production system Next-Gen Online (NEO) as an empirical case. The study employs an abductive qualitative research approach based on semi-structured interviews, observations, and documentary data.

The findings reveal how environmental, inter-organizational, intra-organizational, and managerial antecedents influence both tensions and balancing conditions between exploitation and exploration. Furthermore, the study demonstrates how contextual ambidexterity, structural separation, temporal separation, and domain separation may be combined over time to manage these tensions.

The study suggests that public service broadcasters that understand cycles of technological and environmental change and employ appropriate balancing approaches may strengthen their ability to adapt to future technological discontinuities while continuing to fulfill their public service mission.

Keywords: organizational ambidexterity, public service broadcasting, exploration and exploitation, revolutionary technological change.

Acknowledgements

The mission of free and independent media feels more relevant than ever. Yet, its role in the future appears increasingly uncertain. Having been given the opportunity to gain a deeper understanding of the challenges and opportunities facing public service broadcasting, and the chance to make a humble contribution to its technological transition through this study, has been both intellectually demanding and profoundly insightful.

We are deeply grateful to SVT for the opportunity to conduct this study, and especially to Adde Granberg for his mentorship, openness, and generosity throughout the research process.

We would also like to thank all participants in the study for their willingness to contribute, share their experiences and perspectives, and dedicate their time to support our work.

Finally, we would like to thank our supervisor and examiner Kamilla Kohn Rådberg for her guidance, encouragement, and trust in our abilities throughout the thesis process.

Gothenburg, Spring 2026
Hugo Dahlgren and Carl Magnus Lagerroth

Table of Contents

Acknowledgements	5
1. Introduction	7
2. Theoretical Background	10
2.1 Foundation of ambidexterity	10
2.2 Theoretical framework	13
2.3 Antecedents	14
2.4 Tensions	19
2.5 Conduct	20
3. Case Description	26
3.1 The organization of study: Sveriges Television AB	26
3.2 The characteristics of hardware-based production systems	27
3.3 The characteristics of software-based production systems	29
4. Method	32
4.1 Research design	32
4.2 Research method	33
4.3 Sampling and data collection	34
4.4 Data analysis	38
5. Findings and Analysis	40
5.1 Antecedents	41
5.2 Tensions	49
5.3 Conduct	56
6. Discussion	66
6.1 How antecedents create and influence tensions	66
6.2 How to use different modes of balancing	76
7. Practical Implications	87
7.1 Adapting through cycles of innovation	87
7.2 The difference between exploration and exploitation and their natural trade-offs	88
7.3 Antecedents shape and affect the tensions	88
7.4 Use different modes of balancing in practice	89
7.5 Innovation can create deeper tensions beyond the original scope	91
8. Limitations and Suggestions for Further Research	93
9. Conclusion	94
10. References	96
Appendix A: Interview Guide	102

1. Introduction

Ambidexterity refers to the ability to use both hands equally well, or more broadly, the ability to do several things at the same time (Cambridge University Press, n.d.). In organizational-management academia, the concept of an ambidextrous organization was first commonly introduced by Duncan (1976) in his work titled “The ambidextrous organization: Designing dual structures for innovation”, which has been widely regarded as the origin of the concept (Kassotaki, 2022). While similar concepts had been discussed in earlier organizational research, such as Schumpeter (1934) and Cyert and March (1963), it was Duncan (1976) who first gave it the name that would come to define the field. However, it was March (1991) who provided the theoretical foundation underpinning ambidexterity research, establishing exploration and exploitation as distinct but interdependent organizational activities with inherent trade-offs between them. Exploration refers to the search for new knowledge, risk-taking, and experimentation, while exploitation emphasizes the refinement of existing knowledge and the improvement of current processes (March, 1991). He suggested that both exploration and exploitation are essential for organizational survival and prosperity, yet they compete for the same scarce resources, making the balance between them a fundamental strategic challenge. Tushman and O'Reilly (1996) further developed the concept, arguing that organizations can pursue both incremental improvement and radical innovation at the same time, but only if they are designed to accommodate fundamentally different ways of working within the same organization. The authors highlighted the inherent tensions that arise when organizations attempt to manage this evolutionary and revolutionary change simultaneously, suggesting that rather than resolving these tensions entirely, organizations must learn to embrace them, meaning that balancing exploitation and exploration is a required skill to address discontinuous environmental change.

Since the 1990s, an increased number of studies have been conducted on the subject of organizational ambidexterity, though with varying directions and results (Kassotaki, 2022). In a literature review, Lavie et al. (2010) analyze antecedents of exploration and exploitation, namely the factors that pressure, enable, and guide an organization's response to ambidexterity. These antecedents create tensions between exploration and exploitation, and the performance consequences that follow depend on how organizations balance them through different balancing modes. The authors call for further research on ambidexterity across different organizational contexts, including the role of inter-organizational activities such as strategic alliances and partnerships. They suggest that researchers should aim to explain the optimal balance of tensions in these contexts, and how multiple modes of balance can be used simultaneously. It is therefore relevant to examine how organizations navigate this balance of exploration and exploitation in practice, particularly in empirical settings undergoing significant technological and organizational change.

While traditionally being applied to private organizational contexts, organizational ambidexterity has had a growing relevance in public administrations (Gieske et al., 2019; Hamblin et al., 2024).

These entities are increasingly expected to manage revolutionary change (Gieske et al., 2019). However, Hamblin et al. (2024) observe that the drivers of organizational ambidexterity in these public organizations potentially differ from private organizations in both intensity and style, and note that further research is needed on how ambidexterity operates in public sector context. The authors therefore call for research on how public organizations balance exploration and exploitation, examining what conditions enable or constrain ambidexterity, what drives organizations toward one activity or the other, and what performance outcomes result from that balance, i.e. a similar framework as outlined by Lavie et al. (2010) in their analysis of ambidexterity in private organizations. While studies in public organizations have identified a range of factors that influence ambidexterity, such as leadership, organizational structure, and the external environment, the specific characteristics that distinguish public organizations from private ones are not always explicitly considered (Hamblin et al., 2024). Existing studies demonstrate well that organizational ambidexterity applies to private organizations, but Hamblin et al. (2024) argue that more research is needed on the specific tensions, dilemmas, and paradoxes that characterize public organizations.

Public service broadcasting (PSB) organizations constitute a particular type of public organization with an important societal mission and institutional structure distinct from private media organizations. Donders (2019) defines PSB as the provision of services that support democratic, cultural, and social objectives across multiple technological platforms. Public service broadcasters are expected to operate as independent and non-partisan organizations serving society as a whole, supported by governance principles such as independence, accountability, transparency, and sustainability (EBU, 2021). They are commonly funded through mechanisms such as license fees, public funding, commercial revenue, or combinations thereof.

However, this does not make PSBs immune to changes in their external environment, which has fundamentally changed over the past two decades (Martin, 2021). Simultaneously, the internal audiovisual value chain, from production and distribution to audience consumption, is undergoing substantial transformation (EBU, n.d.).

Consequently, balancing exploration and exploitation may become increasingly important for PSBs in order to adapt to future environmental conditions, avoid obsolescence, and potentially create new opportunities for fulfilling their public mission. In particular, the exploration of software-based production systems has become increasingly relevant, as such systems may offer more efficient, scalable, and flexible alternatives to traditional hardware-based production systems (Paliwal & Siwach, 2026).

We use Sveriges Television's (SVT) development and implementation of the software-based production system *Next-Gen Online* (NEO) as an empirical case to examine how exploitation and exploration can be managed within the specific context of PSB. SVT represents a particularly relevant case in the context of PSB due to its position in the transition toward cloud-based production. Having successfully developed a software-based production system, SVT has begun integrating it into large-scale production. Studying the case, the primary level of analysis is

organizational, while also incorporating inter-organizational and individual-level perspectives in line with the recommendations of Lavie et al. (2010).

The purpose of this thesis is to develop a deeper understanding of how public service broadcasting organizations can balance exploration and exploitation through periods of technological revolutionary change, and thereby continue to prosper and fulfill their public service mission in the future.

Hence, the thesis aims to answer the following research questions:

Main research question: How can public service broadcasting organizations balance exploration and exploitation through revolutionary change?

RQ 1: How do antecedents in public service broadcasting create and influence tensions between exploitation and exploration?

RQ 2: How can public service broadcasting organizations use different balancing modes to manage tensions between exploitation and exploration?

To answer the research questions and fulfill the overall purpose of the study, the thesis adopts a qualitative single-case study design with an abductive research approach. Semi-structured interviews constitute the primary method of data collection, complemented by observations and documentary data.

The report is structured as follows. First, in the background section, we present the theoretical foundation upon which the study is based, together with the theoretical framework used to examine and analyze the empirical case. We also provide a closer description of the empirical case itself. Thereafter, in the methods section, we describe the research design and research methods employed, including the sampling strategy, data collection procedures, and data analysis process. In the findings and analytics section, the empirical material is presented in three parts: antecedents, tensions, and conduct. These sections lay the foundation for the subsequent discussion, in which the research questions are addressed. This is followed by sections covering practical implications, limitations of the study, and suggestions for future research. Finally, the thesis concludes by highlighting the main findings and contributions of the study.

2. Theoretical Background

In the following section, we begin by presenting the foundation of ambidexterity. In this part, we describe cycles of innovation and organizational evolution, challenges of path dependency, and the concept of organizational ambidexterity. After presenting the foundational theoretical field, we introduce a theoretical framework that deepens the theoretical foundation and creates the basis for the study of our empirical case.

2.1 Foundation of ambidexterity

We begin by presenting the theoretical foundations of technological and organizational change, distinguishing between cycles of continuous, incremental change and periods of discontinuous, revolutionary change. Thereafter, we discuss how organizations that achieve short-term success through established structures, cultures, and capabilities may become *path dependent* and struggle to adapt to more radical forms of change, thereby risking their long-term success. Following this, ambidexterity, defined as the ability to exploit existing knowledge and capabilities while simultaneously exploring new knowledge, is presented as a potential approach for balancing short-term performance with long-term adaptation.

The natural cycle of continuous incremental change and discontinuous revolutionary change

In their work, Tushman and O'Reilly (1996) describe a recurring pattern in how technologies and organizations evolve through cycles of evolutionary and revolutionary change. They prove technological change occurs through natural cycles in which periods of product, service, and process innovation are followed by the emergence of dominant designs and, eventually, substitution events. At the beginning of a cycle, new technologies are typically applied within niches where early adopters experiment with alternative solutions. As experimentation and adoption increase, a wide variety of versions and approaches emerge. Over time, as the innovation gains acceptance and commercial interest, markets expand and competition intensifies. During this stage, successful organizational strategies are characterized by rapid experimentation and innovation. Eventually, however, variation is reduced as a *dominant design* emerges around the standard most preferred by customers. As new technologies develop and diffuse, older technologies are gradually substituted. Once a dominant design has emerged, successful organizational strategies shift toward productivity improvements, efficiency, scale, and compatibility with the dominant design in order to reap its benefits. This phase continues until a new technological cycle begins.

Therefore, Tushman and O'Reilly (1996) emphasize the importance of managers recognizing the evolution of technology and adapt their organizational strategies accordingly. Remaining trapped in one strategy or the other, without adapting to rapid environmental and technological shifts or reaping the subsequent benefits of exploration, may ultimately lead to obsolescence.

The syndrome of success create structural and cultural inertia

Shifting organizational strategies may, however, present a significant challenge for managers due to previous success. Tushman and O'Reilly (1996) argue that congruence and consistency in strategy, structure, culture, and people are central to creating successful organizations with high performance. At the same time, however, these characteristics may also give rise to two forms of inertia: *structural inertia* and *cultural inertia*. As organizations become successful, they typically grow in size, formalize systems and structures, and become increasingly complex. The more successful an organization has been, the more deeply the lessons and routines associated with its success become embedded in shared expectations and established procedures. This may create structural inertia, making organizations more rigid and rendering change more difficult, costly, and time-consuming, particularly when changes are radical rather than incremental. Over time, expectations and procedures also become embedded in the organization's norms, values, and social networks. While such cultural elements are effective in coordinating and controlling organizational systems, they may simultaneously increase organizational complacency and arrogance. In this regard, culture may create cultural inertia, becoming a barrier to change. Thus, although structure and culture are central to creating short-term organizational success, they may also become obstacles to renewal and adaptation over time. Hence, the ability to manage and adapt organizational structures and cultures becomes crucial for sustaining long-term success.

Ambidexterity: balancing exploitation and exploration to achieve short and long-term success

In his foundational work, March (1991) defines organizational ambidexterity as the distinction between two manifestations of organizational logics: exploitation and exploration. Their respective logics are summarized in Table 1.

Table 1: The differing logics between exploitation and exploration.

Logic category	Exploitation	Exploration
Focus	Efficiency and refinement	Innovation and experimentation
Knowledge	Existing knowledge	New knowledge
Time horizon	Short-term performance	Long-term renewal
Goal	Stability and optimization	Adaptation and transformation
Risk	Lower risk	Higher risk
Suitable in environment	Stable conditions	Technological change

Exploitation, in its original definition, concerns “things captured by terms such as refinement, choice, production, efficiency, selection, implementation, execution,” (March, 1991, p. 71). Levinthal and March (1993) clarifies this definition, characterizing exploitation as the development and use of existing organizational knowledge. This logic builds on existing capabilities to enhance efficiency and reduce performance variance through reliable processes and established routines (Lavie et al., 2010).

Exploration, in contrast, is defined as “things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation” (March, 1991, p. 71). Levinthal and March (1993) similarly characterize exploration as the pursuit of new knowledge that extends beyond the existing knowledge base. This exploratory logic fosters organisational diversity and variation through experimentation and search, entailing uncertainty and distant returns (Lavie et al., 2010).

Likewise to Tushman & O'Reilly (1996), March (1991) argues that organizations focusing on one manifestation at the expense of the other are likely to end up in a suboptimal state, either by failing to capture new opportunities and becoming obsolete as the environment changes, or by failing to effectively utilize and appropriate the value of innovations. To survive and prosper, March (1991) therefore suggests that organizations should maintain a balance between exploitation and exploration.

Nevertheless, as more recent studies have adopted and interpreted the original definition of organizational ambidexterity and applied it to contexts beyond knowledge management, Lavie et al. (2010) argue that inconsistent results have emerged. For instance, Lavie et al. (2010) suggest that some studies underestimate the trade-offs between exploitation and exploration by regarding them as activities that can be performed simultaneously, or by operationalizing them through different variables of measurement. Similar to Lavie et al. (2010), we rely on Levinthal and March's (1993) more limited definition of exploitation as developing existing knowledge and leveraging incumbent capabilities, and exploration as the pursuit of new knowledge.

However, this raises the question of what knowledge should be regarded as old and what should be regarded as new, particularly given the multidimensional nature of knowledge (Lavie et al., 2010). Cohen and Levinthal (1990) argue that the ability to explore and internalize new knowledge depends on prior knowledge, namely the ability to identify valuable external information and make use of it. In this regard, existing knowledge is necessary to uncover and absorb new knowledge. Lavie et al. (2010) therefore recognize that the newness of knowledge is better understood as a matter of degree rather than kind, and suggest that exploitation and exploration are best regarded as opposite ends of a continuum.

Furthermore, as existing knowledge is a prerequisite for identifying and creating new knowledge, newly acquired knowledge eventually becomes part of the existing knowledge base once it is internalized (Cohen & Levinthal, 1990). In this regard, and in alignment with Tushman and O'Reilly (1996), innovation can be understood as a natural cycle in which exploration and exploitation constitute successive stages. Organizations engage in exploration when pursuing and developing new knowledge, whereas exploitation emerges as innovations are subsequently applied, refined, and organizationally implemented over time (Lavie et al., 2010).

2.2 Theoretical framework

In the following section, we introduce the framework used in this study and describe its underlying theoretical foundations. The framework is originally derived from Lavie et al.'s (2010) framework of exploitation and exploration. Lavie et al.'s (2010) framework consists of three parts: *context*, *conduct*, and *performance*. Context concerns the *antecedents* to change, namely *environmental*, *organizational*, and *senior-management team* factors. Conduct concerns the *trade-offs* and *tensions* between exploitation and exploration, as well as the *modes* used to balance these tensions. Performance concerns the consequences and outcomes of balancing exploitation and exploration.

Our framework is an adaptation of Lavie et al.'s (2010) framework and is visualized in Figure 1. Similar to the original framework, it consists of three interconnected parts, although with some modifications: *antecedents*, *tensions*, and *conduct*.

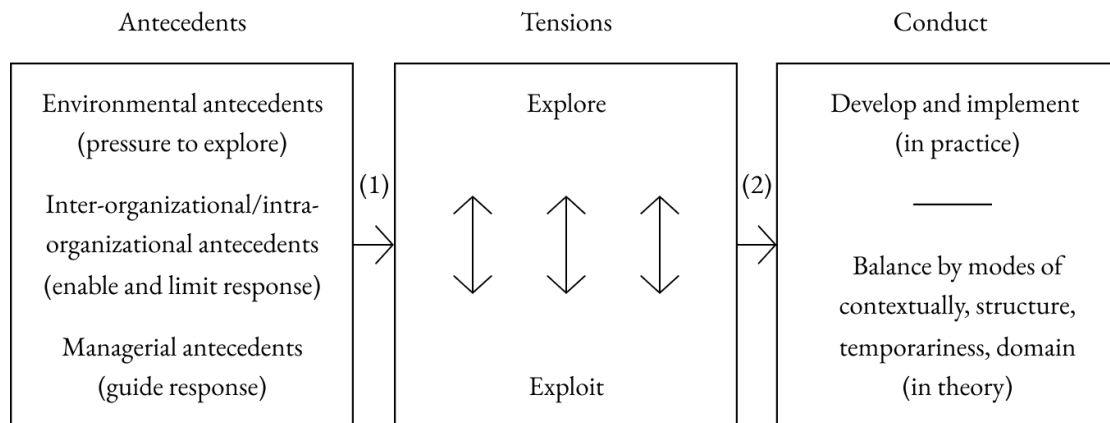
First, antecedents include, similarly to Lavie et al. (2010), *environmental antecedents* that create pressures for organizations to change and explore. Regarding organizational context, however, we expand and divide this factor into *inter-organizational* and *intra-organizational antecedents*. Inter-organizational antecedents concern the broader external system in which the organization is embedded, whereas intra-organizational antecedents largely align with Lavie et al.'s (2010) organizational context and concern the organization's internal systems, structures, and conditions. Together, these antecedents shape the conditions for exploitation and exploration by either enabling or constraining the organization's ability to pursue them. The factor of senior management team is slightly reformulated as *managerial antecedents*. In short, this antecedent concerns how change and tensions are perceived and interpreted by managers, thereby guiding the organization's subsequent response to change. Second, tensions concern the contradictory trade-offs between exploitation and exploration and align closely with Lavie et al.'s (2010) framework. Third, conduct concerns how organizations balance these tensions. In practice, organizations must simultaneously pursue the *development* and *implementation* of innovations while maintaining current operations. The manner in which this balance is managed constitutes the organization's conduct in relation to exploitation and exploration. Lavie et al. (2010), drawing on Poole and Van de Ven (1989), identify four modes of balancing such tensions: *contextual ambidexterity*, *structural separation*, *temporal separation*, and *domain separation*.

Hence, the framework is used to analyze the antecedents, tensions, and conduct present within our empirical case, which is presented in the results section. Together, these parts form the foundation for the subsequent discussion.

Between each section of the framework, arrows illustrate the relationships examined through our research questions. The first arrow, between antecedents and tensions, concerns how antecedents within public service broadcasting create and influence tensions between exploitation and exploration (RQ1). The second arrow, between tensions and conduct, concerns how public service broadcasting organizations can use different balancing modes to manage tensions between

exploitation and exploration (RQ2). These research questions are addressed and discussed in the discussion section.

Figure 1: Framework of antecedents, tensions, and conduct



Below, we further develop the underlying theory of each part of the framework in greater depth.

2.3 Antecedents

As introduced earlier, organizations and managers must balance exploitation to achieve short-term success with exploration to ensure long-term survival. However, before any deliberate managerial choices are made, organizations are already shaped by a set of contextual factors that push and predispose them toward one end of the exploration–exploitation continuum or the other (Lavie et al., 2010). Lavie et al. (2010) refer to these contextual factors as antecedents of exploration and exploitation. These antecedents influence an organization’s inclination to explore, exploit, or pursue a balance between the two activities (Lavie et al., 2010). The effects of these antecedents are inherently interdependent rather than independent (Lavie et al., 2010). The following antecedents will be discussed: *environmental antecedents*, *inter-organizational antecedents*, *intra-organizational antecedents*, *managerial antecedents*.

Environmental antecedents forcing organizations to explore

As previously explained, environments characterized by revolutionary change push organizations to adapt (Tushman & O’Reilly, 1996). Similarly, Lavie et al. (2010) identify environmental factors that create pressure for organizations to pursue both exploration and exploitation, referring to them as *environmental antecedents*. Hamblin et al. (2024) conceptualize such pressures as environmental dynamism, referring to the degree to which an organization’s external environment is unstable, unpredictable, and rapidly changing. Eisenhardt et al. (2010) identify classic drivers of environmental dynamism as rapid technological innovation, globalized competition, market uncertainty, entrepreneurial activity, and changing customer preferences. These destabilizing forces create unpredictability, hence they increase the need for ambidextrous behaviour as this provides flexibility in unstable environments (Eisenhardt et al., 2010). In highly dynamic environments,

existing products and services risk becoming obsolete (Lavie et al., 2010), thereby creating pressure for organizations to pursue exploratory activities in order to adapt and remain relevant.

In a public organizational context, Hamblin et al. (2024), highlight that there is limited evidence suggesting that environmental dynamism has a strong impact on public organizations, due to their relatively stable service demand and reliance on public funding. Hence, the authors argue that environmental antecedents play only a minor role in driving ambidextrous behaviour in public organizations. Nevertheless, they also note that the volatility and complexity of the environments in which public organizations operate are becoming increasingly recognized. Hamblin et al. (2024) also emphasize other environmental forces and constraints that distinguish public organizations from private organizations. Here, they suggest that forces such as extensive bureaucracy and regulation may, on one hand, force public organizations to change, while on the other hand also risk inhibiting the exploratory behaviour needed to generate new ideas, as well as constraining the organization's ability to effectively exploit these ideas.

Inter-organizational antecedents enable and constrain exploration and exploitation

Lavie and Rosenkopf (2006) note that partnerships and alliances, defined as voluntary arrangements among firms involving the exchange, sharing, or joint development and provision of technologies, products, or services, enable organizations both to access new external knowledge and to leverage existing knowledge. They therefore describe such arrangements as a “noteworthy vehicle for exploration and exploitation” (p. 798). Palmi et al. (2012) argue that strong networks of relationships with external stakeholders, through which organizations can access external knowledge, may serve as a vital antecedent to explorative ambidexterity.

Complementarily, Ansell et al. (2020) note that trust in relationships is widely discussed in the literature on public inter-organizational collaboration. While trust within collaborative governance arrangements may create opportunities for stakeholders, it also involves risks such as resource costs, pressure to compromise on one's own agenda, and exposure to conflict (Ansell et al., 2020). The authors therefore argue that stakeholders must weigh different incentives and disincentives when deciding whether to participate in collaborative arrangements. Additionally, in the case of market uncertainties, Beckman et al. (2004) argue that organizations may respond to these by drawing on external resources and knowledge from familiar partners.

In the context of public organizations, Hamblin et al. (2024) further emphasize that these must remain responsive to their authorizing environments, such as the political, legal, and institutional frameworks within which they operate. As argued by Ansell et al. (2020), these types of environments define what public organizations are permitted to do and may therefore constrain the range of options available for public value creation.

Furthermore, Meijer et al. (2015) argue that public organizations may operate under intense public scrutiny, either transparent through a “fish bowl” or by being highly secretive. This can discourage public organizations to take risks in exploratory activities: “In the eye of the public, administrative

agencies may prefer tried and tested yet suboptimal, conservative approaches instead of bolder, more innovative yet potentially riskier approaches to enhancing effectiveness and efficiency” (p. 512). Similarly, Gieske et al. (2019) observe that “the public sector is challenged to innovate to enhance performance, while at the same time improving current operations in order to enhance efficiency and lower costs” (p. 434).

Intra-organizational antecedents facilitate and limit exploration and exploitation

While environmental and inter-organizational antecedents help explain why organizations generally lean toward exploration or exploitation, they do not account for why organizations within the same industry differ in these strategies. Such differences instead stem from what Lavie et al. (2010) discuss as antecedents within the internal organization, noting that factors such as resources, structure, identity, culture, age, and size, all influence an entity's tendency to pursue exploration or exploitation.

An organization's resources are a fundamental determinant of its capacity to explore and exploit. Lavie et al. (2010) particularly emphasize the role of *slack resources*, referring to the surplus resources an organization possesses beyond what is required for its ordinary operations. Levinthal and March (1993) argue that such additional resources facilitate innovative activities such as search and experimentation, while simultaneously buffering organizations from some of the adverse consequences of failure. However, Cyert and March (1992) argue that although slack resources are necessary, they are insufficient on their own to ensure that resources are allocated toward innovative purposes. Lavie et al. (2010) further argue that slack resources may also maintain current operations despite competitive pressures or environmental dynamism, enabling organizations to meet performance objectives by consuming existing slack rather than pursuing innovation. Hence, slack resources may act both as an enabler of and a constraint on exploration (Lavie et al., 2010).

Organizational structure is defined as the distribution of power, resources, and responsibilities across the different divisions and functions within an organization (Lavie et al., 2010). Lavie et al. (2010) identify two broad forms of organizational structure: *mechanistic* and *organic*. Mechanistic structures support routine operations through functional specialization, formalized duties and responsibilities, hierarchical authority, and loyalty to superiors. Organic structures, by contrast, are less rigid and more adaptive in nature. Chen (2017) argues that exploitation should be managed through mechanistic structures and exploration should be enabled through organic structures. Burns and Stalker (1994) mean that organic structures are particularly suited to changing conditions that generate new problems and unforeseen requirements for action, which cannot easily be divided and distributed through predefined hierarchical roles. Instead, the authors describe organic structures as relying on the contributive nature of specialized knowledge and experience toward a common task, where communication primarily consists of information and advice rather than instructions and decisions.

Organizational identity defines an organization's distinctive and enduring attributes, providing its members with a perspective on its goals, mission, and dominant logic, which in turn guide exploratory and exploitative activities (Lavie et al., 2010). This identity also shapes organizational culture, where shared attitudes, experiences, beliefs, and values influence the behaviour of organizational members (Lavie et al., 2010). Sorensen (2002) found that strong organizational cultures tend to favour exploitation over exploration, as shared goals and values reinforce existing capabilities. Similarly, Andriopoulos and Lewis (2009) argue that deeply embedded organizational cultures may reduce an organization's ability to recognize and adapt to external changes that challenge its established identity and ways of operating. However, when organizational cultures promote continuous innovation, they may instead encourage broader searches for new information and facilitate experimentation practices (Lavie et al., 2010).

Organizational identity and culture are also shaped by an organization's age. Hannan and Freeman (1984) argue that established organizations often encounter difficulties in keeping pace with technological advancements, as they become dependent on established routines and skills. This creates organizational inertia, leading organizations to rely on existing knowledge and past experiences in order to respond in a consistent and accountable manner. Consequently, older and more established organizations tend to favour exploitation over exploration (Lavie et al., 2010).

Closely related to the factors discussed above are organizational size, which also shapes its tendency to explore or exploit. Lavie et al. (2010) note that some studies argue that organizational inertia increases with size. As lack of specific resources and a limited customer base lead young organizations to invest in exploration, whereas the search for new opportunities becomes more restrained as organizations become larger and more complex, thereby favouring exploitation (Lavie et al. 2010).

Additionally, Lavie et al. (2010), drawing on Cohen and Levinthal (1990), conceptualize an organization's ability to assess the value of external knowledge, internalize it, and apply it as an *absorptive capacity*. A strong absorptive capacity increases the organization's interaction with its external environment while also improving learning across its internal subdivisions (Lavie et al., 2010). Hence, it enables organizations to act proactively in exploring emerging technologies and new market opportunities (Lavie et al., 2010).

From the perspective of public organizations to intra-organizational antecedents, Hamblin et al. (2024) argue that such entities face a particularly complex set of internal demands, including serving conflicting interests and simultaneously achieving different forms of value, such as economic, social, cultural, and political value. In relation to organizations seeking to maximize public value, Hamblin et al. (2024), drawing on Faulkner and Kaufman (2018), identify four key dimensions for assessing this purpose: integrating public value outcomes, referring to the extent to which a public organization improves publicly valued outputs such as national security and access to knowledge; establishing trust and legitimacy across the organization; delivering services in a high-quality

manner; and efficiency, referring to the extent to which an organization achieves maximal benefits with minimal resources.

Managerial antecedents influence the exploration-exploitation balance

Managerial antecedents concern the cognitive and behavioural orientations of an organization's leadership team, which may influence the organization's tendency to pursue exploration or exploitation (Lavie et al., 2010). O'Reilly and Tushman (2011) argue that effective ambidextrous designs are based on an integrated set of mutually reinforcing choices and complex designs made by leadership, requiring an integrated set of strategic, structural, incentive and top team process decisions. Lavie et al. (2010) identify two key managerial behaviours in this regard: *risk aversion* and *learning abilities*, both of which may reinforce either exploration or exploitation. Lavie et al. (2010) argue that risk aversion tends to drive exploitation, since relying on existing activities is generally more predictable, certain, and immediate, making it preferable for risk-averse decision-makers. Conversely, risk-prone managers may become motivated either by threats to organizational survival, such as pressures arising from environmental antecedents, or by aspirations to achieve new levels of organizational performance (Lavie et al., 2010). The learning abilities of an organization may also influence the ambidextrous direction it pursues. Over time, repeated exploitation reinforces existing competencies through reliable feedback, making further exploitation increasingly efficient while simultaneously narrowing the search for new capabilities. Consequently, this self-reinforcing dynamic may create a *success trap*, in which organizations become path dependent on exploitation at the expense of exploration (Lavie et al., 2010). However, as organizations accumulate experience through their distinct sets of skills, capabilities, resources, and routines, exploratory strategies may also become self-reinforcing over time, thereby creating a form of exploratory path dependency (Lavie et al., 2010). Additionally, March (1991) argues that beyond explicit strategic choices, management may also make implicit choices between exploration and exploitation through the design of their organizational forms and routines, including how targets are set, how slack resources are managed, and how incentive systems are structured.

Beyond experience, senior management teams may also draw on performance feedback when determining the appropriate balance between exploration and exploitation (Lavie et al., 2010). March (1991) means that organizations heavily engaged in exploitative activities may shift toward exploration when performance falls below managerial aspirations. Similarly, Levinthal and March (1993) warn that excessive exploration may result in an "endless cycle of failure in unrewarding change" (p. 106). Hence, the performance feedback managers receive from either activity may reinforce tendencies toward either exploration or exploitation.

To conclude, an organization's tendency to pursue exploration or exploitation is shaped by a combination of environmental, organizational, and managerial antecedents (Lavie et al., 2010). Furthermore, it is often the interplay between these that drives organizations to seek a balance between exploration and exploitation (Lavie et al., 2010).

2.4 Tensions

Achieving a balance between exploration and exploitation is inherently challenging due to the trade-offs and contradictions that arise between these activities (Lavie et al., 2010). Authors in the field identify several common trade-offs associated with balancing exploration and exploitation. These include the allocation of resources towards explorative or exploitative activities, short-term productivity versus long-term innovation, and stability or adaptability, as well as how trade-offs can be complementary to each other.

The first trade-off is the conscious choices organizations make regarding the allocation of resources toward either exploratory or exploitative activities, thereby facing trade-offs between the expected consequences of these alternative investments.

The second central trade-off concerns short-term productivity versus long-term innovation. Supporting the search for new knowledge and emerging opportunities may come at the expense of leveraging existing knowledge and capabilities to address the organization's immediate operational needs (March, 1991). By allocating resources toward refining existing technologies and leveraging incumbent capabilities rather than developing entirely new skills and competencies, organizations may achieve immediate reliability and efficiency, while simultaneously increasing the long-term risk of obsolescence (Lavie et al., 2010).

Closely related to this is the trade-off between stability and adaptability. Whereas stability and inertia are associated with exploitation, which confines adaptation to existing knowledge and established routines, flexibility and change are associated with exploration (March, 1991). Lavie et al. (2010) therefore argue that organizations pursuing exploitation often trade flexibility for stability, while organizations investing heavily in exploration may struggle to maintain efficiency and reliability in their current operations. This tension stems from the fact that exploration and exploitation tend to produce divergent organizational outcomes, while limited organizational resources force organizations to prioritize one form of activity over the other (Lavie et al., 2010).

Furthermore, March (1991) argues that the returns from exploration are considerably more uncertain and temporally distant than the returns from exploitation, which are generally more immediate, reliable, and predictable. Nevertheless, organizations must simultaneously invest in the discovery of new knowledge and emerging opportunities in order to secure long-term viability (Lavie et al., 2010). Hence, Lavie et al. (2010) suggest that the tension between exploration and exploitation reflects a fundamental dilemma between prioritizing present performance and investing in future adaptability. These trade-offs are further reinforced by path dependencies, whereby investments in one activity gradually weaken the organization's ability and willingness to pursue the other (Lavie et al., 2010).

Additionally, Lavie et al. (2010) argue that although exploration and exploitation are at odds, the two activities may also reinforce one another over time. Exploration can generate new possibilities and opportunities that organizations may subsequently exploit, while exploitation may produce

resources and income that can later be invested in future exploration (Lavie et al., 2010). Hence, although the tension between exploration and exploitation is always present, this does not prevent the two activities from supporting and strengthening each other over time. In fact, a case study by Knott (2002) concluded that exploration and exploitation are complementary, demonstrating that some organizations are capable of simultaneously pursuing new knowledge while deepening and leveraging existing knowledge. Similarly, Hamblin et al. (2024) find that the complementary interplay between exploration and exploitation supports long-run performance in both public and private organizations.

2.5 Conduct

Birkinshaw and Gupta (2013) argue that ambidexterity should be understood as a multilevel capability that enables organizations to manage tensions between competing objectives in different ways. In practice, this requires leaders to combine approaches of *differentiation* and *integration* (Andriopoulos & Lewis, 2009). Differentiation involves separating focus toward each opposing side of a tension distinctly, for example through diversifying organizational portfolios, alternating between project constraints and freedom, or spatially separating administrative work from creative responsibilities (Andriopoulos & Lewis, 2009). In the context of this study, differentiation is operationalized as the *development* of innovation in relation to the incumbent system and its existing operations. Integration, in contrast, treats opposing organizational demands as complementary rather than conflicting. This may involve building a shared vision that embraces both exploration and exploitation, encouraging creative problem-solving within projects, and fostering a work identity among employees that values both structured discipline and creative passion (Andriopoulos & Lewis, 2009). In the context of this study, integration is operationalized as the *implementation* of new innovation within a traditionally exploiting organization.

The ability to combine both development and implementation is essential, yet highly challenging for organizational leaders (Andriopoulos & Lewis, 2010; Smith et al., 2010). Smith et al. (2010) mean that successful organizations require paradoxical strategies that adopt a “both/and” rather than an “either/or” response to conflicting demands. This requires senior leadership teams to engage in dynamic decision-making, build commitment to an overarching vision while simultaneously maintaining agenda-specific goals, develop an understanding of each agenda and their interrelationships, and engage constructively with conflict (Smith et al., 2010). Jansen et al. (2008) find that this kind of transformational leadership increases the effectiveness of achieving an adequate organizational ambidexterity, a finding that Backhaus and Vogel (2022) also identify within public organizations. Taylor and Helfat (2009) further stress the importance of middle managers in addressing the ambidextrous challenges associated with technological transitions, as these implement the organizational linkages needed to connect new technologies with a firm’s existing complementary assets.

The mechanisms of development and implementation thus suggest that balancing exploration and exploitation is not solely a senior leadership responsibility, but a challenge that spans multiple

organizational levels (Andriopoulos & Lewis, 2009). While senior leaders establish the strategic vision and middle managers create the organizational linkages between existing and emerging capabilities, the tension between exploration and exploitation is ultimately managed on a daily basis through individual work practices (Andriopoulos & Lewis, 2009; Taylor & Helfat, 2009). In the context of this study, these practices are examined through the development and implementation of innovation.

Regardless of organizational level, the objective of ambidexterity is not to achieve a mediocre split or compromise between exploration and exploitation, but rather to excel at both simultaneously (Atuahene-Gima, 2005). As Levinthal and March (1993) argue, organizations should engage in “sufficient exploitation to ensure its current viability and, at the same time, devote sufficient attention to exploration in order to ensure the organization’s future viability” (p. 105). Hence, the question of how organizations manage this balance remains central within the ambidexterity literature, to which we now turn.

Balancing exploitation-exploration

March (1991) considers maintaining a balance between exploration and exploitation essential for organizational survival and prosperity. Organizations that overinvest in exploitation risk becoming trapped in suboptimal equilibria, while organizations that overinvest in exploration may bear the costs of experimentation without sufficiently reaping its benefits (Levinthal & March, 1993; March, 1991). As previously discussed, organizations must therefore balance the conflicting demands of short-term efficiency and long-term adaptability (Lavie et al., 2010). Given the trade-offs between the two activities, achieving such a balance is far from trivial and requires deliberate managerial attention (Lavie et al., 2010).

The emerging paradox is that exploration and exploitation are contradictory activities, yet organizations cannot achieve desirable performance outcomes without engaging in both (Lavie et al., 2010). Hence, a precondition for managing this paradox is that organizations recognize and accept the contradiction rather than denying the tensions between the two activities (Smith & Tushman, 2005). Top management teams must therefore be able to hold and manage the tensions that arise from pursuing both agendas at once, as sustained performance occurs through dealing with these contradictions of short-term performance and long-term adaptability, exploration and exploitation, and focus and flexibility (Smith and Tushman, 2005). March (1991) further argues that achieving this balance is particularly difficult because the outcomes associated with exploration and exploitation differ substantially in terms of certainty, timing, and expected returns.

Lavie et al. (2010) note that some studies suggest that relatively equal proportions of exploration and exploitation may be required to maximize performance (He & Wong, 2004), whereas other studies argue that the optimal balance is not fixed at a midpoint but instead varies depending on contextual conditions, such as environmental dynamism (Sidhu et al., 2007). Consequently, a structured approach is needed to understand how organizations can achieve and sustain an

appropriate balance between exploration and exploitation (Lavie et al., 2010). Lavie et al. (2010) also argue that the tension between exploration and exploitation may be relaxed when organizations engage in the two activities through different *modes of balancing*. These modes can be categorized as *contextual ambidexterity*, *structural separation*, *temporal separation*, and *domain separation*. Each of these is described in more detail below.

Contextual ambidexterity

Contextual ambidexterity separates ambidextrous behaviour at the individual level by empowering employees to balance exploration and exploitation within their own work activities (Lavie et al., 2010; Hamblin et al., 2024). Gibson and Birkinshaw (2004) describe contextual ambidexterity as the simultaneous pursuit of exploration and exploitation within the same organizational division or unit, rather than separating these in structures. In this regard, contextual ambidextrous activity exists most prominently at the individual and team levels. Upon closer examination, however, Lavie et al. (2010) argue that individuals and units engaged in contextual ambidexterity are, at a given point in time, occupied with either exploratory or exploitative activities. Gibson and Birkinshaw (2004) argue that an organization's ability to balance exploration and exploitation through contextual ambidexterity depends on its ability to cultivate an appropriate organizational context. They suggest that, through well-designed systems and processes, organizations may enable simultaneous alignment and adaptability, thereby fostering *stretch*, meaning voluntarily striving for more; *discipline*, meaning voluntarily striving to meet expectations; *support*, meaning assisting others; and *trust*, meaning relying on the commitments of others. Consequently, intentional organizational design, clear processes, and supportive organizational cultures may create conditions that enable individuals and teams to balance exploration and exploitation within their daily work activities (Lavie et al., 2010; Hamblin et al., 2024).

Senge (1990) emphasizes that building a shared vision constitutes a critical mechanism for guiding decentralized and loosely coupled exploration toward a common organizational direction. A shared vision functions as an orienting force, ensuring that individual and team-level exploration does not drift away from the organization's broader strategic intent (Senge, 1990). Without such a shared direction, autonomous exploration risks becoming fragmented and incoherent at the organizational level. Similarly, Lavie et al. (2010) suggest that individual-level exploration should be guided by a shared organizational direction rather than left to develop independently.

Hamblin et al. (2024) further note that within public organizations, contextual balancing often occurs within tasks rather than between them. In such cases, employees do not choose between exploration and exploitation, but instead engage in both simultaneously within the same activity. For example, a doctor may explore novel treatment alternatives while still operating within established medical protocols (Hamblin et al., 2024). Furthermore, Lavie et al. (2010) caution, however, that overlooking the inherent trade-offs between exploration and exploitation and assuming a purely positive and complementary relationship between the two activities would constitute an oversimplification.

Structural separation

Structural ambidexterity, defined by Lavie et al. (2010) as *organizational separation*, involves separating exploratory and exploitative activities across different organizational divisions, followed by targeted structural integration. In contrast to contextual ambidexterity, structural separation concerns ambidextrous activities at a broader organizational and hierarchical level.

Tushman and O'Reilly (1996) describe this arrangement as consisting of highly differentiated units that remain integrated at the overall organizational level. Each unit maintains internal consistency in its tasks, culture, and organizational arrangements, while the activities pursued across units are deliberately inconsistent, as some units are dedicated to exploration whereas others focus on exploitation. Benner and Tushman (2003) note that these exploitative units tend to be larger and more centralized, focusing on efficiency, control, and refinement of existing operations. Exploratory units, in contrast, are designed to generate innovation through experimentation and therefore tend to be smaller, decentralized, and characterized by looser cultures and more flexible processes (Lavie et al., 2010). Such separation of units helps protect exploratory activities from the constraints and routines of a broader exploiting organization (Lavie et al. 2010).

March (1991) introduces the concept of *mutual learning*, a two-directional process by which individuals adapt to an organizational code while the code simultaneously adapts to its members. The organizational code refers to the collective beliefs, languages and practices that comprise the organization. Over time, this mutual learning leads to a convergence of beliefs, thus producing a more homogeneous organization and reducing its capacity for a variance of explorative structures (March, 1991). March (1991) further argues that positive local feedback produces strong path dependence, making organizations increasingly reliable but less likely to achieve novel breakthroughs. Hence, maintaining variance through structural separation is crucial, as the price of exploitative reliability is a reduced chance of outperforming competitors (March, 1991).

Structural separation may require significant managerial coordination. Lavie et al. (2010) argue that structural separation allows organizations to simultaneously pursue exploitation through fine-tuned and efficient processes while enabling exploration through experimentation and innovation. However, this approach requires senior management to actively recognize and manage the inherent contradictions between exploration and exploitation, as strategic trade-offs at one organizational level give rise to broader organizational trade-offs at higher levels (Lavie et al., 2010).

Temporal separation

Temporal ambidexterity refers to organizations alternating between exploratory and exploitative activities sequentially over different periods of time (Lavie et al., 2010). Unlike organizational separation, which assigns exploration and exploitation to distinct units, temporal separation involves the same organization, unit, or entity, alternating between the two activities over time, dedicating itself primarily to one before shifting toward the other (Lavie et al., 2010). This

sequential approach allows organizations to focus fully on either exploration or exploitation within the same organizational location at a given point in time (Poole & Van de Ven, 1989).

Temporal separation is rooted in the concept of punctuated equilibrium, where organizations cycle between longer periods of stability and incremental exploitation, punctuated by shorter periods of radical exploration (Tushman & Romanelli, 1985). However, other studies suggest that these shifts in practice are often more gradual than abrupt. For example, organizations may progressively transition from exploration toward exploitation as innovations move from research and development into commercialization, before later re-engaging in exploration once existing initiatives become exploited (Rothaermel & Deeds, 2004).

Siggelkow and Levinthal (2003) argue that temporal sequencing requires organizations to proactively plan and manage transitions between exploration and exploitation through deliberate processes and routines, rather than reacting only once environmental pressures force change. Whereas organizational separation manages contradictory activities simultaneously across different units, temporal separation instead requires organizational agility in managing transitions between periods of exploration and exploitation (Lavie et al., 2010). Consequently, organizations implementing temporal separation trade the challenge of coordinating contradictory activities simultaneously for the challenge of proactively managing transitions between them and overcoming the path dependencies such activities may create (Lavie et al., 2010).

Domain separation

Domain separation involves separating exploratory and exploitative activities across different domains, such as markets, products, technologies, or network relationships (Lavie et al., 2010). This mode of balancing rests on the assumption that exploration and exploitation can be pursued simultaneously across different domains rather than reconciled within each individual domain. Consequently, organizations do not necessarily need to balance exploration and exploitation within every activity, but may instead maintain an overall balance across domains (Lavie et al., 2010).

In this regard, alliances and partnerships may serve as important mechanisms for ambidextrous activity (Lavie & Rosenkopf, 2006). Lavie and Rosenkopf (2006) argue that organizations may seek balance across domains such as value-chain functions and network structures, rather than within each domain independently. For example, an organization may engage in current research and development alliances with existing partners in one domain while simultaneously exploring new partnerships in another. In this way, balance is achieved at the portfolio level rather than within each separate activity domain (Lavie & Rosenkopf, 2006).

The primary advantage of domain separation, compared to organizational and temporal separation, is that organizations may avoid directly managing the trade-offs between exploration and exploitation within a single domain. Instead, organizations may specialize domains toward either exploration or exploitation and distribute the balance across them (Lavie et al., 2010). However, the

managerial challenge then shifts toward identifying which domains are most appropriate for exploratory or exploitative activities respectively (Lavie et al., 2010).

The four modes of balancing, namely contextual ambidexterity, organizational separation, temporal separation, and domain separation, are unlikely to operate independently in practice (Lavie et al., 2010; Hamblin et al., 2024). Rather, organizations tend to combine and blend these approaches, varying the mix across organizational levels and adapting it over time as circumstances change (Hamblin et al., 2024).

3. Case Description

In the following section, we describe the case and subject of analysis in this study. First, we present the organization under study, its main objectives, and the scope of the study in terms of its technological transformation. Thereafter, we describe the key characteristics of traditional hardware-based production systems and software-based production systems, respectively.

3.1 The organization of study: Sveriges Television AB

Sveriges Television (SVT) is an independently operating public service broadcaster. Under Swedish law, SVT is mandated to ensure that the Swedish public has broad access to a wide range of programs and services that represent the entire nation (Sveriges Television AB, 2025a). This includes content that is attractive both to broad audiences and to more niched groups (Sveriges Television AB, 2025a). In its recently declared vision toward 2030, SVT presents strategic goals aimed at increasing audience reach, maintaining high public trust, and bringing large parts of the Swedish population together around shared media experiences (Lagercrantz, 2026). Operationally, SVT also aims to strengthen its relationship with audiences by remaining relevant to multiple groups in society (Lagercrantz, 2026).

SVT divides its operations into core activities and supplementary activities (Sveriges Television AB, 2025b). SVT's core activity is the production and distribution of television programs to the public. This includes both live and pre-recorded media distributed through traditional broadcasts and streamed on digital platforms. Supplementary activities consist of activities intended to support the core operations, such as providing complementary graphics, images, and text on the web; offering services through complementary applications, such as Duo-appen; delivering accessibility services; and producing complementary products that intensify television programs, such as the printed Christmas calendar.

In this study, focus is directed toward the production component of SVT's core activities, more specifically the production technologies used for live production. Live production technology constitutes an important operational capability for achieving both SVT's strategic goals and broader public service mission. Namely, SVT states that the internal service development of more effective and higher-quality production technologies contributes to improved public value creation, thereby supporting both strategic and operational objectives (Sveriges Television AB, 2025b).

Over time, SVT has adopted several software-based solutions as alternatives to traditional hardware-based broadcast production systems. Examples include VMix, a production software originally developed for live streaming that is today used in simpler live productions and operated on generic hardware equipment; Remoten, a hybrid software and hardware solution developed by SVT that enables remote production which is primarily used by SVT's local news stations for broadcasting news, operating on a combination of traditional and generic hardware; and Next-Gen

Online (NEO), SVT's newest live production system consisting of an integrated stack of proprietary and open-source software, operating on purely generic hardware equipment.

NEO, which is the system subject of study in this report, has to this point primarily been used as a production system for specific productions such as *The Great Moose Migration*, a slow-TV format in which migrating moose are continuously broadcast over extended periods of time, and as a *mixpoint* in sports productions, where live feeds from a host broadcaster are received by SVT and combined with SVT's own graphics and commentators. The latter became an important enabler for SVT's production during the 2026 Winter Olympics, where high production efficiency was required to maintain a broad assortment of coverage within budget constraints (Sveriges Television AB, 2025b). NEO is based entirely on web protocols (WebRTC) and operates on generic hardware. Hence, NEO is cloud-native, meaning that it can operate both through off-site cloud infrastructure and within local cloud environments. In its annual report, SVT describes how NEO, as a scalable, efficient, and more climate-sustainable software-based solution, has contributed to the digitalization of live production by replacing costly traditional hardware-based production systems (Sveriges Television AB, 2025b). Hence, the technologies used for media production are not merely operational tools, but strategic enablers that influence SVT's ability to fulfill its public service mission.

In this regard, SVT has over time begun transitioning parts of its live production from traditional hardware-based production systems toward software-based production systems. The traditional hardware-based production system and the software-based production systems each possess distinct technological and organizational characteristics. To provide a clearer understanding of the technological transformation associated with the shift from traditional hardware-based systems to software-based production systems, the general characteristics of each system are presented in the following sections.

3.2 The characteristics of hardware-based production systems

A traditional hardware-based production system is characterized by a set of features with distinct implications for both broadcasters and the audience. The main aspects discussed in the following sections concern specialized equipment, the separation between production and consumption quality, and limitations in communication.

In traditional hardware-based production systems, equipment specifically tailored to the needs of the broadcasting industry has historically been required (Paliwal & Siwach, 2026; Kim et al., 2023). These systems are largely centered around fixed standards and proprietary ecosystems (Paliwal & Siwach, 2026), a consequence of the industry's particular operational requirements.

First, broadcasting requires high-quality audio and video, partly driven by the norm of preserving the highest possible quality within media archives. This generates large volumes of data that must be processed, distributed, and stored. Second, broadcasting production requires low latency from contribution to distribution. Kim et al. (2023) exemplify this requirement in live news and sports

productions, where end-to-end latency and synchronization across devices are crucial in operations. For instance, audio and video must remain synchronized to avoid confusing both viewers and production personnel. These requirements create an inherent trade-off, as larger data volumes generally lead to increased latency.

This combination of demands has had several implications for broadcasting production systems. To begin with, the industry's specific requirements have driven the development of specialized equipment embedded within proprietary ecosystems of products and services across the entire production value chain, including cameras, microphones, editing workstations, software, and distribution infrastructure (Paliwal & Siwach, 2026). As a consequence, multiple incompatible standards have emerged, increasing operational complexity and making investments across different ecosystems substantial (Paliwal & Siwach, 2026).

Furthermore, the complexity of broadcasting equipment makes it both difficult and costly to operate across a wide range of productions, since different productions may require distinct technological configurations (Paliwal & Siwach, 2026). In addition, broadcasting infrastructure is generally fixed in size, meaning that systems are often dimensioned to handle peak demand while remaining underutilized during ordinary operations (Paliwal & Siwach, 2026). For example, SVT scaled its production capacity to handle the 2012 Summer Olympics in London and has since rarely operated at full capacity. Finally, the technologically advanced nature of traditional hardware-based production systems requires a broad range of specialized skills and competencies to operate effectively (Kim et al., 2023). Consequently, traditional hardware-based production systems are not only capital-intensive in terms of initial investments, but also costly and complex to maintain and operate.

There is a significant gap between the quality at which media is produced and processed and the quality ultimately consumed by viewers. As previously noted, media is captured and handled at very high quality, which requires specialized equipment not only for capturing and processing the media, but also for compressing and downscaling it during transmission to production sites, and subsequently restoring it for further processing. At the processing stage, the media is generally stored in archives at high quality standards. However, this level of quality rarely reaches end consumers for two primary reasons. First, distributing media at full production quality through traditional broadcasting infrastructure would require substantially greater transmission capacity than is currently available. Second, most consumer devices are not capable of reproducing the full technical quality of the produced media. Consequently, the requirements and standards of media production have historically been largely disconnected from both the constraints of distribution infrastructure and the actual capabilities and preferences of consumers.

The traditional hardware-based production system is inherently limited to one-way communication. By definition, broadcasting involves distributing media from a single sender to a broad audience. Traditionally, this has been achieved through channels that enable the broadcaster to transmit information to consumers, but not the reverse. This has two principal implications for

audiences. First, viewers receive the same programs and content selection, as determined by the broadcaster. Second, content is distributed according to schedules, also determined by the broadcaster, requiring audiences to consume programs at specific times.

3.3 The characteristics of software-based production systems

A software-based production system, such as NEO, differs fundamentally in its characteristics from traditional hardware-based production systems. The primary distinction lies in replacing specialized hardware-based broadcasting equipment with software-based systems operated on generic servers (Paliwal & Siwach, 2026). In essence, this approach connects and integrates previously separate media production and media distribution value chains. As these types of systems are still relatively novel and remain largely unproven in practice, much remains unknown regarding their characteristics and broader implications. Consequently, research on the characteristics and implications of software-based production systems remains limited.

The following section therefore outlines the fundamental implications of such systems primarily based on the work of Paliwal and Siwach (2026), including operational efficiency, cost efficiency, scalability and flexibility, as well as business adaptability and resilience, with additional support from Oh et al. (2024) and Kim et al. (2023). These are summarized in Table 2.

Table 2: Characteristics and improvements of software-based production systems

Improvement category	Sub improvements
Operational efficiency	More modular and interoperable systems across standards and equipment ecosystems
	Reduced operational complexity in producing different program types
	Faster setup and production processes
	Increased automation of labour-intensive tasks
	More intuitive user interfaces reducing reliance on highly specialized operators
	Possibility for remote collaboration and distributed production
Cost efficiency	Reduced need for multiple proprietary technological ecosystems
	Replacement of specialized broadcasting hardware with off-the-shelf equipment
	Shift from large CAPEX investments toward scalable OPEX models
	Reduced training costs due to simplified interfaces
	Elastic server capacity reducing investments in peak-capacity infrastructure
	Lower maintenance costs through centralized software-based management
	Reduced physical infrastructure and power consumption costs
Scalability and flexibility	Elastic scaling of production capacity according to demand
	Ability to produce a broader range of programs and production sizes
	Lower minimum equipment requirements compared to traditional systems
	Increased flexibility in production workflows
	Support for preprogrammable workflows
	Easier integration of previously incompatible audio and video sources

Business adaptability and resilience	Two-way communication between broadcaster and consumers Real-time collection and analysis of consumption data Faster adaptation of content to audience preferences Personalized media streams through unicast delivery Accessibility customization for different viewer needs Geographically distributed server infrastructure Improved redundancy and resource management Potentially increased overall service resilience despite new vulnerabilities
--------------------------------------	--

A software-based production system offers several improvements in operational efficiency compared to traditional hardware-based production systems. As production equipment becomes software-based rather than tied to standardized hardware ecosystems, systems become more modular and interoperable, enabling integration across multiple standards and types of equipment. First, this reduces operational complexity and lowers the burden associated with producing different types of programs (Paliwal & Siwach, 2026). Second, operational speed increases, as software-based systems generally require less setup time than traditional hardware-defined production systems (Paliwal & Siwach, 2026). Third, software-based systems enable the automation of tasks that have traditionally been labour-intensive and, in some cases, difficult or impossible to perform manually. Kim et al. (2023), for example, propose solutions for automated camera-cropping functionality. Fourth, software-based systems may provide more intuitive user interfaces, thereby reducing the need for highly specialized operational capabilities (Kim et al., 2023). Finally, provided stable internet connectivity, software-based systems allow production personnel to collaborate remotely with other operators regardless of physical location (Oh et al., 2024; Kim et al., 2023).

Software-based production systems also offer increased cost efficiency. First, because the system is modular and capable of integrating equipment across different standards, the need to invest in multiple separate technological ecosystems is reduced. Proprietary and specialized broadcasting equipment may instead be replaced with more affordable off-the-shelf audio and video equipment. Furthermore, large capital expenditures (CAPEX) associated with hardware investments may shift toward operational expenditure (OPEX) models based on actual software usage and production demand (Paliwal & Siwach, 2026). Second, as production interfaces become more intuitive and simplified, the need for investments in specialized training decreases. Third, because production processes operate on standard servers rather than fixed and specialized broadcasting hardware, production capacity becomes elastic and scalable according to demand. This reduces the need for substantial capital investments in systems dimensioned for peak capacity, as well as the maintenance costs associated with underutilized infrastructure. Fourth, maintenance costs may be further reduced through software-based support and centralized system management (Kim et al., 2023). Finally, reduced physical infrastructure requirements and lower power consumption contribute to lower operating costs overall (Kim et al., 2023).

Software-based production systems also enable greater scalability and flexibility. First, because production operates on standard servers and capacity can be scaled according to demand, organizations are able to produce a broader range of programs in terms of production size (Paliwal & Siwach, 2026; Kim et al., 2023). This contrasts with traditional hardware-based production systems, where the minimum amount of required production equipment has historically been substantial (Paliwal & Siwach, 2026). Second, flexibility in producing different types of programs increases, as software-based systems enable new technological possibilities (Paliwal & Siwach, 2026; Kim et al., 2023). For example, such systems support preprogrammable production workflows and facilitate the integration of previously incompatible audio and video sources without specialized middleware.

Finally, software-based production systems improve business adaptability and resilience. As production operates on IP server-based infrastructure, it becomes possible both to receive and process information from consumers, thereby enabling two-way communication. This removes the traditional limitation of broadcasting or *multicasting* the same media simultaneously to all viewers which has several implications. First, consumption data can be gathered and analyzed in real time, enabling broadcasters to quickly adapt content according to audience preferences (Paliwal & Siwach, 2026). Second, because consumers may receive individual media streams, so-called *unicasts*, media content can be personalized, possibly using edge-computing. For example, viewers with visual impairments may adjust graphical elements to increase contrast and size, while other viewers may choose to remove such elements entirely. Third, cloud-based infrastructure enables new approaches to resilience, as server capacity can be geographically distributed and redundancy achieved through more effective resource management (Paliwal & Siwach, 2026). Consequently, while new system vulnerabilities may emerge, overall service resilience may also be significantly improved.

4. Method

In the following section, we describe the research design, research methods, sampling strategy and data collection procedures, as well as the process of data analysis employed in the study.

4.1 Research design

The study is based on a single-organization case study design of SVT, with a particular focus on the development and implementation of NEO in relation to daily production operations, using a predominantly qualitative methodology. Yin (2009) defines a case study as a research design aimed at explaining a set of decisions: *why* they were made, *how* they were made, and what *results* they led to. In accordance with Flyvbjerg (2006), we aim to capture the complexities and contradictions of the case by developing a narrative with detailed descriptions of the situational context and specific events within the organization. We note that the purpose of a case study design aligns closely with our chosen analytical framework, which is intended to address the research questions and fulfill the overall purpose of the study.

We argue that a case study of SVT is particularly valuable as an instrumental case in relation to other public service broadcasters due to its position as a leading broadcaster in the transition toward cloud-based media production. The organization has progressed beyond early experimentation and entered practical development and implementation of software-based production systems within daily operations. Hence, we regarded the access granted to study this case as revelatory, offering the opportunity to generate new knowledge and insights regarding technological and organizational transformation in public service broadcasting.

The study adopted an abductive approach, continuously moving between literature and findings from the empirical case. Hence, the study contained both inductive and deductive elements. Through inductive elements, patterns and dynamics emerging from the empirical material were identified and explored in relation to the research questions. Simultaneously, deductive elements were employed by interpreting findings through existing theoretical concepts, primarily within the field of organizational ambidexterity. The study therefore continuously moved iteratively between empirical findings and existing theory in an abductive manner.

Bell et al. (2022) state researchers should consider and deliberately decide upon a suitable level of analysis. As the case involved complexities within a broader system of actors operating across multiple levels, we made deliberate choices regarding level of analysis. We noted that while the development and implementation of software-based production systems are primarily situated at the organizational level, we also examined how these processes developed and interacted across multiple levels, including the individual, inter-organizational, and intra-organizational levels. Such inclusion of multiple levels of analysis is suggested by Lavie et al. (2010), who emphasize the importance of examining ambidexterity across interconnected organizational contexts.

4.2 Research method

Semi-structured interviews

To study the empirical case, we primarily employed semi-structured interviews as the main research method. Bell et al. (2022) state that while semi-structured interviews are guided by topics of interest to the researcher, they remain flexible, allowing for the exploration of interviewees' perspectives while also providing depth. We recognize that this method enables the exploration of multiple perspectives across different themes while maintaining a focus on software-based production systems.

In accordance with the semi-structured interview approach, an interview guide was developed. The interview guide was informed by the framework proposed by Lavie et al. (2010), which served as a guiding framework in both the search for and analysis of empirical material. However, the framework was used as guidance rather than as a rigid structure, allowing for the identification of additional dynamics and characteristics emerging from the empirical case. The interview guide was structured around software-based production systems in mind and the main aspects of the analytical framework, namely *antecedents*, *tensions*, and *conduct*, while simultaneously remaining flexible to explore related topics as they emerged during the interviews. Furthermore, and as previously mentioned, the study expands certain dimensions of the framework, for instance by distinguishing between intra-organizational and inter-organizational factors, as external networks are highlighted by Lavie et al. (2010) as a relevant level of analysis with implications for exploration and exploitation. The interview guide can be found in Appendix A.

Some interviews included multiple interviewees simultaneously. In these cases, the participants had been involved in the same situation or process of interest, which aligns with Merton et al.'s (1956) definition of focus groups. However, these group interviews were not actively sought by the researchers, but rather emerged when interviewees invited additional participants to the interview. While focus groups may differ from single-participant interviews in certain respects, such as enabling respondent validation and triangulation between participants (Bell et al., 2022), these interviews were conducted using the same interview guide as the single-participant interviews.

Organizational ethnography through passive observations

In addition to the primary data generated through semi-structured interviews, the study employed elements of organizational ethnography through passive observations. Bell et al. (2022) argue that researchers can increase their understanding of insiders' perspectives by 'staying in the field' and observing everyday activities. Furthermore, such observations may contribute to understanding tacit aspects of organizations, such as culture, values, behavioral norms, and informal practices, which are all relevant in this study.

The observations conducted in this study were primarily passive in nature and included both overt and covert observations. Bell et al. (2022) note that overt observation may risk affecting the subject

of observation, reducing the study's dependability; whereas covert observation may reduce such effects while simultaneously raising ethical considerations. The ethical implications of covert observations were carefully considered, and access to conduct such observations was granted by management at SVT. Each observation generated field notes, which were written either during or immediately after the observation.

Documentary data

An additional supplementary source of data consisted of documentary material. Bell et al. (2022) note that documentary data may include public, organizational, and personal documents, and are often used as a complementary source in qualitative research. Similarly, this study uses both public and organizational documentary material as supporting data sources.

4.3 Sampling and data collection

Conducted interviews

To explore how SVT managed the transition toward software-based production systems, we employed a purposive sampling strategy, defined by Bell et al. (2022) as a method aimed at collecting data from deliberately selected sources relevant to the research questions. Initially, relevant respondents were identified through organizational organograms and discussions with key organizational actors. This purposive sampling strategy enabled the strategic collection of qualitative data from relevant and accessible actors within SVT, as well as from the broader inter-organizational system surrounding the transformation.

As the study progressed, snowball sampling was employed to identify further stakeholders and relevant sources of information connected to the system change. This process was partly systematized through the interview guide by routinely asking respondents whether there were additional individuals or materials that could contribute valuable perspectives to the study. In certain situations, sampling was also opportunistic, where access to potentially relevant situations, meetings, or actors emerged unexpectedly during the fieldwork process.

Prior to the interviews, respondents were informed about how the collected data would be treated, including conventions for anonymization and confidentiality. Interviews were recorded using audio and, in some cases, video recordings. The collected material was thereafter transcribed locally using transcription software, and when necessary translated into English using local software tools. To improve transcription accuracy, quality assessments were conducted on selected parts of the material, after which transcription settings and models were adjusted where needed. Such assessments of transcription accuracy constitute an important step in qualitative analysis according to Braun and Clarke (2006). Quotes later used in the findings were manually verified against the original audio and video recordings.

Interviews were conducted over a two-month period, from March 9 to May 8, 2026. Internal respondents are presented in Table 3, where formal interviews using the interview guide were conducted with respondents 1–26. Interviews with external inter-organizational actors were conducted using the same interview guide, although slightly adapted depending on the context, and are presented as respondents 33–49, in Table 4. Each interview was designed to last approximately one hour to balance the depth of data collection with respect for respondents' schedules. Most interviews adhered to this duration, while some being slightly longer or shorter. No interview lasted shorter than 30 minutes. In total, 26 interviews were conducted with internal respondents and 11 interviews with external respondents.

Table 3: Intra-organizational respondents

Respondent Code	Department	Position in Organizational Structure
Respondent 1	Board of Directors	Board Member
Respondent 2	-	CEO
Respondent 3	Production and Technology	CTO
Respondent 4	Program Division	Director of Programme Division (C-level)
Respondent 5	Production and Technology	Head of Innovation
Respondent 6	Media	Senior Manager
Respondent 7	Production and Technology	Senior Strategic Manager
Respondent 8	Production and Technology	Senior Production Manager
Respondent 9	Production and Technology	Senior Operations Manager
Respondent 10	Production and Technology	Senior Distribution Manager
Respondent 11	Production and Technology	Senior Production Development Manager
Respondent 12	Production and Technology	Senior Operation Development Manager
Respondent 13	Production and Technology	Senior Production Technology Manager
Respondent 14	News and Sports	Senior Production Manager
Respondent 15	News and Sports	Senior Production Manager
Respondent 16	Communication and HR	Senior Internal Communications Manager
Respondent 17	Production and Technology	Senior IT-development and Infrastructure Manager
Respondent 18	Production and Technology	Team Manager and Technical Producer
Respondent 19	Production and Technology	Team Manager
Respondent 20	Production and Technology	Team Manager
Respondent 21	Production and Technology	Team Manager
Respondent 22	Production and Technology	Team Manager
Respondent 23	Production and Technology	NEO Developer
Respondent 24	Production and Technology	NEO Developer

Respondent 25	Production and Technology	NEO Developer
Respondent 26	News and Sports	NEO Operator and Editor
Respondent 27	News and Sports	NEO Operator and Editor
Respondent 28	News and Sports	NEO Operator and Editor
Respondent 29	News and Sports	Editor
Respondent 30	News and Sports	Technical Producer (Remoten)
Respondent 31	News and Sports	News Reporter
Respondent 32	News and Sports	Assistant Communications Manager (Remoten)

Table 4: Inter-organizational respondents

Respondent Code	Type	Organization	Position
Respondent 33	Broadcasting Alliance	EBU	Deputy Director Technology & Innovation
Respondent 34	Public Service Broadcaster	TV2 Danmark	Head of Production and News Technology
Respondent 35	Public Service Broadcaster	BBC/Responsible Innovation Center	Lead Researcher
Respondent 36, Respondent 37	Public Service Broadcaster	CBC Canada	Director, Senior Project Manager
Respondent 38	Supplier	Nevion	Sales Director
Respondent 39, Respondent 40, Respondent 41	Supplier	Eyevinn Technology	CEO, Solution Specialist, Business Developer
Respondent 42	Supplier	New Century Production	Director
Respondent 43	Supplier	Sony Sverige	Business Manager
Respondent 44, Respondent 45, Respondent 46	Startup	Doors	COO, Commercial Director, Business Developer
Respondent 47	Consultancy Firm	Deloitte Sverige – Telecommunications, Media & Entertainment	Partner
Respondent 48, Respondent 49	Consultancy Firm	Deloitte Belgium – Telecommunications, Media & Entertainment	Senior Manager, Senior Manager

Conducted observations

In addition to interviews, observations were conducted during on-site fieldwork at SVT in Stockholm from March 9 to April 28, 2026. During this period, we were introduced to and observed several operational environments and technical facilities, including studios, control rooms, the Central Apparatus Room (CAR), the Master Control Room (MCR), and Program Control (PK).

We also participated in and observed company events such as *5G-dagen* (2026-04-13), an industry event involving both internal and external stakeholders engaged in the development of infrastructure for enabling 5G contribution; and *TV-nyheterna* (2026-04-23), an industry event where media organizations were invited to share perspectives on AI in media, with particular focus on legal aspects. Furthermore, internal meetings and workshops were observed, including the Program Division's report meeting, innovation and AI meetings within the Production & Technology and Media departments, as well as workshops concerning the practical management of innovation and AI. In addition, external meetings were observed, such as discussions regarding 5G contribution together with a telecom operator.

Finally, we observed two live and live-on-tape productions using traditional hardware-based production systems, as well as four software-based live productions utilizing VMix, Remoten, and NEO. These observations are presented in Table 5. Specific empirical data generated through interactions and discussions during the observations are referred to as respondents 27–32 in Table 3.

Table 5: Production observations

Date	Observation	Production system	Description
2026-03-10	Live production	VMix	Live education broadcast: "Fria ordets dag"
2026-03-20	Recording/Live on tape	Traditional	Production of news and entertainment program: Svenska Nyheter
2026-04-12	Live production	NEO	Live sports broadcast: Beach volleyball
2026-04-24	Live production	Traditional	Live broadcast: Sverige Live
2026-04-26	Live production	NEO	Live sports broadcast: Orienteering
2026-04-26	Live production	Remoten	Live news broadcast: Rapport

Collected documentary data

A second supplementary source of data consisted of documents and archival material. This material included, for instance, internal and external presentations, technical specifications and system workflows, organizational organograms, initiative documents, annual reports, consultant reports, and statistical material such as viewer trends.

Documentary data was collected both through independent searches conducted, primarily for publicly available material, and through recommendations and sharing from interviewees. The collected material therefore included public, organizational, and in some cases personal documents relevant to the studied transformation process.

4.4 Data analysis

To analyze the collected empirical material, we employed an abductive thematic analysis inspired by elements of grounded theory. Braun and Clarke (2006) define thematic analysis as a method for identifying, analyzing, and reporting patterns, referred to as themes, within qualitative data. Furthermore, Strauss and Corbin (1998) describe grounded theory as an iterative process in which data collection and analysis are closely interconnected through continuous comparison and conceptual development. While this study does not aim to develop a fully grounded theory, elements of grounded theory inspired the iterative relationship between data collection, coding, and analysis throughout the research process.

The analysis began with familiarization with the collected empirical material, consisting of interviews that were transcribed and translated as previously described, observations documented through field notes, and documentary data. As the study employed an abductive approach, familiarization with empirical material and relevant literature occurred simultaneously. Together, this process generated initial analytical ideas and directions.

Through repeated reading and review of the material, initial codes were generated. Bell et al. (2022) define coding as the process of breaking down data into component parts and assigning conceptual labels to them, while Braun and Clarke (2006) describe codes as features of the data that appear meaningful or analytically relevant to the researcher. Braun and Clarke (2006) further argue that coding may be more data-driven or theory-driven depending on the analytical approach employed. In accordance with the abductive approach of this study, coding was informed both by concepts identified in existing literature and by new patterns emerging from the empirical material in relation to the research questions. Through continuous comparison of codes and their relationships, similar codes were merged into broader first-order concepts.

As the research progressed, data collection and analysis increasingly focused on identifying relationships between concepts and recurring patterns across the empirical material, resulting in the

development of broader second-order themes. While the themes were informed by existing theory, they were not predetermined or strictly dictated by it. Once themes had been identified, they were continuously reviewed and refined into a coherent, consistent, and distinctive set of themes, in line with the recommendations of Braun and Clarke (2006), who emphasize internal coherence and clear distinctions between themes in thematic analysis.

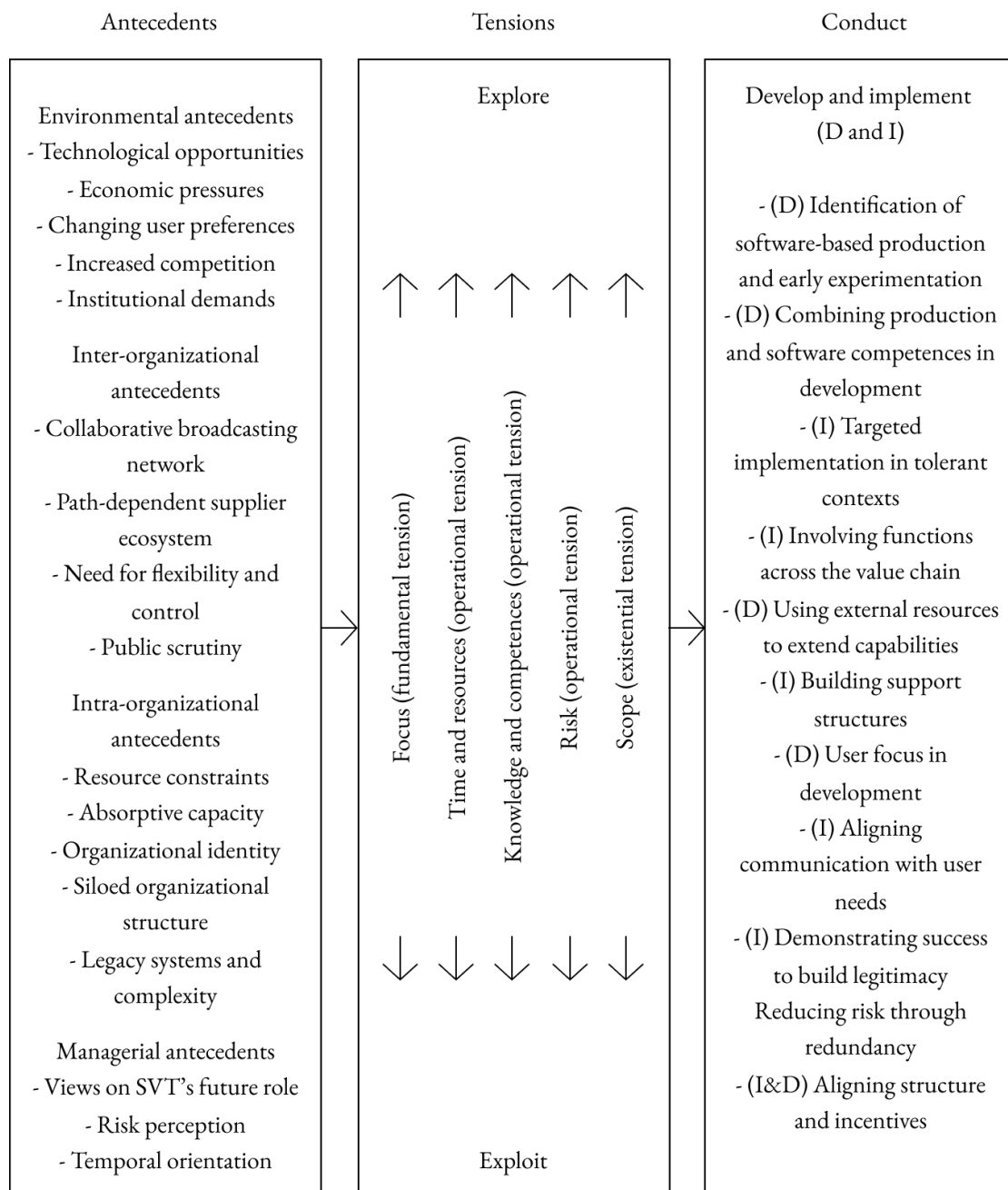
In grounded theory literature, this iterative refinement process is often associated with theoretical saturation, referring to the point at which additional data no longer contribute substantial new insights to emerging conceptual categories (Bell et al., 2022). While this study did not strictly aim to achieve theoretical saturation in the grounded theory sense, the empirical data collection was continuously adapted based on the level of conceptual saturation reached during the analysis.

Finally, the identified themes were grouped into broader analytical categories guided by the theoretical framework of the study.

5. Findings and Analysis

The following findings are divided into three sections examining the specific *antecedents*, *tensions*, and *conduct*, respectively. The findings are summarized in Figure 2.

Figure 2: Antecedents, tensions, and conduct, in the transition to software-based production at SVT.



5.1 Antecedents

In the following section, the identified antecedents are presented. A summary of these antecedents is provided in Table 6.

Table 6: Antecedents

Aggregated category	2nd order themes	1st order concepts
Environmental antecedents	Technological opportunities	Technology from other industries becomes usable New ways of producing content Production no longer tied to broadcast setup
	Economic pressures	Production costs are increasing More content for the same budget DTT costs take a larger share Preparedness investments reduce budget
	Changing user preferences	Demand for more varied content Demand for personalized content Demand for faster delivery
	Increased competition	Stronger competition from streaming platforms SVT's role is being challenged
	Institutional demands	High requirements on reliability and robustness
Inter-organizational antecedents	Collaborative broadcasting network	Broadcasters share solutions and ideas Joint innovation projects
	Path dependent supplier ecosystem	Dependence on incumbent suppliers Locked into proprietary systems Ecosystem slow to change
	Need for flexibility and control	Avoid vendor lock-in Maintain control over core systems
	Public scrutiny	High level of public scrutiny Need to maintain public trust
Intra-organizational antecedents	Resource constraints	SVT's budget is fixed Limited slack/financial and human resources Innovation reduces operational capacity Better production does not increase revenue Improvements does not affect revenue
	Absorptive capacity	Strong technological foresight Good at experimenting with new technology
	Organizational identity	Strong focus in quality and reliability Proud professional broadcasting identity Pioneer in broadcasting, laggard elsewhere Different incentives and cultures
	Siloed organizational structure	Functionally specialized silos Limited cross-silo coordination
	Legacy systems and complexity	Heavy investments in legacy systems High interconnected systems Change affects multiple parts

Managerial antecedents	Views on SVT's future role	Shared mission, different interpretations Different views on how to deliver value
	Risk perception	Fear of failing publicly Fear of not innovating Risk tolerance varies across situations
	Temporal orientation	Focus on short-term operations Focus on long-term transformations

Environmental antecedents

Findings suggest that new technological opportunities in parallel industries enable new forms of production in broadcasting (e.g. new content formats and workflows), as Respondent 5 highlights that broadcasters are integrating open-source software and tools inspired by parallel tech industries such as video streaming. These novel technologies also introduce alternative production logics compared to traditional broadcasting systems. Respondent 5 and Respondent 18 indicate that commodity, common off the shelf hardware, has created significant new opportunities for TV production, as broadcasters don't have to rely on preparatory hardware and can utilize modularity in both hardware and software capabilities.

At the same time as new technological opportunities are emerging, SVT faces growing financial constraints that limit its capacity to act on them. The increased share of costs related to the Digital Terrestrial Television network reduces the available resources for other activities, as SVT is now the sole bearer of these costs, following TV4's departure from the terrestrial network, indicated by Respondent 47. New investments in resilience and preparedness reduce the available resources as well. Multiple respondents highlight SVT's emergency preparedness mandate, as Respondent 9 says: "That's fundamentally what we receive our funding for as well. So that is the most important mission". This is directly supported by SVT's official press announcements, reporting cost reductions of 355 million SEK, while simultaneously investing in digital emergency preparedness and new ways of working (SVT, 2026).

New technologies enabling new types of media production and distribution, increase the demand for higher volume and greater variety of content as consumer preferences shift. Respondent 5 notes that the extensive expansion of television media and social networks has substantially widened the variety of available content compared to when SVT was the sole television channel in Sweden. Hence, the demand for personalization of content is increasing as this shift has driven growing consumer expectations around personalization, such as player-specific feeds in sports broadcasts, personalized subtitles, and AI-powered live translation in streaming services and social media Respondent 5. This also increases the demand for speed of delivery. Respondent 46 from Doors, a media start-up, argues that the industry has reached an inflection point for personalization, evidenced by advertisers increasingly redirecting budgets from traditional media providers toward social media platforms, where content is swiftly produced and distributed.

In turn, competition from streaming platforms and other digital media actors has increased which therefore reduces the role of SVT. Respondent 5 indicates that the competition SVT faces is no longer confined to other broadcast media services, but extends to all forms of screen-time consumption, as the cost of producing content per minute has decreased significantly over recent decades, fundamentally reshaping the competitive landscape. This is supported by industry analysis suggesting that public service broadcasters are increasingly responding to these pressures by co-producing with streaming services, promoting content on social platforms, and experimenting with new distribution models to extend reach and attract younger audiences (Deloitte, 2026). Respondent 5 further illustrates the scale of this structural shift: “Ten years ago, 85% of the world’s content was produced using broadcast technology. Today, 45% of the world’s content is produced using broadcast technology. And it has grown this much. And the growth is not happening in TV [broadcasting].” Unlike commercial media companies that can pursue new revenue streams or raise prices, SVT operates on a fixed, state-allocated budget, as (Per Björkman 03:22) states: “It is very strange, the incentives we have. Because there is no one here who is supposed to make money. There is no profit. There are no shareholders. We cannot be measured in money. No one is interested in our financial results. So our financial objective comes down to spending the money we receive.”

Apart from competition demands, environmental institutional demands require reliability and robustness of the production system, which are increased due to the geopolitical landscape. Respondent 13 stresses that SVT as a public service broadcaster has a strict mandate to deliver credible information to society during times of crisis or war. Respondent 3 mentions that, by transitioning to software-based systems, SVT distributes its risk: “We need to move to software-production for many different reasons. [...] partly for redundancy or resilience reasons. Because it distributes risk compared to having a single location for physical production.”

Inter-organizational antecedents

Broad networks of public service broadcasters enable sharing of ideas and solutions. Respondent 33 of the European Broadcasting Union (EBU) highlights that the EBU provides a consolidated view of where different broadcasters are on the technology transformation curve, from innovators to late adopters: “This very particular position helps us to extract success stories from the innovators and transport them to those who follow.” Through these networks, it is observed that some technological development happens in collaboration in joint innovation projects. Respondent 40 from Eyevinn, a supplier to public service broadcasters, said that they developed an open-source communication tool based on the same type of technology as *Discord*, a communications platform originally designed for the gaming industry: “We built this service in collaboration with SVT [Sweden], Yle [Finland], NRK [Norway] and TV2 [Norway]”. Participation in these networks also allows for collaboration in setting industry standards. Respondent 36 at CBC Canada, describes EBU’s work on the *Media Exchange Layer* project, as a unified technology standard driven by public service organizations in collaboration with the EBU. These broadcasters deliberately chose to collaboratively develop a software-based production system, recognizing that working together on an open-source proof of concept was far faster than waiting for traditional standardization processes

(Respondent 36). This approach is reinforced by Respondent 35 from BBC's Responsible Innovation Center, who discusses the rationale behind EBU initiatives such as the Media Exchange Layer: "I think because there's a recognition that you're not competing with each other, you're sharing the same challenges." Respondent 33 from the EBU indicates that this joint approach signals to hardware and software vendors that there is a sufficient, guaranteed customer base in an otherwise strongly niched industry.

Still, the dependence on incumbent suppliers and proprietary systems is large in the traditional system. Respondent 37 from CBC Canada identifies three distinct strategies vendors use to enforce their dependence: Restricting control by limiting supply of open APIs, enforcing technical penalties or latency issues on picture quality when using cross-vendor solutions, and financial bundling of complementary products. These in turn lead to high switching-costs, as Respondent 41 from Eyevinn highlights: "These systems, TV systems and the like, are not something you just swap out on an afternoon. Once you have chosen one, you are locked in, and a vendor knows that they can squeeze quite a lot out of you in the end over a long period of time." Therefore, ecosystem actors are path dependent and relatively reluctant to change. As Respondent 19 states: "the day they [vendor] stream video out of its camera in an open standard is the same day they [same vendor] go bankrupt".

However, path dependency toward incumbent suppliers is not limited to traditional hardware-based systems, as the transition toward software-based production raises similar concerns about vendor control and digital sovereignty. Respondent 17 says that SVT must be careful with the vendors they choose within software production: "A few years ago we trusted large American vendors like Microsoft and Cisco more than we do today. We have moved from expressing confidence in the big mega vendors to now increasingly looking at what our plan B is." Media consultant, Respondent 47, highlights the legal and structural risks of this dependency regarding a US-based software vendor with business in Europe: "I think [while] they meet all these European sovereignty requirements, yes, they are still an American company, which means they are run under the US Cloud Act [...] which means that Americans have the right to access that data from a surveillance perspective." Respondent 40 from Eyevinn Technology discusses this exact same dilemma under the term "structural control", giving examples of how US vendors or foreign regulations might suddenly impact SVT's operations if they don't have a secure Plan B: "When you look at how you have built your entire operational context into these various tools, you realize that if I move the data from there, I will need to rebuild all my workflows."

Because public service broadcasters are fully or partially funded by public tax money and serve a mission to objectively inform, educate and entertain in the interest of the public, its organizational and technological choices are heavily observed and criticized, being more scrutinized than their private competitors, as indicated by media consultant Respondent 49. This extreme scrutiny makes broadcasting operations highly risk-averse. Senior Production Manager Respondent 8 emphasizes that SVT cannot afford technical failures or quality drops because making mistakes in front of the audience directly erodes their credibility. Because the organization must retain high confidence, they

cannot easily brush off criticism, forcing them to carefully manage the risks associated with collaborating with new suppliers as they adopt new, software-based production systems. Hence, maintaining public trust is universally viewed by SVT's respondents as the organization's most vital asset. Respondent 16 emphasizes that SVT's political objectivity "[...] fill an important position where we maintain an arm's length distance from politicians. Where we have a mandate that allows us to, as we continue to do now, reach everyone in Sweden with important, socially vital, verified information and news coverage." Furthermore, SVT may face political backlash when experimenting with new, unproven technologies in its content. For example, when SVT tested an AI-generated children's program, it quickly sparked a national cultural debate. SVT's CEO, Respondent 2, stresses that management in public service organizations must be highly transparent about how and why they innovate to avoid alienating the public: "I am completely certain that we should do this, and I am very proud of these kind of projects, but the lesson learned is that we need to be even more transparent and explain why we are doing this and what the process behind it has looked like. It is not the case that we press a button and it is done, but rather that it truly opens things up, and the point is that the risk of standing still is greater than the risk of experimenting". In a digital landscape filled with "fake news" and AI-manipulated content, CTO Respondent 3 notes that their core mission is to actively protect the "concept of truth" by providing verified and authentic information: "We must protect the concept of truth through independent investigation and fact-checking. We need to innovate a great deal in this area. How do we verify an increasingly larger volume of information etc.?" To guarantee this authenticity to an AI-skeptical public, both Respondent 15 from SVT, and Respondent 33 from Sony, mention examples of proof-technology such as specified metadata to video files and watermarking standards.

Intra-organizational antecedents

As SVT is relying solely on public funds, financial and human resources are limited to what they receive (Respondent 10). Revenue is therefore fixed, meaning innovation investments directly affect operational capacity rather than reducing profit. Respondent 7 notes that as the industry shifts from physical hardware (CAPEX) to recurring software licenses (OPEX), contract costs may rise while legacy maintenance costs persist, creating a risk of tightening the resources available for innovation and operations. Respondent 7 highlights the growing uncertainty in SVT's budgeting process, driven by simultaneous depreciation of underutilized traditional broadcasting hardware and rising software licensing costs, both of which constrain the resources available for new development initiatives. Conversely, Senior Production Manager, Respondent 14, draws positives from the strained budget: "Someone like me gets a bit of wind in my sails, now everyone understands that we need to work smarter. More people have come to appreciate that. So this kind of resistance is diminishing now. Making these changes, I think it would have been difficult otherwise to make them".

Some employees possess long-term technological visioning and foresight. Across the internal interviews, Respondent 5 is highlighted as having an immense future technological vision. Respondent 12 mentions that "[...] his visionary approach and ability to inspire enthusiasm is a key

reason we [SVT] have come this far.” At the operational level, tech savvy people are found to be good at experimenting with emerging technologies. Respondent 25 describes how the NEO system started as an “underground-project”, driven by just a couple of people experimenting outside the traditional workflow.

Describing SVT’s core values, several respondents align in categorizing these as quality, reliability, and independence. Respondent 17 mentions that SVT’s core values are “[...] very much in line with our broadcasting license.” and that Respondent 17 and most SVT staff are “[...] very committed to SVT’s mission of being an impartial, independent actor in the Swedish media landscape.” Several respondents indicate similar responses. Along with this, the professional identity is strongly tied to being a serious and dominant media actor. Respondent 16 notes that journalists often equate large, expensive broadcast cameras featuring the SVT logo with professional seriousness and authority. Photographer Respondent 26 concurs, emphasizing that the professional role of a photographer is a “virtuoso role”. Because of this, their professional identity is deeply connected to the specialized tools they use, which give them the specific look and quality they require (Respondent 26). In the broadcasting industry itself, SVT is perceived as a pioneer. Respondent 19 states that SVT is an early adopter among the industry: “When you hear others brag about their progress, you’re like: OK, but we already have that, we did that five years ago.” At the same time, it is perceived as less innovative and a laggard compared to private-sector actors. Respondent 13, drawing on his private-sector IT-background, describes SVT as the “slowest organization regarding innovation that I have ever worked in”, noting that projects take years to deploy compared to private start-ups.

At SVT, functions have traditionally been specialized through various siloes. Respondent 6 explains the primary distinct divisions including the Program Division, which focuses on program production; Production & Technology, which supplies technical infrastructure and personnel, News & Sports division, producing news and sports, and the Media Division, which manages digital platforms like SVT Play and software services for the TV hardware that runs the these platforms. Respondent 6 adds that these silos have functioned through a “purchasing system” where content divisions [the Program Division] act as buyers who order and pay for technical resources and personnel from the Production and Technology department through an internal debiting system. Coordination and cooperation across these silos is limited. Respondent 21 describes SVT as “small companies within the company with different priorities, even though we [SVT] share a common strategy and common goal.” The incentives and cultural norms between silos are also found to differ. Respondent 7 highlights these culture shocks between divisions: “The culture is difficult. Entirely different from other divisions. [...] There are these inefficiencies, and on top of that, a program-maker [at the Program Division] who receives their budget has absolutely no interest in saving. They have been given the money. They want to create maximum content for the audience, to be seen and become the star. And they will squeeze every last penny out of it.”. Respondent 4, head of the Program Division, confirms this view: “[...] a culture has developed of maximizing your projects to 110%. [...] It is not a criticism of any individual. It is how you have been evaluated under the old purchasing system.” Conversely, according to Respondent 14,

divisions like News & Sports operate on a total departmental budget where operational savings can directly fund the purchase of new broadcasting rights: “In sports, if we save somewhere, we can buy another [sports] right. [...] We use our money as a collective sum. So the incentive to save and innovate exists across the board here.” Respondent 6 further explains that the Production and Technology department’s core mandate has strictly been subject to costs cutting and left to find smarter production methods, causing conflicts of interests: “One of P&T’s [Production and Technology Department] primary goals was to save money, which meant that very many of the teams were very, very lean. There were constant cutbacks because the budget requirements were so extremely high, and that was essentially their most important goal, so we were constantly clashing about this”. Additionally, Respondent 11 believes that the ongoing savings package at SVT is a contributing factor to why the Program Division is now having new conversations regarding cheaper, software-based production alternatives with the Production and Technology division.

Another intra-organizational factor concerns the complex legacy-production systems. Significant investments have been made in the existing systems. The traditional broadcasting model relies heavily on great capital expenditures with long expected life cycles, which has resulted in significant financial and structural lock-in for public service broadcasters like SVT (Respondent 5 & Respondent 7). Respondent 5 lifts the traditional production system installed for the London Olympics 2012 at the TV-house in Stockholm, still used in 2026, as an example: “It cost 150 million when it was bought and then it cost 15 million per year to maintain”. The systems are therefore large, complicated and interconnected in complex ways, making changes in one part of the system difficult without affecting another point in the system Respondent 5. Respondent 34 of TV2 Danmark notes that professionals outside of the broadcast world often assume production workflows are more simple than they really are, as “live audio, video, graphics, and real-time communication must all sync perfectly within the exact same minute”, highlighting their substantial complexity.

Managerial antecedents

Respondents indicate that SVT has a shared overarching mission in informing, educating, and entertaining to create value for the citizens. Respondent 3 at the department of Production and Technology, articulates this mission through three pillars: “[...] defending the concept of truth [...], actively counteracting polarization in society [...], and safeguarding Swedish culture and stories”. However, interpretations of how this mission is reflected in practice are divergent. Respondent 7 argues that public service funds should be focused more strictly towards core activities like news, public opinion and education when the budget is strained. Board Member Respondent 1, however, emphasizes that fulfilling SVT’s mission is not only limited to factual news reporting and niche shows: “If you don’t have TV programmes that engage and draw viewers, you won’t achieve the rest either, because if you are a very narrow public service broadcaster that only produces niche cultural programmes, you will have lost a very large part of the audience [...]. We know that good entertainment or good sports that engage also creates joy and emotions, which is very valuable.” There are therefore diverse views on how SVT should fulfill its mission in practice. Respondent 3

points out that SVT's historical interpretation of delivering value has been tied to *activities*, e.g. producing a certain amount of documentaries. He argues for a shift in mission interpretation where SVT should "focus on *effect* rather than activity", e.g. measuring success not by the broadcast itself, but instead, measuring whether the program successfully raised key indicators, such as public awareness, about a certain topic.

Some managers emphasize risks of innovation, such as costs, failure, quality risks, and reputational damage. Respondent 11 points out that operators and producers are naturally afraid of new technology because it is uncertain how it will fail, whereas they are comfortable with the known errors of traditional hardware, even though it is not failsafe. Respondent 13 and Respondent 19 mention that the software environment introduces new risks such as unpredictable IT updates and an increased risk for cyberattacks. Conversely, some managers also emphasize risks of not innovating due to loss of relevance and the future obsolescence of current systems. For the Olympics, managers took risks, facing the fact that they might not be finished in time. Respondents indicate that risk taking is sometimes high, and low at other times. Respondent 22 describes the 2026 Olympics as a "sporty deadline," noting that in the four months leading up to the event, around 80% of the code had to be rewritten and several consultants brought in. Despite the pressure, she highlights the project as a success. Respondent 19 emphasizes the importance of stakeholder alignment when managing such relatively high risks: "The key is to agree on what the risk is and for both parties to somehow sign off on it [...]. That if these [errors] happen, it is still worth it." Respondent 19 additionally points to a "culture of daring" at SVT: "I would argue that it has to do with [Respondent 5]. [...] to throw ourselves into something new. And it's not just production and technology, it's very much news and sport as well. [Respondent 5] started with this at the London Olympics in 2012 and did remote production. And several broadcasters today [2026] are still afraid to venture into remote production. We started in 2012."

Alongside these risk considerations, managers tend to prioritize short-term operational problem-solving over long-term strategic thinking. Respondent 7 notes that group managers are so tied to their daily production deliverables that they have virtually no organizational space left to prioritize structural change: "There is no room in the organization to adapt. [...] we have managed to deliver for the Olympics. That's great. But then everyone has just dispersed. Everyone goes back to their old ways of working. The [group] managers bring them back in again." However, respondents mean that there are managers that also prioritize long-term transformation and development of future production systems. Respondent 5 is repeatedly cited as the prime example of this long-term orientation (Respondent 12, Respondent 7, Respondent 18, Respondent 4). Respondent 3, CTO, also emphasizes that SVT must shift from focusing on short-term goals, to "[...] build long-term sustainable organizations with a strong focus on continuous learning and continuous innovation."

5.2 Tensions

Next, we present the identified tensions, which are summarized in Table 7. The tensions identified do not originate from the production systems themselves, but from the underlying organizational logics of exploitation and exploration. These tensions become visible through the interaction between the traditional production system and the emerging software-based system (NEO), which function as concrete expressions of these competing organizational demands.

Table 7: Exploitation-exploration tensions

Tension	2nd order themes	1st order concepts
Focus (fundamental tension)	Optimization of current production system	The current system is still functioning and reliable High quality broadcast standard Production for the archive Continuous improvements to traditional equipment High degree of standardization
	Experimentation in new production systems	Programs require new production methods Innovation enables new types of programs Higher flexibility and variation in result New systems demand more flexible ways of working
Time and resources (operational tension)	Deliver current production	Limited time available for innovation Resources are tied to maintaining the current production system Project leaders are incentivized to spend budgets on delivery Program requirements arrive close to production
	Invest in long-term improvements	Time and resources are needed to develop new systems Resources allocated to innovation initiatives Talented technical people are developing new systems Recognition that more efficient production models are needed to meet future cost reductions and relevance
Knowledge and competences (operational tension)	Develop professional expertise	The current system depends on deep specialized expertise Broadcasting experts and software developers are separate Employees are proud of and rely on their expertise
	Build on new competences	A wider range of new skills are needed to develop software-based solutions Operations require a wide range of knowledge.

		Traditional competences risk becoming obsolete
Risk (operational tension)	Reduce risk	Improvements to the current system are predictable Low tolerance for failure and poor quality No incentives for project leaders to take risks
	Manage uncertainty	Benefits of new solutions uncertain until tested Evidence for new approaches perceived as weak It takes a lot of courage to change Acceptance that outcomes may not be perfect
Scope (existential tension)	Remain within the current domain	Continued focus on producing and delivering news and programs
	Expand into new domains	Consider an entirely different role and service

Focus

The focus tension observed concerns whether public service broadcasters should optimize their current production system, or experiment in new production systems.

On the conservative side of the tension, respondents argue that the current system is still functioning and reliable. Some respondents highlight the improvement of the current production system and existing distribution channels to be utilized as much as possible. Respondent 10 argues that to justify high capital expenditures on traditional broadcasting structures, it is rational to utilize existing control rooms and equipment even for simpler productions that might not strictly require them: “The problem is that if you have a production apparatus built for a certain volume, it does not get cheaper, because you already own the competence”. Respondent 38 of Nevision highlights this thought, mentioning the legacy hardware SVT invested in for Olympics 2012: “that project worked so well. And they are still using the things. [...] I am a firm believer that you should look at the daily depreciated price.” In that way, Respondent 38 argues that while large investments, the products are reliable for decades and are priced competitively. Respondent 10 concurs to this argument, comparing it to new software-based technology introduced at SVT’s breaking news center Remoten: “It is quite a large investment, but if you spread that cost across how many hours or minutes have been produced without anything actually breaking down, or at least nothing serious breaking down, over such a long period of time, it becomes quite a small cost when you start comparing it to, for example, the Remoten setup that constantly has six or seven developers sitting every day working and working and working to adapt and change things, while the technology installed down there is up and running and then just keeps rolling.” This argument is reinforced from an observation made at live news production system *Remoten* (2026-04-26), where operators, while not directly against new technology, feel uncertain about it every time they are on air. Another argument for legacy hardware is the capturing of uncompressed video which is necessary to preserve material at the highest standard for SVT’s extensive archive and for high-end post-production (Respondent 10; Respondent 20). This creates an incentive to keep improving

traditional equipment, as Respondent 13 notes when comparing modern cloud technology with traditional systems: “We are not comparing modern cloud technology with modern broadcast [i.e. traditional type of] technology. Instead we are comparing back to technology from 2011. These are pieces of equipment that are more than 15 years old. It gets a bit misleading when you make those comparisons. [...] they are simply not relevant.” Respondent 13’s point suggests that modern legacy technology should not be underestimated and should be fairly evaluated compared to purely software-based production technology. Additionally, Respondent 10 highlights the trade-off of switching CAPEX for OPEX in their accounting procedures: “We have to be careful, [...] we bought [traditional] equipment and knew that this piece of kit cost this much, and then we were done. But now when we release cloud [software] services, they are volume-dependent, and then we also lose a bit of control if this is to be paid centrally, and the users suddenly start running up the costs.” (Respondent 10)

On the contrary side of the focus tension, experimentation in new production systems could be the main focus of SVT. Respondent 34 at TV2 Danmark argues that adhering strictly to these rigid broadcast standards makes producing content extremely expensive and complex, which limits what public service broadcasting companies can offer: “[...] we today are forced to publish on many different platforms to get the number of eyeballs [audience] high enough, we need to be able to produce it in a much more flexible way. We simply need to be able to do it both more economically, using fewer resources per eyeball, but we also need to be able to reconfigure productions faster. [...] It used to be a factory that continuously produced one product. Now we need to make different products [...]. And we need to be able to make those changeovers faster, because there simply isn’t the same money in it per item we publish.” This efficiency requirement drives the need for experimentation in new production systems like the software-based NEO platform. As Respondent 18 mentions: “The advantages of software-based production, which we are now running at a somewhat larger scale, are... For one, we can spin up on very short notice. It is highly flexible and scales up and down. And the technical footprint is minimal compared to traditional technology.” Respondent 18 further compares the NEO system to the traditional system: “In NEO we delivered 170 TV productions during the Olympics. I could pull up some here that I know were made from a traditional control room, versus ones made in NEO. No one would be able to tell the difference.” Respondent 14 means that this technology enables entirely new types of programs and viewer experiences: “[...] it’s a bit like what I’m saying about NEO—you get a net added value. And the key is to keep finding that, where it’s not just about saving money. You get added value for the audience.” However, fully embracing these new technological systems requires fundamental trade-offs, as flexible and unprecedented ways of working increasingly disrupt the traditional operational culture. Senior Operation Development Manager Respondent 12 states that “The specialists, or the technicians, need to be generalists in a different way. So it changes the professional roles enormously”. Respondent 19 argues: “We need to adapt employment forms and job titles so that they fit the way of working. That is a question I think we as managers and leaders have stumbled on too much. In my view, you just get on with it.”

To summarize, the focus tension lies between preserving the quality, reliability, and standardization of traditional broadcasting, or shifting toward the flexibility of modern software-based workflows. Either SVT maintains strict broadcast standards and specialized staff to ensure archive-grade quality from existing hardware, or it embraces software-based production methods that trade some technical quality and staff restructurings for the ability to scale rapidly and develop entirely new program formats.

Time and resources

This tension revolves around the allocation of SVT's strictly limited human, financial and time resources.

Several respondents indicate that SVT should allocate their resources to deliver current production. Respondent 7 means that with the current organizational setup, SVT has limited time for innovation: "There is no space. There is no space in the organization to change." As discussed in earlier findings, competence is needed to develop the incumbent system instead of allocating it to new endeavours, as Respondent 22 argues: "It has been very difficult, and we have been quite stuck with teams being 100% occupied with their products, which are critically important, and getting caught up in day-to-day operations. We never manage to wind anything down. [...], and there are just more and more products to manage." Combining that with the fact that project leaders at the Program Division are incentivized to spend their full budget on program delivery, it creates a situation where they are incentivized to produce the best program here and now as they get nothing back if they make more efficient choices (Respondent 4). As program requirements often arrive close to the time of production, the time available to develop new technologies becomes too short. Team manager Respondent 22 regarding receiving the NEO project: "It is quite frustrating to receive something in August. Why wasn't I involved since Christmas? I would have had an extra six months, and that would have made an enormous difference for me and for the delivery I am supposed to make."

This frustration creates the opposite side of this tension, where respondents argue SVT should invest in long-term improvements to break the cycle, as developing new systems requires both time and resources. Respondent 22, team manager for project NEO, illustrates this regarding the 2026 Olympics: "If I had been told that I would be taking on this responsibility, and given the conditions for it such as bringing in consultants or recruiting to the team, I would have handled it with much greater foresight." To succeed, the NEO project required pulling talented and passionate technical staff away from normal duties to build the new experimental systems. Respondent 25, one of these talented staff, states: "Many of the projects you end up doing on the side alongside [your daily work], like the NEO work [at the projects inception], are things you genuinely want to do, and then you find the time, you squeeze it in." Respondents developing NEO recognized that more efficient production models are needed to meet future cost reductions and remain relevant. Respondent 23 explains: "We had been running NEO in production without proper ownership and management previously, but it became clear to us that ahead of the Olympics we needed a support flow that

worked, and availability that felt secure. And a team to contact if something went wrong, simply put. So we set up a collaboration, a cross-departmental collaboration [as a support structure].”

Hence, SVT faces a *Time and Resources* tension between executing immediate daily broadcasting demands and investing in future production systems required to remain relevant on a long-term basis.

Knowledge and competences

The knowledge and competence tension lies in the preservation of deep, traditional broadcasting expertise; versus developing and adopting broad, cross-functional IT and software skills. It is a clash between maintaining specialized silos of professional pride and transitioning to a democratized production environment which demands generalized, flexible knowledge from both developers and operators.

In practice, the traditional broadcasting system is built entirely around developing deep specialized expertise. Respondent 12 notes: “In P&T [the Production and Technology department] today, there are 58 different job roles. That is quite a lot, [...]”. Respondent 40 of Eyevinn says: “There is a craft behind the professional pride that people have learned. And that contributes to very strong resistance to transformation. ‘This is how it has always been done.’” Respondent 10 further illustrates this through equipment specialists: “Look at sports and slow-motion replays, the EVS [broadcasting equipment] machines have done that fantastically. There are dedicated EVS operators, often freelancers out in the field, because it is honestly a skill to quickly run those and bring them back and play them back in the right place. It is a specialist competence for a specialist piece of equipment.” In this traditional setup, broadcasting experts and software developers are strictly separated. Respondent 25 states: “Historically there have been quite watertight compartments between those with IT competence and those with TV competence. We have not really bridged that gap much.”

However, the shift toward software-based production systems like NEO disrupts this entirely, creating a tension between preserving deep specialist expertise and the need to build on new competences that bridge the traditional divide between IT and broadcast expertise. Building a software-based production system requires a wider range of skills. Respondent 19, one of the originators of the software-based NEO system, illustrates this through Respondent 25: “I hired him when we started here. He is a unique combination of systems developer and TV maker. There are only a handful of people like that.” In the NEO production system co-developed by Respondent 25, operators need broad familiarity across many technologies rather than deep specialization in one. During a NEO observation (2026-04-12), the operator, Respondent 28 was an experienced photographer and editor with no prior video-mixing experience, yet could handle the NEO broadcast after just days of practice following a request from his group manager. A later NEO observation (2026-04-26), with Respondent 27 as operator, similarly showed that employees with traditional video-mixing experience with a curious mindset, could transition to the newer

software-based system with relative ease. Consequently, operations require cross-functional knowledge rather than deep specialization. Respondent 12 refers to this as the need for *T-shaped* roles, where operators must have broad horizontal understanding across sound, video mixing, and graphics, while the team collectively covers the vertical, in-depth knowledge: “We are talking about T-shaped roles. [...] That you can both pick up a camera and film, and do some programming to get the shots you want and make it work as well as possible, and set up connectivity to carry out a broadcast. A combination of photographer, technical operator, service and so on. Those are needed as a kind of first line. And among them you still need specialists, someone focused on programming, someone on networking, someone more on the camera side. But having that breadth, having many competences. That is how we work with NEO.” This demands a rare hybrid of deep software programming knowledge combined with practical TV-making expertise, something that the traditional division silos of SVT lack.

The trade-off is significant for the existing workforce, as traditional competences risk becoming obsolete. Specialized technical operators who refuse to adapt to new, generalized software systems will eventually run out of tasks if traditional control rooms are phased out. Yet some respondents argue this cultural shift is necessary to run democratized, software-based broadcasts efficiently.

Risk

The risk tension arises between minimizing operational and reputational risk by relying on highly predictable legacy systems, representing known unknowns; and deliberately managing the uncertainty of unknown unknowns by embracing uncalculable risks associated with unproven software-based innovations, where potential benefits remain uncertain until they are practically tested.

The traditional, culturally ingrained approach to technical development at SVT reflects a cautious view of risk, where improvements to the current system are predictable and their outcomes known. Many technicians are comfortable with this legacy hardware because its errors are known and predictable, making it feel safe to operate. With SVT’s history of public trust and credibility, there is a low tolerance for failure or poor quality in live broadcasts. Respondent 11 observes that technicalians and people from the Program Division may be using new technologies in their personal lives, but remain reluctant to implement them at work: “It is great fun to turn on all the lights at home [with your smartphone]. And you can do all sorts of things with your device. But then when you walk into work. It is just ‘no’. You want the old. Old, solid, expensive, heavy. It feels safe.” The respondent adds: “[...] Would you say to the Melodifestivalen production team [Sweden’s most popular entertainment program], ‘why don’t we just try something new?’ They would answer: ‘You can leave.’ So it is our own resistance to change that is the obstacle every time.” Respondent 8 illustrates this further: “The risk appetite is not particularly high, I would say, compared to generally. A black screen is the worst thing that can happen, and there is an enormous uproar if there is a wrong word in a subtitle. [...] We cannot lose our credibility with the audience. That is really the only thing we have now, credibility and a very large archive. If we lose credibility,

we are completely finished, I would say.” Amplifying this is the lack of incentives for project leaders in the Program Division to take risks. Since they are evaluated on content maximization Respondent 4 means that project managers do not personally benefit from operational savings, and have no structural or financial incentive to risk their project’s quality on unproven technology. Respondent 14 explains: “There are no incentives for them [project leaders at the Program Division] to save money [...], they will just lose their budget for the next season. [...] That financial incentive is quite dangerous.”

As a reaction, an opposite side of the tension has emerged around managing the uncertainty that comes with experimenting with new solutions. The actual benefits of software-based approaches remain highly uncertain until live-tested however, and evidence for them is often perceived as weak by sceptics. When asked about the lack of concrete evidence, Respondent 10 points to the nature of SVT as an organization: “[...] it often feels like what is missing turns into religion and opinion, there are a lot of opinions and such. And this is not a tech company, this is a content and journalism company, non-technical people.” Overcoming this weak evidence requires organizational courage, as Respondent 19 highlights: “We have a culture of daring to throw ourselves into something new. [...] We have a News and Sports division that is used to us making changes or coming up with something new. And where we have had [Respondent 5] who more than once has dared to do a little too much. And that is a culture we have that other broadcasters do not have.”. On managing risk-taking, Respondent 19 adds: “The key is to agree on what the risk is and for both parties to somehow sign off on it. That if something happens, it is still worth it.” Multiple respondents associated with the NEO project argue that management should foster an acceptance that outcomes might not be perfect. Respondent 18 lists such principles used for some projects at SVT: “Certain projects at SVT, among the minorities, have a clear strategy like this. It is 70-20-10. 70% should be safe productions. We know they will make it to air. The other 20 can be amber. That might involve testing some new things. And that 10%, there it could be a black screen. That is where you test and try things. That is their clear strategy for moving forward.” Respondent 25 illustrates how this played out with NEO: “We had been broadcasting in NEO for quite a long time before the Olympics, so we managed to earn that trust by showing that we had done a huge number of hours of TV through it without problems. We did the entire Älvandringen [“The Great Moose Migration”, a slow-TV production] last year, which is around 500 hours of live TV around the clock for several weeks, all through NEO. So over time I think we managed to win over those who had technical concerns.” By testing in forgiving environments like The Great Moose Migration, where a short glitch or black screen is forgivable, the organization accepts initial technical mishaps to make a proof of concept that proves the technology’s long-term worth and therefore manages the uncertainty surrounding the new system.

Hence, a *risk* tension has emerged, where SVT can either strictly reduce risk by relying entirely on predictable legacy production systems which guarantees stability and protects managers that have no incentive to experiment; or, SVT can actively embrace uncertainty in some projects by testing

unproven technology systems, accepting that initial evidence is weak and initial outcomes may not be perfect, in order to discover future benefits and proving that the technology actually works.

Scope

Another existential tension appears surrounding SVT's core role and domain.

Respondent 13 states that “SVT will need to produce content in some form. That is our reason for existing. That we need to create content that viewers want to watch.” As production becomes democratized, meaning you do not need expensive equipment or specialized capabilities to produce advanced live content, SVT's foundational *raison d'être* in doing what it currently does is being questioned. Respondent 5 asks whether SVT should consider an entirely different role and service model altogether. Specifically, he raises the question of whether SVT should produce anything themselves, given that production is becoming increasingly democratized. This would entail pivoting to a new domain where SVT relies on external creators, independent companies, and even citizens to produce content, while SVT focuses solely on curating, verifying, and distributing it: “It has never been cheaper to make TV than now. It has never been easier to make TV than now. So the risk is that you [regular people now with the capability of producing and distributing content as the technology for doing so is democratized] make SVT-style content instead. Targeting this same audience and overtaking us on the outside. Because it is cheaper to do so” (Respondent 5).

The *scope* tension therefore lies between maximizing the effect of the current vocation or exploring entirely new roles and services within the public service mandate. Either SVT continues to invest heavily in their current occupation in production and distribution, or explore a different role, such as a trusted aggregator.

5.3 Conduct

Below, we present the mechanisms of development and implementation that constitute the conduct of NEO. These are summarized in Table 8.

Table 8: Mechanisms of development and implementation

Type of mechanism	2nd order themes	1st order concepts
Development	Identification of software-based production and early experimentation	Identified the potential early and protected the initiative Initiative document Developers were allowed to experiment when they had time
	Combining production and software competences in development	Early NEO developers had both live production and software backgrounds Early NEO developers understood the limitations of the current system

		Early NEO developers were able to think beyond broadcast standards
Implementation	Targeted implementation in tolerant contexts	NEO was first used in lower-risk productions New formats enabled experimentation Curious producers were actively identified and involved Some productions were not willing to accept current quality levels
	Involving functions across the value chain	Actors across the value chain needed to be involved Involvement across functions was initially limited
Development	Using external resources to extend capabilities	External consultants were brought in for software development External competences complemented internal TV expertise Internal developers sometimes felt excluded Internal development might not be most efficient New directives for internal development, outsourcing, and use of open-source systems
Implementation	Building support structures	Education and documentation were limited and ad hoc Support functions lacked knowledge about the new system Frequent changes made it difficult to maintain updated support Software developers became critical in 24/7 operations Existing support functions experienced the transition as a shock Support limitations created resistance and preference for the old system Transparent workshops were used to create shared understanding Some support roles have become obsolete
Development	User focus in development	Early versions lacked user-friendly design Users felt they should have been involved earlier UI/UX design improved usability before major production Feedback loops between users and developers improved the system
Implementation	Aligning communication with user needs	Users focus on storytelling and content creation Communication focused on efficiency and technical benefits Mismatch in communication reduce adoption

		Backend changes did not always affect user workflows
	Demonstrating success to build legitimacy	Large-scale and high-stake use increased acceptance Proven success increased interest in further adoption
	Reducing risk through redundancy	Reduce risk by running parallel systems
Implementation & Development	Aligning structure and incentives	Transformation required clear direction and mandate from leadership Functional silos are being replaced by more product-oriented structures Project-level decision power sometimes conflicted with organizational goals Lower production costs enabled new types of content (e.g. sports rights) Employees are expected to take responsibility for learning and innovation

Identification of software-based production and early experimentation

The early stages of developing a new software-based production system, like the NEO project at SVT, strongly exemplify early development tactics. Manager Respondent 12 spotted an early potential when observing technical individuals like Respondent 19: “He was sitting with a screen, a TV screen, and he looked with his eyes at camera 1 on the screen, instead of pressing camera 1. Then it switched to that camera. And there I understood that that guy had a special talent.”. Respondent 5 was quick in identifying potential of software-based production systems and gave space and protection for experimentation, and shielded this initiative, as Respondent 25 points out, “We are very rigid, which is what sometimes makes us extremely slow. Respondent 5 has identified that, it is the root of why the NEO project came about.” Thus, developers like Respondent 25 were thus given room to experiment alongside their regular duties: “Many of the projects you end up doing on the side alongside [daily work], like the NEO work [at the projects inception], are things you genuinely want to do, and then you find the time, you squeeze it in.”

Initiative documents are used to formalize and initiate new developments at SVT. As part of identifying that software-based production needs to be implemented into day-to-day operations, SVT has produced such an initiative document outlining the challenges and proposed solutions for establishing a dedicated Production Operations (ProdOps) team, responsible for both first-line support of the NEO platform and second-line support of Remoten (SVT, 2026). It proposes a cross-functional core team of specialists drawn from existing competence groups, operating under unified leadership, with the aim of consolidating support, stabilizing platforms, and driving the development needed to meet SVT’s company-wide cost reduction targets (SVT, 2026).

Combining production and software competences in development

Early NEO developers had both live production and software backgrounds, these were people with dual competences, in live production and software. Respondent 25, one of the core NEO developers, explains that his background is in systems science and software programming, yet he works practically as a technical producer on the TV production side: “[...] what makes me stand out compared to my TV colleagues is precisely the IT background.” Respondent 19 illustrates this regarding Respondent 25: “I hired him when we started here. He is a unique combination of systems developer and TV maker. There are only a handful of people like that.” Respondent 25 stated that their philosophical goal was to “democratize TV”: “[...] we are no longer making TV, we are streaming, that is actually a more accurate term. NEO is not so much a TV platform as it is meant to be a streaming platform. It should feel like sitting and streaming on YouTube, TikTok, or Twitch when you work with NEO. The barrier to entry should be low.” Early NEO developers were thus able to think outside the box, beyond broadcast standards.

Targeted implementation in tolerant contexts

To successfully implement the unproven software-based NEO platform into an organization deeply rooted in a low-risk traditional broadcasting culture, respondents indicate that SVT used a point-of-concept based implementation strategy. Respondent 25 mentions that NEO was first used in lower-risk productions: “We have primarily solved this in the NEO project by handpicking projects. We have not gone after those we know will say yes but with zero tolerance for errors, in that case I think we wait a bit with you. Instead we pick *Älvandringen* [The Great Moose Migration] [...] and by going after those programs who want to, and then they become ambassadors. Now we have an entire Olympics 2026 broadcast behind us and the whole sports division, and we have the progressive content teams, and everyone is saying yes this is great. Then it is easier to go to [a project manager for a new program] and say, ‘What do you think, do you want to come on-board?’” This principle is also highlighted from the new NEO operators perspective where curious sports producers were actively identified and involved. One of them, photographer and NEO operator Respondent 26 who adopted NEO to stream table tennis says: “I am inclined toward daring to test, seeing what it has to offer. Trial and error. I am inclined toward testing and seeing how it works”. Respondent 26 adds that he had great support during the process of learning to operate the NEO environment: “It was a very warm and welcoming environment. Everyone who brought me into the NEO environment in P&T [the Production and Technology department]. They had put a great emphasis on showing that anyone can make mistakes, that it does not matter and that you learn as you go. That is what made it feel so good. The people behind it. Not just the technology.”

Involving functions across the value chain

With the fundamental changes to workflows that software-based production systems bring, respondents stressed that actors across the value chain needed to be involved. Involvement across

functions was initially limited, with several respondents outside of the Production and Technology division indicating little knowledge of the system. Respondent 6 of the Media division, states: “I have not put a huge amount of energy into NEO in my life. I understand that it is ongoing and we are trying to find ways to make it work for the audience, but it has bubbled along and lived its own little life quite far from my operations.” Involving other divisions in the project was therefore important, both to ensure technical integration and to build the organizational buy-in needed for broader adoption. A crucial stakeholder in the value chain was the Master Control Room and Program Control. At SVT, the Master Control Room acts as the central hub that receives global signals, routes them to control rooms, and then receives them again before passing them to Program Control for final broadcast. Hence, the NEO development team had to actively involve the Master Control Room and Program Control personnel. Respondent 25 notes that the key factor was building relationships and letting these stakeholders experience the new system: “[...] we have had some people from MCR [the Master Control Room] who have been quite curious about what we are doing. We had a few from there who were also part of ProdOps [team] during the Olympics, sitting on site, supporting and operating, and thought this is great, this is the way forward.”

Using external resources to extend capabilities

To manage resource constraints, the management of NEO chose to utilize external resources. NEO was first perceived by internal personnel with broadcasting expertise and some software development knowledge. Further in the process, external consultants, specifically in software streaming development were hired to work in collaboration, as Respondent 25 states: “When it became clear that there were six months left until the Olympics and we needed to deliver for SVT, we had to bring in resources. So perhaps it was the time pressure panic, but even then we did not really free up many permanent employees, we primarily got resources to bring in consultants.” The managers therefore hired external streaming and software consultants to rapidly staff the newly created NEO Development Operations (DevOps) team. This also supplied them with a matrix of competences as technological knowledge was mixed with tv-knowledge. Hence, technological people being unaware of cognitive limitations and requirements in the TV-industry give them the natural ability to break standards.

However, this also resulted in some internal developers feeling left out, creating a sense of internal competition, as Respondent 6 states: “I had never been involved in NEO at all. My impression is that NEO ran as a kind of small startup project within P&T [the Production and Technology department]”. Respondent 17 discusses the thought of SVT producing NEO through their internal and established software-development function: “Some would like to believe that they could have done it. I don’t think they actually could, because they have too little production knowledge. [...] The development teams become a little too detached when they are not involved from the beginning, and are absolutely unwilling to take over someone else’s code. They would rather have been involved from the start, or they simply do not want to just build integrations. There are very strong cultural divides in this.” As Respondent 19 argues, internal development might not be the most efficient solution: “And this is something I think we make fools of ourselves

over a few times in these discussions. Sometimes you might think, well, a license cost at Avid [editing software] is X million SEK per year. ‘We should be able to build this ourselves’, people say. When you start factoring in how many people are needed to manage everything that needs to be managed [support staff, maintenance etc.], then X million SEK per year [in licensing] is pretty cheap in the end.”

Building support structures

With the expansion of staff, consultants, teams and eventually operators of the NEO system, effective support structures needed to be put in place. While respondents indicate that traditional production systems are usually educated through structured manuals, Respondent 18 explains that the education process of NEO was informal and ad-hoc: “When they sit down for the first time we are always there with them. Then we see that after one, two, three times they can manage on their own without any problem, we do not need to be beside them anymore”. Respondent 18 specifically gives an example of how effective the ad hoc education was when SVT asked for volunteering operators to run the streams at the 2026 Olympics: “During the Olympics we had a girl who raised her hand from Gothenburg, who works in facility services and hands out mail. [...] She came up and had never done TV at all. And sat down and ran Olympic productions, after one evening sitting beside [a support employee]. That says something about where we are heading with self-service.” However, while the ad hoc education principle might be fast and simple for operators, Production Manager for News & Sports Respondent 14, emphasizes that live broadcasting requires strict, standardized routines for the organization, stating: “It is very much about establishing routines: ‘When you set it up for a new production you have to do this.’”

Because the new system was developed rapidly by a small, isolated team, regular support functions were lacking at the start. Furthermore, as changes were frequently made by DevOps, the established support structure did not get education or documentation about the changes which made them unable to respond to support errands. Respondent 9 highlights that the support function had no technical documentation and received no formal training on how to offer support to NEO operators: “They did not know what to do. [...] They [support function] can take a call but they’ll have to just send it back to you. Because they have no information on how to help”. Respondent 14 and Respondent 9 therefore suggest that when an organization explores new knowledge, support structures must be built up parallel to the technological development. Respondent 9 highlights that documentation is crucial: “If we had a better innovation process, every single person would have innovated this and it would have had support through proper handovers. [...] The internal support function loves to help, but they have to know how.”

Because the traditional support structure could not manage the software systems, the developers who built NEO became critical components of daily 24/7 operations. Respondent 17 highlights how unprepared the organization was for this transition: “The cultural shift is enormous. You hire people at SVT as server technicians, they are supposed to work office hours, and then suddenly a manager comes and says you need to be on call. Because now we have an Olympics to support and

we need to be able to respond quickly if something happens. The entire incident support, the maintenance of the platforms we build—have we been too hasty in launching? We have not really been prepared for what it entails beyond developing something that delivers good features for the needs of the audience.”

To solve the lack of support resources and implement an adequate new support structure, management used internal influence campaigns based on “radical transparency”. Instead of top-down mandates, they held open workshops detailing the exact challenges and uncertainties of the system, inviting other departments to collaboratively solve the problems. Respondent 22 explains: “It really means showing exactly what it looks like. ‘This is what we need to achieve and we do not know how to get there. Who wants to come and work on this?’ And answer the following questions. What was also important was that all the developers presented themselves to the organization.”

As new support structures were built through these processes and the project expanded, there was a realization that some existing support roles are becoming obsolete. Respondent 18 believes that some Technical Operations Manager roles might become obsolete in the future, as they are not keen on learning the new system: “It is a shame that we can’t bring them along. Because now they are completely sidestepped, that entire group. Normally they were the ones sitting and operating the sports mixing points. From June last year to the turn of the year we did 170 productions in NEO. That is when it really started gaining momentum. And all those 170 productions were previously done by that group, acting as broadcast producers and TOM [Technical Operations Managers]. So that group lost 170 days of work. It goes without saying that within the group itself, you do not see it that way, like ‘wait, maybe I will be out of a job if we do not start being curious about this.’ Because that is what will happen in the end. The fewer productions there are in traditional control rooms, the less staffing there will be in that group. And none of them were sitting and operating [NEO] during the Olympics either. They should see which way this is moving.” Respondent 18 hence signals that the technological shift carries real consequences for individuals who do not adapt.

User focus in development

Initially, the development of NEO lacked a strong user focus, with tools often built from a technical perspective and not developed with an optimized user interface (UI) in mind for operators. Some respondents indicate that it would have been better if they as users were on the project from the beginning to give feedback on how the system should look and work. According to Respondent 16, this in turn created resistance in the implementation process. To manage this resistance, Respondent 22 brought help from a user interface/user experience designer. The user focused designer helped design the system to be more familiar to users. Hence, the focus shifted to making the platform highly accessible. Respondent 24 provides a concrete example of this: just weeks before the Olympics, they brought in a user experience expert to redesign “Conductor”, the planning and monitoring interface. Respondent 24 notes that giving the interface a professional, “SVT-branded” design in Figma made a huge difference in how the system was received, as it suddenly looked and

felt like a real, professional product. Respondent 25 describes this interface as “[...] like riding a moped with just a throttle instead of piloting a space shuttle.” emphasizes the success: “[...] you do not need to reinvent the wheel, [...]. You have seen these environments, and you could walk up to one and press like ‘I want to broadcast curling’ and it is just up and running. The complexity is so drastically reduced compared to a traditional control room.”

To continually improve usability and fix bugs, SVT established tight, cross-functional feedback loops between the users and the developers. Respondent 22 explains that during the Olympics, they set up a structured collaboration where the first-line support (ProdOps) and the second-line developers (DevOps) shared the same communication channels and held daily morning meetings: “We had a group there and then we also set up an on-call system for the team so that we could work in a structured and scheduled way to cover the needs”. Similarly, Respondent 25, part of the team, states that: “The key when trying to move forward with new solutions that place new demands on staff groups is to build cross-functional teams.”.

Aligning communication with user needs

For content creators, such as journalists, editors, and photographers, the primary focus and professional pride lie in telling great stories and creating valuable content for the viewers. As more and more of these roles start operating live mixing in NEO, Respondent 18 indicates that communication should be focused on efficiency and technical benefits that align with user needs: “For one, we can spin up on very short notice. It is highly flexible and scales up and down. And the technical footprint is minimal compared to traditional technology [...]. A software-based solution also becomes a form of remote production, since you can sit wherever you like [since it’s web-based]”. Respondent 25 further illustrates this argument: “Start up the laptop with VPN and you can run it straight from the edge of your bed”.

Paradoxically though, when technology is pitched primarily as a “cheaper” or “simpler” alternative, it alienates content creators, and creates a mismatch in communication, thus reducing the potential adoption. Respondent 16 states that “[...] there is such a strong belief that people will just adopt new technology straight off”. However, software developers are “[...] not always attentive to understanding the human side. Both the willingness to change and the fears.”. Respondent 11 stresses that developers should not frame the new system as a “cheaper, simpler solution,” but rather communicate it as a “future-proof enabler which creates better redundancy and means you can have more in your program or what you need it for. That is why we are doing it.”

To minimize the friction of adoption and reduce the learning curve for users, developers actively strive to ensure that massive backend system changes do not disrupt the frontend user experience. Respondent 18 explains this strategy as ‘changing the gearbox under the engine hood’: “Under the hood we should be able to do what we want without the users noticing.”. Respondent 34 from TV2 Denmark confirms this logic, pointing out that whether a video mixer is hardware or software

hosted in a data center is fundamentally uninteresting to the operator; what matters is that the control interface they interact with remains intuitive and functional.

Demonstrating success to build legitimacy

Using the system at scale and showing it during the Olympics gained support among other project leaders. By executing over 160 live productions during the Olympics using NEO, mentioned by Respondent 18, the development team provided undeniable proof of the system's capabilities, increasing interest for use in other productions after proven success. Respondent 25 highlights: "Now we have an entire Olympics 2026 broadcast behind us and the whole sports division, and we have the progressive content teams, and everyone are saying 'yes this is great'. Then it is easier to go to [a project manager for a new program] and say, 'What do you think, do you want to come on-board?'" Respondent 25 further explains that the next strategic step is to win over traditional talk shows. To secure further implementation and adoption, and overcome lingering fears, managers like Respondent 11 are using the built-up legitimacy to bring project managers from these traditional programs into test environments, offering them to collaboratively test the technology over several days and see the proven benefits for themselves before fully committing: "So my team will over two days test different technical solutions that they think will work. And then we will have [producers] join us. And then we bring in the image producer on the last day. [And ask] 'How would this work now under these conditions?' And then start working with the NEO team. We do it together."

Reducing risk through redundancy

To manage the risks perceived by managers and employees that hinder broader adoption of the technology, Respondent 18 proposes reducing uncertainty by testing through parallel setups, establishing and reviewing performance metrics: "If we do A/B testing, where A-week runs in a traditional control room and B-week runs in NEO. Then, we can actually measure and see the difference. [...] if viewership is significantly lower when we run NEO, then we are doing something wrong. But if viewership is completely linear, then it does not matter whether we do it in a traditional control room or in NEO." Media Expert Respondent 45 from Doors explains that building a parallel system is an appreciated way of building trust for new technology at media companies: "So that you can learn, you can see the difference, it goes smoothly and well. And then when that is done, [we ask if] we should take another vertical [with the client] or should we take a bigger step or something like that. And I think that is a quite healthy way of looking at the world. Several companies that we talk and reason with, they reason that way, and I think that is a quite smart approach." CTO Respondent 3 explains "If we produce all episodes in exactly the same way, we do not learn anything. Whereas if we vary the production method between each episode, then we learn.", arguing for a form of sequential A/B testing with a clear key performance indicator (KPI) structure, mirroring Respondent 18 thought process of NEO implementation. However, Respondent 18 also notes that executing these kinds of production setups are dependent on whether the specific program project has the extra budget to support it.

Aligning structure and incentives

Aligning structure and incentives through the NEO transformation required clear direction and mandate from leadership to navigate the different silos. Respondent 12 argues that change was difficult to achieve without unified backing, and that concrete goals were necessary: “[...] one cannot support transformation from the side. It wasn’t enough that one or two directors thought that it would be a good idea to work in this way, since that wasn’t enough to be accepted in the organization.” According to Respondent 12, it was only when the transformation was narrowed down to a concrete initiative with a clear, top-down mandate that actual change could be achieved: “That was when it became possible to work on change. It was clear. Going from having this overarching transformation assignment for the whole organization, it instead became a concrete initiative that was manageable.”

In the new organizational structure, partly reflected in the merger of the Production & Technology and Media divisions, functional silos are being replaced by more product-oriented structures. As mentioned, SVT operated in strict horizontal silos, with the Program Division, Production & Technology department, and the Media division having conflicting goals, such as the Production and Technology department being mandated to cut costs while the Program Division was mandated to maximize content with the allocated budget. In contrast, the News and Sports Division has a common budget, which makes them incentivized to reduce cost of each production to be able to buy more sports rights, as Respondent 14 notes: “In sports [division], if we save somewhere. Then we can buy another right. These sports rights. We use our money as a smart sum. So the instrument of saving and innovating exists in everyone, so to speak.”

CTO Respondent 3 explains that the restructuring is moving away from a line organization “to fully transition to a product organization”, thus aligning the fragmented incentives in the divisions. By creating end-to-end products, such as a unified live production platform, SVT allows IT-developers, broadcast engineers, and media distributors to share the same goals, budgets, and roadmaps, this is to reduce the friction caused by the siloed structure (Respondent 3). In this new structure, Respondent 3 highlights that employees are encouraged and expected to contribute to innovation and take responsibility for their own learning. The structural changes discussed by Respondent 3 signal a broader shift in how SVT intends to manage transformation, thus moving from ad hoc initiatives driven by a few individuals, to a model where accountability and innovation are integrated across the organization.

6. Discussion

In the following section, we discuss the analyzed results in relation to the literature on balancing exploration and exploitation. First, we address the first research question by discussing how antecedents in public service broadcasting create and influence tensions between exploration and exploitation. Second, we address the second research question by discussing how public service broadcasting organizations can use different modes of balancing to manage tensions between exploration and exploitation.

6.1 How antecedents create and influence tensions

As presented in the theoretical framework and explored in the empirical findings, antecedents shape an organization's tendency to explore, exploit, or pursue a balance between the two. It is therefore relevant to examine how the literature relates to the findings concerning environmental antecedents, inter-organizational antecedents, intra-organizational antecedents, and managerial antecedents, and how these influence the observed tensions between exploration and exploitation at SVT.

Environmental antecedents

The findings suggest that an array of various external factors create environmental pressures for public service broadcasters. These include the emergence of new software-based technologies, financial pressures, changing consumer preferences, and increasing competition from other sources of media.

To start off, the results indicate that cost pressures and increased competition heightened perceived uncertainty in the external environment, creating pressure to engage in exploration. First, respondents describe that factors such as increasing production costs, growing maintenance requirements for traditional production systems, and rising investments in resilience and preparedness, pressure public service broadcasters to develop more efficient methods of production if it wishes to maintain a high level of output. These pressures impact the focus tension, identified in the findings. Within this tension, the traditional hardware-based production system is perceived as reliable in maintaining a high broadcasting standard, however, the identified environmental pressures lead to innovative production practices being viewed as necessary for enabling new forms of content and production capabilities to meet these pressures. Second, the findings suggest that the risk of becoming outdated and losing relevance, create an environmental pressure that may also be highly relevant in the public service broadcasting context. In the case of SVT, this pressure is less related to direct financial survival and more associated with the risk of losing societal relevance, as well as being outperformed by competitors, leading to ultimately weakening its public service legitimacy and its mandate. This aligns with what Hamblin et al. (2024) describe as the risk of public organizations losing public value. Consequently, these factors create an environmental uncertainty which increases SVT's willingness to engage in exploratory activities and risk-taking in search of new technologies and production methods.

The interviews highlight that new technological developments, enabling the democratization of content production, create external competitive pressures that increase the need for exploration. These software-based technologies enable content production by a broader range of creators than previously possible, as indicated by Respondent 5. Combined with shifting audience preferences, this expands the competitive content landscape and pushes public service organizations to explore new production capabilities to meet this content competition. Having long held a dominant position in Swedish media, SVT now finds its traditional role increasingly challenged by these developments. At the same time, exploration of these new technologies may strengthen SVT's own production capabilities and competitive position, thereby reinforcing the environmental pressure creating a push towards exploration. As an example, Respondent 18 indicates that the NEO system could be operated by people who have never previously been involved in TV production. The changing user preferences create an environmental pressure for SVT and public service broadcasters in general to produce a broader variety of content and increase the speed of its delivery. As a result, we find that this creates a pressure to explore more efficient and flexible production systems.

Finally, findings also suggest that the environmental antecedents are more complex and evolve at a faster pace of change compared to what literature on public organizations anticipates. In terms of the broader competitive landscape facing public service broadcasters, the results show that both internal and external respondents describe the continuously evolving technological and social environment surrounding media and content creation as a significant concern for the future. As discussed, changing media consumption patterns, the democratization of media production through social networks and streaming technologies are all perceived as fundamentally reshaping the competitive and technological landscape surrounding public service broadcasting. While we find that certain environmental conditions in public organizations, such as public funding, may indeed be comparatively stable, as Hamblin et al. (2024) suggest, our findings from this section indicate that the complexity and pace of current environmental changes create greater pressures for exploration than the existing literature anticipate. Hence, the findings empirically prove that environmental dynamism does indeed force public service broadcasting organizations to explore, thereby challenging Hamblin et al.'s (2024) argument that there is limited evidence of this. It should nevertheless be noted that Hamblin et al. (2024) also recognize that environmental dynamism in public organizations has become increasingly acknowledged within public organizational literature.

In summary, the findings point to several external dimensions that create pressure to pursue exploration in. Financial, technological, and competitive pressures increase environmental uncertainty and drive exploratory behavior. Software-based production has lowered the barriers to content production and, together with shifting consumer preferences, intensified the competitive pressure to develop new production capabilities. Taken together, these findings suggest that public service broadcasters operate in a more complex and rapidly changing environment than much of the existing literature on public organizations anticipates.

Inter-organizational antecedents

Findings indicate that public service broadcasting actors in Europe are characterized by a tendency toward exploitative inertia, reflected in a relatively slow adoption of exploratory activities across the sector driven by existing inter-organizational knowledge. However, SVT together with other innovative broadcasters challenges this pattern, influencing the public service broadcaster ecosystem towards explorative strategies by establishing partnerships within new technological domains and by leading collaborative strategies towards software-based production.

The technical production environment within public service broadcasting appears strongly path dependent toward traditional proprietary hardware-based production systems offered by traditional vendors, as indicated by both internal and external respondents. Specifically, Respondent 37 notes that traditional vendors, being commercially driven, tend to lock their customers to their proprietary products, thus limiting their customers to search for new systems. In this regard, the findings align with Lavie and Rosenkopf's (2006) argument that partnerships, networks, and alliances may function as mechanisms for leveraging and reinforcing existing knowledge in an exploitative manner. This tendency may partly be explained by Ansell et al. (2020), who argue that public organizations often operate under greater constraints regarding how public value can be created compared to private entities, as well as by Meijer et al. (2015), who suggest that public scrutiny may reduce public organizations' willingness to engage in risk-taking activities. Consequently, the findings suggest that the exploitative side of the knowledge and competencies tension partly originates from the incumbent expertise, standards, and routines embedded within the traditional broadcasting system and its surrounding ecosystem. However, responses indicate that SVT challenges this broader pattern by pursuing new knowledge with exploratory development through NEO, despite operating within a comparatively restrictive external ecosystem. Exploratory activities were also identified among other public service broadcasting actors within the ecosystem. These are prominently Nordic public service broadcasters, as indicated by Respondent 33 and Respondent 40. In a broader sense, however, such exploratory initiatives still appear to represent exceptions rather than the dominant pattern across the sector.

By leveraging knowledge and competencies from external actors outside the traditional broadcasting ecosystem, particularly from the software and streaming industries, SVT managed to pursue and drive exploratory activities, despite the path dependencies associated with incumbent broadcasting systems, in line with the explorative side of the knowledge and resources tension. This approach aligns more closely with March's (1991) argument regarding the search for new knowledge in uncertain and temporally distant opportunities, even at the expense of leveraging existing knowledge within established ecosystems. Consequently, within the realm of inter-organizational antecedents, the findings suggest that SVT shifted the focus tension toward experimentation with new production systems and technologies. Interestingly, no respondents indicate that existing knowledge in this context was sacrificed. However, Respondent 25 indicates that this new knowledge was developed alongside. The shift in focus is further illustrated by SVT's active role in influencing the knowledge tension in the ecosystem as a whole, driving the

establishment of new software-based production standards, such as the Media Exchange Layer, within the EBU, as indicated by external respondents from CBC Canada, Eyevinn Technology, and multiple internal respondents.

We find the fear of public scrutiny may be a reason for this reluctance, as public service broadcasters are highly risk-prone in general due to fears of losing credibility, a culture of risk-taking has emerged in more explorative organizational units, thus influencing both sides of the risk tension. Meijer et al. (2015) argue that public organizations operating under intense public scrutiny tend to favour proven and reliable approaches over more experimental ones, as mistakes may threaten institutional legitimacy and credibility. This perspective is reflected in the findings from SVT, where maintaining public trust is consistently described by respondents as the organization's most important asset, as Senior Production Manager Respondent 8 indicates: "If we lose credibility, we are completely finished [...]". Consequently, the exploitative side of the risk tension appears partly rooted in a deeply embedded preference for predictability and operational reliability within the traditional production environment. At the same time, however, we find that SVT actively navigates both sides of this tension. While one organizational logic emphasizes reducing operational risk and uncertainty, another internal culture simultaneously encourages experimentation and "daring to try" new technological approaches, as indicated by Respondent 19. In this regard, the findings partly contradict Sørensen's (2002) argument regarding strong cultures primarily reinforcing exploitation, and instead align more closely with Lavie et al. (2010), who argue that innovative organizational cultures may facilitate experimentation and exploratory activities.

To conclude, commercially driven vendors of traditional production systems, together with incumbent public service broadcasters, reinforce the exploitative side of the knowledge and resources tension by contributing to an ecosystem characterized by path dependence toward exploitation. This aligns with literature suggesting that existing inter-organizational networks tend to leverage and reinforce exploitative knowledge and capabilities. However, the findings also suggest that environmental antecedents increasingly pressure public service broadcasters to search for partnerships in new domains. In response, SVT and other innovative public service broadcasters appear to drive the explorative side of the knowledge and resources tension through the development of new systems and relationships, in line with literature on explorative inter-organizational networks

Intra-organizational antecedents

The environmental pressures discussed do not only create direct demands for change, but also appear to expose deeper internal tensions between strong and inertia-driven cultures and loose and innovative cultures within public service organizations.

The findings suggest that, in the absence of commercial profit motives, public service broadcasters must identify alternative incentive structures to drive the search for new knowledge and the development of new competencies. In contrast to private firms, which operate under different

appropriability regimes (Lavie et al., 2010), SVT cannot directly profit from its services in a commercial sense. Consequently, large investments in innovation do not generate direct monetary returns in the same manner as they may for commercial actors, thereby reducing purely financial incentives for exploration. Instead, we find that exploratory initiatives must be justified through other forms of value creation, such as increased efficiency, improved flexibility, or the ability to produce more and different forms of content within existing resource constraints.

A further intra-organizational antecedent concerns the path dependent structures and cultures that have shaped SVT's ambidextrous tendency. Tushman and O'Reilly (1996) argue that organizations which have achieved success through established structures, cultures, and capabilities risk becoming path dependent, as these same characteristics may later act as barriers to more radical forms of change. This pattern of path dependency is visible at SVT, where the siloed organizational structure historically appears to have reinforced a degree of "we and them" dynamic between divisions, as indicated by Respondents 6, 7, and 21. This dynamic is also reflected within the exploration-exploitation relationship itself, where the integrated culture surrounding traditional production systems creates reluctance among some operators and group managers to adopt software-based systems developed within different organizational units and cultures. This finding aligns with Sørensen's (2002) argument that strong organizational cultures tend to favour exploitative activities and incumbent capabilities.

While entirely new roles and competencies are emerging around exploratory software-based production, existing professional roles simultaneously display tendencies toward remaining within their established exploitative domains and responsibilities, reflecting two distinct sides of the time and resources tension. Without deliberate managerial efforts to address these underlying structural and cultural divides, formed by years of path dependency, the findings suggest that the "we and them" dynamic risks becoming increasingly reinforced, thereby further intensifying both the knowledge and competencies tension and also the scope tension over time. That SVT has nevertheless already moved beyond experimentation toward active exploratory production suggests that these path dependent tendencies have not fully prevented the organization from pursuing change. Therefore, the findings also partly challenge Hannan and Freeman's (1984) argument that older organizations inherently struggle to keep pace with technological change. Hence, while SVT may still be regarded as comparatively slow-moving relative to parts of the broader digital content production industry, the findings suggest that the organization can simultaneously be considered comparatively exploratory and innovative "dare" within the public service broadcasting sector itself.

The findings also point to an additional intra-organizational antecedent influencing the time and resources tension, namely resource constraints resulting from a lack of organizational slack resources. Respondents indicate that SVT lacks the slack resources necessary to effectively drive exploration, as resources consumed by exploitative activities are both structurally constrained and culturally difficult to reallocate toward exploratory purposes. This creates tensions between exploratory and exploitative organizational units competing for limited time and resources. The findings suggest that SVT lacks sufficient available resources to effectively pursue exploration, as

resources engaged in exploitative activities are either unable or unwilling to participate in exploratory initiatives. Group managers across legacy production units describe difficulties in identifying surplus resources that can be allocated toward exploratory activities within the NEO initiative, despite an increasing number of productions being routed through the new production system. This aligns with Lavie et al. (2010), who observe that organizations operating under resource constraints may prioritize sustaining current operations, by consuming existing slack rather than reallocating resources toward innovation and exploration. Within SVT's Production and Technology division, the findings suggest that the structural conditions required for such reallocation are largely absent. Respondent 7 describes the situation where group managers imply that there is simply no organizational space for change, thereby reflecting the exploitative root of the time and resources tension. In this regard, the initiative of the phased introduction of the cross-functional ProdOps team may be interpreted as an attempt to artificially create the organizational conditions that slack resources would otherwise provide. Hence, the findings partly contradict Levinthal and March's (1993) argument that slack resources facilitate experimentation, while aligning more closely with Cyert and March's (1992) argument that the existence of slack resources alone is insufficient to ensure that resources are directed toward innovative purposes. The available slack resources within the Program Division, which may appear when the program costs do not reach up to their allocated budget, the Program Division are often used to further exploit existing production incentives and maintain high-value incumbent production capabilities, rather than to support exploratory experimentation. In this regard, the argument by Lavie et al. (2010), namely that slack resources may primarily be used to sustain existing operations, appears particularly relevant in the case of the Program Division, while not at the Production and Technology division. Thus, the findings indicate that slack resources are predominantly utilized to reinforce exploitative priorities rather than being directed toward exploratory and innovative activities.

Another finding identified is that SVT's historically siloed and mechanistic organizational structure reinforces exploitative behavior and creates tensions through divided performance targets and incentives. However, the ongoing transition toward a more product-oriented and organic structure may improve the organization's exploratory capacity, although the extent of this effect remains unclear. The incumbent, though gradually changing, organizational structure at SVT has historically consisted of structurally separated divisions with their own funding structures and operational responsibilities. For example, the organization has partly operated according to a purchasing model in which the News and Sports division and the Program division purchased productions in competition with external providers. The Program division in particular, with a fixed budget, were measured and funded based on the quality level of their productions, with no incentives to be profitable. Hence, this model corresponds to the exploitative side of the time and resources tension. Conversely, the Production and Technology division operated primarily under a cost-reduction and efficiency mandate, where internal profitability became relevant in evaluating the performance of this division, thereby placing that model on the more explorative side of the time and resources tension, as these incentives pushed them to pursue exploratory activities such as

NEO. This structure of distinctive units corresponds closely to the mechanistic organizational form described by Lavie et al. (2010), where organizational divisions are highly specialized, responsibilities are formalized, and operational duties are relatively rigidly defined. However, the findings also indicate that SVT is gradually transitioning from a purchasing-oriented structure toward a more product-oriented organizational logic, where Respondent 3, head of the Production and Technology division, means that this reorganization forces different internal stakeholders to share the same goals, budgets, and roadmaps. The merger of the Production and Technology with the Media Division is a clear expression of this transition, moving away from the siloed purchasing structure. This emerging structure aligns more closely with what Lavie et al. (2010) describe as an organic organizational form. Chen (2017) indicates that such organic structures are more suitable for exploration. Burns and Stalker (1994) argue that organic organizational structures are particularly suited to changing environmental conditions, enabling flexible coordination guided by shared visions and cultures rather than strict managerial oversight. In this regard, the transition toward a more integrated and product-oriented structure may increase organizational adaptability and facilitate exploratory activities. At the same time, however, it remains unclear whether broader efficiency requirements distributed across all product-oriented teams will ultimately strengthen or weaken exploratory capacity over time. It is also unclear whether this restructuring will provide the necessary conditions for SVT to pursue completely new exploratory domains, or rather be more efficient as an organization. However, we argue it will to some degree relax the time and resource tension that emerged through these silos.

To summarize, first, the findings suggest an intra-organizational pattern of path dependency at SVT, where the siloed organizational structure historically appears to have reinforced a degree of “we and them” dynamics between explorative and exploitative functions, where entirely new roles and competencies are emerging around exploratory software-based production. Existing professional roles simultaneously display tendencies toward remaining within their established exploitative domains and responsibilities, largely due to risk-prone group managers. However, a culture of risk-taking has emerged in more explorative organizational units, thus influencing both sides of the risk tension. Second, SVT lacks the slack resources necessary to drive exploration, as resources consumed by exploitative activities, driven by risk-prone managers, are structurally constrained and culturally reluctant to be reallocated toward exploratory purposes, creating a tension between exploratory and exploitative units. Third, we conclude that SVT's historically siloed and mechanistic structure has reinforced exploitation through misaligned incentives and divided performance targets, while the ongoing transition toward a product-oriented organic structure holds promise for improving exploratory capacity, albeit with uncertain outcomes.

Managerial antecedents

Finally, we find that managerial antecedents at SVT vary considerably across organizational levels and divisions in how managers perceive and respond to change, and that these differences play an important role in shaping the tensions between exploration and exploitation. Specifically, they point toward diverging risk perceptions across leadership and operational management, a

short-term focus among group managers that limits organizational space for exploration, misaligned incentive structures across divisions, and differing views on SVT's future role and direction

The respondents reveal the existence of a divided perception of risk between leadership, which increasingly recognizes the existential threat associated with insufficient exploration, and group management, which prioritizes predictability and reliability. This creates a vertical managerial tension between exploration and exploitation. As previously discussed under intra-organizational antecedents, risk perception at SVT varies across divisions, incentive structures, and situations. While the findings reveal two coexisting orientations toward risk, one rooted in predictability and operational reliability and the other in experimentation and exploration, leadership must actively manage the tension between them, as argued by Smith and Tushman (2005). On one side of the spectrum lies the existential concern that excessive exploration may threaten SVT's highly valued trust and credibility, as indicated by Respondent 8. On the other side lies the opposing concern that insufficient experimentation and an overly exploitative focus may gradually cause SVT to lose relevance and audiences to alternative media providers, despite these providers often possessing lower levels of public trust, as indicated by Respondent 5. This tension aligns closely with the risk-aversion dilemma conceptualized by Lavie et al. (2010). While Lavie et al. (2010) further argue that risk-prone managers may become motivated toward exploration when organizational survival is perceived to be threatened, such exploratory risk-taking was not clearly identified at the line-management level within SVT. Instead, these concerns appear more strongly present at higher leadership levels across several internal divisions, as well as at the executive level (Respondent 2; Respondent 3; Respondent 4; Respondent 7). In this regard, March (1991) argues that organizations strongly engaged in exploitative activities may shift toward exploration when performance falls below managerial aspirations, suggesting that senior managers with higher ambitions than what incumbent activities can deliver become motivated to explore new alternatives. Although not explicitly confirmed in the findings, this type of tendency may partly explain the increasing managerial orientation toward exploratory activities within SVT. Consequently, the findings reveal a tension between leadership, which is increasingly oriented toward exploration, albeit without full alignment on which exploratory direction to pursue, and between operational management, which to a large degree prioritizes the reliability and efficiency of incumbent production systems.

Building on this, we find that senior managers within public service broadcasting organizations may need to actively advocate exploratory risk-taking while simultaneously maintaining transparency toward both internal stakeholders and external audiences. The CEO, Respondent 2, emphasizes that exploratory activities must be pursued transparently toward audiences in order to avoid negative public reactions, given SVT's exposure to public scrutiny and political sensitivity. On an internal level, Respondent 19 highlights that explicit agreement on risks between different stakeholders is key to ensuring that exploratory projects are able to move forward. This includes acknowledging potential consequences for audiences if the technology sometimes does not perform as expected. Interestingly, the exploratory NEO project was to a large extent made possible by

receiving support from leadership, such as Respondent 5. That such leadership support, despite SVT's exposure to public scrutiny, suggests that managerial orientations toward risk may be more nuanced than some existing literature on public organizations propose. Meijer et al.'s (2015) argument that public organizations tend to favour conservative approaches under public scrutiny therefore does not fully hold in our case. Instead, the findings align more closely with Gieske et al. (2019), who argue that public organizations are increasingly challenged to innovate in order to enhance performance and maintain societal relevance. Importantly, the findings suggest that this exploratory pressure is not solely created by environmental antecedents, but also significantly shaped by managerial interpretations in their perceptions of risk. Hence, the study indicates that leaders within public service broadcasting organizations may need to actively advocate exploratory risk-taking while simultaneously maintaining transparency regarding the exploratory process, both internally and toward audiences. In line with Levinthal and March's (1993) arguments regarding reinforcing learning dynamics, such managerial encouragement of exploration may gradually create self-reinforcing exploratory tendencies among developers, operators, and organizational units over time, as seen with the NEO project.

We also notice that managerial antecedents point toward a temporal orientation that prioritizes short-term operational demands over long-term strategic planning. Here, externally imposed deadlines can accelerate exploratory trajectories, suggesting that critical events may function as powerful catalysts that legitimize risk-taking for public service broadcasting. As illustrated through the time and resources tension, group managers are often heavily occupied with maintaining daily production delivery, leaving limited organizational space for proactive planning and exploratory preparation. This pattern is clearly visible in the case of NEO, where the 2026 Olympics deadline was communicated too late for adequate organizational preparation, leaving the development team with insufficient time to establish the support structures, competencies, and implementation processes required for broader organizational integration. Consequently, the implementation of NEO in high-stakes broadcast events evolved largely as a reactive response to operational pressures rather than as a product of deliberate and proactive planning by management. While Lavie et al. (2010) argue that exploratory path dependency develops gradually as organizations accumulate experience through new skills, resources, and routines, the findings from SVT suggest that such exploratory trajectories may also be accelerated through externally imposed deadlines and critical events. In the case of SVT, the approaching the 2026 Olympics delivery effectively forced the organization into exploratory activities, and the experiences accumulated throughout this process appear to have contributed to the emergence of a more self-reinforcing exploratory orientation going forward. At the same time, the Olympic implementation was widely described by respondents as a major success for the NEO initiative overall. This suggests that senior management's decision to approve NEO for broadcasting parts of the 2026 Olympics, months before the system was developed for such events, reflects a willingness to engage in substantial exploratory risk-taking even in high-stakes, creating a catalyst for exploration to gain legitimacy.

Another finding concerns differing managerial perspectives on organizational priorities and identity. This suggests that incentives are a powerful mechanism reinforcing exploitative rather than exploratory activities. For example, project leaders within the Program Division, who are assigned productions with fixed budgets, have historically had limited incentives to explore alternative production methods. Engaging in exploratory activities does not necessarily improve their position or resource allocation in future productions. Consequently, project leaders become incentivized to exploit existing knowledge and production capabilities in order to maximize production quality within existing constraints. In this regard, the findings align with Lavie et al. (2010), who argue that exploitative routines may become self-reinforcing over time. In the case of the Program Division, the findings suggest that risk aversion associated with potentially losing funding or production quality reinforces a feedback loop that inhibits the search for alternative and more innovative production methods. This dynamic also aligns with March's (1991) argument that exploration is characterized by uncertain and temporally distant returns, whereas exploitation generates more immediate and predictable outcomes. Furthermore, March (1991) highlights incentive systems as one of the key managerial mechanisms shaping whether organizations and individuals become oriented toward exploration or exploitation. In this regard, the findings suggest that existing incentive structures within the Program Division have historically favoured exploitative efficiency over exploratory experimentation in technology.

Within the Program Division, the primary incentive to pursue alternative production methods has instead largely stemmed from managerial directives encouraging the search for more efficient forms of production. Hence, the findings suggest that project leaders historically possessed substantial influence over technological choices that primarily benefited their own productions in the short term rather than the broader long-term interests of the organization. In this regard, project leaders within the Program Division were comparatively shielded from directly experiencing the environmental pressures that generate tensions between exploration and exploitation. According to Lavie et al. (2010), such dynamics risk contributing to a success trap, where historically successful actors continue relying on path dependent exploitative routines that previously generated positive outcomes. This pattern appears visible within the Program Division, where established production practices and incumbent technological choices became increasingly reinforced over time. SVT has partly recognized these structural challenges. The contrast with the News and Sports division is particularly illustrative. Operating under a more collectively shared total budget, project leaders within News and Sports appear more strongly incentivized to maximize overall production output rather than optimize individual productions independently. Furthermore, project leaders within News and Sports possess considerably less influence over technological choices compared to their counterparts within the Program Division. Instead, demands for quality and advanced production capabilities are balanced together with the Production and Technology division from the perspective of what benefits the organization as a whole, both operationally in the present and strategically over the longer term. These findings point toward two broader implications. First, where organizational structures shield units from directly experiencing environmental pressures that generate exploration-exploitation tensions, as observed within the Program Division, stronger

managerial intervention and clearer strategic directives may become necessary to stimulate exploratory activities. This aligns with Lavie et al. (2010), who argue that mechanistic organizational structures characterized by formalized duties and hierarchical authority tend to reinforce stable exploitative operations, which closely resembles the Program Division's traditional purchasing structure. Second, where organizational structures instead expose units more directly to environmental pressures, as in the case of News and Sports, the organization may rely more heavily on self-regulating dynamics. In such cases, tensions between exploration and exploitation become experienced more organically and therefore influence behaviour without requiring the same degree of external managerial intervention. This interpretation aligns with Gibson and Birkinshaw's (2004) argument that well-designed organizational systems and processes may enable units and individuals to balance exploration and exploitation themselves, provided that the surrounding contextual conditions support such balancing.

In conclusion, our findings show that managerial antecedents at SVT give rise to inherent tensions that simultaneously pull different parts of the organization toward exploration and exploitation. There is a fundamental divide between leadership, which is increasingly oriented toward exploration, and operational management, which largely prioritizes the reliability and efficiency of incumbent production systems. Bridging this divide requires senior managers to actively advocate exploratory risk-taking while maintaining transparency about it toward both internal and external stakeholders, as literature suggests such encouragement gradually creates self-reinforcing exploratory tendencies over time. Additionally, externally imposed deadlines, such as the 2026 Olympics, may further function as powerful catalysts that accelerate and legitimize exploratory activities. Finally, the findings suggest that where organizational structures shield units from environmental pressures, as in the Program Division, stronger managerial intervention becomes necessary to stimulate exploration, whereas structures that expose units more directly to such pressures, as in News and Sports Division, may enable more self-regulating ambidextrous dynamics.

6.2 How to use different modes of balancing

In the following section, we discuss how the identified mechanisms of development and implementation correspond to different modes of balancing and their respective implications. Furthermore, we discuss how different modes of balancing may be applied by public service broadcasters, as well as the implications and outcomes associated with these approaches. These are summarized in Table 9.

Table 9: Logic, benefits, and limitations of balancing modes

Mode	Core logic	Benefits	Limitations
Contextual ambidexterity	Individuals and teams balance exploration and exploitation simultaneously	High adaptability and flexibility Reduced need for managerial coordination	May reinforce path dependence Difficult to achieve deep exploration

		Encourages initiative and responsiveness	Relies heavily on culture and individual capabilities
Structural separation	Exploration and exploitation are separated into different units or teams	Increased specialization Reduced switching costs Deeper exploration and exploitation Stronger strategic control	Requires extensive managerial integration and coordination Risk of organizational fragmentation
Temporal separation	Exploration and exploitation are prioritized at different points in time	Supports gradual transformation Aligns with innovation cycles Facilitates transition from exploration to exploitation	Requires proactive planning Organizational alignment needed
Domain separation	Exploration and exploitation are pursued in different technological, product, or inter-organizational domains	Reduces complexity Enables targeted exploration Supports learning through new ecosystems while maintaining incumbent relationships	Exploitative domains may become neglected and obsolete

Contextual ambidexterity

As presented in the theoretical framework, balancing exploitation and exploration through contextual ambidexterity entails that individuals and units regulate this balance themselves, guided by organizational systems, processes, and culture (Gibson and Birkinshaw, 2004).

The findings suggest that balance could be effectively achieved through ambidexterity by using an abstract vision, ultimately creating a favorable organizational context for individuals. The results reveal that Respondent 5 was early in identifying software-based production as a new frontier in live production with significant potential benefits for SVT. Together with Respondent 12, he identified talented individuals such as Respondent 19 and Respondent 25 and created a protected structure in which NEO could emerge and develop. At the same time, they established a broader vision for what software-based production systems could become. Although this vision was not initially concrete in terms of the system's detailed technical implementation, it provided a general direction and a set of boundaries within which exploration could take place. In accordance with Senge (1990), the vision thereby functioned as an orienting mechanism that enabled decentralized and loosely coordinated exploration without requiring detailed centralized control. Consequently, developers of NEO were able to contextually balance exploration and exploitation relatively autonomously while still being guided by a shared understanding of the system's broader purpose and potential. For instance, the developers consistently adhered to web protocols and standards throughout the development

process, which functioned as a shared technological direction for exploration. Gibson and Birkinshaw (2004) argue that such organizational contexts are important for fostering discipline, meaning individuals voluntarily striving to meet explicit or implicit expectations, and stretch, referring to a willingness to voluntarily go beyond formal requirements. As Respondent 25 describes, driven by personal passion and motivation, he developed NEO whenever opportunities arose alongside his ordinary work activities.

The interviews highlight that contextual ambidexterity can be particularly effective when employed by individuals with dual backgrounds who are not yet strongly path dependent. It is clear that Respondent 25 was able to balance exploitation and exploration within his own work activities. However, individuals with different professional backgrounds and experiences may not be equally suited to such contextual balancing. Tushman and O'Reilly (1996) caution organizations against falling into a success trap, where structures and cultures become increasingly centered around what has previously been successful, but later act as barriers when more substantial transformation is required. Consequently, both organizations and individuals tend to become increasingly oriented toward exploitative rather than exploratory activities. Arguing in favour of structural ambidexterity, March (1991) emphasizes the importance of maintaining variance within organizations, cautioning that excessive sharing of knowledge may reinforce path dependency and reduce the organization's capacity for exploratory variation over time. Due to these path dependencies, the absence of clear separation between exploitation and exploration by contextual ambidexterity may constrain the emergence of more revolutionary innovations, as exploratory activities risk remaining embedded within existing routines, logics, and cognitive frames of individuals. One possible explanation for why this pattern was not evident in the early development of NEO may lie in the particular characteristics of the individuals involved in the project. Respondent 19 describes Respondent 25, for instance, as a rare example of a person with backgrounds in both live production and software development. Consequently, he appears to have been less shaped by the norms and routines associated with stable exploitative environments, in this case the established standards and requirements of traditional hardware-based production systems. Hence, public service broadcasters may benefit from identifying individuals suitable for contextual ambidexterity to ensure effective balancing.

The case suggests that contextual ambidexterity alone may not be self-regulating enough for public service broadcasters to reach the level of adaptation required to respond to environmental change. Gibson and Birkinshaw (2004) argue that contextual ambidexterity constitutes a mode of continuously balancing exploitation and exploration in which individuals simultaneously align with existing organizational operations while adapting to emerging changes and opportunities. Hence, environmental changes need to be clearly noticeable from the perspective of individuals. However, in our case it remains unclear whether contextual ambidexterity alone is sufficient for generating deeper technological breakthroughs through highly exploratory activities. The NEO development initiative was strongly driven by Respondent 5, who, through his broad managerial perspective and strategic foresight, established a broader vision surrounding the potential of software-based

production. Consequently, it remains uncertain, and will likely remain difficult to determine, whether operators with a narrower operational scope would independently have developed the strategic foresight required to respond to the environmental antecedents and initiate the development of a software-based production system without direction from senior management, regardless of the given environmental trends.

We conclude by highlighting several key learnings regarding the balancing of tensions through contextual ambidexterity. First, public service broadcasters may effectively balance tensions through contextual ambidexterity without extensive managerial coordination, instead relying on an abstract vision within a relatively loose organizational structure. Second, as the ability to engage in contextual ambidexterity may differ between individuals depending on their professional backgrounds and path dependencies, public service broadcasters may benefit from identifying individuals and organizational units where contextual ambidexterity is most suitable for effective balancing. Third, the case suggests that contextual ambidexterity alone may not be sufficiently self-regulating for public service broadcasters to initiate deeper technological adaptation in response to environmental change.

Structural separation

Structural separation entails that differentiated organizational units, occupied primarily with either exploitation or exploration, are optimized according to their distinct tasks, cultures, and organizational arrangements (Tushman and O'Reilly, 1996). Benner and Tushman (2003) highlight that exploitative units are often larger and more centralized, focusing on efficiency, stability, and operational control, whereas exploratory units tend to be smaller, more loosely coordinated, and flexible around innovation processes. Such differentiation allows each type of unit to become highly adapted to its specific purpose, while enabling management to strategically structure and coordinate exploitative and exploratory activities so that the organization as a whole can pursue both simultaneously (Lavie et al., 2010). As mentioned in the preceding section, the early developers involved in NEO were simultaneously occupied with their ordinary operational responsibilities while developing NEO whenever opportunities arose, thereby acting contextually ambidextrous. However, as the 2026 Winter Olympics approached, it became increasingly clear that existing time and resource constraints were insufficient to deliver the system in time. Management therefore decided, partly under significant time pressure, to allocate dedicated time and resources to the NEO development, allowing developers to work full time on the system together with external support resources in the NEO ProdOps and DevOps teams. This suggests that the exploratory activities were initially managed through contextual ambidexterity, while later becoming increasingly structurally separated as the initiative matured and operational demands intensified.

The analysis suggests that public service broadcasters can use structural separation to increase development speed by reducing switching costs and foster specialization. By structurally separating exploratory activities from ordinary operational responsibilities, individuals involved in NEO were partly relieved from having to balance exploitation and exploration within their own daily work

activities. Instead, they were able to focus on exploratory development activities. Naturally, the increase in resources itself appears to have accelerated the pace of development. However, two additional explanations may also have contributed. First, Gibson and Birkinshaw (2004) imply that contextual ambidexterity relies on individuals cognitively and temporally switching between exploratory and exploitative activities. Although uncertain, reducing these transitions may therefore also have reduced cognitive and temporal switching costs, thereby increasing development speed. Second, Lavie et al. (2010) together with Benner and Tushman (2003) argue that structural separation increases efficiency by allowing units to specialize around their respective purposes. In the case of NEO, the ProdOps team specialized more toward operations and production support, while the DevOps team specialized toward software development, which may also have contributed to the accelerated pace of development.

The findings indicate that structural separation shifts tensions from individuals toward management, thereby increasing the need for coordination and the opportunity for broader strategic balancing. The tensions between exploitation and exploration did not disappear when individuals were relieved from contextual ambidexterity and allowed to focus fully on exploration through management's structural separation of NEO development. Rather, these tensions were shifted upward, requiring strategic coordination by senior management instead. During the earlier stages of development, management had not yet fully assumed responsibility for balancing the tensions between exploration and exploitation. Consequently, managerial coordination remained limited and somewhat indirect. However, as the 2026 Olympics approached and the deadline became increasingly critical, management was forced to intervene more actively and structurally coordinate the balance between the two activities. This appears to have placed greater strain on management, which became increasingly exposed to tensions concerning risk-taking and the allocation of time and resources. In accordance with Lavie et al. (2010), structural separation therefore appears to require a greater degree of managerial coordination, as management becomes responsible for balancing tensions that individuals previously managed themselves through contextual ambidexterity. In practice, this became reflected in management's establishment of the ProdOps and DevOps teams. These teams were dedicated primarily toward exploratory activities and strategically structured around different yet complementary knowledge bases. The internally derived ProdOps team was primarily oriented toward competencies rooted in broadcasting and television production, while simultaneously maintaining an understanding of streaming technologies and workflows. In contrast, external competencies were more easily integrated into the DevOps team, which focused more strongly on software development capabilities. The case illustrates how structural separation enables management to make broader and more deliberate organizational balancing decisions, rather than relying on individuals and local teams to autonomously adapt the organization in response to environmental changes. As the 2026 Olympics approached, management ultimately chose to accept increased operational risk and allocate substantial time and resources toward the continued development of NEO despite the short remaining time frame before the event. Hence, while structural separation requires public service

broadcasters to employ substantially greater managerial coordination, it also enables public service broadcasters to make broader and more deliberate strategic balancing decisions.

The study indicates that public service broadcasters may use structural separation to balance high variance efforts, using strict technological principles and targeted implementation. March (1991) argues that maintaining organizational variance is essential, as organizations naturally tend to converge around incumbent knowledge and capabilities over time. Such convergence risks reinforcing path dependency and reducing exploratory variation, ultimately making more radical forms of innovation less likely. Consequently, while integration between exploratory and exploitative activities is necessary, excessive integration of exploratory knowledge into incumbent exploitative structures may gradually homogenize the organization and weaken its exploratory capacity. However, the findings suggest that this risk was partly mitigated in the early development of NEO. First, the vision surrounding NEO included strict technological principles, such as building the system around web protocols, which guided development and reduced the influence of incumbent requirements and restrictions from the exploiting organization. The initial targeted implementation of NEO in productions such as *The Great Moose Migration* and *table tennis* did not constitute excessive integration into the broader exploiting organization that risked redirecting development toward incumbent broadcasting standards and logics, even if NEO was in an early state of development, far from a dominant design. These productions had relatively limited technical requirements, allowing NEO to continue developing according to its own principles rather than adapting toward traditional broadcasting demands.

The findings suggest that, for structural separation to function effectively, public service broadcasters may need to employ several mechanisms of integration, such as aligning incentives, tailoring communication, reducing perceived risk through redundancy and transparency, and developing systems in relatively close proximity to users. While NEO was successfully implemented in selected formats and productions, the findings reveal that implementation stalled in other areas. As suggested by Lavie et al. (2010), structural separation requires deliberate mechanisms of integration if exploratory innovations are to become adopted within incumbent operations. In our case, the findings suggest several mechanisms for addressing such implementation barriers. First, the results suggest that Production & Technology was more closely aligned in its incentives with News and Sports, which facilitated implementation in these areas compared to the Program Division. Hence, the use of structural separation becomes more difficult when differences in the focus tension exist between organizational units. As Respondent 3 suggests, SVT has identified this tension and aims to align fragmented incentives across divisions by moving away from a traditional line organization toward a product-oriented organizational structure. Second, while incentive structures differed between organizational areas, communication was not always sufficiently adapted to these differences. Parts of the exploiting organization were more strongly oriented toward high-quality production delivery and the continued use of established production methods than toward exploratory experimentation. Consequently, communication surrounding NEO did not always resonate with the priorities and incentives of these groups, thereby reducing willingness to adopt

and implement the system. Employees and production teams therefore became less inclined to allocate additional time and resources toward experimenting with new production approaches, reinforcing both the focus tension and the time and resources tension. As Respondent 15 notes, practitioners often possess a strong professional identity, while Respondent 16 emphasizes the importance of being attentive to the human side of organizational change. Hence, as incentives and priorities may differ between individuals and units, the findings suggest that communication may need to be adapted to specific organizational contexts in order to facilitate implementation. Third, the findings further suggest that increased redundancy and reliability within NEO may reduce perceived operational risk and thereby increase producers' willingness to adopt and implement the system more broadly, reducing the risk tension associated with exploratory adoption. For instance, Respondent 18 proposes the use of A/B-testing as a mechanism for gradually increasing reliability and confidence in the system. Finally, the findings indicate that structural separation may also create implementation challenges related to inclusion and ownership. As some actors felt excluded from the early development of NEO, as witnessed by Respondent 6. Dissatisfaction later emerged when the graphical user interface and workflows were not sufficiently adapted to their operational needs, reinforcing perceptions that they should have been involved earlier in the development process. Respondent 23 suggests that campaigns of radical transparency may help foster understanding and willingness to collaborate rather than resist the transformation. Hence, the case suggests that when exploitation and exploration are structurally separated, management must pay deliberate attention to mechanisms of integration. More specifically, in order to achieve effective integration between exploratory and exploitative activities under structural separation, managers may need to align incentive structures where possible, adapt communication to differing organizational priorities where incentives remain distinct, reduce perceived operational risk through redundancy and transparency, and develop systems in relatively close proximity to end users.

To summarize, several key learnings emerge from the use of structural separation as a mode of balancing. First, it appears public service broadcasters can use structural separation to increase efficiency in both exploration and exploitation by allowing units to specialize around their respective purposes. Second, while structural separation requires public service broadcasters to employ substantially greater managerial coordination, it can be employed to enable broader and more deliberate strategic balancing decisions rather than relying solely on contextual adaptation. Third, public service broadcasters may balance high variance efforts by using strict technological principles and restrictively targeted implementation. Finally, structural separation creates significant internal development and integration challenges that require public service broadcasters to employ several mechanisms of integration.

Temporal separation

Temporal separation refers to organizations alternating between exploratory and exploitative activities sequentially over time rather than simultaneously (Lavie et al., 2010). Thus, a sequential approach allows an organization to both exploit and explore, but at different times (Poole & Van de Ven, 1989). The findings from SVT do not suggest a pure form of temporal separation. Instead, the

case reveals a more nuanced combination of contextual ambidexterity, structural separation, and temporal shifts in focus, time and resources, knowledge and capabilities, and risk, over time.

Temporal separation may aid public service broadcasters in effectively balancing tensions through innovation cycles. We argue it would be inaccurate to conclude that SVT relied solely on either contextual ambidexterity or structural separation without a temporal dimension. If balancing had relied exclusively on contextual ambidexterity, using Gibson and Birkinshaw's (2004) definition as a continuous process, without a time dimension, one can argue developers would have continued pursuing entirely new exploratory production technologies after NEO rather than focusing primarily on implementation and incremental improvement of the existing system. Conversely, if balancing had relied solely on structural separation, exploratory units would be tasked with continued pursuit of exploring new technological frontiers rather than gradually transitioning toward refinement and operational support activities. Instead, the findings suggest exploration gradually transformed into exploitation through processes using a combination of contextual ambidexterity and structural separation. Because the NEO initiative began as an ambitious exploratory initiative by managers and developers such as Respondent 5 and Respondent 19, and later became operationalized into production, the case suggests that temporal separation in this instance successfully contributed to balancing exploratory development with operational exploitation. Namely, by having previously contributed to the exploratory development of the system, the ProdOps team was particularly well suited to support and enhance exploitation through its role in daily operations and use of the system. This does not necessarily imply that continuous contextual ambidexterity or permanent structural separation would have been unsuccessful. However, Tushman and O'Reilly (1996) argue that the balance between exploration and exploitation should vary depending on environmental dynamism. During periods characterized by major technological shifts, organizations benefit from exploration to avoid obsolescence, whereas more stable environments instead favor greater emphasis on exploitation and operational efficiency. Hence, temporal separation may assist organizations in balancing exploitation and exploration through innovation cycles.

The evidence suggests that public service broadcasters may use temporal separation most effectively by aligning short-term program requirements with long-term strategic technological ambitions. Most productions within SVT create some pressure for technological adaptation and development within the Production and Technology department, as they are tasked with supplying equipment and supporting the News & Sports division and the Program Division in production activities. However, productions are often temporary and short-term in nature, limiting the possibility for effective temporal separation when exploratory requirements are technologically demanding and require deeper development efforts. As Respondent 4 points out, program requirements often emerge close to production deadlines. Under such conditions, time available for anything beyond lighter adjustments and incremental innovation becomes highly constrained. In accordance with Siggelkow and Levinthal (2003), this creates challenges for temporal separation, as exploratory development requires planning and longer time horizons. Conversely, the case also suggests that the

absence of production-driven pressure makes it difficult to allocate sufficient focus, time, and resources toward deeper exploration, as these are consumed in exploitation. In such cases, initiatives like NEO were instead initially driven primarily by the Production and Technology departments' broader incentives concerning efficiency, flexibility, scalability, and operational adaptability. The 2026 Olympics represented a special case in which short-term program requirements from the News and Sports division simultaneously aligned with high technological demands with the Production and Technology Department's longer-term development ambitions surrounding NEO. This alignment between a major production deadline and a longer-term exploratory initiative appears to have induced a strong temporal shift toward exploratory development activities in order to deliver the system in time. Consequently, the findings suggest that temporal separation may function most effectively when broader strategic technological ambitions align with short-term program requirements and external production deadlines. By strategically monitoring technological developments and environmental shifts over longer periods while identifying productions that create concrete technological pressure and deadlines, organizations may create particularly strong conditions for temporally separated exploratory initiatives. In this regard, management appears to play an important role in identifying where long-term strategic technological ambitions can be aligned with short-term operational opportunities and deadlines capable of accelerating exploratory development.

To conclude, the findings suggest two key learnings for public service broadcasters regarding the management of tensions through temporal separation as a mode of balancing. First, the findings suggest that temporal separation may aid public service broadcasters in balancing tensions through cycles of innovation, where exploratory initiatives effectively evolve into exploitative operations in a gradual manner. Second, the case indicates that public service broadcasters may use temporal separation most effectively when aligning broader strategic technological ambitions with short-term operational requirements and external deadlines, thereby creating sufficient pressure, urgency, and legitimacy for deeper exploratory development efforts.

Domain separation

Domain separation involves separating exploratory and exploitative activities across different domains, such as products, technologies, markets, or network relationships (Lavie et al., 2010). As this study is limited to the live production domain, it is difficult to draw broader conclusions regarding differences in exploration and exploitation across wider organizational domains and networks. However, the findings still suggest that SVT partly balanced exploration and exploitation through domain separation on several levels.

The analysis suggests that public service broadcasters can use domain separation to reduce the complexity of exploration and facilitate subsequent implementation, while simultaneously opening the opportunity for future expansion into additional domains. Domain separation was apparent in the initial limitation of exploratory development toward specific live production formats, such as *The Great Moose Migration*, a slow-TV production, and mix-point sports productions where host

broadcasters supplied the main live feed to SVT where NEO is used, primarily to add SVT's own graphics and commentary, such as in Respondent 26's table tennis streams. Furthermore, the programs initially selected for implementation possessed characteristics that made them less operationally critical from a quality and reliability perspective. Tailoring development toward these types of formats appears to have reduced the complexity of exploration, preventing the initiative from becoming too extensive at an early stage, as might have been the case if a broader set of domains had been targeted from the outset. Additionally, the specialization toward a narrower set of domains with lower operational requirements facilitated subsequent implementation, as these productions were more susceptible to experimentation with new production methods than other program domains. As Respondent 18 explained, once these implementations proved successful and organizational interest increased, while there is still work to be done, it became easier to continue development toward additional formats and domains, such as live-on-tape talk shows. However, as exploration becomes increasingly concentrated within specific domains, domains primarily characterized by exploitation risk becoming obsolete and leaving individuals behind. As Respondent 18 notes, some Technical Operations Manager roles may become obsolete in the future, as the traditional system remains primarily subject to exploitation and certain individuals are reluctant to learn and adapt to the new system in the new domain.

The case indicates that public service broadcasters can use domain separation to explore previously unfamiliar inter-organizational domains to open new opportunities for acquiring knowledge and capabilities. Lavie and Rosenkopf (2006) argue that partnerships and alliances may themselves become subjects of exploration and exploitation, thereby creating an additional dimension for balancing. NEO is embedded within a different technological and inter-organizational ecosystem, originating from streaming and web technologies, in contrast to the traditional broadcasting ecosystem with which SVT historically maintained long-term relationships through proprietary hardware-based production systems. For example, external software developers and consultants from the streaming industry contributed additional resources and capabilities through close collaboration in the development of NEO. Importantly, these actors also contributed novel knowledge and competencies less constrained by the path dependencies associated with traditional broadcasting production. At the same time, exploring this new technological domain did not require SVT to abandon its incumbent broadcasting ecosystem entirely, thereby enabling continued exploitation of existing broadcasting capabilities while simultaneously exploring new technological networks in streaming.

In summary, the findings suggest two central implications of domain separation for public service broadcasters. First, public service broadcasters may use domain separation to ease exploration and implementation, while remaining open for future domain expansion. Although, this may leave other domains vulnerable for obsolescence. Second, public service broadcasters may use domain separation to explore previously unfamiliar inter-organizational networks to create opportunities for acquiring new knowledge and capabilities that are less constrained by incumbent path dependencies, while maintaining incumbent ones in exploitation.

Combining modes of balancing

The development and implementation of NEO illustrate how all four modes of balancing may be utilized within a public service broadcasting organization. This supports Hamblin et al.'s (2024) argument that organizations may combine and blend balancing approaches across different organizational levels over time. Each mode of balancing exhibits distinct characteristics and entails different advantages and disadvantages for public service broadcasters in managing tensions between exploration and exploitation. Consequently, understanding the characteristics of these balancing modes, as well as how they may be applied simultaneously or sequentially, may be important for public service broadcasters seeking to effectively balance exploitation and exploration throughout cycles of innovation and organizational change.

7. Practical Implications

In the following section, we turn to the practical implications that these findings may hold for practitioners.

7.1 Adapting through cycles of innovation

To explore revolutionary technologies, it is not enough for public service broadcasting organizations to simply declare that they should become more innovative. Rather, broadcasters must make deliberate decisions regarding the level of risk and resource commitment they are willing to accept. These decisions should be strategically aligned with changing environmental conditions and continuously reassessed as technologies and markets evolve.

Tushman and O'Reilly's (1996) description of how technologies and organizations evolve through cycles of evolutionary and revolutionary change fits well with our case. Historically, changes in traditional broadcasting systems have largely been episodic due to hardware replacement cycles. Once hardware is acquired, it typically remains relatively unchanged throughout its operational lifetime, sometimes spanning decades. However, as the media environment becomes subject to increasingly rapid and substantial change, traditional hardware-based systems are no longer perceived as sufficiently adapted to future conditions. Consequently, public service broadcasters are increasingly forced to explore alternative methods of production.

The introduction of software-based production systems such as NEO represents a substantial shift away from traditional broadcasting systems. While software-based systems may initially be developed gradually through experimental activities and deployed primarily within niche formats and productions, both development and implementation may increase in speed and scope over time. For instance, following the 2026 Olympics, NEO proved itself operationally and established itself as a legitimate alternative for production. Now, unlike traditional hardware-based systems, NEO itself remains subject to continuous incremental development and updates, without a fixed technological endpoint. In response, SVT has increasingly reorganized around implementation, support, and continuous adaptation. Currently, NEO is intended to be applied across a broader range of formats and programs. As software-based production systems become increasingly operationalized and exploited within daily production activities, they may emerge as the next dominant design in broadcasting. In such a scenario, public service broadcasters may realize benefits such as increased operational efficiency, reduced costs, greater flexibility and scalability, and improved organizational adaptability and resilience.

This implies that public service broadcasters that engage in exploration during periods of discontinuous environmental change may mitigate the risk of obsolescence and position themselves more favorably for future exploitation. Hence, we argue that understanding the fundamental differences between exploitation and exploration, and their respective roles in cycles of innovation, is crucial for public service broadcasters. As demonstrated in this study, such transitions

simultaneously expose organizations to significant and inherent tensions and trade-offs that should not be neglected, but instead actively recognized and balanced.

7.2 The difference between exploration and exploitation and their natural trade-offs

Levinthal and March (1993) offer a fundamental definition of exploration and exploitation. They regard exploration as the pursuit of new knowledge and capabilities, currently not part of the existing knowledge base and capabilities. In contrast, Levinthal and March (1993) define exploitation as the deepening and refining of the current knowledge and capabilities. This implies, to successfully pass cycles of innovation, public service broadcasters must prioritize the pursuit of new knowledge and capabilities to ensure long-term success, while simultaneously exploiting their current knowledge and capabilities to profit short-term. This creates inherent trade-offs.

Our results reveal five distinct tensions, more or less specific to the context of public service broadcasters that management must consider. First, public service broadcasters must decide where to direct organizational focus: toward optimizing what already works or experimenting with what may eventually work better. Second, public service broadcasters must determine how to allocate scarce time and resources between maintaining current operations and investing in future capabilities. Third, they must decide in which direction to develop knowledge and competences, recognizing that building new capabilities may come at the expense of deepening existing ones. Fourth, public service broadcasters must weigh whether to reduce risk by relying on the predictable or accept the uncertainty that inevitably accompanies exploration. Fifth, and ultimately, public service broadcasters must consider their broader role and mission: whether to remain within their current domain or move toward an entirely new one.

These tensions suggest that exploration should not be pursued indiscriminately. This does not imply that everyone should innovate, that innovation should occur continuously, or that all organizational domains should be equally subject to exploration. Instead, public service broadcasters must make deliberate decisions regarding who should innovate, when innovation should occur, where exploratory efforts should be concentrated, and what should be subject to exploration and exploitation respectively.

7.3 Antecedents shape and affect the tensions

Lavie et al. (2010) argue that organizations are already shaped by a range of internal and external antecedents that pull them toward either exploration or exploitation. In alignment with Lavie et al. (2010), our results suggest that these antecedents influence both the strength of tensions between exploration and exploitation and the conditions for responding to them. This implies that, by understanding these antecedents, public service broadcasters may take deliberate measures to adjust their internal and external environments in ways that better enable the balancing of exploration and exploitation.

Our findings highlight antecedents specific to public service broadcasters across four levels: environmental antecedents, inter-organizational antecedents, intra-organizational antecedents, and managerial antecedents.

Environmental antecedents concern environmental conditions and changes that create pressures and motivations for organizational change. As previously discussed, drawing on Tushman and O'Reilly (1996), understanding broader cycles of innovation and environmental change may improve an organization's ability to determine when, and in what way, exploration or exploitation is more appropriate. While environmental antecedents in this study have largely been treated as fixed external conditions, public service broadcasters may occupy a unique position in being able to influence parts of their institutional environment due to their size, status, and public trust. Nevertheless, the findings suggest that understanding the environment and the organization's relationship to it becomes crucial for public service broadcasters seeking to adapt effectively.

Organizational antecedents define the baseline conditions that enable or constrain how environmental pressures can be acted upon (Lavie et al., 2010). At the same time, the findings suggest that such antecedents should not be viewed as entirely fixed. For instance, the traditional broadcasting inter-organizational network did not prevent SVT from establishing new partnerships, alliances, and technological networks in the development of NEO. By actively establishing new inter-organizational relationships and restructuring intra-organizational conditions, public service broadcasters may therefore improve their ability to balance exploratory and exploitative activities more effectively.

Managerial antecedents shape how innovation and tensions are perceived within the organization. As Lavie et al. (2010) argue, the cognitive and behavioral orientations of leadership teams influence an organization's tendency to pursue exploration or exploitation. These perceptions subsequently influence which balancing approaches become adopted and how tensions are managed in practice. Our findings suggest that managerial orientations, organizational cultures, incentive systems, and perceptions of organizational purpose should also be understood as subject to change in order to improve the balance between exploration and exploitation.

7.4 Use different modes of balancing in practice

Our study exemplifies and offers suggestions regarding how public service broadcasting organizations can successfully employ four modes of balancing: contextual ambidexterity, structural separation, temporal separation, and domain separation. Each mode possesses distinct characteristics and implications for how exploration and exploitation may be managed simultaneously (summarized in Table 9). This implies that public service broadcasters, by understanding the advantages, drawbacks, organizational effects, and managerial demands associated with each mode, may make more effective use of them in managing transformational change.

Contextual ambidexterity places the responsibility for balancing exploration and exploitation on individuals and teams (Gibson & Birkinshaw, 2004). Our findings suggest that contextual ambidexterity may offer public service broadcasters increased adaptive capacity while reducing the need for extensive managerial coordination, instead emphasizing guiding principles and overarching visions. However, while contextual ambidexterity appears well suited for certain individuals and organizational contexts, it may be insufficient on its own when organizational path dependence is particularly strong, thereby reducing the likelihood of more revolutionary forms of exploration.

In line with Lavie et al. (2010), our results suggest that structural separation, involving the division of individuals and teams pursuing either exploration or exploitation, may increase the speed and effectiveness of both activities through specialization and reduced switching costs. Furthermore, while the balancing of tensions becomes increasingly concentrated at the managerial level, requiring greater coordination and demanding integration processes, structural separation also enables more deliberate strategic control over the balance between exploration and exploitation. Finally, and perhaps most importantly, our findings suggest, in line with March (1991), that structural separation with an appropriately balanced distance between exploitative and exploratory teams may enable both deep exploitation and deep exploration, ultimately enhancing transformative organizational capability.

Temporal separation involves pursuing exploration and exploitation at different points in time (Lavie et al., 2010). Our findings suggest that this enables organizations to naturally move through different innovation cycles and gradually transition exploratory initiatives into exploitative operations over time. While this approach may be highly effective, the findings indicate that it requires proactive managerial planning and broad organizational alignment around strategic ambitions.

Domain separation enables organizations to pursue exploration and exploitation across different products, technologies, or network relationships (Lavie et al., 2010). Our findings suggest that this may allow public service broadcasters to reduce complexity in development and implementation while remaining open to exploration across additional domains over time. However, a potential drawback is that domains primarily characterized by exploitation risk being neglected, thereby increasing their susceptibility to obsolescence. Furthermore, exploring previously unfamiliar inter-organizational domains may create opportunities for acquiring new knowledge and capabilities that are less constrained by the path dependencies of incumbent ecosystems, while simultaneously allowing organizations to continue exploiting existing external relationships.

Finally, our findings, supported by Hamblin et al. (2024), suggest that these modes of balancing should not be understood as isolated approaches, but rather as mechanisms that may be combined and blended over time. This implies that public service broadcasters should expect to combine different balancing modes as exploratory initiatives mature and organizational conditions evolve, as further emphasized by Lavie et al. (2010). Balancing the modes of balancing is therefore in itself a managerial challenge, which requires ongoing attention.

Taken together, the findings suggest several practical considerations. First, organizations should identify domains particularly suitable for exploration while allowing others to remain focused on reliable exploitation. For example, certain production formats, such as minor sports events, may provide more suitable environments for experimentation than highly critical or strategically sensitive productions. Second, organizations should carefully consider who is assigned exploratory activities. Individuals with diverse backgrounds, interdisciplinary competencies, and fewer path dependencies may be particularly well positioned to identify and develop revolutionary technologies. Given limited resources, exploratory efforts should therefore be concentrated where they are most likely to generate meaningful technological change. Third, organizations should carefully consider when exploration takes place, as timing may significantly influence both the risks and benefits of experimentation. Periods of lower operational pressure may provide favorable conditions for exploratory activities, while major events may create the urgency required to accelerate innovation and implementation.

However, these strategic considerations do not necessarily need to be communicated explicitly throughout the organization. While managers must navigate the contradictions and paradoxes between exploration and exploitation, the complexity of these balancing decisions may exceed what can realistically be communicated through simple organizational narratives. Consequently, strategic balancing may often remain primarily a managerial responsibility.

Finally, organizations should be cautious when evaluating exploratory initiatives using performance measures developed for exploitative activities. Metrics appropriate for optimizing incumbent systems may be poorly suited for assessing breakthrough innovations. Applying existing performance indicators to fundamentally different technologies risks reinforcing incumbent logics and prematurely rejecting promising alternatives. As technologies change, organizations must therefore continuously reassess whether their performance measures remain aligned with the objectives they seek to achieve.

7.5 Innovation can create deeper tensions beyond the original scope

Within the scope of this study, focused on live production and the development and implementation of software-based production systems, the findings largely suggest that such systems may increase public service broadcasters' ability to adapt to future conditions. Namely, the transition toward software-based production systems appears to provide several benefits, including increased operational efficiency, cost efficiency, scalability and flexibility, as well as organizational adaptability and resilience.

However, when adopting a broader perspective beyond the immediate scope of live production systems, the technological transformation also appears to reveal a deeper and more fundamental tension, referred to in the findings as the scope tension, referred to in the findings as the scope tension, which we would like to emphasize due to its substantial practical implications. Rather than concerning how public service broadcasters should improve or transform production activities, this

tension concerns whether traditional public service broadcasters should continue producing content in the same way, or potentially occupy the same role at all, in a future where technologies such as software-based production, streaming platforms, and artificial intelligence increasingly democratize content creation and distribution, historically an exclusive mandate held by public service broadcasters. This perspective aligns partly with Tushman and O'Reilly's (1996) discussion of technological discontinuities, where major technological shifts may fundamentally reshape industries and render previously successful organizational models obsolete.

Nevertheless, the findings suggest that technological transformation may not only create tensions between exploitation and exploration in relation to production systems, but also more fundamental tensions regarding the future role and mission of public service broadcasters themselves. However, these broader questions fall beyond the scope of this study and are therefore left for future discussion and research, and ultimately, for the future developments within the media landscape to determine.

8. Limitations and Suggestions for Further Research

We note that this research is based on a single case study. While this has enabled substantial depth and contextual understanding, it also means that the study concerns a particular public service broadcaster operating within a Swedish context. Consequently, the transferability of the findings to other public service broadcasting organizations may be limited. Comparative studies across different organizational and national contexts are therefore needed to examine whether such differences influence the antecedents, tensions, and balancing mechanisms identified in this study.

Furthermore, this study examines a particular technological transformation within a specific innovation cycle. Other innovation cycles may present fundamentally different antecedents, tensions, and modes of balancing. For instance, the findings suggest that new knowledge and capabilities could be accessed through novel inter-organizational networks, enabling SVT to develop NEO relatively independently from the incumbent broadcasting ecosystem. However, in other exploratory efforts, such as the use of 5G as a method for audio and video contribution within the production chain, infrastructural dependencies and ecosystem constellations may be less flexible and more difficult to circumvent. Hence, further research is needed to understand how organizational ambidexterity may manifest across different technological transformations and innovation cycles.

As the scope of the study was limited to the development and implementation of software-based production systems within live production environments, this limited the ability to explore dynamics of exploration and exploitation in other organizational domains. For instance, the study could not fully examine whether SVT balanced exploration and exploitation differently across other technological, editorial, or organizational areas beyond the specific transformation studied here.

Finally, we recognize that the time span of the study has been limited. Consequently, the study provides only a temporary snapshot of an ongoing organizational and technological transformation. Longitudinal studies may therefore give additional perspective on how antecedents, tensions, and balancing mechanisms evolve over longer periods of time.

9. Conclusion

Public service broadcasters constitute a distinct type of public organization with an important role in supporting democratic, cultural, and social objectives. However, this does not make them immune to change. In an increasingly discontinuous and rapidly changing media environment, our findings suggest that new technologies, economic pressures, changing user preferences, increasing competition, and evolving institutional demands require public service broadcasters to adapt in order to avoid obsolescence and continue fulfilling their public service mission in the future. Embracing technological transformation therefore becomes increasingly important for their long-term relevance and survival.

Tushman and O'Reilly (1996) suggest that organizations must balance exploitation and exploration in order to simultaneously maintain current operations while adapting to future conditions. To explore how such balancing may be managed within the specific context of public service broadcasting, this study used Sveriges Television's (SVT) development and implementation of the software-based production system Next-Gen Online (NEO) as an empirical case.

Through the case of SVT, this study aimed to develop a deeper understanding of how antecedents specific to public service broadcasting create and influence tensions between exploitation and exploration, and how public service broadcasters may employ different modes of balancing to manage these tensions.

First, the findings reveal how environmental antecedents create pressures for exploration, while inter-organizational and intra-organizational antecedents both enable and constrain organizational responses to these pressures. Furthermore, managerial antecedents shape how tensions are interpreted and managed in practice. Together, these antecedents influence both the strength of tensions between exploration and exploitation and the conditions for balancing them effectively.

Second, the study demonstrates how public service broadcasters may employ and combine four modes of balancing exploration and exploitation over time: contextual ambidexterity, structural separation, temporal separation, and domain separation. Each mode possesses different characteristics, managerial implications, strengths, and weaknesses, making them suitable under different conditions. The findings further suggest that these balancing modes should not be understood as isolated approaches, but rather as mechanisms that may be combined and adapted throughout different phases of organizational and technological change.

These findings carry several practical implications. By understanding the differences between exploration and exploitation, as well as the natural tensions and trade-offs that emerge between them, public service broadcasters may more actively and strategically employ balancing approaches adapted to their specific context and stage of technological change. In doing so, organizations may strengthen their ability to adapt to future environmental shifts while simultaneously maintaining their current operations and fulfilling their public service mission.

At the same time, while software-based production systems may improve operational flexibility, scalability, adaptability, resilience, and cost efficiency, the findings also suggest that technological change may raise deeper questions regarding the future role and relevance of public service broadcasters themselves. As such technologies increasingly democratize content creation and distribution, tensions may emerge not only regarding how public service broadcasters should produce content, but also regarding what role they should occupy in the future media landscape.

As this study is based on a single case within a Swedish public service broadcasting context, further research is needed to examine whether similar antecedents, tensions, and balancing approaches can be identified in other public service broadcasting organizations. Furthermore, while this study focuses specifically on software-based production systems within live media production, other forms of technological transformation may generate different tensions and require alternative balancing approaches. Finally, as this study represents a limited snapshot of an ongoing transformation, longitudinal research may provide deeper insight into how tensions, balancing modes, and organizational responses evolve over longer periods of time.

Ultimately, this study suggests that public service broadcasters that understand cycles of technological and environmental change, actively shape relevant antecedents, and employ appropriate balancing approaches may place themselves in a stronger position to adapt to future technological discontinuities while continuing to fulfill their public service mission.

10. References

- Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization Science*, 20(4), 696–717. <https://doi.org/10.1287/orsc.1080.0406>
- Ansell, C., Sørensen, E., & Torfing, J. (2020). The COVID-19 pandemic as a game changer for public administration and leadership? The need for robust governance responses to turbulent problems. *Public Management Review*, 23(7), 949–960. <https://doi.org/10.1080/14719037.2020.1820272>
- Atuahene-Gima, K. (2005). Resolving the capability-rigidity paradox in new product innovation. *Journal of Marketing*, 69(4), 61–83. <https://doi.org/10.1509/jmkg.2005.69.4.61>
- Beckman, C. M., Haunschild, P. R., & Phillips, D. J. (2004). Friends or strangers? Firm-specific uncertainty, market uncertainty, and network partner selection. *Organization Science*, 15(3), 259–275. <https://doi.org/10.1287/orsc.1040.0065>
- Bell, E., Bryman, A., & Harley, B. (2022). *Business research methods* (6th ed.). Oxford University Press.
- Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review*, 28(2), 238–256. <https://doi.org/10.5465/AMR.2003.9416096>
- Birkinshaw, J., & Gupta, K. (2013). Clarifying the distinctive contribution of ambidexterity to the field of organization studies. *Academy of Management Perspectives*, 27(4), 287–298. <https://doi.org/10.5465/amp.2012.0167>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Burns, T., & Stalker, G. M. (1994). *The management of innovation* (Rev. ed.). Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780198288787.001.0001>
- Cambridge University Press. (n.d.). Ambidexterity. In *Cambridge Dictionary*. Retrieved May 2026, from <https://dictionary.cambridge.org/dictionary/english/ambidexterity>
- Chen, Y. (2017). Dynamic ambidexterity: How innovators manage exploration and exploitation. *Business Horizons*, 60, 385–394. <https://doi.org/10.1016/j.bushor.2017.01.001>
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128–152. <https://doi.org/10.2307/2393553>

- Cyert, R. M., & March, J. G. (1992). *A behavioral theory of the firm* (2nd ed.). Blackwell.
- Deloitte. (2025). *TMT predictions 2026: The gap narrows, but persists*. Deloitte Center for Technology, Media & Telecommunications.
<https://www.deloitte.com/se/sv/Industries/tmt/perspectives/tmt-predictions.html>
- Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. In R. H. Killman, L. R. Pondy, & D. Slevin (Eds.), *The management of organization design* (Vol. 1, pp. 167–188). North-Holland.
- Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). Microfoundations of performance: Balancing efficiency and flexibility in dynamic environments. *Organization Science*, 21(6), 1263–1273. <https://doi.org/10.1287/orsc.1100.0564>
- European Broadcasting Union. (n.d.). *Future of public service media*. EBU.
<https://www.ebu.ch/future-of-public-service-media>
- European Broadcasting Union. (2021). *Governance principles for public service media*. EBU Legal Focus. <https://www.ebu.ch/publications/strategic/open/governance-principles-for-psm>
- European Broadcasting Union. (2025). *Overview of the cloud ecosystem strategy for European public service media*. EBU Technical Report TR099OV. <https://tech.ebu.ch/publications/tr099ov>
- Faulkner, N., & Kaufman, S. (2018). Avoiding theoretical stagnation: A systematic review and framework for measuring public value. *Australian Journal of Public Administration*, 77(4), 590–608. <https://doi.org/10.1111/1467-8500.12251>
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219–245. <https://doi.org/10.1177/1077800405284363>
- Gibson, C. B., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, 47(2), 209–226.
<https://doi.org/10.2307/20159573>
- Gieske, H., George, B., van Meerkerk, I., & van Buuren, A. (2019). Innovating and optimizing in public organizations: Observed tensions and coping strategies. *Public Management Review*, 22(4), 566–586. <https://doi.org/10.1080/14719037.2019.1588356>
- Hamblin, R., Plimmer, G., Badar, K., & Lasthuizen, K. (2024). Organizational ambidexterity: A bibliometric review and framework for future public administration research. *Public Performance & Management Review*, 47(5), 1073–1109. <https://doi.org/10.1080/15309576.2024.2373178>
- Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, 49(2), 149–164. <https://doi.org/10.2307/2095567>

- He, Z. L., & Wong, P. K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science*, 15(4), 481–494.
<https://doi.org/10.1287/orsc.1040.0078>
- Jansen, J. J. P., Vera, D., & Crossan, M. (2009). Strategic leadership for exploration and exploitation: The moderating role of environmental dynamism. *Leadership Quarterly*, 20(1), 5–18.
<https://doi.org/10.1016/j.leaqua.2008.11.008>
- Kassotaki, O. (2022). Review of organizational ambidexterity research. *Sage Open*, 12(1).
<https://doi.org/10.1177/21582440221082127>
- Kim, S., Lee, J.-y., & Oh, H.-J. (2023). Design of cloud-based remote collaborative system for broadcasting production workflow. In 2023 14th International Conference on Information and Communication Technology Convergence (ICTC) (pp. 1404–1406). IEEE.
<https://doi.org/10.1109/ICTC58733.2023.10393248>
- Knott, A. M. (2002). Exploration and exploitation as complements. In C. W. Choo & N. Bontis (Eds.), *The strategic management of intellectual capital and organizational knowledge* (pp. 339–358). Oxford University Press. <https://doi.org/10.1093/oso/9780195138665.003.0019>
- Lagercrantz, A. (2026, January 28). SVT satsar på kunskap och gemenskap i en osäker tid. *Sveriges Television*.
<https://omoss.svt.se/arkiv/bloggarkiv/2026-01-28-svt-satsar-pa-kunskap-och-gemenskap-i-en-osaker-tid.html>
- Lavie, D., & Rosenkopf, L. (2006). Balancing exploration and exploitation in alliance formation. *Academy of Management Journal*, 49(4), 797–818. <https://doi.org/10.5465/amj.2006.22083085>
- Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and exploitation within and across organizations. *The Academy of Management Annals*, 4(1), 109–155.
<https://doi.org/10.1080/19416521003691287>
- Lehner, L. S. (2025). Change management in cross-media organizational development: Evidence from a public service media provider in Germany. *Journalism Practice*, 1–22.
<https://doi.org/10.1080/17512786.2025.2531169>
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, 14(S2), 95–112. <https://doi.org/10.1002/smj.4250141009>
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71–87. <http://www.jstor.org/stable/2634940>

- Martin, E. N. (2021). Can public service broadcasting survive Silicon Valley? Synthesizing leadership perspectives at the BBC, PBS, NPR, CPB and local U.S. stations. *Technology in Society*, 64, 101451. <https://doi.org/10.1016/J.TECHSOC.2020.101451>
- Meijer, A., 't Hart, P., & Worthy, B. (2018). Assessing government transparency: An interpretive framework. *Administration & Society*, 50(4), 501–526. <https://doi.org/10.1177/0095399715598341>
- Oh, H., Kim, S., & Lee, J.-y. (2024). Implementation of a live media production platform for cloud-based broadcast workflows. In 2024 15th International Conference on Information and Communication Technology Convergence (ICTC) (pp. 1727–1729). IEEE. <https://doi.org/10.1109/ICTC62082.2024.10827686>
- O'Reilly, C. A., III, & Tushman, M. L. (2011). Organizational ambidexterity in action: How managers explore and exploit. *California Management Review*, 53(4), 5–22. <https://doi.org/10.1525/cmr.2011.53.4.5>
- Palmi, P., Corallo, A., Prete, M. I., & Harris, P. (2021). Balancing exploration and exploitation in public management: Proposal for an organizational model. *Journal of Public Affairs*, 21(3), 1–12. <https://doi.org/10.1002/pa.2245>
- Paliwal, S. K., & Siwach, K. (2026). Cloud-based media production as the future of broadcast technology and operations. *Journal of Marketing & Social Research*, 3(2), 26–29. <https://jmsr-online.com/article/cloud-based-media-production-as-the-future-of-broadcast-technology-and-operations-529/>
- Poole, M. S., & Van de Ven, A. H. (1989). Using paradox to build management and organization theories. *Academy of Management Review*, 14(4), 562–578. <https://doi.org/10.2307/258559>
- Puppis, M., & Ali, C. (Eds.). (2023). *Public service media's contribution to society: Ripe@2021*. Nordicom, University of Gothenburg. <https://doi.org/10.48335/9789188855756>
- Rothaermel, F. T., & Deeds, D. L. (2004). Exploration and exploitation alliances in biotechnology: A system of new product development. *Strategic Management Journal*, 25(3), 201–221. <https://doi.org/10.1002/smj.376>
- Schumpeter, J. A. (1934). *The theory of economic development*. Harvard University Press.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. Doubleday.
- Sidhu, J. S., Commandeur, H. R., & Volberda, H. W. (2007). The multifaceted nature of exploration and exploitation: Value of supply, demand, and spatial search for innovation. *Organization Science*, 18(1), 20–38. <https://doi.org/10.1287/orsc.1060.0219>

- Siggelkow, N., & Levinthal, D. A. (2003). Temporarily divide to conquer: Centralized, decentralized, and reintegrated organizational approaches to exploration and adaptation. *Organization Science*, 14(6), 650–669. <https://doi.org/10.1287/orsc.14.6.650.24870>
- Smith, W. K., Binns, A., & Tushman, M. L. (2010). Complex business models: Managing strategic paradoxes simultaneously. *Long Range Planning*, 43(2–3), 448–461. <https://doi.org/10.1016/j.lrp.2009.12.003>
- Smith, W. K., & Tushman, M. L. (2005). Managing strategic contradictions: A top management model for managing innovation streams. *Organization Science*, 16(5), 522–536. <https://doi.org/10.1287/orsc.1050.0134>
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Sage.
- SVT. (n.d.). Så granskas SVT:s publiceringar. *SVT Om oss*. Retrieved May 2026, from <https://omoss.svt.se/svts-roll/sa-granskas-svts-publiceringar.html>
- SVT. (2026, March 30). Så ska SVT spara – och samtidigt möta publikens nya behov. *SVT Om oss*. <https://omoss.svt.se/arkiv/nyhetsarkiv/2026-03-30-sa-ska-svt-spara---och-samtidigt-mota-publikens-nya-behov.html>
- SVT. (2026). *Gemensam ProdOps* [Unpublished internal document]. Sveriges Television AB.
- Sveriges Television AB. (2025a). *Public service-uppdrag för Sveriges Television AB 2026–2033*. <https://omoss.svt.se/download/18.607a8f5419b2bf90808df98f/1768228270069/Public%20service-uppdrag%20för%20Sveriges%20Television%20AB%202026-2033.pdf>
- Sveriges Television AB. (2025b). *Public service-redovisning 2025*. https://omoss.svt.se/download/18.2de219d19c935b409926fdd/1772446531778/Public_service-redovisning_2025.pdf
- Sørensen, J. B. (2002). The strength of corporate culture and the reliability of firm performance. *Administrative Science Quarterly*, 47(1), 70–91. <https://doi.org/10.2307/3094891>
- Taylor, A., & Helfat, C. E. (2009). Organizational linkages for surviving technological change: Complementary assets, middle management, and ambidexterity. *Organization Science*, 20(4), 718–739. <https://doi.org/10.1287/orsc.1090.0429>
- Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous organizations: Managing evolutionary and revolutionary change. *California Management Review*, 38(4), 8–29. <https://doi.org/10.2307/41165852>

Tushman, M. L., & Romanelli, E. (1985). Organizational evolution: A metamorphosis model of convergence and reorientation. In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 7, pp. 171–222). JAI Press.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Sage.

Appendix A: Interview Guide

Things to consider and check before the interviews

Consider the order to create a flow, formulate questions in a way that answers research questions, use a comprehensible language, do not ask leading questions, remember to record demographic information.

Checklist before the interview: know/understand the setting in which the person works, use a good audio-recorder, the interview takes place in a quiet and private setting.

Interview introduction

About the study

Our research focuses on how media production is evolving with the transition toward software-based production systems, and what this means for SVT.

The purpose of the study is to better understand both the current state of production and peoples' envisioned future, as well as the key challenges and opportunities in moving between the two. Your perspectives and experiences are therefore highly valuable to us.

How we handle the data

All information shared during this interview will be treated confidentially. The material will be anonymized in the thesis unless explicitly agreed otherwise, and you are of course free to refrain from answering any question or withdraw at any point.

Question before start

- Do you have any questions about our work before we begin?

[START RECORDING]

Introducing questions

- What is your background and role?
- Fundamentally, how do you interpret SVT's mandate? What should SVT be and do in the future?

1. Content - The future, the present and the gap

The substance of what is being changed. Includes an organization's strategies, structures, and systems.

The future

- (Future) In a dream world, unrelated to what SVT is and does today? What might be? How does SVT produce media in the future?
- How would you describe cloud-based production? How does it relate to the future you describe? What are the key components in a future cloud-based production system?
- Who is doing what in this future production system? Externally and internally.
- (Positive) What is positive about the future state of production?
- (Negative) What is negative about the future state of production?

The present

- (Present) In contrast to the future, how is broadcasting conducted today?
- (Positive) What is positive about the current state of production?
- (Negative) What is negative about the current state of production?

The gap

- (Key differences) What are the key differences between the old and the future system?
- (Changed production processes) How does the process of producing change?
- (Who is affected) Who is affected? Who is changing?

2. Antecedents - Why change is happening and/or is needed

The external environment that gives rise to a force of change, as well as the order of change.

Why change? Internally and externally.

- (Why change) What are the reasons SVT needs to change its way of production?
- (Why change – Industry level/trend) More broadly, in what direction do you view the TV-production industry and SVT moving to?
- (Why change – Individual level) What do you change (or have changed) in your work and why?
- (Speed of change) How quickly are things changing?

Inter-organizational level

- (External actors) How is the network of actors built? The interaction between SVT and their network of stakeholders?

3. Conduct - How change is managed

How an organization manages change. Processes can operate at the external, organizational, and individual levels.

Change processes on different levels

- (How and who – Organizational level) On an organizational level, how does the organization change? How is software-based production developed and adopted?
- (How and who – Industry level) On an industry level, how is the industry changing? How is cloud-based production developed and adopted?
- (How and who – Individual level) On an individual level, how are you changing? What cause you to change? E.g. intrinsic motivation, internal politics, financial saving programmes, etc.
How does your change relate to cloud-based production?

Challenges

- (Challenges) What are conflicting goals and objectives, the ongoing nature of change, and the gap between outputs and outcomes?

Opportunities

- (Opportunities) What makes SVT a good option (why SVT) for making this change?
- What capabilities does SVT possess that are important to the change?

Resistance and behavior to change

- (Attitude) What is peoples' attitude to change? Resistance to change? From policies, rules, and regulations, as potential sources of resistance?
- (Behavior) How is the organizational culture, climate, and other behavioral aspects affected?

4. Management - How the change is lead

Leadership in the public sector may be more complex, distributed across multiple actors, and embedded within political and institutional structures.

- (Vision) What is the vision for how SVT produces media in the future? How is vision created and implemented? How inspired are you about SVT's vision in production?
- (Autonomy) How much can you change yourself?
- (Location of leadership) Who leads the change on cloud-based production?
Our note: Is the change emergent (gradual, bottom-up developments in which change evolves over time through ongoing interactions, learning, and adaptation) or planned?
- (Transparency) How much do you know about the change processes at SVT?
- (Attitude) How is the general attitude and trust to leaders? (e.g. competent, and adequately trained)

- (Political or administrative) How are change processes led in the organization? Political leadership (sector-wide change) vs administrative (implementation, managing operations, and translating policy into practice) leadership?

5. Outcome - The results of change

What the outcome of the change is, i.e. what do the change efforts lead to, and how, and through what means, the change is measured and evaluated.

- (What are positive results?) If the change to cloud-based production was successful, what would the results be? A.k.a How is progress measured?
Measurable things? (efficiency, effectiveness, transparency, user satisfaction, and frugality)
Behavioral things? (attitude, morale, commitment, and resistance to change)
- (What are negative results?) What are the negative outcomes that have come as results of the change process?
- (Measure) Which quantifiable output metrics are measured and how?

Final questions and additional interviewees

- (Interviewee's question) If you were in our shoes asking you about the future of media production, what would you ask?
Is there any question we have not asked but should have asked?
- (Snowball) Are there more people you think we should talk to?
- (Feedback) What can we improve in our interview?

Specifics useful in contextualizing

Name:

Age:

Gender:

Time at SVT:

Role:

Closing the interview

[STOP THE RECORDING]

Thank you for the interview.

If you have more things you want to share that you come up with after the interview, feel free to reach out by e-mail or if you see us in the office.

The results will be presented at Chalmers the 20th of May and published in a report later in May or the beginning of June.

Refrain from sharing too much information about the study and questions not to affect other potential interviewees.

After the interview

How the interview was:

Where the interview took place:

Other feelings about the interview:

About the setting the interview took place:



CHALMERS
UNIVERSITY OF TECHNOLOGY